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**LABOR COST OF PRODUCTION AND  
WAGES AND HOURS OF LABOR IN  
THE PAPER BOX-BOARD INDUSTRY**



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### Part I.—LABOR COST OF PRODUCTION IN A TWO-WEEK PERIOD, 1924 AND 1925

#### INTRODUCTION

On May 2, 1924, a conference of paper box-board manufacturers was held in Washington, D. C., for the purpose of bringing about a much-needed reform in this industry by means of shortening the hours of labor. At least 80 per cent of the paper box-board plants in the United States and probably 95 per cent of the paper box-board products factories were represented at this conference. The two-tour system of the alternating week of 11 and 13 tours, with the cleaning up done on Sunday, had prevailed in many of the paper box-board mills, and the object of this conference was to devise ways and means of shortening these long hours of labor and doing away with the Sunday work. It was hoped that by mutual agreement within the industry the 8-hour day that predominates in the majority of industries could be established in the paper box-board mills.

At this conference, during the discussion over the elimination of Sunday work there was a wide diversity of opinion as to the length of time required for the clean-up. (The "clean-up" is a necessary operation that must be performed at the beginning or end of every operation period at the paper box-board mill and consists of changing the paper-machine felts, repairing the equipment, and making preparation for another week's work.)

It was particularly noticeable in the 70 establishments visited in the wage study that in the three-tour mills the time consumed in cleaning up rarely varied from 8 hours each week, while in the two-tour mills the clean-up time was nearly constant at 11 hours per week.

A very few mills seemed to make an effort to have the clean-up done in less time than the regular hours of one tour. In these few mills the clean-up time varied from 4 to 6 hours. It appears reasonable to assume that if some mills can reduce this time to a minimum the majority could do the same. It would seem that it was not strictly necessary to close the mill all day Saturday in order to eliminate Sunday work.

There does not appear to be any good reason why the clean-up could not be performed by the tour which starts work at 3 or 4 p. m. on Saturday in a three-tour mill, or at 6 p. m. in a two-tour mill. Another variation of the time for clean-up, which has been tried and

found satisfactory by several mills, is to have the clean-up work done by the first tour on Monday. Of the 70 establishments visited in this study, 5 have Monday a. m. clean-up and 7 have Saturday p. m. clean-up, while in 1 mill the beater-room clean-up was done on Saturday p. m. and the machine room on Sunday a. m. Of the 5 having Monday a. m. clean-up, 4 are three-tour mills and 1 is a two-tour mill; while of the 8 having Saturday p. m. clean-up, 4 are three-tour and 4 are two-tour mills.

A few paper box-board mills had in recent years adopted the three-tour or 8-hour day system, while a few others operated 5 days instead of 6 days a week, and clean up on the sixth day. By January 15, 1925, when a second conference of the paper box-board manufacturers was held, over 75 per cent of the mills had eliminated Sunday work.

Since large quantities of water are required in this industry, in addition to that necessary for generating power (a modern mill uses from 35,000 to 80,000 gallons of water per ton of paper produced), paper mills are often located in remote places near rivers or streams yielding a good supply of reasonably pure water. This fact may to some extent account for the long hours of labor of mill employees.

The Bureau of Labor Statistics recently secured detailed information from 11 paper box-board mills for a representative two-week pay period in 1924 and a similar period in 1925, presenting in detail the changes resulting from reduced working hours; however, no attempt was made to apply the principles of cost accounting to this study as in practically all these mills men were shifted for a short time as needed from one position to another. In some mills the time worked in different occupations was shown in detail on the pay roll, while in others the total time worked was shown under the regular occupation. This shifting in occupation occurred mainly in the unskilled or semiskilled occupations, such as laborers, cutter boys, broke boys, etc.

Seven of these mills had changed from two tours to three tours; of these, 2 had reduced the working-days from 6 to 5, 3 had been operating 5 days during both periods scheduled, while 2 continued production through 6 days.

Of the other 4 mills, 3 had been working three tours and 1 two tours prior to the conference, and had made no change in hours subsequent thereto, although all 4 had reduced the working-days from 6 to 5.

Of the 11 mills, 3 had been doing the clean-up work on Saturday prior to the conference, 6 had changed the clean-up from Sunday to Saturday, while 2 continued the Sunday clean-up.

The 7 plants that changed from two to three tours employed 1,458 persons in 1925 against 1,274 in 1924, and had a daily tonnage of 166 in 1925 against 150 in 1924. Of the 4 plants that reduced their days of operation from 6 to 5 per week, 3 were running on three tours and 1 on two tours during both periods, employed 620 in 1925 against 659 in 1924, and had a daily tonnage of 106 in 1925, as against 107 in 1924. Nine plants, employing 1,714 persons, reported no Sunday work in 1925, and the average output of these plants was 170 tons per day.

The 11 plants selected for this productivity study had, with 2 exceptions, the same equipment during both periods. One of these 2, in the group that changed from two tours to three tours, increased the

number of the drying rolls on one of its paper machines by about 20 per cent, while the other mill, which had made no change in the hours worked by the four employees but had reduced the days of work from 6 to 5, had increased the drying rolls on one of its paper machines by approximately 24 per cent and in addition had added a Shartle beater to the equipment of its beater room.

The periods used in this study vary for each establishment, as it was essential for comparison purposes to secure periods in each year in which the product was as nearly alike as possible and in which the mill was operated full time. In 9 of the mills the product in the two periods scheduled was practically the same. The other 2 establishments had made several kinds of higher quality box board in 1925 than in 1924, in consequence of which their 1925 production was proportionately less and their cost per ton proportionately greater. In 1 of the mills that reduced its days of operation from 6 to 5 but made no change in the time of four workers this decreased production, and the increased cost was especially pronounced.

The daily output of the 11 mills averaged 124 tons in the 1924 period and 134 tons in the 1925 period.

It will be noted that in practically all of the tables in this study the 11 establishments have been divided into two groups, the first group consisting of 7 mills and the second group consisting of 4 mills.

The first group comprises those mills which were operating two tours in the period covered in 1924, but had changed over to three-tour operation before the period covered in 1925. In addition to this change, 2 of these 7 mills had reduced their days of operation from 6 to 5.

The second group consists of 4 mills, all of which had reduced their days of operation from 6 in the period covered in 1924 to 5 in the period covered in 1925, but none had made any change in the time worked by the four employees.

In the following tables the time cost expressed in hours and the labor cost expressed in money are given for the beater room and the machine room, the two principal departments concerned with the manufacture of paper box board, and for all departments combined.

The productivity of labor is the return the workingman gives for the wages he receives. In order to make a productivity study, it is necessary, therefore, to secure records of time and output, i. e., of one-man hours and of pounds or tons produced. The number of one-man hours required to produce a given output is the time cost, and the quantity of output produced in a given time is the productivity of labor. The labor cost, also given in one of the following tables, represents an aggregate of the wages paid over a two-week productive period.

#### EFFECT OF SHORTENED HOURS ON OUTPUT

In the 7 establishments that changed from two tours to three tours the average days of operation decreased 5.1 per cent, or from 11.1 days in 1924 to 10.5 days in 1925. The average daily tonnage output of these 7 plants, however, increased 10.6 per cent, or from 150 tons in the two-week period in 1924 to 166 tons in the two-week period of 1925.

In the 4 plants that reduced their working week from 6 days to 5 days, the average daily tonnage output decreased 0.7 per cent, or from 107 tons in the two-week period of 1924 to 106 tons in the two-week period of 1925.

For the 11 plants combined, the average days of operation decreased 9.5 per cent, or from 11.5 days in 1924 to 10.4 days in 1925. The average daily tonnage of these 11 mills increased 8.7 per cent, or from 124 tons in the two-week period of 1924 to 134 tons in the two-week period of 1925.

Table 1, which follows, gives the output in pounds per one-man hour. This production is arrived at by dividing the total output (in pounds) for the two-week period by the total hours worked in the beater room, the machine room, and in all departments. In this table and in the following tables the establishments are indicated by numbers, and in order to prevent identification the arrangement and numbering is different in the various tables.

TABLE 1.—OUTPUT IN POUNDS PER ONE-MAN HOUR IN A TWO-WEEK PERIOD, 1924 AND 1925, BY ESTABLISHMENTS

| Establishment                                      | Output per one-man hour in— |             |                    |              |             |                    |                 |             |                    |
|--|-----------------------------|-------------|--------------------|--------------|-------------|--------------------|-----------------|-------------|--------------------|
|  | Beater room                 |             |                    | Machine room |             |                    | All departments |             |                    |
|  | 1924                        | 1925        | Per cent of change | 1924         | 1925        | Per cent of change | 1924            | 1925        | Per cent of change |
| <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |                             |             |                    |              |             |                    |                 |             |                    |
|  | <i>Lbs.</i>                 | <i>Lbs.</i> |                    | <i>Lbs.</i>  | <i>Lbs.</i> |                    | <i>Lbs.</i>     | <i>Lbs.</i> |                    |
| No. 1.....   | 421                         | 424         | +0.7               | 333          | 360         | +8.1               | 113             | 119         | +5.3               |
| No. 2.....   | 649                         | 787         | +21.3              | 565          | 713         | +26.2              | 135             | 147         | +8.9               |
| No. 3.....   | 588                         | 719         | +22.3              | 814          | 1,001       | +23.0              | 175             | 209         | +19.4              |
| No. 4.....   | 663                         | 680         | +2.6               | 643          | 706         | +9.8               | 162             | 173         | +6.8               |
| No. 5.....   | 548                         | 704         | +28.5              | 636          | 857         | +34.7              | 145             | 179         | +23.4              |
| No. 6.....   | 938                         | 1,064       | +13.4              | 682          | 871         | +27.7              | 216             | 246         | +13.9              |
| No. 7.....   | 684                         | 907         | +32.6              | 854          | 1,054       | +23.4              | 188             | 236         | +25.5              |
| Average.....                                       | 642                         | 723         | +12.6              | 612          | 729         | +19.1              | 162             | 180         | +11.1              |
| <b>Changed from 6 days to 5 days of production</b> |                             |             |                    |              |             |                    |                 |             |                    |
| No. 8.....   | 466                         | 410         | -12.0              | 636          | 531         | -16.5              | 139             | 110         | -20.9              |
| No. 9.....   | 528                         | 536         | +1.5               | 551          | 585         | +6.2               | 131             | 127         | -3.1               |
| No. 10.....  | 488                         | 516         | +5.7               | 663          | 651         | -1.8               | 134             | 130         | -3.0               |
| No. 11.....  | 554                         | 762         | +37.5              | 646          | 617         | -4.5               | 197             | 214         | +8.6               |
| Average.....                                       | 513                         | 565         | +10.1              | 632          | 613         | -3.0               | 151             | 146         | -3.3               |
| Grand average...                                   | 596                         | 674         | +13.1              | 618          | 695         | +12.5              | 153             | 170         | +7.6               |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.

Study of Table 1 reveals that for the 7 plants that changed from two tours to three tours the output in pounds per one-man hour in the beater room increased in every plant, the increases ranging from 0.7 per cent to 32.6 per cent. In the machine room the hourly output increased in all 7 plants, the increases ranging from 8.1 per cent to 34.7 per cent. For all departments the hourly output also increased in all 7 plants, the increases ranging from 5.3 per cent to 25.5 per cent. For the 7 plants taken as a whole the output increased 12.6 per cent in the beater room, 19.1 per cent in the machine room, and 11.1 per cent in all departments. These 7 plants that changed from two tours to three tours show that a decrease in hours was followed by an increase in hourly output.

In the 4 mills that reduced their days of production from 6 to 5, the output in the beater room increased in 3 plants, the increases ranging from 1.5 per cent to 37.5 per cent, while the output decreased 12 per cent in 1 plant. In the machine room the output decreased in 3 plants, ranging from 1.8 per cent to 16.5 per cent, while in 1 plant the output increased 6.2 per cent. For all departments the output decreased in 3 plants, the decreases ranging from 3 per cent to 20.9 per cent, and 1 plant increased its output 8.6 per cent. For these 4 plants taken as a whole, however, the output increased 10.1 per cent in the beater room, but decreased 3 per cent in the machine room and 3.3 per cent in all departments. The 1 plant that reported the largest decreases in the beater room, machine room, and in all departments manufactured a better grade of board in 1925 than in 1924.

In terms of the number of pounds of board produced in one hour by one man, these 11 plants averaged in the beater room 674 pounds per hour in 1925 as against 596 pounds in 1924, in the machine room 695 pounds in 1925 as against 618 pounds in 1924, and for all departments 170 pounds in 1925 as against 158 pounds in 1924.

#### **TIME COST OF LABOR IN TERMS OF ONE-MAN HOURS REQUIRED TO PRODUCE A TON OF PAPER BOX BOARD, 1924 AND 1925**

Inasmuch as the beater room and the machine room are more concerned with the production of board than the other departments, the time cost will be compared in these two departments first. The cost per ton of paper box board in terms of one-man hours decreased in the beater room of the 7 plants which changed from 2 tours to 3 tours. These decreases ranged from 0.8 of 1 per cent to 24.3 per cent. One plant reported an 0.8 per cent decrease, 1 a 2.6 per cent decrease, 1 an 11.7 per cent decrease, 1 a 17.5 per cent decrease, 1 an 18.2 per cent, while the other 2 showed decreases of 22.2 and 24.3 per cent. The average cost in one-man hours for the 7 plants decreased 10.9 per cent.

Taking the changes that occurred in the machine room as regards cost per ton of board in terms of one-man hours in these three-tour mills, 7 decreases are shown, ranging from 7.5 per cent to 25.8 per cent. These decreases were 7.5 per cent in 1 plant, 9 per cent in another, 18.7 per cent in 1 and 18.8 per cent in another, and 20.9, 21.5, and 25.8 per cent in 3 others. For these 7 plants the time cost in the machine department decreased 15.9 per cent after the plants changed to three tours.

Regarding all departments, which include not only the beater room and the machine room, but the receiving and shipping room, maintenance, power, and general work, the cost per ton of paper box board, in one-man hours, decreased in all 7 plants. The decreases ranged from 5 to 20.1 per cent, the average decrease for the 7 plants being 10.2 per cent. The daily tonnage production in the 7 plants increased 10.6 per cent.

In the 4 plants that were operating two tours or three tours both periods, the time cost decreased in the beater room in 3 plants, the decrease ranging from 1.6 per cent to 27.4 per cent, and 1 plant reported an increase of 13.8 per cent. The average decrease for the 4 plants was 9.2 per cent. In the machine room the one-man hours decreased 5.8 per cent in 1 plant and increased in the other 3, the range being from 1.7 per cent to 19.7 per cent. The average one-

man hours for the 4 plants increased 3.2 per cent. Considering all departments in these 4 establishments, 3 plants reported increases ranging from 3 to 26 per cent, while 1 reported a decrease of 7.6 per cent, the average time cost for the 4 plants increasing 3.8 per cent. The largest increase reported in time cost in terms of one-man hours occurred in the establishment that began the manufacture of higher-grade and consequently slower-running board in 1925.

The time cost in terms of one-man hours required to produce a ton of paper box board in 1925 compared with 1924 in the 11 establishments included in this study, decreased 11.3 per cent in the beater room, 11.1 per cent in the machine room, and 6.7 per cent for all departments. The daily tonnage production for the 11 plants increased 8.7 per cent in 1925 while the days of operation decreased 9.5 per cent.

In terms of one-man hours, the average time required in these 11 plants to produce a ton of board was 2.97 hours in 1925, compared with 3.35 hours in 1924 in the beater department; 2.88 hours in 1925 compared with 3.24 hours in 1924 in the machine department, and 11.78 hours in 1925 compared with 12.62 hours in 1924 in all departments. It therefore took less time to produce a ton of paper box board in 1925 with decreased hours of labor than it did in 1924.

It will be observed that, in the 11 establishments, the number of hours of one man's time that would be required to produce a ton of paper box board, if he performed a part of all the processes from the raw to the finished state of the product, varied from 9.24 to 17.75 hours in 1924, and from 8.13 to 18.15 hours in 1925. This is a wide variation, but inasmuch as some of the grades of paper box board take much longer to produce than others this would account for a considerable amount of the difference in time.

TABLE 2.—LABOR COST PER TON OF PRODUCT IN ONE-MAN HOURS IN A TWO-WEEK PERIOD, IN 1924 AND 1925, BY ESTABLISHMENTS

| Establishment                                      | Labor cost per ton of product in one-man hours in— |                      |                    |                      |                      |                    |                      |                      |                    |
|--|--|----------------------|--------------------|----------------------|----------------------|--------------------|----------------------|----------------------|--------------------|
|  | Beater room  |                      |                    | Machine room         |                      |                    | All departments      |                      |                    |
|  | 1924   | 1925                 | Per cent of change | 1924                 | 1925                 | Per cent of change | 1924                 | 1925                 | Per cent of change |
| <b>Changed from 3 tours to 3 tours<sup>1</sup></b> |  |                      |                    |                      |                      |                    |                      |                      |                    |
|  | <i>One-man hours</i>                               | <i>One-man hours</i> |                    | <i>One-man hours</i> | <i>One-man hours</i> |                    | <i>One-man hours</i> | <i>One-man hours</i> |                    |
| No. 1.....   | 3.40   | 2.78                 | -18.2              | 2.46                 | 2.00                 | -18.7              | 11.41                | 9.59                 | -16.0              |
| No. 2.....   | 4.75   | 4.71                 | -.8                | 6.00                 | 5.55                 | -7.5               | 17.75                | 16.87                | -5.0               |
| No. 3.....   | 3.08   | 2.54                 | -17.5              | 3.54                 | 2.80                 | -20.9              | 14.85                | 13.63                | -8.2               |
| No. 4.....   | 2.92   | 2.21                 | -24.3              | 2.34                 | 1.90                 | -18.8              | 10.61                | 8.48                 | -20.1              |
| No. 5.....   | 2.13   | 1.88                 | -11.7              | 2.93                 | 2.30                 | -21.5              | 9.24                 | 8.13                 | -12.0              |
| No. 6.....   | 3.65   | 2.84                 | -22.2              | 3.14                 | 2.33                 | -25.8              | 13.76                | 11.16                | -18.8              |
| No. 7.....   | 3.02   | 2.94                 | -2.6               | 3.11                 | 2.83                 | -9.0               | 12.36                | 11.56                | -6.5               |
| Average.....                                       | 3.11   | 2.77                 | -10.9              | 3.27                 | 2.75                 | -15.9              | 12.36                | 11.10                | -10.2              |
| <b>Changed from 6 days to 5 days of production</b> |  |                      |                    |                      |                      |                    |                      |                      |                    |
| No. 8.....   | 3.61   | 2.62                 | -27.4              | 3.10                 | 3.24                 | +4.5               | 10.13                | 9.36                 | -7.6               |
| No. 9.....   | 4.10   | 3.88                 | -5.4               | 3.02                 | 3.07                 | +1.7               | 14.90                | 15.34                | +3.0               |
| No. 10.....  | 3.79   | 3.73                 | -1.6               | 3.63                 | 3.42                 | -5.8               | 15.27                | 15.74                | +3.1               |
| No. 11.....  | 4.29   | 4.88                 | +13.8              | 3.15                 | 3.77                 | +19.7              | 14.41                | 18.15                | +26.0              |
| Average.....                                       | 3.90   | 3.54                 | -9.2               | 3.17                 | 3.27                 | +3.2               | 13.23                | 13.73                | +3.8               |
| Grand average....                                  | 3.35   | 2.97                 | -11.3              | 3.24                 | 2.88                 | -11.1              | 12.62                | 11.78                | -6.7               |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.

**MONEY COST OF LABOR REQUIRED TO PRODUCE A TON OF PAPER BOX BOARD, 1924 AND 1925**

For the purpose of comparing the money cost of labor required to produce a ton of board in 1925 and in 1924, the 7 plants which changed from two tours to three tours will be considered first. In the beater room of these plants this cost decreased in 3 plants and increased in the other 4. The increases ranged from 2.7 per cent to 23.1 per cent, while the decreases ranged from 6.8 to 9.3 per cent, the average for the beater room showing an increase of 7.8 per cent. The average cost per ton was \$1.66 in 1925, as compared with \$1.54 in 1924. In the machine room of these 7 establishments five decreases and two increases were reported, the average increase in money cost per ton of product being 2.3 per cent more in 1925 than in 1924. For all departments the individual establishments show five decreases and two increases in the cost of labor, the average increase for all 7 mills being 0.7 per cent, or from \$6.69 per ton of product in 1924 to \$6.74 in 1925.

In the other 4 plants that operated two tours or three tours in both periods, the money cost of labor per ton of board in the beater room increased 32.2 per cent in the mill in which the 1925 product was of a higher grade of board than in 1924. The labor cost of the other 3 plants showed a decrease. The beater room of all 4 establishments combined showed an average decrease of 6.7 per cent in labor cost. The cost per ton of product was \$1.81 in 1925, as compared with \$1.94 in 1924. In the machine room the average increase in money cost of labor per ton of board was 3.6 per cent. Two mills reported increases, 1 reported a decrease, and 1 no change. The cost per ton in 1925 was \$1.71, as compared with \$1.65 in 1924. In all departments the money cost increased 6.3 per cent in 1925 as compared with 1924, so that the cost per ton in 1925 was \$7.39, as against \$6.95 in 1924.

Taking the 11 plants together in connection with the money cost of labor required to produce a ton of board in 1925 as compared with 1924 when the plants operated longer hours, the beater room showed a 2.4 per cent increase in this cost, the machine room showed a 2.9 per cent increase, and all departments showed a 2.1 per cent increase. Thus, in the beater room it cost \$1.70 for the labor required to produce a ton of board in 1925 as compared with \$1.66 in 1924; in the machine room, \$1.75 in 1925 as compared with \$1.70 in 1924; and in all departments, \$6.91 in 1925 as compared with \$6.77 in 1924.

One mill, because of better beater-room or machine-room facilities or more modern equipment may be able to produce board at a less cost per ton than another mill, but in this study we are not concerned in the cost as between mills, but in the cost in the same mill before and after the change in working time. It should be noted that the grade of product would in some degree affect the labor cost as between mills.

TABLE 3.—LABOR COST PER TON OF PRODUCT IN A TWO-WEEK PERIOD, 1924 AND 1925, BY ESTABLISHMENTS

| Establishment      | Labor cost per ton of product in—                  |        |                    |              |        |                    |                 |        |                    |
|--------------------|--|--------|--------------------|--------------|--------|--------------------|-----------------|--------|--------------------|
|                    | Beater room  |        |                    | Machine room |        |                    | All departments |        |                    |
|                    | 1924   | 1925   | Per cent of change | 1924         | 1925   | Per cent of change | 1924            | 1925   | Per cent of change |
|                    | <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |        |                    |              |        |                    |                 |        |                    |
| No. 1.....         | \$1.50   | \$1.36 | -9.3               | \$1.35       | \$1.34 | -0.7               | \$5.94          | \$5.31 | -10.6              |
| No. 2.....         | 1.12   | 1.15   | +2.7               | 1.63         | 1.55   | -4.9               | 5.35            | 5.45   | +1.9               |
| No. 3.....         | 1.76   | 2.06   | +17.0              | 1.67         | 1.88   | +12.6              | 7.13            | 7.12   | -.1                |
| No. 4.....         | 1.43   | 1.76   | +23.1              | 1.51         | 1.72   | +13.9              | 6.36            | 6.83   | +7.4               |
| No. 5.....         | 1.77   | 1.65   | -6.8               | 1.34         | 1.33   | -.7                | 6.40            | 6.10   | -4.7               |
| No. 6.....         | 1.61   | 1.47   | -8.7               | 1.99         | 1.76   | -11.6              | 8.65            | 8.38   | -3.1               |
| No. 7.....         | 2.07   | 2.14   | +3.4               | 2.82         | 2.78   | -1.4               | 8.61            | 8.40   | -2.4               |
| Average.....       | 1.54   | 1.66   | +7.8               | 1.73         | 1.77   | +2.3               | 6.69            | 6.74   | + .7               |
|                    | <b>Changed from 6 days to 5 days of production</b> |        |                    |              |        |                    |                 |        |                    |
| No. 8.....         | \$2.26   | \$2.19 | -3.1               | \$2.08       | \$1.97 | -5.3               | \$9.27          | \$9.70 | +4.6               |
| No. 9.....         | 1.69   | 1.25   | -26.0              | 1.59         | 1.67   | +5.0               | 5.51            | 4.97   | -9.5               |
| No. 10.....        | 2.05   | 2.71   | +32.2              | 1.69         | 2.23   | +32.0              | 7.53            | 10.08  | +33.9              |
| No. 11.....        | 1.98   | 1.87   | -5.6               | 1.48         | 1.48   | (?)                | 7.43            | 7.62   | +2.6               |
| Average.....       | 1.94   | 1.81   | -6.7               | 1.65         | 1.71   | +3.6               | 6.95            | 7.39   | +6.3               |
| Grand average..... | 1.65   | 1.70   | +2.4               | 1.70         | 1.75   | +2.9               | 6.77            | 6.91   | +2.1               |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.<sup>2</sup> No change.

## LABOR COST PER ONE-MAN HOUR

The labor cost covers the wages paid during the production period scheduled. The labor cost per one-man hour is found by dividing the aggregate pay roll for the particular production period by the aggregate hours worked during the same period.

In the 7 plants which changed to three tours in 1925 the labor cost per man-hour increased in the beater rooms of all establishments, the increases ranging from 4.6 per cent to 50.8 per cent, the average increase for all the plants being 21.5 per cent or from 49.3 cents in 1924 to 59.9 cents in 1925. In the machine rooms of these establishments the increases ranged from 6.4 per cent to 51.4 per cent, the average increase being 22.0 per cent. The average labor cost for the machine room was 64.4 cents per one-man hour in 1925 as against 52.8 cents in 1924. For all departments the increase ranged from 2.7 per cent to 22.9 per cent, the average increase for all plants being 12.2 per cent. The labor cost per one-man hour was 60.7 cents in 1925 as against 54.1 cents in 1924.

Of the 4 plants operating two tours or three tours in both periods, 2 reported slight decreases in the beater room, the average for the 4 plants being an increase of 3 per cent. The labor cost per one-man hour increased from 49.7 cents in 1924 to 51.2 cents in 1925. Although 1 of these 4 establishments reported a decrease of 1.8 per cent and 1 reported no change in the labor cost in the machine room, the average for the 4 plants was an increase of 0.6 of 1 per cent or from 52.0 cents an hour in 1924 to 52.3 cents an hour in 1925. For all departments

these 4 plants averaged an increase of 2.3 per cent, or a cost of 53.8 cents an hour in 1925 compared with 52.6 cents in 1924.

Taking the 11 plants together, the beater room averaged an increase in labor cost per one-man hour of 16.0 per cent, the machine room 16.0 per cent, and all departments 9.3 per cent. In terms of cents this cost increased from 49.4 cents to 57.3 cents in the beater room, from 52.5 cents to 60.9 cents in the machine room, and from 53.6 cents to 58.6 cents in all departments.

With decreased hours of labor and increased wages, the workingman with his longer hours of leisure and increased earnings is enabled to improve his living standards.

TABLE 4.—LABOR COST PER ONE-MAN HOUR IN A TWO-WEEK PERIOD, 1924 AND 1925, BY ESTABLISHMENTS

| Establishment                                      | Labor cost per one-man hour in— |          |                    |              |          |                    |                 |          |                    |
|--|---------------------------------|----------|--------------------|--------------|----------|--------------------|-----------------|----------|--------------------|
|  | Beater room                     |          |                    | Machine room |          |                    | All departments |          |                    |
|  | 1924                            | 1925     | Per cent of change | 1924         | 1925     | Per cent of change | 1924            | 1925     | Per cent of change |
| <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |                                 |          |                    |              |          |                    |                 |          |                    |
| No. 1.....   | \$0. 523                        | \$0. 580 | +10. 9             | \$0. 561     | \$0. 627 | +11. 8             | \$0. 583        | \$0. 615 | +5. 5              |
| No. 2.....   | . 521                           | . 593    | +13. 8             | . 547        | . 664    | +21. 4             | . 561           | . 636    | +13. 4             |
| No. 3.....   | . 435                           | . 455    | +4. 6              | . 470        | . 500    | +6. 4              | . 485           | . 498    | +2. 7              |
| No. 4.....   | . 524                           | . 609    | +16. 2             | . 557        | . 677    | +21. 5             | . 579           | . 671    | +15. 9             |
| No. 5.....   | . 475                           | . 597    | +25. 7             | . 486        | . 606    | +24. 7             | . 515           | . 591    | +14. 8             |
| No. 6.....   | . 482                           | . 727    | +50. 8             | . 531        | . 804    | +51. 4             | . 519           | . 638    | +22. 9             |
| No. 7.....   | . 513                           | . 616    | +20. 1             | . 576        | . 705    | +22. 4             | . 560           | . 627    | +12. 0             |
| Average.....                                       | . 493                           | . 599    | +21. 5             | . 523        | . 644    | +22. 0             | . 541           | . 607    | +12. 2             |
| <b>Changed from 6 days to 5 days of production</b> |                                 |          |                    |              |          |                    |                 |          |                    |
| No. 8.....   | \$0. 484                        | \$0. 482 | -0. 4              | \$0. 490     | \$0. 481 | -1. 8              | \$0. 499        | \$0. 497 | -0. 4              |
| No. 9.....   | . 478                           | . 555    | +16. 1             | . 537        | . 593    | +10. 4             | . 523           | . 555    | +6. 1              |
| No. 10.....  | . 468                           | . 478    | +2. 1              | . 514        | . 513    | (?)                | . 508           | . 532    | +4. 7              |
| No. 11.....  | . 596                           | . 588    | -1. 3              | . 574        | . 576    | +3                 | . 607           | . 616    | +1. 5              |
| Average.....                                       | . 497                           | . 512    | +3. 0              | . 520        | . 523    | +6                 | . 526           | . 538    | +2. 3              |
| Grand average.....                                 | . 494                           | . 573    | +16. 0             | . 525        | . 609    | +16. 0             | . 536           | . 586    | +9. 3              |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.

<sup>2</sup> No change.

### TOTAL HOURS WORKED AND PRODUCTION IN A TWO-WEEK PERIOD, 1924 AND 1925

Table 5 shows by establishments for each of the two periods, for the beater room, the machine room, and for all departments the total hours worked, the production in pounds, and the per cent of change in production per establishment and per man hour. In a study of this table it should be borne in mind that 2 mills of the first group and all of the second group reduced their days of operation from 6 to 5.

In the beater room, although the total hours worked in the first group of mills was 5.5 per cent less in the two-week period of 1925 than in the two-week period of 1924, yet the production per establishment increased 6.3 per cent, and per man hour 12.6 per cent.

In the second group of mills, although both the total hours worked and the production per establishment show a decrease, yet the production per man hour shows an increase. This also applies to the 11 mills taken as a whole. However, it should be stated here that the large decrease shown in the hours worked and the large increase shown in the production per man hour for establishment No. 11 is due in some measure to the installation of new equipment and a consequent reduction in the number of men required in this department.

In the machine room the total hours worked by the first group of mills decreased 10.7 per cent, while the production per establishment increased 6.3 per cent, and the production per man hour increased 19.1 per cent. In the second group of mills the total hours worked, the production per establishment and per man hour all show a decrease. The totals for the 11 mills show a decrease in total hours worked and production per establishment, but an increase in the production per man hour. The large increases in production both per establishment and per man hour in mill No. 7 is due in some degree to the installation of new equipment.

In all departments combined, the total hours worked show a decrease in both groups of mills and for all mills, while the production per establishment shows an increase in the first group of mills, a decrease in the second group, and a decrease for all mills combined. However, the production per man hour shows an increase in the first group of mills, a decrease in the second group of mills, and an increase for all 11 mills.

TABLE 5.—TOTAL HOURS WORKED AND PRODUCTION IN A TWO-WEEK PERIOD, 1924 AND 1925, FOR BEATER ROOM, MACHINE ROOM, AND ALL DEPARTMENTS, BY ESTABLISHMENTS

| Establishment                                      | Total hours worked |            |                    | Production (pounds) |              |                    |              |
|--|--------------------|------------|--------------------|---------------------|--------------|--------------------|--------------|
|  | 1924               | 1925       | Per cent of change | 1924                | 1925         | Per cent of change |              |
|  |                    |            |                    |                     |              | Total              | Per man hour |
|  | <b>BEATER ROOM</b> |            |                    |                     |              |                    |              |
| <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |                    |            |                    |                     |              |                    |              |
| No. 1.....   | 4, 075             | 3, 534. 8  | -13. 3             | 2, 645, 620         | 2, 781, 950  | +5. 2              | +21. 3       |
| No. 2.....   | 3, 394. 3          | 2, 650. 8  | -21. 6             | 2, 323, 225         | 2, 412, 460  | +3. 8              | +32. 6       |
| No. 3.....   | 6, 366. 0          | 4, 800. 0  | -24. 6             | 5, 970, 180         | 5, 106, 520  | -14. 5             | +13. 4       |
| No. 4.....   | 4, 057. 8          | 3, 479. 0  | -14. 3             | 2, 384, 095         | 2, 501, 695  | +4. 9              | +22. 3       |
| No. 5.....   | 6, 588. 5          | 6, 635. 0  | +18. 7             | 2, 352, 263         | 2, 816, 132  | +19. 7             | +7           |
| No. 6.....   | 5, 106. 0          | 5, 334. 8  | +4. 5              | 3, 384, 604         | 3, 628, 980  | +7. 2              | +2. 6        |
| No. 7.....   | 7, 364. 0          | 7, 518. 0  | +2. 1              | 4, 032, 000         | 5, 296, 000  | +31. 3             | +28. 5       |
| Total.....   | 35, 951. 6         | 33, 061. 4 | -8. 5              | 23, 091, 987        | 24, 543, 737 | +6. 3              | +12. 6       |
| <b>Changed from 6 days to 5 days of production</b> |                    |            |                    |                     |              |                    |              |
| No. 8.....   | 7, 641. 5          | 6, 266. 3  | -18. 0             | 3, 729, 205         | 3, 232, 329  | -13. 3             | +5. 7        |
| No. 9.....   | 3, 350. 5          | 2, 986. 5  | -10. 9             | 1, 767, 650         | 1, 602, 000  | -9. 4              | +1. 5        |
| No. 10.....  | 2, 485. 5          | 2, 119. 0  | -14. 7             | 1, 157, 422         | 868, 555     | -25. 0             | -12. 0       |
| No. 11.....  | 6, 548. 5          | 3, 671. 8  | -43. 9             | 3, 625, 530         | 2, 798, 650  | -22. 8             | +37. 5       |
| Total.....   | 20, 024. 0         | 15, 043. 6 | -24. 9             | 10, 279, 807        | 8, 501, 534  | -17. 3             | +10. 1       |
| Grand total.....                                   | 55, 975. 6         | 49, 005. 0 | -12. 5             | 33, 371, 794        | 33, 045, 271 | -1. 0              | +13. 1       |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.

TABLE 5.—TOTAL HOURS WORKED AND PRODUCTION IN A TWO-WEEK PERIOD, 1924 AND 1925, FOR BEATER ROOM, MACHINE ROOM, AND ALL DEPARTMENTS, BY ESTABLISHMENTS—Continued

| Establishment                                       | Total hours worked |          |                    | Production (pounds) |            |                    |              |
|---|--------------------|----------|--------------------|---------------------|------------|--------------------|--------------|
|   | 1924               | 1925     | Per cent of change | 1924                | 1925       | Per cent of change |              |
|   |                    |          |                    |                     |            | Total              | Per man hour |
| <b>MACHINE ROOM</b>                                 |                    |          |                    |                     |            |                    |              |
| <b>Changed from 2 tours to 3 tours <sup>1</sup></b> |                    |          |                    |                     |            |                    |              |
| No. 1.....  | 4,685.0            | 3,900.5  | -16.7              | 2,645,620           | 2,781,950  | +5.2               | +26.2        |
| No. 2.....  | 2,720.0            | 2,288.8  | -15.9              | 2,323,225           | 2,412,460  | +3.8               | +23.4        |
| No. 3.....  | 8,754.5            | 5,861.0  | -33.1              | 5,970,180           | 5,106,520  | -14.5              | +27.7        |
| No. 4.....  | 2,927.5            | 2,498.5  | -14.7              | 2,384,095           | 2,501,695  | +4.9               | +23.0        |
| No. 5.....  | 7,057.5            | 7,819.0  | +10.8              | 2,352,263           | 2,816,132  | +19.7              | +8.1         |
| No. 6.....  | 5,260.0            | 5,139.8  | -2.3               | 3,384,604           | 3,628,980  | +7.2               | +9.8         |
| No. 7.....  | 6,335.8            | 6,180.5  | -2.5               | 4,032,000           | 5,296,000  | +31.3              | +34.7        |
| Total.....  | 37,740.3           | 33,688.1 | -10.7              | 23,091,987          | 24,543,737 | +6.3               | +19.1        |
| <b>Changed from 6 days to 5 days of production</b>  |                    |          |                    |                     |            |                    |              |
| No. 8.....  | 5,628.0            | 4,966.3  | -11.8              | 3,729,205           | 3,232,329  | -13.3              | -1.8         |
| No. 9.....  | 3,205.3            | 2,738.8  | -14.6              | 1,767,650           | 1,602,000  | -9.4               | +6.2         |
| No. 10.....   | 1,821.0            | 1,635.8  | -10.2              | 1,157,422           | 868,555    | -25.0              | -16.5        |
| No. 11.....   | 5,613.5            | 4,538.5  | -19.2              | 3,625,530           | 2,798,650  | -22.8              | -4.5         |
| Total.....  | 16,267.8           | 13,879.4 | -14.7              | 10,279,807          | 8,501,534  | -17.3              | -3.0         |
| Grand total.....                                    | 54,008.1           | 47,567.5 | -11.9              | 33,371,794          | 33,045,271 | -1.0               | +12.5        |

**ALL DEPARTMENTS**

|   |           |           |       |            |            |       |       |
|---|-----------|-----------|-------|------------|------------|-------|-------|
| <b>Changed from 2 tours to 3 tours <sup>1</sup></b> |           |           |       |            |            |       |       |
| No. 1.....  | 19,643.3  | 18,962.5  | -3.5  | 2,645,620  | 2,781,950  | +5.2  | +8.9  |
| No. 2.....  | 12,326.5  | 10,224.0  | -17.1 | 2,323,225  | 2,412,460  | +3.8  | +25.5 |
| No. 3.....  | 27,586.6  | 20,764.5  | -24.7 | 5,970,180  | 5,106,520  | -14.5 | +13.9 |
| No. 4.....  | 13,605.5  | 11,993.8  | -11.8 | 2,384,095  | 2,501,695  | +4.9  | +19.4 |
| No. 5.....  | 20,877.5  | 23,750.3  | +13.8 | 2,352,263  | 2,816,132  | +19.7 | +5.3  |
| No. 6.....  | 20,911.4  | 20,979.8  | +3    | 3,384,604  | 3,628,980  | +7.2  | +6.8  |
| No. 7.....  | 27,713.5  | 29,562.7  | +6.7  | 4,032,000  | 5,296,000  | +31.3 | +23.4 |
| Total.....  | 142,664.3 | 136,237.6 | -4.5  | 23,091,987 | 24,543,737 | +6.3  | +11.1 |
| <b>Changed from 6 days to 5 days of production</b>  |           |           |       |            |            |       |       |
| No. 8.....  | 27,778.1  | 24,791.4  | -10.8 | 3,729,205  | 3,232,329  | -13.3 | -3.0  |
| No. 9.....  | 13,499.8  | 12,604.5  | -6.6  | 1,767,650  | 1,602,000  | -9.4  | -3.1  |
| No. 10.....   | 8,340.9   | 7,881.5   | -5.5  | 1,157,422  | 868,555    | -25.0 | -20.9 |
| No. 11.....   | 18,361.2  | 13,090.8  | -28.7 | 3,625,530  | 2,798,650  | -22.8 | +8.6  |
| Total.....  | 67,980.0  | 58,368.2  | -14.1 | 10,279,807 | 8,501,534  | -17.3 | -3.3  |
| Grand total.....                                    | 210,644.3 | 194,605.8 | -7.6  | 33,371,794 | 33,045,271 | -1.0  | +7.6  |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.

**PRODUCTION AND LABOR COST PER ONE-MAN HOUR**

Table 6 shows by establishments for each of the two periods, for the beater room, the machine room, and for all departments, the number of employees, production rate or output per one-man hour, and labor cost per one-man hour. In the beater room in the mills that changed from 2 tours to 3 tours, both the production rate and the labor cost increased in all of the 7 mills, while in the second group of mills the production rate increased in 3 and the labor cost increased in 2.

In the machine room in the first group of mills, both the production rate and the labor cost increased in all 7 of the establishments, while in the second group only 1 mill increased in production rate and 2 increased in labor cost.

In all departments in the first group of mills, all 7 increased in both production rate and labor cost, while in the second group only 1 increased in production rate, while 3 increased in labor cost.

It will be noted that for all 11 mills, the production rate increased in the beater room from 596 to 674, in the machine room from 618 to 695, and in all departments from 158 to 170. In mill No. 8 the decrease in production rate is attributable to a change in product, a higher grade of board being made in the 1925 period than in the 1924 period, while for mills Nos. 5 and 11 the increase in production rate is due in some slight measure to the introduction of new and improved machinery.

The labor cost per one-man hour increased in all of the mills that changed from 2 tours to 3 tours, this being due to an increase in wage rates on account of the reduction in working time. In the 4 mills that reduced their working-days from 6 to 5, the change in labor cost is due to the fluctuation in number of employees, with the exception of mill No. 8, in which the wage rates in the beater room and the machine room were increased from 10 to 16 per cent.

The labor cost per one-man hour for the 11 mills increased from \$0.494 to \$0.573 in the beater room, from \$0.525 to \$0.609 in the machine room, and from \$0.536 to \$0.586 in all departments.

TABLE 6.—PRODUCTION AND LABOR COST PER ONE-MAN HOUR FOR BEATER ROOM, MACHINE ROOM, AND ALL DEPARTMENTS IN A TWO-WEEK PERIOD, 1924 AND 1925, BY ESTABLISHMENTS

| Establishment                                      | 1924                |   |                             | 1925                |   |                             |
|--|---------------------|---|-----------------------------|---------------------|---|-----------------------------|
|  | Number of employees | Production rate (pounds) per one-man hour | Labor cost per one-man hour | Number of employees | Production rate (pounds) per one-man hour | Labor cost per one-man hour |
| <b>BEATER ROOM</b>                                 |                     |   |                             |                     |   |                             |
| <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |                     |   |                             |                     |   |                             |
| No. 1.....   | 55                  | 421                                       | \$0.435                     | 75                  | 424                                       | \$0.455                     |
| No. 2.....   | 34                  | 649                                       | .523                        | 42                  | 787                                       | .580                        |
| No. 3.....   | 29                  | 588                                       | .521                        | 37                  | 719                                       | .593                        |
| No. 4.....   | 41                  | 663                                       | .475                        | 60                  | 680                                       | .597                        |
| No. 5.....   | 63                  | 548                                       | .482                        | 86                  | 704                                       | .727                        |
| No. 6.....   | 50                  | 938                                       | .524                        | 58                  | 1,064                                     | .609                        |
| No. 7.....   | 33                  | 684                                       | .513                        | 40                  | 907                                       | .616                        |
| Average.....                                       | 44                  | 642                                       | .493                        | 57                  | 723                                       | .599                        |
| <b>Changed from 6 days to 5 days of production</b> |                     |   |                             |                     |   |                             |
| No. 8.....   | 25                  | 466                                       | \$0.478                     | 25                  | 410                                       | \$0.555                     |
| No. 9.....   | 34                  | 528                                       | .596                        | 33                  | 536                                       | .588                        |
| No. 10.....  | 85                  | 488                                       | .484                        | 86                  | 516                                       | .482                        |
| No. 11.....  | 46                  | 554                                       | .468                        | 33                  | 762                                       | .478                        |
| Average.....                                       | 48                  | 513                                       | .497                        | 44                  | 565                                       | .512                        |
| Grand average.....                                 | 45                  | 596                                       | .494                        | 52                  | 674                                       | .573                        |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.

TABLE 6.—PRODUCTION AND LABOR COST PER ONE-MAN HOUR FOR BEATER ROOM, MACHINE ROOM, AND ALL DEPARTMENTS IN A TWO-WEEK PERIOD, 1924 AND 1925, BY ESTABLISHMENTS—Continued

| Establishment                                      | 1924                |   |                             | 1925                |   |                             |
|--|---------------------|---|-----------------------------|---------------------|---|-----------------------------|
|  | Number of employees | Production rate (pounds) per one-man hour | Labor cost per one-man hour | Number of employees | Production rate (pounds) per one-man hour | Labor cost per one-man hour |
| <b>MACHINE ROOM</b>                                |                     |   |                             |                     |   |                             |
| <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |                     |   |                             |                     |   |                             |
| No. 1.....   | 73                  | 333                                       | \$0.470                     | 93                  | 360                                       | \$0.500                     |
| No. 2.....   | 38                  | 565                                       | .561                        | 43                  | 713                                       | .627                        |
| No. 3.....   | 19                  | 814                                       | .547                        | 25                  | 1,001                                     | .664                        |
| No. 4.....   | 46                  | 643                                       | .486                        | 59                  | 706                                       | .606                        |
| No. 5.....   | 59                  | 636                                       | .531                        | 68                  | 857                                       | .804                        |
| No. 6.....   | 61                  | 682                                       | .557                        | 73                  | 871                                       | .677                        |
| No. 7.....   | 34                  | 854                                       | .576                        | 30                  | 1,054                                     | .705                        |
| Average.....                                       | 47                  | 612                                       | .528                        | 56                  | 720                                       | .644                        |
| <b>Changed from 6 days to 5 days of production</b> |                     |   |                             |                     |   |                             |
| No. 8.....   | 18                  | 636                                       | \$0.537                     | 18                  | 531                                       | \$0.593                     |
| No. 9.....   | 33                  | 551                                       | .574                        | 32                  | 585                                       | .576                        |
| No. 10.....  | 68                  | 663                                       | .490                        | 59                  | 651                                       | .481                        |
| No. 11.....  | 38                  | 646                                       | .514                        | 37                  | 617                                       | .513                        |
| Average.....                                       | 39                  | 632                                       | .520                        | 37                  | 613                                       | .523                        |
| Grand average.....                                 | 44                  | 618                                       | .525                        | 49                  | 695                                       | .609                        |

**ALL DEPARTMENTS**

|  |     |     |         |     |     |         |
|--|-----|-----|---------|-----|-----|---------|
| <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |     |     |         |     |     |         |
| No. 1.....   | 200 | 113 | \$0.485 | 245 | 119 | \$0.498 |
| No. 2.....   | 176 | 135 | .583    | 200 | 147 | .615    |
| No. 3.....   | 107 | 175 | .561    | 119 | 209 | .636    |
| No. 4.....   | 181 | 162 | .515    | 220 | 173 | .591    |
| No. 5.....   | 279 | 145 | .519    | 318 | 179 | .638    |
| No. 6.....   | 207 | 216 | .579    | 237 | 246 | .671    |
| No. 7.....   | 124 | 188 | .560    | 119 | 236 | .627    |
| Average.....                                       | 182 | 162 | .541    | 208 | 180 | .607    |
| <b>Changed from 6 days to 5 days of production</b> |     |     |         |     |     |         |
| No. 8.....   | 100 | 139 | \$0.523 | 102 | 110 | \$0.555 |
| No. 9.....   | 130 | 131 | .607    | 129 | 127 | .616    |
| No. 10.....  | 294 | 134 | .499    | 279 | 130 | .497    |
| No. 11.....  | 135 | 197 | .508    | 110 | 214 | .532    |
| Average.....                                       | 165 | 151 | .526    | 155 | 146 | .538    |
| Grand average.....                                 | 176 | 158 | .536    | 189 | 170 | .586    |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.**TIME AND LABOR COST PER TON**

Table 7 shows by establishments for a comparative period, 1924 and 1925, for the beater room, the machine room, and for all departments, the number of employees, full-time positions, time cost per ton of product, and the labor cost per ton of product. In the beater

room it will be noted that, in the 7 establishments changing from two tours to three tours, while the number of full-time positions increased in every plant, the time cost decreased. The labor cost in these mills decreased in 3 and increased in 4.

In the machine room of the 7 establishments that changed from two tours to three tours the time cost decreased in all 7, while the labor cost decreased in 5 and increased in 2.

The figures for all departments show that of the mills changing from two tours to three tours the time cost decreased in all 7, and the labor cost decreased in 5, while in the 4 mills that decreased the number of working-days from 6 to 5 the time cost and the labor cost both increased in 3.

The large increase in labor cost shown for establishment No. 8 is due to a change in product, a higher grade of board being made in the 1925 period than in the 1924 period, as well as an increase in wage rates in the beater room and the machine room of from 10 to 16 per cent. Also, the decrease in time cost for mill No. 5 and the decrease in both time and labor cost for mill No. 11 are due in some measure to a change in equipment.

It seems especially worthy of note that in the 7 mills changing from two tours to three tours the time cost per ton of product in the beater room, the machine room, and in all departments is less in 1925 than in 1924, while the increase in the labor cost per ton of product in the beater room is only 12 cents, in the machine room only 4 cents, and in all departments only 5 cents.

TABLE 7.—TIME AND LABOR COST PER TON IN BEATER ROOM, MACHINE ROOM, AND ALL DEPARTMENTS IN A TWO-WEEK PERIOD, 1924 AND 1925, BY ESTABLISHMENTS

| Establishment                                      | 1924                |                     |   |                                       | 1925                |                     |   |                                       |
|--|---------------------|---------------------|---|---------------------------------------|---------------------|---------------------|---|---------------------------------------|
|  | Number of employees | Full-time positions | Time cost (manhours) per ton of product | Labor cost (money) per ton of product | Number of employees | Full-time positions | Time cost (manhours) per ton of product | Labor cost (money) per ton of product |
| <b>BEATER ROOM</b>                                 |                     |                     |   |                                       |                     |                     |   |                                       |
| <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |                     |                     |   |                                       |                     |                     |   |                                       |
| No. 1.....   | 55                  | 41                  | 4.75                                    | \$2.07                                | 75                  | 61                  | 4.71                                    | \$2.14                                |
| No. 2.....   | 34                  | 32                  | 3.08                                    | 1.61                                  | 42                  | 36                  | 2.54                                    | 1.47                                  |
| No. 3.....   | 29                  | 26                  | 3.40                                    | 1.77                                  | 37                  | 33                  | 2.78                                    | 1.65                                  |
| No. 4.....   | 41                  | 40                  | 3.02                                    | 1.43                                  | 60                  | 57                  | 2.94                                    | 1.76                                  |
| No. 5.....   | 63                  | 52                  | 3.65                                    | 1.76                                  | 86                  | 77                  | 2.84                                    | 2.06                                  |
| No. 6.....   | 50                  | 46                  | 2.13                                    | 1.12                                  | 58                  | 57                  | 1.88                                    | 1.15                                  |
| No. 7.....   | 33                  | 24                  | 2.92                                    | 1.50                                  | 40                  | 33                  | 2.21                                    | 1.36                                  |
| Average.....                                       | 44                  | 37                  | 3.11                                    | 1.54                                  | 57                  | 51                  | 2.77                                    | 1.66                                  |
| <b>Changed from 6 days to 5 days of production</b> |                     |                     |   |                                       |                     |                     |   |                                       |
| No. 8.....   | 25                  | 25                  | 4.29                                    | \$2.05                                | 25                  | 25                  | 4.88                                    | \$2.71                                |
| No. 9.....   | 34                  | 33                  | 3.79                                    | 2.26                                  | 33                  | 33                  | 3.73                                    | 2.19                                  |
| No. 10.....  | 85                  | 75                  | 4.10                                    | 1.98                                  | 86                  | 75                  | 3.88                                    | 1.87                                  |
| No. 11.....  | 46                  | 44                  | 3.61                                    | 1.69                                  | 33                  | 30                  | 2.82                                    | 1.25                                  |
| Average.....                                       | 48                  | 44                  | 3.90                                    | 1.94                                  | 44                  | 41                  | 3.54                                    | 1.81                                  |
| Grand average.....                                 | 45                  | 40                  | 3.35                                    | 1.66                                  | 52                  | 47                  | 2.97                                    | 1.70                                  |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.

TABLE 7.—TIME AND LABOR COST PER TON IN BEATER ROOM, MACHINE ROOM, AND ALL DEPARTMENTS IN A TWO-WEEK PERIOD, 1924 AND 1925, BY ESTABLISHMENTS—Continued

| Establishment                                      | 1924                |                     |  |                                       | 1925                |                     |  |                                       |
|--|---------------------|---------------------|--|---------------------------------------|---------------------|---------------------|--|---------------------------------------|
|  | Number of employees | Full-time positions | Time cost (man hours) per ton of product | Labor cost (money) per ton of product | Number of employees | Full-time positions | Time cost (man hours) per ton of product | Labor cost (money) per ton of product |
| <b>MACHINE ROOM</b>                                |                     |                     |  |                                       |                     |                     |  |                                       |
| <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |                     |                     |  |                                       |                     |                     |  |                                       |
| No. 1.....   | 73                  | 55                  | 6.00                                     | \$2.82                                | 93                  | 76                  | 5.55                                     | \$2.78                                |
| No. 2.....   | 38                  | 36                  | 3.54                                     | 1.99                                  | 43                  | 42                  | 2.80                                     | 1.76                                  |
| No. 3.....   | 19                  | 18                  | 2.46                                     | 1.34                                  | 25                  | 24                  | 2.00                                     | 1.33                                  |
| No. 4.....   | 46                  | 36                  | 3.11                                     | 1.51                                  | 59                  | 54                  | 2.83                                     | 1.72                                  |
| No. 5.....   | 59                  | 45                  | 3.14                                     | 1.67                                  | 68                  | 63                  | 2.33                                     | 1.88                                  |
| No. 6.....   | 61                  | 57                  | 2.93                                     | 1.63                                  | 73                  | 66                  | 2.30                                     | 1.55                                  |
| No. 7.....   | 34                  | 18                  | 2.34                                     | 1.35                                  | 30                  | 27                  | 1.90                                     | 1.34                                  |
| Average.....                                       | 47                  | 38                  | 3.27                                     | 1.73                                  | 56                  | 50                  | 2.75                                     | 1.77                                  |
| <b>Changed from 6 days to 5 days of production</b> |                     |                     |  |                                       |                     |                     |  |                                       |
| No. 8.....   | 18                  | 18                  | 3.15                                     | \$1.69                                | 18                  | 18                  | 3.77                                     | \$2.23                                |
| No. 9.....   | 33                  | 31                  | 3.63                                     | 2.08                                  | 32                  | 31                  | 3.42                                     | 1.97                                  |
| No. 10.....  | 68                  | 52                  | 3.02                                     | 1.48                                  | 59                  | 51                  | 3.07                                     | 1.48                                  |
| No. 11.....  | 38                  | 37                  | 3.10                                     | 1.59                                  | 37                  | 37                  | 3.24                                     | 1.67                                  |
| Average.....                                       | 39                  | 35                  | 3.17                                     | 1.65                                  | 37                  | 34                  | 3.27                                     | 1.71                                  |
| Grand average.....                                 | 44                  | 37                  | 3.24                                     | 1.70                                  | 49                  | 44                  | 2.88                                     | 1.76                                  |

## ALL DEPARTMENTS

| Establishment                                      | 1924                |  |                                       | 1925                |  |                                       |
|--|---------------------|--|---------------------------------------|---------------------|--|---------------------------------------|
|  | Number of employees | Time cost (man hours) per ton of product | Labor cost (money) per ton of product | Number of employees | Time cost (man hours) per ton of product | Labor cost (money) per ton of product |
| <b>Changed from 2 tours to 3 tours<sup>1</sup></b> |                     |  |                                       |                     |  |                                       |
| No. 1.....   | 200                 | 17.75                                    | \$8.61                                | 245                 | 16.87                                    | \$8.40                                |
| No. 2.....   | 176                 | 14.85                                    | 8.65                                  | 200                 | 13.63                                    | 8.38                                  |
| No. 3.....   | 107                 | 11.41                                    | 6.40                                  | 119                 | 9.59                                     | 6.10                                  |
| No. 4.....   | 181                 | 12.36                                    | 6.36                                  | 220                 | 11.56                                    | 6.83                                  |
| No. 5.....   | 279                 | 13.75                                    | 7.13                                  | 318                 | 11.16                                    | 7.12                                  |
| No. 6.....   | 207                 | 9.24                                     | 5.35                                  | 237                 | 8.13                                     | 5.45                                  |
| No. 7.....   | 124                 | 10.61                                    | 5.94                                  | 119                 | 8.48                                     | 5.31                                  |
| Average.....                                       | 182                 | 12.36                                    | 6.69                                  | 208                 | 11.10                                    | 6.74                                  |
| <b>Changed from 6 days to 5 days of production</b> |                     |  |                                       |                     |  |                                       |
| No. 8.....   | 100                 | 14.41                                    | \$7.53                                | 102                 | 18.15                                    | \$10.08                               |
| No. 9.....   | 130                 | 15.27                                    | 9.27                                  | 129                 | 15.74                                    | 9.70                                  |
| No. 10.....  | 294                 | 14.90                                    | 7.43                                  | 279                 | 15.34                                    | 7.62                                  |
| No. 11.....  | 135                 | 10.13                                    | 5.15                                  | 110                 | 9.36                                     | 4.97                                  |
| Average.....                                       | 165                 | 13.23                                    | 6.95                                  | 155                 | 13.73                                    | 7.39                                  |
| Grand average.....                                 | 176                 | 12.62                                    | 6.77                                  | 189                 | 11.78                                    | 6.91                                  |

<sup>1</sup> Two of these mills also reduced their days of production from 6 to 5.

The five tables following, numbers 8, 9, 10, 11, and 12, apply only to the 7 mills that changed from two tours to three tours. As practically all of the employees affected by the change from two tours to three tours are in the beater room and the machine room, these tables will deal only with these two departments.

**FULL-TIME POSITIONS AS AFFECTED BY CHANGE FROM TWO TOURS TO THREE TOURS**

From a perusal of table 8 it would appear that in both the beater room and the machine room there is a possibility that with the decreased working time due to the change from two tours to three tours the number of employees per tour can be decreased.

The practice in some of the mills is to carry one or more spare hands in a few of the more important occupations. Wherever this was the settled policy of the mill these spare hands have been included in the respective occupations in this table.

In the beater room, only 1 mill found it necessary to increase its force 50 per cent, the increase in the other mills ranging from 13 to 48 per cent, the average increase for all 7 mills being 35 per cent.

In the machine room, only 1 mill found it necessary to increase its force 50 per cent, the other increases in this department ranging from 16 to 39 per cent, the average for the 7 mills being 31 per cent.

In the beater room and the machine room combined the increases in full-time positions ranged from 15 to 44 per cent, the average of all 7 establishments being 33 per cent.

The figures in this table seem to be conclusive evidence of the correctness of the assertions of some members of the conference that in most of the mills it would not be necessary to increase the number of tour workers 50 per cent in order to change from two tours to three tours.

TABLE 8.—NUMBER OF FULL-TIME POSITIONS IN THE BEATER AND THE MACHINE ROOMS AS AFFECTED BY CHANGE FROM 2 TOURS TO 3 TOURS

| Department and occupation                     | Establishment No. 1 |                   |                      | Establishment No. 2 |                   |                      | Establishment No. 3 |                   |                      | Establishment No. 4 |                   |                      | Establishment No. 5 |                   |                      | Establishment No. 6 |                   |                      | Establishment No. 7 |                   |                      | Total           |                   |                      |
|---|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|-----------------|-------------------|----------------------|
|   | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924 | Three tours, 1925 | Per cent of increase |
| <b>BEATER ROOM</b>                            |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                 |                   |                      |
| Tour bosses.....                              |                     |                   |                      | 2                   | 2                 | (1)                  |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 2               | 2                 | (1)                  |
| Head beater men.....                          | 2                   | 3                 | 50                   | 4                   | 6                 | 50                   | 2                   | 3                 | 50                   | 2                   | 3                 | 50                   | 2                   | 3                 | 50                   | 2                   | 3                 | 50                   | 3                   | 3                 | (1)                  | 17              | 24                | 41                   |
| Head beater men, assistants.....              |                     |                   |                      |                     |                   |                      | 4                   | 6                 | 50                   | 2                   | 3                 | 50                   |                     |                   |                      | 2                   | 3                 | 50                   |                     |                   |                      | 8               | 12                | 50                   |
| Jordan men.....                               | 2                   | 3                 | 50                   |                     |                   |                      | 4                   | 6                 | 50                   |                     |                   |                      | 4                   | 6                 | 50                   |                     |                   |                      | 2                   | 3                 | 50                   | 14              | 21                | 50                   |
| Plug pullers and roll setters.....            | 2                   | 3                 | 50                   | 4                   | 6                 | 50                   |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 6                   | 9                 | 50                   | 12              | 18                | 50                   |
| Breaker beater men.....                       |                     |                   |                      | 2                   | 3                 | 50                   |                     |                   |                      | 2                   | 3                 | 50                   |                     |                   |                      |                     |                   |                      |                     |                   |                      | 4               | 6                 | 50                   |
| Liner beater men.....                         |                     |                   |                      |                     |                   |                      |                     |                   |                      | 2                   | 3                 | 50                   |                     |                   |                      |                     |                   |                      |                     |                   |                      | 2               | 3                 | 50                   |
| Beater men.....                               | 20                  | 24                | 20                   | 40                  | 60                | 50                   | 30                  | 42                | 40                   | 32                  | 48                | 50                   | 26                  | 27                | 4                    | 18                  | 24                | 33                   | 36                  | 42                | 17                   | 202             | 267               | 32                   |
| Total.....                                    | 26                  | 33                | 27                   | 52                  | 77                | 48                   | 40                  | 57                | 43                   | 40                  | 60                | 50                   | 32                  | 36                | 13                   | 24                  | 33                | 38                   | 47                  | 57                | 21                   | 261             | 353               | 35                   |
| <b>MACHINE ROOM</b>                           |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                 |                   |                      |
| Tour bosses.....                              |                     |                   |                      | 2                   | 3                 | 50                   |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 2               | 3                 | 50                   |
| Machine tenders.....                          | 2                   | 3                 | 50                   | 6                   | 7                 | 17                   | 6                   | 7                 | 17                   | 6                   | 9                 | 50                   | 4                   | 6                 | 50                   | 2                   | 3                 | 50                   | 7                   | 9                 | 29                   | 33              | 44                | 33                   |
| Back tenders.....                             | 2                   | 3                 | 50                   | 4                   | 6                 | 50                   | 6                   | 6                 | (1)                  | 6                   | 9                 | 50                   | 4                   | 6                 | 50                   | 2                   | 3                 | 50                   | 6                   | 9                 | 50                   | 30              | 42                | 40                   |
| Finishers, third hands, and calender men..... | 2                   | 3                 | 50                   | 5                   | 7                 | 40                   | 4                   | 6                 | 50                   | 12                  | 15                | 25                   | 4                   | 6                 | 50                   | 2                   | 3                 | 50                   | 6                   | 9                 | 50                   | 35              | 49                | 40                   |
| Cutter boys.....                              | 6                   | 6                 | (1)                  | 18                  | 24                | 33                   | 20                  | 30                | 50                   | 18                  | 24                | 33                   | 18                  | 15                | 17                   | 8                   | 12                | 50                   | 32                  | 33                | 3                    | 120             | 144               | 20                   |
| Broke boys.....                               | 2                   | 3                 | 50                   | 4                   | 6                 | 50                   |                     |                   |                      | 6                   | 9                 | 50                   |                     |                   |                      |                     |                   |                      |                     |                   |                      | 12              | 18                | 50                   |
| Welghers.....                                 |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 2                   | 3                 | 50                   |                     |                   |                      | 2               | 3                 | 50                   |
| Stackers out.....                             |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 4                   | 6                 | 50                   |                     |                   |                      |                     |                   |                      | 4               | 6                 | 50                   |
| Slitter men.....                              |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 2                   | (?)               | 100                  | 2               | (?)               | 100                  |
| Inspectors.....                               |                     |                   |                      | 2                   | 3                 | 50                   |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 2               | 3                 | 50                   |
| Felt checkers.....                            | 2                   | 3                 | 50                   | 2                   | 3                 | 50                   |                     |                   |                      |                     |                   |                      | 2                   | 3                 | 50                   |                     |                   |                      |                     |                   |                      | 6               | 9                 | 50                   |
| Screen men.....                               | 2                   | 3                 | 50                   | 4                   | 6                 | 50                   | 4                   | 6                 | 50                   | 6                   | 9                 | 50                   |                     |                   |                      | 2                   | 3                 | 50                   | 4                   | 6                 | 50                   | 22              | 33                | 50                   |
| Total.....                                    | 18                  | 24                | 33                   | 47                  | 65                | 38                   | 40                  | 55                | 38                   | 54                  | 75                | 39                   | 36                  | 42                | 17                   | 18                  | 27                | 50                   | 57                  | 66                | 16                   | 270             | 354               | 31                   |
| Grand total.....                              | 44                  | 57                | 30                   | 99                  | 142               | 43                   | 80                  | 112               | 40                   | 94                  | 135               | 44                   | 68                  | 78                | 15                   | 42                  | 60                | 43                   | 104                 | 123               | 18                   | 531             | 707               | 33                   |

<sup>1</sup> No change.

<sup>2</sup> Occupation abolished.

<sup>3</sup> Decrease.

**INCREASE IN WAGE RATES DUE TO CHANGE FROM TWO TOURS  
TO THREE TOURS**

Where such a drastic cut in earning capacity as a reduction of approximately one-third of the working time was inaugurated, it would seem only just and proper that the wage rates should be increased so as to compensate in some degree for the large decrease in the weekly earnings. Table 9 shows the increases in wage rates by establishments. In establishment No. 5 the increase for all tour occupations with two exceptions amounted to 50 per cent, which provided practically the same weekly earnings for 8 hours' work as had previously been paid for 12. In establishment No. 4 the increase was 25 per cent for all occupations except machine tenders, who received an increase of 33 per cent. The increases in the other 5 establishments varied greatly, the increase in establishment No. 3, ranging from nothing to 10 per cent; establishment No. 2 from 5 to 13 per cent; establishment No. 1 from 8 to 29 per cent; establishment No. 6 from 10 to 29 per cent; and in establishment No. 7, from 10 to 36 per cent. It will be noted that with few exceptions the largest increases occurred in the skilled occupations. In sharp contra-distinction to this (although it does not appear in this table) 1 of the group of 4 mills that reduced the number of days worked per week from 6 to 5 but did not change the hours worked per tour changed its wage rates, increasing the least skilled occupations to a greater extent than the others, thus, the head beater men were increased  $12\frac{1}{2}$  per cent while the beater men received 16 per cent. The machine tenders were increased 10 per cent, back tenders and finishers 13 per cent, while cutter boys and screenmen were increased 16 per cent. This was the only mill in the group of 4 that increased the wage rates.

TABLE 9.—INCREASE IN HOURLY WAGE RATES IN THE BEATER AND THE MACHINE ROOMS DUE TO CHANGE FROM 2 TOURS TO 3 TOURS

| Department and occupation                     | Establishment No. 1 |                   |                      | Establishment No. 2 |                   |                      | Establishment No. 3 |                   |                      | Establishment No. 4 |                   |                      | Establishment No. 5 |                   |                      | Establishment No. 6 |                   |                      | Establishment No. 7 |                   |                      |
|---|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|
|   | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase | Two tours, 1924     | Three tours, 1925 | Per cent of increase |
| <b>BEATER ROOM</b>                            |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Tour bosses.....                              |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Head beater men.....                          | \$0.75              | \$0.90            | 20                   | \$0.75              | \$0.833           | 11                   | \$0.75              | \$0.80            | 7                    | \$0.65              | \$0.8125          | 25                   | \$0.55              | \$0.60            | 9                    | \$0.70              | \$0.90            | 29                   | \$0.77              | \$1.05            | 36                   |
| Head beater men, assistant.....               |                     |                   |                      |                     |                   |                      | .60                 | .65               | 8                    | .55                 | .6875             | 25                   |                     |                   |                      | .65                 | .75               | 15                   |                     |                   |                      |
| Plug pullers and roll setters.....            | .60                 | .70               | 17                   |                     |                   |                      |                     |                   |                      |                     |                   |                      | .39                 | .585              | 50                   |                     |                   |                      | .55                 | .70               | 27                   |
| Jordan men.....                               | .50                 | .55               | 10                   | .5375               | .5875             | 9                    |                     |                   |                      | .50                 | .625              | 25                   |                     |                   |                      | .55                 | .65               | 18                   | .55                 | .70               | 27                   |
| Breaker beater men.....                       |                     |                   |                      |                     |                   |                      | .45                 | .45               | (1)                  |                     |                   |                      | .46                 | .69               | 50                   |                     |                   |                      |                     |                   |                      |
| Liner beater men.....                         |                     |                   |                      |                     |                   |                      | .475                | .475              | (1)                  |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Beater men.....                               | .50                 | .55               | 10                   | .50                 | .55               | 10                   | .405                | .425              | 5                    | .45                 | .5625             | 25                   | .32                 | .48               | 50                   | .50                 | .55               | 10                   | .50                 | .55               | 10                   |
| <b>MACHINE ROOM</b>                           |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Tour bosses.....                              |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | .833                | 1.25              | 50                   |                     |                   |                      |                     |                   |                      |
| Machine tenders.....                          | .85                 | 1.10              | 29                   | .80                 | .90               | 13                   | .721                | .79               | 10                   | .75                 | 1.00              | 33                   | .62                 | .93               | 50                   | .905                | 1.15              | 27                   | .85                 | 1.15              | 35                   |
| Back tenders.....                             | .65                 | .75               | 15                   | .6375               | .70               | 10                   | .5143               | .568              | 10                   | .55                 | .6875             | 25                   | .42                 | .63               | 50                   | .70                 | .825              | 18                   | .60                 | .80               | 33                   |
| Finishers, third hands, and calender men..... | .60                 | .65               | 8                    | .55                 | .60               | 9                    | .475                | .52               | 9                    | .45                 | .5625             | 25                   | .36                 | .54               | 50                   | .65                 | .77               | 18                   | .52                 | .65               | 25                   |
| Slitter men.....                              |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Cutter boys.....                              | .50                 | .55               | 10                   | .50                 | .55               | 10                   | .405                | .425              | 5                    | .40                 | .50               | 25                   | .31                 | .465              | 50                   | .50                 | .55               | 10                   | .50                 | .55               | 10                   |
| Broke boys.....                               | .50                 | .55               | 10                   |                     |                   |                      | .405                | .425              | 5                    |                     |                   |                      | .32                 | .48               | 50                   |                     |                   |                      | .53                 | (2)               |                      |
| Weighers.....                                 |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | .55                 | .62               | 13                   |                     |                   |                      |
| Stackers out.....                             |                     |                   |                      | .50                 | .525              | 5                    |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Inspectors.....                               |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | .46                 | .625              | 36                   |                     |                   |                      |                     |                   |                      |
| Felt checkers.....                            | .50                 | .57               | 14                   | .50                 | .525              | 5                    |                     |                   |                      |                     |                   |                      | .34                 | .51               | 50                   |                     |                   |                      |                     |                   |                      |
| Screen men.....                               | .50                 | .55               | 10                   |                     |                   |                      | .405                | .425              | 5                    | .40                 | .50               | 25                   | .32                 | .48               | 50                   | .55                 | .65               | 18                   | .50                 | .55               | 10                   |

<sup>1</sup> No change.

<sup>2</sup> Occupation abolished.

<sup>3</sup> Did not change to three tours.

**FULL-TIME EARNINGS PER EMPLOYEE UNDER BOTH TWO-TOUR  
AND THREE-TOUR OPERATION**

Table No. 10 shows the full time earnings of the individual in the various occupations.

In this table and its companion Table No. 11 the earnings are based on full-time hours. Full-time hours in the two-week periods used in this study are the regular hours during which under normal conditions employees in an occupation are on duty.

Clean-up time has been included in full-time hours, and as has previously been noted this time usually amounted to the time of one tour; therefore 11 hours per employee every other week in the two-tour operation and 8 hours per employee every third week in the three-tour operation has been used.

The first column for each establishment shows the amount earned in a two-week period under normal conditions under the two-tour system. The second column shows the amount earned under the same conditions under the three-tour system. The third column shows the per cent of decrease or, in other words, the per cent of earnings which the employee lost by the change from two tours to three tours. In both the beater and the machine rooms the decrease varied all the way from 2 to 39 per cent.

It will be noted that, with the exception of mill No. 2, the employees in the beater room and the machine room, although receiving a higher rate per hour as shown in Table No. 9, actually earned much less in a pay period under the three-tour system than under the previous two tours.

As has been stated previously, 2 of the mills in the group of 7 had, in addition to changing from two tours to three tours, also reduced their days of production from six to five. In both Table 10 and Table 11 this will have to be given due consideration in studying the figures for establishments 6 and 7, as it is to be expected that the full-time earnings would be materially reduced owing to this change in operation.

One of these 7 establishments paid a bonus based on production. As the amount received varied from week to week and tour to tour it was impossible to show it in either Table 10 or Table 11. It is only fair to the establishment to state that the bonus was of such a substantial amount that the earnings of the employees in the beater room and the machine room of this mill were the highest paid by any of the other mills covered in this study.

TABLE 10.—FULL-TIME EARNINGS PER EMPLOYEE IN THE BEATER AND THE MACHINE ROOMS FOR A TWO-WEEK PERIOD, 1924 AND 1925, UNDER BOTH TWO-TOUR AND THREE-TOUR OPERATION, AND PER CENT OF DECREASE DUE TO CHANGE FROM TWO TOURS TO THREE TOURS

| Department and occupation                    | Establishment No. 1 |                   |                      | Establishment No. 2 |                   |                      | Establishment No. 3 |                   |                      | Establishment No. 4 |                   |                      | Establishment No. 5 |                   |                      | Establishment No. 6 |                   |                      | Establishment No. 7 |                   |                      |
|--|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|-------------------|----------------------|
|  | Two tours, 1924     | Three tours, 1925 | Per cent of decrease | Two tours, 1924     | Three tours, 1925 | Per cent of decrease | Two tours, 1924     | Three tours, 1925 | Per cent of decrease | Two tours, 1924     | Three tours, 1925 | Per cent of decrease | Two tours, 1924     | Three tours, 1925 | Per cent of decrease | Two tours, 1924     | Three tours, 1925 | Per cent of decrease | Two tours, 1924     | Three tours, 1925 | Per cent of decrease |
| <b>BEATER ROOM</b>                           |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Tour bosses.....                             |                     |                   |                      | \$72.05             | \$78.60           |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Head beater men.....                         | \$116.25            | \$91.20           | 22                   | 65.50               | 64.00             | 2                    | \$85.15             | \$69.33           | 19                   | \$106.50            | \$81.07           | 24                   | \$98.25             | \$71.08           | 28                   | \$108.50            | \$76.80           | 29                   | \$119.35            | \$89.60           | 25                   |
| Head beater men, assistant.....              |                     |                   |                      |                     |                   |                      | 72.05               | 58.67             | 19                   | 85.20               | 65.87             | 23                   |                     |                   |                      | 100.75              | 64.00             | 36                   |                     |                   |                      |
| Plug pullers and roll setters.....           | 93.00               | 70.93             | 24                   | 51.09               | 49.92             | 2                    |                     |                   |                      |                     |                   |                      | 70.41               | 50.13             | 29                   | 85.25               | 55.47             | 35                   | 85.25               | 59.73             | 30                   |
| Jordan men.....                              | 77.50               | 55.73             |                      |                     |                   |                      | 65.50               | 53.33             | 19                   |                     |                   |                      |                     |                   |                      | 85.25               | 55.47             | 35                   | 85.25               | 59.73             | 30                   |
| Breaker beater men.....                      |                     |                   |                      | 60.26               | 58.88             | 2                    |                     |                   |                      | 63.90               | 45.60             | 29                   |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Liner beater men.....                        |                     |                   |                      |                     |                   |                      |                     |                   |                      | 67.45               | 48.13             | 29                   |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Beater men.....                              | 77.50               | 55.73             | 28                   | 41.92               | 40.96             | 2                    | 53.95               | 48.00             | 19                   | 57.51               | 43.07             | 25                   | 65.50               | 46.93             | 28                   | 77.50               | 46.93             | 39                   |                     |                   |                      |
| <b>MACHINE ROOM</b>                          |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Tour bosses.....                             |                     |                   |                      | 109.12              | 106.67            | 2                    |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Machine tenders.....                         | 131.75              | 111.47            | 15                   | 81.22               | 79.36             | 2                    | 95.25               | 85.33             | 13                   | 102.38              | 80.05             | 22                   | 104.80              | 76.80             | 27                   | 140.28              | 98.13             | 30                   | 131.75              | 98.13             | 26                   |
| Back tenders.....                            | 100.75              | 76.00             | 25                   | 55.02               | 53.76             | 2                    | 72.05               | 58.67             | 19                   | 73.03               | 57.56             | 21                   | 83.51               | 59.73             | 28                   | 108.50              | 70.40             | 35                   | 93.00               | 68.27             | 27                   |
| Finishers, third hands and calender men..... | 93.00               | 65.87             | 29                   | 47.16               | 46.08             | 2                    | 58.95               | 48.00             | 19                   | 67.45               | 52.69             | 22                   | 70.05               | 51.20             | 29                   | 100.75              | 65.71             | 35                   | 80.60               | 55.47             | 31                   |
| Cutter boys.....                             | 77.50               | 55.73             | 28                   | 40.61               | 39.68             | 2                    | 52.40               | 42.67             | 19                   | 57.51               | 43.07             | 25                   | 65.50               | 46.93             | 28                   | 77.50               | 46.93             | 39                   | 77.50               | 46.93             | 39                   |
| Broke boys.....                              | 77.50               | 55.73             | 28                   | 41.92               | 40.96             | 2                    |                     |                   |                      | 57.51               | 43.07             | 25                   |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Weighers.....                                |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 85.25               | 52.91             | 38                   |                     |                   |                      |
| Stackers out.....                            |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 65.50               | 44.80             | 32                   |                     |                   |                      |                     |                   |                      |
| Slitter men.....                             |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      | 82.15               | (?)               |                      |
| Inspectors.....                              |                     |                   |                      | 60.26               | 53.33             | 12                   |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |                     |                   |                      |
| Felt checkers.....                           | 77.50               | 57.76             | 25                   | 44.54               | 43.52             | 2                    |                     |                   |                      |                     |                   |                      | 65.50               | 44.80             | 32                   |                     |                   |                      |                     |                   |                      |
| Screen men.....                              | 77.50               | 55.73             | 28                   | 41.92               | 40.96             | 2                    | 52.40               | 42.67             | 19                   | 57.51               | 43.07             | 25                   |                     |                   |                      | 85.25               | 55.47             | 35                   | 77.50               | 46.93             | 39                   |

<sup>1</sup> Did not change to three tours.

<sup>2</sup> Occupation abolished.

**FULL-TIME EARNINGS PER OCCUPATION AS A WHOLE UNDER BOTH  
TWO-TOUR AND THREE-TOUR OPERATION**

Table 11 continues the exposition of full-time earnings, but as applied to the occupation as a unit rather than to the individual in the occupation as did Table 10.

This table is based on full-time hours and includes clean-up time, both of which have been explained for Table 10.

In the first column for each establishment is shown by occupation the amount of full-time wages that would under normal conditions be paid to all employees in that occupation under the two-tour system, while in the second column is shown the amount that would be paid under similar conditions under the three-tour system. The third column shows the per cent of change.

**TABLE 11.—FULL-TIME EARNINGS PER OCCUPATION IN THE BEATER AND THE  
MACHINE ROOM**

| Department and occupation                     | Establishment No. 1 |                   |                    | Establishment No. 2 |                   |                    | Establishment No. 3 |                   |                    |
|---|---------------------|-------------------|--------------------|---------------------|-------------------|--------------------|---------------------|-------------------|--------------------|
|   | Two tours, 1924     | Three tours, 1925 | Per cent of change | Two tours, 1924     | Three tours, 1925 | Per cent of change | Two tours, 1924     | Three tours, 1925 | Per cent of change |
| <b>BEATER ROOM</b>                            |                     |                   |                    |                     |                   |                    |                     |                   |                    |
| Tour bosses.....                              |                     |                   |                    | \$144.10            | \$157.20          | +9                 |                     |                   |                    |
| Head beater men.....                          | \$232.50            | \$273.60          | +18                | 262.00              | 384.00            | +47                | \$170.30            | \$208.00          | +22                |
| Head beater men, assistant.....               |                     |                   |                    |                     |                   |                    | 288.20              | 352.00            | +22                |
| Plug pullers and roll setters.....            | 186.00              | 212.80            | +14                | 204.36              | 299.52            | +47                |                     |                   |                    |
| Jordan men.....                               | 155.00              | 167.20            | +8                 |                     |                   |                    | 262.00              | 320.00            | +22                |
| Breaker beater men.....                       |                     |                   |                    | 120.52              | 176.64            | +47                |                     |                   |                    |
| Liner beater men.....                         |                     |                   |                    |                     |                   |                    |                     |                   |                    |
| Beater men.....                               | 1,550.00            | 1,337.60          | -14                | 1,676.80            | 2,457.60          | +47                | 1,768.50            | 2,015.92          | +14                |
| <b>Total.....</b>                             | <b>2,123.50</b>     | <b>1,991.20</b>   | <b>-6</b>          | <b>2,407.78</b>     | <b>3,474.96</b>   | <b>+44</b>         | <b>2,489.00</b>     | <b>2,895.92</b>   | <b>+16</b>         |
| <b>MACHINE ROOM</b>                           |                     |                   |                    |                     |                   |                    |                     |                   |                    |
| Tour bosses.....                              |                     |                   |                    | 218.25              | 320.00            | +47                |                     |                   |                    |
| Machine tenders.....                          | 263.50              | 334.40            | +27                | 479.46              | 555.52            | +16                | 589.50              | 597.33            | +1                 |
| Back tenders.....                             | 201.50              | 228.00            | +13                | 220.08              | 322.56            | +47                | 432.30              | 352.00            | -19                |
| Finishers, third hands, and calender men..... | 186.00              | 197.60            | +6                 | 235.80              | 322.56            | +37                | 235.80              | 288.00            | +22                |
| Cutter boys.....                              | 465.00              | 334.40            | -28                | 730.98              | 952.28            | +30                | 1,048.00            | 1,280.00          | +22                |
| Broke boys.....                               | 155.00              | 167.20            | +8                 | 167.68              | 245.76            | +47                |                     |                   |                    |
| Weighers.....                                 |                     |                   |                    |                     |                   |                    |                     |                   |                    |
| Stackers out.....                             |                     |                   |                    |                     |                   |                    |                     |                   |                    |
| Slitter men.....                              |                     |                   |                    |                     |                   |                    |                     |                   |                    |
| Inspectors.....                               |                     |                   |                    | 120.52              | 160.00            | +33                |                     |                   |                    |
| Felt checkers.....                            | 155.00              | 173.28            | +12                | 89.08               | 130.86            | +47                |                     |                   |                    |
| Screen men.....                               | 155.00              | 167.20            | +8                 | 167.68              | 245.76            | +47                | 209.60              | 256.00            | +22                |
| <b>Total.....</b>                             | <b>1,581.00</b>     | <b>1,602.08</b>   | <b>+1</b>          | <b>2,429.53</b>     | <b>3,255.30</b>   | <b>+34</b>         | <b>2,515.20</b>     | <b>2,773.33</b>   | <b>+10</b>         |
| <b>Grand total.....</b>                       | <b>3,704.50</b>     | <b>3,593.28</b>   | <b>-3</b>          | <b>4,837.31</b>     | <b>6,730.26</b>   | <b>+39</b>         | <b>5,004.20</b>     | <b>5,669.25</b>   | <b>+13</b>         |

<sup>1</sup> Less than one-half of 1 per cent.

As explained previously 2 of the establishments, Nos. 6 and 7 had, in addition to changing from two tours to three tours, also reduced their days of production from 6 to 5. In these 2 mills it is to be expected that the full-time earnings of the occupations would be materially reduced owing to the latter change in operation.

It will be seen that in 4 establishments the full-time labor cost in the beater room was less under three tours than under two tours, the decreases being 6, 14, 18 and 22 per cent, while in 3 establishments the cost was greater, the increases being 12, 16, and 44 per cent.

In the machine room 3 establishments show decreases of 4, 15, and 22 per cent, while the other 4 show increases of 1, 7, 10, and 34 per cent.

Taking the beater room and the machine room combined 4 establishments show decreases of 3, 9, 16, and 22 per cent, while 3 show increases of 9, 13, and 39 per cent.

MACHINE ROOMS UNDER BOTH TWO-TOUR AND THREE-TOUR OPERATION AND OF CHANGE

| Establishment No. 4 |                   |                   | Establishment No. 5 |                   |                   | Establishment No. 6 |                   |                   | Establishment No. 7 |                   |                   | Total           |                   |                   |
|---------------------|-------------------|-------------------|---------------------|-------------------|-------------------|---------------------|-------------------|-------------------|---------------------|-------------------|-------------------|-----------------|-------------------|-------------------|
| Two tours, 1924     | Three tours, 1925 | Per cent of ch'ge | Two tours, 1924     | Three tours, 1925 | Per cent of ch'ge | Two tours, 1924     | Three tours, 1925 | Per cent of ch'ge | Two tours, 1924     | Three tours, 1925 | Per cent of ch'ge | Two tours, 1924 | Three tours, 1925 | Per cent of ch'ge |
| \$213.00            | \$243.20          | +14               | \$196.50            | \$213.25          | +9                | \$217.00            | \$230.40          | +6                | \$333.27            | \$268.80          | -19               | \$144.10        | \$157.20          | +9                |
| 170.40              | 197.60            | +16               | -----               | -----             | -----             | 201.50              | 192.00            | -5                | -----               | -----             | -----             | 660.10          | 741.60            | +12               |
| -----               | -----             | -----             | 281.65              | 300.80            | +7                | 170.50              | 166.40            | -2                | 511.50              | 537.60            | +5                | 901.86          | 1049.92           | +16               |
| 127.80              | 136.80            | +7                | -----               | -----             | -----             | -----               | -----             | -----             | 170.50              | 179.20            | +5                | 1039.65         | 1133.60           | +9                |
| 134.90              | 144.40            | +7                | -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | 248.32          | 313.44            | +26               |
| 1840.32             | 2067.19           | +12               | 1703.00             | 1267.20           | -26               | 1395.00             | 1126.40           | -19               | 2790.00             | 1971.19           | -29               | 134.90          | 144.40            | +7                |
| -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | 12723.62        | 12243.10          | -4                |
| 2486.42             | 2789.19           | +12               | 2181.15             | 1781.25           | -18               | 1984.00             | 1715.20           | -14               | 3305.27             | 2956.79           | -22               | 17477.12        | 17604.51          | +1                |
| -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | -----           | -----             | -----             |
| 614.29              | 720.48            | +17               | 419.20              | 460.80            | +10               | 280.55              | 294.44            | +5                | 922.25              | 883.20            | -4                | 218.25          | 320.00            | +47               |
| 438.18              | 518.01            | +18               | 334.05              | 358.40            | +7                | 217.00              | 211.20            | -3                | 558.00              | 614.40            | +10               | 3568.75         | 3846.17           | +8                |
| -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | 2401.11         | 2604.57           | +8                |
| 809.40              | 790.40            | -2                | 288.20              | 307.20            | +7                | 201.50              | 197.12            | -2                | 483.60              | 499.20            | +3                | 2440.30         | 2602.08           | +7                |
| 1035.18             | 1033.60           | ( <sup>1</sup> )  | 1179.00             | 704.00            | -40               | 620.00              | 563.20            | -10               | 2480.00             | 1548.79           | -38               | 7558.16         | 6416.27           | -15               |
| 345.06              | 387.60            | +12               | -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | 677.74          | 800.56            | +20               |
| -----               | -----             | -----             | 262.00              | 268.80            | +3                | 170.50              | 158.72            | -7                | -----               | -----             | -----             | 170.50          | 158.72            | -7                |
| -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | 164.30              | ( <sup>2</sup> )  | -100              | 262.00          | 268.80            | +3                |
| -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | 164.30          | ( <sup>2</sup> )  | -100              |
| -----               | -----             | -----             | 131.00              | 134.40            | +3                | -----               | -----             | -----             | -----               | -----             | -----             | 120.52          | 160.00            | +33               |
| 345.06              | 387.60            | +12               | -----               | -----             | -----             | 170.50              | 166.40            | -2                | 310.00              | 281.60            | -9                | 375.08          | 438.54            | +17               |
| -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | -----               | -----             | -----             | 1357.84         | 1504.56           | +11               |
| 3587.17             | 3837.69           | +7                | 2613.45             | 2233.60           | -15               | 1660.05             | 1591.08           | -4                | 4918.15             | 3827.19           | -22               | 19304.56        | 19120.27          | -1                |
| 6073.59             | 6626.88           | +9                | 4794.60             | 4014.85           | -16               | 3644.05             | 3306.28           | -9                | 8723.42             | 6783.98           | -22               | 36781.67        | 36724.78          | ( <sup>1</sup> )  |

<sup>1</sup> Occupation abolished.

The preceding figures show full-time earnings according to actual operating conditions. However, it may be of some interest to show what would have been the result had none of the mills reduced their days of operation from six to five but continued the same production time under three tours as formerly obtained under two tours. Based on this assumption computations for the 7 establishments have been made, and in Table 11a the results of this theoretical treatment are presented, together with the actual operating conditions, as shown in Table 11.

Although the details for the theoretical figures are not shown, it can be stated that in the beater room 4 establishments show increases and 3 decreases. In the machine room 5 show increases and 2 decreases, while for the beater room and the machine room combined, 4 show increases ranging from 8 to 39 per cent, while the other 3 show decreases ranging from 3 to 16 per cent.

A comparison of the two totals shows that under operating conditions as actually existent the full-time earnings in the beater room and the machine room decreased less than one-half of 1 per cent, while had the days of production in all the establishments been the same under three tours as under two tours, the full-time earnings would have increased only 5 per cent.

TABLE 11a.—FULL-TIME EARNINGS OF THE 7 ESTABLISHMENTS UNDER ACTUAL OPERATING CONDITIONS AND FULL-TIME EARNINGS WHICH WOULD HAVE BEEN SHOWN HAD ALL OF THE ESTABLISHMENTS CONTINUED THE SAME NUMBER OF DAYS OF PRODUCTION UNDER THREE TOURS AS UNDER TWO TOURS

| Department and occupation                     | Full-time earnings under actual operating conditions |                   | Per cent of change | Full-time earnings under theoretical operating conditions |                   | Per cent of change |
|---|--|-------------------|--------------------|---|-------------------|--------------------|
|   | Two tours, 1924                                      | Three tours, 1925 |                    | Two tours, 1924   | Three tours, 1925 |                    |
| <b>BEATER ROOM</b>                            |  |                   |                    |   |                   |                    |
| Tour bosses.....                              | \$144.10   | \$157.20          | +9                 | \$144.10  | \$157.20          | +9                 |
| Head beater men.....                          | 1,624.57   | 1,821.25          | +12                | 1,624.57  | 1,914.85          | +18                |
| Head beater men, assistant.....               | 660.10   | 741.60            | +12                | 660.10  | 777.60            | +18                |
| Plug pullers and roll setters.....            | 901.86   | 1,049.92          | +16                | 901.86  | 1,150.72          | +28                |
| Jordan men.....                               | 1,039.65   | 1,133.60          | +9                 | 1,039.65  | 1,198.40          | +15                |
| Breaker beater men.....                       | 248.32   | 313.44            | +26                | 248.32  | 313.44            | +26                |
| Liner beater men.....                         | 134.90   | 144.40            | +7                 | 134.90  | 144.40            | +7                 |
| Beater men.....                               | 12,723.62  | 12,243.10         | -4                 | 12,723.62   | 12,823.91         | +1                 |
| Total.....                                    | 17,477.12  | 17,604.51         | +1                 | 17,477.12   | 18,480.52         | +6                 |
| <b>MACHINE ROOM</b>                           |  |                   |                    |   |                   |                    |
| Tour bosses.....                              | 218.25   | 320.00            | +47                | 218.25  | 320.00            | +47                |
| Machine tenders.....                          | 3,568.75   | 3,846.17          | +8                 | 3,568.75  | 4,066.93          | +14                |
| Back tenders.....                             | 2,401.11   | 2,604.57          | +8                 | 2,401.11  | 2,759.37          | +15                |
| Finishers, third hands, and calendar men..... | 2,440.30   | 2,602.08          | +7                 | 2,440.30  | 2,732.64          | +12                |
| Cutter boys.....                              | 7,558.16   | 6,416.27          | -15                | 7,558.16  | 6,813.08          | -10                |
| Broke boys.....                               | 667.74   | 800.56            | +20                | 667.74  | 800.56            | +20                |
| Welghers.....                                 | 170.50   | 158.72            | -7                 | 170.50  | 188.48            | +11                |
| Stackers out.....                             | 262.00   | 268.80            | +3                 | 262.00  | 268.80            | +3                 |
| Slitter men.....                              | 164.30   | ( <sup>1</sup> )  | -100               | 164.30  | ( <sup>1</sup> )  | -100               |
| Inspectors.....                               | 120.52   | 160.00            | +33                | 120.52  | 160.00            | +33                |
| Felt checkers.....                            | 375.08   | 438.54            | +17                | 375.08  | 438.54            | +17                |
| Screen men.....                               | 1,357.84   | 1,504.56          | +11                | 1,357.84  | 1,588.56          | +17                |
| Total.....                                    | 19,304.55  | 19,120.27         | -1                 | 19,304.55   | 20,136.16         | +4                 |
| Grand total.....                              | 36,781.67  | 36,724.78         | ( <sup>1</sup> )   | 36,781.67   | 38,616.68         | +5                 |

<sup>1</sup> Less than one-half of 1 per cent.

<sup>2</sup> Occupation abolished.

**TOTAL HOURS WORKED, TOTAL WAGES, OUTPUT IN POUNDS AND LABOR COST PER MAN-HOUR, PRODUCTION, AND COST PER TON UNDER BOTH TWO-TOUR AND THREE-TOUR OPERATION**

In contemplating a change from two tours to three tours the thought uppermost in the mind of the mill official is the additional burden this will add to the cost of the product and whether this can be partially overcome by reducing the operating force or by increasing production. In Table 8 it has been shown that several of the mills found it possible to reduce the operating force per tour, while Table 5 shows that production may be increased, undoubtedly due in part to the reduced working time required of the tour workers.

Table 12 brings the figures of both Table 5 and Table 8 into juxtaposition with the result that it appears that the change can be made with little additional ultimate cost per ton of product.

A study of the data for the individual mills shows that the output in pounds per one-man hour increased in every instance, ranging from 5 to 32 per cent. The labor cost per one-man hour also increased in all 7 mills, ranging from 6 to 51 per cent. The production increased in all 7 of the mills. Even though 2 of the 7 mills reduced their days of production from 6 to 5, the cost per ton of product increased in 3 of the mills from 1 to 18 per cent and decreased in the other 4 mills from 2 to 10 per cent.

Taking the 7 mills as a whole, the table shows that while the total hours worked decreased 8 per cent the wages increased 12 per cent. The output in pounds per one-man hour increased 50 pounds, or 16 per cent. The labor cost per one-man hour increased \$0.11, or 22 per cent, while the production increased .6 per cent. The cost per ton increased \$0.16, or 5 per cent.

**TABLE 12.**—TOTAL HOURS WORKED, TOTAL WAGES, OUTPUT IN POUNDS AND LABOR COST PER MAN-HOUR, PRODUCTION, AND COST PER TON IN THE BEATER ROOM AND THE MACHINE ROOM IN A TWO-WEEK PERIOD IN 1924 AND 1925, UNDER BOTH TWO-TOUR AND THREE-TOUR OPERATION

| Establishment | Total hours worked |         | Per cent of change | Total wages |            | Per cent of change | Output in pounds per one-man hour |      | Per cent of change | Labor cost per one-man hour |         | Per cent of change | Production in tons |           | Per cent of change | Cost per ton of product |        | Per cent of change |
|---------------|--------------------|---------|--------------------|-------------|------------|--------------------|-----------------------------------|------|--------------------|-----------------------------|---------|--------------------|--------------------|-----------|--------------------|-------------------------|--------|--------------------|
|               | 1924               | 1925    |                    | 1924        | 1925       |                    | 1924                              | 1925 |                    | 1924                        | 1925    |                    | 1924               | 1925      |                    | 1924                    | 1925   |                    |
| No. 1.....    | 8,760              | 7,435½  | -15                | \$4,758.35  | \$4,494.30 | -6                 | 302                               | 374  | +24                | \$0.543                     | \$0.604 | +11                | 1,322.81           | 1,390.98  | +5                 | \$3.60                  | \$3.23 | -10                |
| No. 2.....    | 10,366             | 10,474½ | +1                 | 4,984.21    | 6,299.08   | +26                | 327                               | 346  | +6                 | .481                        | .601    | +25                | 1,692.30           | 1,814.49  | +7                 | 2.95                    | 3.47   | +18                |
| No. 3.....    | 13,699¾            | 13,698½ | (1)                | 6,918.36    | 10,435.35  | +51                | 294                               | 387  | +32                | .505                        | .762    | +51                | 2,016.00           | 2,648.00  | +31                | 3.43                    | 3.94   | +15                |
| No. 4.....    | 12,646             | 14,454  | +14                | 5,747.10    | 6,931.31   | +21                | 186                               | 195  | +5                 | .454                        | .480    | +6                 | 1,176.13           | 1,408.07  | +20                | 4.88                    | 4.92   | +1                 |
| No. 5.....    | 15,120½            | 10,661  | -29                | 8,212.77    | 6,893.60   | -16                | 395                               | 479  | +21                | .543                        | .647    | +19                | 2,985.09           | 2,553.26  | +14                | 2.75                    | 2.70   | -2                 |
| No. 8.....    | 6,114½             | 4,948½  | -19                | 3,307.13    | 3,252.53   | -2                 | 380                               | 488  | +28                | .541                        | .657    | +21                | 1,161.61           | 1,206.23  | +4                 | 2.85                    | 2.70   | -5                 |
| No. 7.....    | 6,985¼             | 5,977½  | -14                | 3,713.26    | 3,723.81   | (1)                | 341                               | 419  | +23                | .532                        | .623    | +17                | 1,192.05           | 1,250.85  | +5                 | 3.12                    | 2.98   | -4                 |
| Total...      | 78,691¾            | 67,649¼ | -8                 | 37,641.18   | 42,029.98  | +12                | 313                               | 363  | +16                | .511                        | .621    | +22                | 11,545.99          | 12,271.87 | +6                 | 3.26                    | 3.42   | +5                 |

1 Less than one-half of 1 per cent.

**DETAILED TABLES FOR EACH ESTABLISHMENT UNDER BOTH  
TWO-TOUR AND THREE-TOUR OPERATION**

Table 13 is a detail table for individual establishments showing by occupations the number of employees, full-time positions, total hours worked, total wages, output in pounds and labor cost per one-man hour, and the cost per ton of production in one-man hours and in wages.

The figures for departments other than the beater room and the machine room are not strictly comparable for any one period with some other period. In the receiving room the amount of raw material received varies from period to period, which may affect both the hours worked and the number of employees in this department. In the shipping room the amount of finished material shipped would also affect the shipping force in the same manner, while the hours worked by the maintenance crew is very materially affected by the amount of repairs necessary.

TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925  
ESTABLISHMENT NO. 1

| Department and occupation | Number of employees |           | Full-time positions |           | Total hours worked                   |                                      | Total wages     |                 | Output in pounds per one-man hour |            | Labor cost per one-man hour |             | Cost per ton of product |              |              |              |
|---------------------------|---------------------|-----------|---------------------|-----------|--------------------------------------|--------------------------------------|-----------------|-----------------|-----------------------------------|------------|-----------------------------|-------------|-------------------------|--------------|--------------|--------------|
|                           |                     |           |                     |           |                                      |                                      |                 |                 |                                   |            |                             |             | In one-man hours        |              | Wages        |              |
|                           | 1924                | 1925      | 1924                | 1925      | 1924                                 | 1925                                 | 1924            | 1925            | 1924                              | 1925       | 1924                        | 1925        | 1924                    | 1925         | 1924         | 1925         |
| <b>Beater room:</b>       |                     |           |                     |           |                                      |                                      |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Boss beater men.....      | 3                   | 3         | 3                   | 3         | 320 $\frac{1}{2}$                    | 282                                  | \$248.95        | \$215.00        | 5,414                             | 5,681      | \$0.763                     | \$0.762     | 0.369                   | 0.352        | \$0.282      | \$0.268      |
| Jordan men.....           | 3                   | 3         | 3                   | 3         | 320 $\frac{1}{2}$                    | 267 $\frac{1}{2}$                    | 191.80          | 157.20          | 5,414                             | 5,989      | .587                        | .588        | .369                    | .334         | .217         | .196         |
| Liner beater men.....     | 6                   | 6         | 6                   | 6         | 625                                  | 550 $\frac{1}{2}$                    | 363.35          | 320.00          | 2,828                             | 2,910      | .581                        | .581        | .707                    | .687         | .411         | .400         |
| Beater helpers.....       | 22                  | 21        | 21                  | 21        | 2,072 $\frac{1}{2}$                  | 1,886 $\frac{1}{2}$                  | 1,193.37        | 1,062.70        | 853                               | 849        | .576                        | .563        | 2.345                   | 2.355        | 1.350        | 1.327        |
| <b>Total.....</b>         | <b>34</b>           | <b>33</b> | <b>33</b>           | <b>33</b> | <b>3,350<math>\frac{1}{2}</math></b> | <b>2,986<math>\frac{1}{2}</math></b> | <b>1,997.47</b> | <b>1,754.90</b> | <b>528</b>                        | <b>536</b> | <b>.596</b>                 | <b>.588</b> | <b>3.791</b>            | <b>3.729</b> | <b>2.260</b> | <b>2.191</b> |
| <b>Machine room:</b>      |                     |           |                     |           |                                      |                                      |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Machine tenders.....      | 3                   | 3         | 3                   | 3         | 315 $\frac{1}{2}$                    | 274 $\frac{1}{2}$                    | 267.05          | 233.35          | 5,598                             | 5,836      | .846                        | .850        | .357                    | .343         | .302         | .291         |
| Back tenders.....         | 3                   | 3         | 3                   | 3         | 306                                  | 283                                  | 214.20          | 184.10          | 5,777                             | 6,091      | .700                        | .700        | .346                    | .328         | .242         | .230         |
| Cutter boys.....          | 7                   | 7         | 6                   | 6         | 596                                  | 513 $\frac{1}{2}$                    | 268.20          | 231.10          | 2,966                             | 3,120      | .450                        | .450        | .674                    | .641         | .304         | .289         |
| Finishers.....            | 7                   | 6         | 6                   | 6         | 689                                  | 531 $\frac{1}{2}$                    | 409.80          | 319.05          | 2,566                             | 3,013      | .595                        | .600        | .780                    | .664         | .464         | .398         |
| Carriers.....             | 3                   | 3         | 3                   | 3         | 263 $\frac{1}{2}$                    | 266                                  | 158.10          | 159.60          | 6,708                             | 6,023      | .600                        | .600        | .298                    | .332         | .179         | .199         |
| Broke boys.....           | 3                   | 3         | 3                   | 3         | 299                                  | 286                                  | 153.20          | 136.30          | 5,912                             | 6,023      | .512                        | .512        | .338                    | .332         | .173         | .170         |
| Screanmen.....            | 3                   | 3         | 3                   | 3         | 306                                  | 258                                  | 153.00          | 129.00          | 5,777                             | 6,209      | .500                        | .500        | .346                    | .322         | .173         | .161         |
| Felt boys.....            | 3                   | 3         | 3                   | 3         | 314                                  | 258                                  | 153.10          | 125.80          | 5,629                             | 6,209      | .488                        | .488        | .355                    | .322         | .173         | .157         |
| Felt washers.....         | 1                   | 1         | 1                   | 1         | 116                                  | 108                                  | 61.45           | 59.90           | 15,238                            | 14,833     | .530                        | .555        | .131                    | .135         | .070         | .075         |
| <b>Total.....</b>         | <b>33</b>           | <b>32</b> | <b>31</b>           | <b>31</b> | <b>3,205<math>\frac{1}{2}</math></b> | <b>2,738<math>\frac{1}{2}</math></b> | <b>1,838.10</b> | <b>1,573.20</b> | <b>551</b>                        | <b>585</b> | <b>.574</b>                 | <b>.576</b> | <b>3.627</b>            | <b>3.419</b> | <b>2.080</b> | <b>1.970</b> |

| Department and occupation | Number of employees |      | Total hours worked |         | Total wages |          | Output in pounds per one-man hour |        | Labor cost per one-man hour |         | Cost per ton of product |        |         |         |
|---------------------------|---------------------|------|--------------------|---------|-------------|----------|-----------------------------------|--------|-----------------------------|---------|-------------------------|--------|---------|---------|
|                           | 1924                | 1925 | 1924               | 1925    | 1924        | 1925     | 1924                              | 1925   | 1924                        | 1925    | In one-man hours        |        | Wages   |         |
|                           |                     |      |                    |         |             |          |                                   |        |                             |         | 1924                    | 1925   | 1924    | 1925    |
| <b>Finishing room:</b>    |                     |      |                    |         |             |          |                                   |        |                             |         |                         |        |         |         |
| Head finishers.....       | 1                   | 1    | 104                | 108     | \$64.50     | \$70.00  | 16,997                            | 14,833 | \$0.620                     | \$0.648 | 0.118                   | 0.135  | \$0.073 | \$0.087 |
| Finishers.....            | 8                   | 7    | 800                | 692     | 378.70      | 318.70   | 2,210                             | 2,315  | .473                        | .461    | .905                    | .864   | .429    | .398    |
| Total.....                | 9                   | 8    | 904                | 800     | 443.20      | 388.70   | 1,955                             | 2,003  | .490                        | .486    | 1.023                   | .999   | .502    | .485    |
| <b>Receiving room:</b>    |                     |      |                    |         |             |          |                                   |        |                             |         |                         |        |         |         |
| Laborers.....             | 9                   | 10   | 1,057½             | 1,172   | 587.50      | 651.25   | 1,672                             | 1,367  | .556                        | .556    | 1.196                   | 1.463  | .665    | .813    |
| Others.....               | 1                   | 1    | 118½               | 114     | 69.95       | 66.70    | 14,917                            | 14,053 | .590                        | .585    | .134                    | .142   | .079    | .083    |
| Total.....                | 10                  | 11   | 1,175¾             | 1,286   | 657.45      | 717.95   | 1,503                             | 1,246  | .559                        | .558    | 1.330                   | 1.606  | .744    | .896    |
| <b>Shipping room:</b>     |                     |      |                    |         |             |          |                                   |        |                             |         |                         |        |         |         |
| Laborers.....             | 4                   | 4    | 437½               | 450     | 243.10      | 250.10   | 4,040                             | 3,560  | .556                        | .556    | .495                    | .562   | .275    | .312    |
| Others.....               | 2                   | 2    | 222                | 222     | 136.70      | 136.70   | 7,962                             | 7,216  | .616                        | .616    | .251                    | .277   | .155    | .171    |
| Total.....                | 6                   | 6    | 659½               | 672     | 379.80      | 386.80   | 2,680                             | 2,384  | .576                        | .576    | .746                    | .839   | .430    | .483    |
| <b>Maintenance</b> .....  | 14                  | 12   | 1,541¾             | 1,364¼  | 997.90      | 954.75   | 1,147                             | 1,174  | .647                        | .700    | 1.744                   | 1.703  | 1.129   | 1.192   |
| <b>Power</b> .....        | 13                  | 13   | 1,425              | 1,378   | 988.50      | 980.15   | 1,240                             | 1,163  | .694                        | .711    | 1.612                   | 1.720  | 1.118   | 1.224   |
| <b>General:</b>           |                     |      |                    |         |             |          |                                   |        |                             |         |                         |        |         |         |
| Laborers.....             | 4                   | 4    | 421                | 361     | 233.60      | 200.40   | 4,199                             | 4,438  | .555                        | .555    | .476                    | .451   | .264    | .250    |
| Others.....               | 7                   | 10   | 817                | 1,018   | 661.25      | 806.70   | 2,164                             | 1,574  | .809                        | .792    | .924                    | 1.271  | .748    | 1.007   |
| Total.....                | 11                  | 14   | 1,238              | 1,379   | 894.85      | 1,007.10 | 1,428                             | 1,162  | .723                        | .730    | 1.401                   | 1.722  | 1.013   | 1.257   |
| <b>Grand total</b> .....  | 130                 | 129  | 13,499¾            | 12,604½ | 8,197.27    | 7,768.55 | 131                               | 127    | .607                        | .616    | 15.274                  | 15.736 | 9.275   | 9.699   |

TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued  
ESTABLISHMENT NO. 2

| Department and occupation | Number of employees |           | Full-time positions |           | Total hours worked |               | Total wages     |                 | Output in pounds per one-man hour |            | Labor cost per one-man hour |             | Cost per ton of product |              |              |              |
|---------------------------|---------------------|-----------|---------------------|-----------|--------------------|---------------|-----------------|-----------------|-----------------------------------|------------|-----------------------------|-------------|-------------------------|--------------|--------------|--------------|
|                           |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             | In one-man hours        |              | Wages        |              |
|                           | 1924                | 1925      | 1924                | 1925      | 1924               | 1925          | 1924            | 1925            | 1924                              | 1925       | 1924                        | 1925        | 1924                    | 1925         | 1924         | 1925         |
| <b>Beater room:</b>       |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Head beater men .....     | 3                   | 3         | 3                   | 3         | 288                | 256           | \$172.80        | \$172.80        | 4,019                             | 3,393      | \$0.600                     | \$0.675     | 0.498                   | 0.590        | \$0.299      | \$0.398      |
| Beater men .....          | 21                  | 21        | 21                  | 21        | 2,063              | 1,783         | 969.32          | 962.82          | 561                               | 487        | .465                        | .540        | 3.565                   | 4.106        | 1.658        | 2.217        |
| Spare hands .....         | 1                   | 1         | 1                   | 1         | 134½               | 80            | 56.45           | 39.60           | 8,605                             | 10,857     | .420                        | .495        | .232                    | .184         | .098         | .091         |
| <b>Total .....</b>        | <b>25</b>           | <b>25</b> | <b>25</b>           | <b>25</b> | <b>2,485½</b>      | <b>2,119</b>  | <b>1,188.57</b> | <b>1,175.22</b> | <b>466</b>                        | <b>410</b> | <b>.478</b>                 | <b>.555</b> | <b>4.295</b>            | <b>4.879</b> | <b>2.054</b> | <b>2.706</b> |
| <b>Machine room:</b>      |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Machine tenders .....     | 3                   | 3         | 3                   | 3         | 301½               | 261½          | 225.03          | 209.20          | 3,839                             | 3,321      | .746                        | .800        | .521                    | .602         | .389         | .482         |
| Back tenders .....        | 3                   | 3         | 3                   | 3         | 329                | 280½          | 179.95          | 168.45          | 3,618                             | 3,094      | .547                        | .600        | .569                    | .647         | .311         | .388         |
| Finishers .....           | 3                   | 3         | 3                   | 3         | 333¼               | 287¼          | 180.35          | 172.35          | 3,471                             | 3,024      | .541                        | .600        | .576                    | .661         | .312         | .397         |
| Cutter boys .....         | 6                   | 6         | 6                   | 6         | 540¼               | 542¾          | 246.39          | 282.23          | 2,141                             | 1,600      | .456                        | .520        | .934                    | 1.250        | .426         | .650         |
| Screenmen .....           | 3                   | 3         | 3                   | 3         | 316½               | 263½          | 146.17          | 137.03          | 3,657                             | 3,296      | .462                        | .520        | .547                    | .607         | .253         | .316         |
| <b>Total .....</b>        | <b>18</b>           | <b>18</b> | <b>18</b>           | <b>18</b> | <b>1,821</b>       | <b>1,635¼</b> | <b>977.89</b>   | <b>969.26</b>   | <b>636</b>                        | <b>531</b> | <b>.537</b>                 | <b>.593</b> | <b>3.147</b>            | <b>3.767</b> | <b>1.690</b> | <b>2.232</b> |

| Department and occupation      | Number of employees |            | Total hours worked |               | Total wages     |                 | Output in pounds per one-man hour |            | Labor cost per one-man hour |             | Cost per ton of product |               |              |               |
|--------------------------------|---------------------|------------|--------------------|---------------|-----------------|-----------------|-----------------------------------|------------|-----------------------------|-------------|-------------------------|---------------|--------------|---------------|
|                                |                     |            |                    |               |                 |                 |                                   |            |                             |             | In one-man hours        |               | Wages        |               |
|                                | 1924                | 1925       | 1924               | 1925          | 1924            | 1925            | 1924                              | 1925       | 1924                        | 1925        | 1924                    | 1925          | 1924         | 1925          |
| <b>Receiving and shipping:</b> |                     |            |                    |               |                 |                 |                                   |            |                             |             |                         |               |              |               |
| Laborers.....                  | 12                  | 14         | 684½               | 784½          | \$280.05        | \$323.90        | 1,601                             | 1,107      | \$0.409                     | \$0.413     | 1.183                   | 1.807         | \$0.484      | \$0.746       |
| Others.....                    | 4                   | 4          | 205                | 234½          | 112.78          | 119.29          | 5,646                             | 3,699      | .550                        | .508        | .354                    | .541          | .195         | .275          |
| <b>Total.....</b>              | <b>16</b>           | <b>18</b>  | <b>889½</b>        | <b>1,019½</b> | <b>392.83</b>   | <b>443.19</b>   | <b>1,301</b>                      | <b>852</b> | <b>.442</b>                 | <b>.435</b> | <b>1.537</b>            | <b>2.348</b>  | <b>.679</b>  | <b>1.021</b>  |
| <b>Maintenance.....</b>        | <b>12</b>           | <b>12</b>  | <b>1,324¼</b>      | <b>1,277¼</b> | <b>804.04</b>   | <b>785.95</b>   | <b>874</b>                        | <b>680</b> | <b>.607</b>                 | <b>.615</b> | <b>2.288</b>            | <b>2.941</b>  | <b>1.389</b> | <b>1.810</b>  |
| Power.....                     | 20                  | 20         | 1,248½             | 1,223¾        | 757.08          | 745.54          | 927                               | 710        | .606                        | .609        | 2.158                   | 2.817         | 1.308        | 1.717         |
| General.....                   | 9                   | 9          | 572                | 606¾          | 239.60          | 257.19          | 2,023                             | 1,432      | .419                        | .424        | .988                    | 1.397         | .414         | .592          |
| <b>Grand total.....</b>        | <b>100</b>          | <b>102</b> | <b>8,340½</b>      | <b>7,881½</b> | <b>4,360.01</b> | <b>4,376.35</b> | <b>139</b>                        | <b>110</b> | <b>.523</b>                 | <b>.555</b> | <b>14.413</b>           | <b>18.148</b> | <b>7.534</b> | <b>10.077</b> |

TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued  
ESTABLISHMENT NO. 3

| Department and occupation | Number of employees |           | Full-time positions |           | Total hours worked |               | Total wages     |                 | Output in pounds per one-man hour |            | Labor cost per one-man hour |             | Cost per ton of product |              |              |              |
|---------------------------|---------------------|-----------|---------------------|-----------|--------------------|---------------|-----------------|-----------------|-----------------------------------|------------|-----------------------------|-------------|-------------------------|--------------|--------------|--------------|
|                           |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             | In one-man hours        |              | Wages        |              |
|                           | 1924                | 1925      | 1924                | 1925      | 1924               | 1925          | 1924            | 1925            | 1924                              | 1925       | 1924                        | 1925        | 1924                    | 1925         | 1924         | 1925         |
| <b>Beater room:</b>       |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Head beater men.....      | 2                   | 2         | 2                   | 2         | 307                | 236           | \$214.90        | \$165.20        | 11,810                            | 11,859     | \$0.700                     | \$0.700     | 0.169                   | 0.169        | \$0.119      | \$0.118      |
| Valve men.....            | 4                   | 4         | 4                   | 4         | 612                | 455           | 313.60          | 232.95          | 5,924                             | 6,151      | .512                        | .512        | .338                    | .325         | .173         | .167         |
| Beater men.....           | 40                  | 25        | 38                  | 22        | 5,627½             | 2,733¼        | 2,532.49        | 1,221.18        | 644                               | 1,024      | .450                        | .447        | 3.104                   | 1.953        | 1.397        | .873         |
| Beater men (Shartle)..... |                     | 2         |                     | 2         |                    | 247½          |                 | 136.13          |                                   | 11,308     |                             | .550        |                         | .177         |              | .097         |
| <b>Total.....</b>         | <b>46</b>           | <b>33</b> | <b>44</b>           | <b>30</b> | <b>6,546½</b>      | <b>3,671¼</b> | <b>3,060.99</b> | <b>1,755.46</b> | <b>554</b>                        | <b>762</b> | <b>.468</b>                 | <b>.478</b> | <b>3.611</b>            | <b>2.624</b> | <b>1.689</b> | <b>1.255</b> |
| <b>Machine room:</b>      |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Machine tenders.....      | 4                   | 4         | 4                   | 4         | 669                | 527           | 501.76          | 395.25          | 5,419                             | 5,311      | .750                        | .750        | .369                    | .377         | .277         | .283         |
| Back tenders.....         | 4                   | 4         | 4                   | 4         | 541½               | 504½          | 314.07          | 292.61          | 6,695                             | 5,547      | .580                        | .580        | .299                    | .361         | .173         | .209         |
| Finishers.....            | 4                   | 4         | 4                   | 4         | 602½               | 472           | 319.34          | 248.57          | 6,017                             | 8,929      | .530                        | .527        | .332                    | .387         | .176         | .178         |
| Finishers' helpers.....   | 3                   | 2         | 2                   | 2         | 417                | 240           | 200.16          | 115.20          | 8,694                             | 11,661     | .480                        | .480        | .230                    | .172         | .110         | .082         |
| Third hands.....          | 2                   | 2         | 2                   | 2         | 313                | 244           | 150.24          | 117.12          | 11,583                            | 11,470     | .480                        | .480        | .173                    | .174         | .083         | .084         |
| Cutter boys.....          | 10                  | 10        | 10                  | 10        | 1,433½             | 1,230         | 645.12          | 555.45          | 2,529                             | 2,275      | .450                        | .452        | .791                    | .879         | .356         | .397         |
| Broke boys.....           | 4                   | 4         | 4                   | 4         | 587                | 484           | 264.16          | 217.80          | 6,176                             | 5,782      | .450                        | .450        | .324                    | .346         | .146         | .156         |
| Screenmen.....            | 4                   | 4         | 4                   | 4         | 610½               | 481½          | 274.76          | 216.68          | 5,939                             | 5,812      | .450                        | .450        | .334                    | .344         | .152         | .155         |
| Testers.....              | 2                   | 2         | 2                   | 2         | 299½               | 227           | 149.75          | 113.50          | 12,105                            | 12,329     | .500                        | .500        | .165                    | .162         | .083         | .081         |
| Felt washers.....         | 1                   | 1         | 1                   | 1         | 140                | 128½          | 63.00           | 57.83           | 25,897                            | 21,779     | .450                        | .450        | .077                    | .092         | .035         | .041         |
| <b>Total.....</b>         | <b>38</b>           | <b>37</b> | <b>37</b>           | <b>37</b> | <b>5,613½</b>      | <b>4,538½</b> | <b>2,882.36</b> | <b>2,330.01</b> | <b>646</b>                        | <b>617</b> | <b>.514</b>                 | <b>.513</b> | <b>3.097</b>            | <b>3.243</b> | <b>1.590</b> | <b>1.665</b> |

| Department and occupation        | Number of employees |            | Total hours worked |                | Total wages     |                 | Output in pounds per one-man hour |              | Labor cost per one-man hour |              | Cost per ton of product |              |              |              |
|----------------------------------|---------------------|------------|--------------------|----------------|-----------------|-----------------|-----------------------------------|--------------|-----------------------------|--------------|-------------------------|--------------|--------------|--------------|
|                                  |                     |            |                    |                |                 |                 |                                   |              |                             |              | In one-man hours        |              | Wages        |              |
|                                  | 1924                | 1925       | 1924               | 1925           | 1924            | 1925            | 1924                              | 1925         | 1924                        | 1925         | 1924                    | 1925         | 1924         | 1925         |
| <b>Finishing room:</b>           |                     |            |                    |                |                 |                 |                                   |              |                             |              |                         |              |              |              |
| Foremen and shipping clerks..... | 1                   | 1          | 172                | 149            | \$103.20        | \$96.85         | 21,079                            | 18,783       | \$0.600                     | \$0.650      | 0.095                   | 0.107        | \$0.057      | \$0.069      |
| Rewinders.....                   | 3                   | 2          | 449½               | 300            | 230.77          | 153.00          | 8,066                             | 9,329        | .513                        | .510         | .243                    | .214         | .127         | .109         |
| Cutters.....                     | 1                   | 1          | 119½               | 125            | 52.68           | 55.00           | 30,339                            | 22,389       | .440                        | .440         | .066                    | .089         | .029         | .039         |
| Pasters.....                     | 5                   |            | 553¼               |                | 256.00          |                 | 6,553                             |              | .463                        |              | .305                    |              | .141         |              |
| <b>Total.....</b>                | <b>10</b>           | <b>4</b>   | <b>1,294¼</b>      | <b>574</b>     | <b>642.55</b>   | <b>304.85</b>   | <b>2,801</b>                      | <b>4,876</b> | <b>.497</b>                 | <b>.531</b>  | <b>.714</b>             | <b>.410</b>  | <b>.355</b>  | <b>.218</b>  |
| <b>Receiving room:</b>           |                     |            |                    |                |                 |                 |                                   |              |                             |              |                         |              |              |              |
| Laborers.....                    | 10                  | 8          | 1,128½             | 609¼           | 464.11          | 249.24          | 3,213                             | 4,590        | .411                        | .409         | .623                    | .436         | .256         | .178         |
| Others.....                      | 3                   | 3          | 415½               | 386            | 207.01          | 216.34          | 8,726                             | 7,250        | .498                        | .561         | .229                    | .276         | .114         | .155         |
| <b>Total.....</b>                | <b>13</b>           | <b>11</b>  | <b>1,544</b>       | <b>995¼</b>    | <b>671.12</b>   | <b>465.58</b>   | <b>2,348</b>                      | <b>2,811</b> | <b>.435</b>                 | <b>.468</b>  | <b>.852</b>             | <b>.712</b>  | <b>.370</b>  | <b>.333</b>  |
| <b>Maintenance.....</b>          | <b>7</b>            | <b>5</b>   | <b>813¼</b>        | <b>621¼</b>    | <b>481.13</b>   | <b>408.81</b>   | <b>4,455</b>                      | <b>4,505</b> | <b>.591</b>                 | <b>.658</b>  | <b>.449</b>             | <b>.444</b>  | <b>.265</b>  | <b>.292</b>  |
| <b>Power.....</b>                | <b>18</b>           | <b>17</b>  | <b>2,100½</b>      | <b>2,318¾</b>  | <b>1,206.20</b> | <b>1,318.00</b> | <b>1,726</b>                      | <b>1,207</b> | <b>.574</b>                 | <b>.568</b>  | <b>1.159</b>            | <b>1.657</b> | <b>.665</b>  | <b>.942</b>  |
| <b>General.....</b>              | <b>3</b>            | <b>3</b>   | <b>449</b>         | <b>371</b>     | <b>386.00</b>   | <b>378.60</b>   | <b>8,075</b>                      | <b>7,544</b> | <b>.860</b>                 | <b>1.021</b> | <b>.243</b>             | <b>.265</b>  | <b>.213</b>  | <b>.271</b>  |
| <b>Grand total.....</b>          | <b>135</b>          | <b>110</b> | <b>18,361¼</b>     | <b>13,090¾</b> | <b>9,330.35</b> | <b>6,961.31</b> | <b>197</b>                        | <b>214</b>   | <b>.508</b>                 | <b>.532</b>  | <b>10.129</b>           | <b>9.355</b> | <b>5.147</b> | <b>4.975</b> |

TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued  
ESTABLISHMENT NO. 4

| Department and occupation | Number of employees |           | Full-time positions |           | Total hours worked |               | Total wages     |                 | Output in pounds per one-man hour |            | Labor cost per one-man hour |             | Cost per ton of product |              |              |              |
|---------------------------|---------------------|-----------|---------------------|-----------|--------------------|---------------|-----------------|-----------------|-----------------------------------|------------|-----------------------------|-------------|-------------------------|--------------|--------------|--------------|
|                           |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             | In one-man hours        |              | Wages        |              |
|                           | 1924                | 1925      | 1924                | 1925      | 1924               | 1925          | 1924            | 1925            | 1924                              | 1925       | 1924                        | 1925        | 1924                    | 1925         | 1924         | 1925         |
| <b>Beater room:</b>       |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Head beater men.....      | 2                   | 3         | 2                   | 3         | 265                | 279           | \$205.75        | \$237.79        | 9,983                             | 9,971      | \$0.776                     | \$0.852     | 0.200                   | 0.201        | \$0.156      | \$0.171      |
| Jordan and valve men..... | 4                   | 6         | 4                   | 6         | 528                | 575½          | 283.90          | 338.17          | 5,011                             | 4,834      | .538                        | .588        | .399                    | .414         | .215         | .243         |
| Beater men.....           | 28                  | 33        | 26                  | 27        | 3,282              | 2,680½        | 1,641.00        | 1,474.20        | 806                               | 1,038      | .500                        | .550        | 2.481                   | 1.927        | 1.241        | 1.060        |
| <b>Total.....</b>         | <b>34</b>           | <b>42</b> | <b>32</b>           | <b>36</b> | <b>4,075</b>       | <b>3,534¼</b> | <b>2,130.65</b> | <b>2,050.16</b> | <b>649</b>                        | <b>787</b> | <b>.523</b>                 | <b>.580</b> | <b>3.081</b>            | <b>2.541</b> | <b>1.611</b> | <b>1.474</b> |
| <b>Machine room:</b>      |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Machine tenders.....      | 4                   | 5         | 4                   | 6         | 524½               | 525           | 433.60          | 482.50          | 5,044                             | 5,299      | .827                        | .919        | .397                    | .377         | .328         | .347         |
| Back tenders.....         | 4                   | 6         | 4                   | 6         | 521¼               | 553½          | 342.35          | 395.46          | 5,076                             | 5,026      | .657                        | .715        | .394                    | .398         | .259         | .284         |
| Third hands.....          | 4                   | 6         | 4                   | 6         | 522                | 526           | 293.11          | 321.33          | 5,068                             | 5,269      | .562                        | .609        | .395                    | .380         | .222         | .231         |
| Cutter boys.....          | 20                  | 17        | 18                  | 15        | 2,347¼             | 1,501½        | 1,173.76        | 825.86          | 1,127                             | 1,853      | .500                        | .550        | 1.775                   | 1.080        | .887         | .694         |
| Stackers out.....         | 4                   | 6         | 4                   | 6         | 507¼               | 530           | 253.88          | 281.18          | 5,210                             | 5,249      | .500                        | .531        | .384                    | .381         | .192         | .202         |
| Felt boys.....            | 2                   | 3         | 2                   | 3         | 262½               | 262½          | 131.00          | 137.81          | 10,098                            | 10,598     | .500                        | .525        | .198                    | .189         | .099         | .099         |
| <b>Total.....</b>         | <b>38</b>           | <b>43</b> | <b>36</b>           | <b>42</b> | <b>4,685</b>       | <b>3,900½</b> | <b>2,627.70</b> | <b>2,444.14</b> | <b>565</b>                        | <b>713</b> | <b>.561</b>                 | <b>.627</b> | <b>3.542</b>            | <b>2.804</b> | <b>1.987</b> | <b>1.757</b> |

| Department and occupation | Number of employees |            | Total hours worked                    |                                       | Total wages      |                  | Output in pounds per one-man hour |              | Labor cost per one-man hour |             | Cost per ton of product |               |              |              |
|---------------------------|---------------------|------------|---------------------------------------|---------------------------------------|------------------|------------------|-----------------------------------|--------------|-----------------------------|-------------|-------------------------|---------------|--------------|--------------|
|                           | 1924                | 1925       | 1924                                  | 1925                                  | 1924             | 1925             | 1924                              | 1925         | 1924                        | 1925        | In one-man hours        |               | Wages        |              |
|                           |                     |            |                                       |                                       |                  |                  |                                   |              |                             |             | 1924                    | 1925          | 1924         | 1925         |
| <b>Finishing room:</b>    |                     |            |                                       |                                       |                  |                  |                                   |              |                             |             |                         |               |              |              |
| Pasters.....              | 3                   | 6          | 248 $\frac{1}{4}$                     | 612 $\frac{1}{2}$                     | \$158.55         | \$361.32         | 10,636                            | 4,540        | \$0.637                     | \$0.590     | 0.188                   | 0.441         | \$0.120      | \$0.260      |
| Liners.....               | 10                  | 4          | 1,006 $\frac{1}{4}$                   | 345 $\frac{1}{2}$                     | 472.43           | 158.06           | 2,629                             | 8,052        | .470                        | .458        | .761                    | .248          | .357         | .114         |
| Cutters.....              | 2                   | 3          | 189                                   | 283 $\frac{1}{2}$                     | 99.00            | 147.18           | 13,998                            | 9,813        | .524                        | .519        | .143                    | .204          | .075         | .106         |
| Finishers.....            | 9                   | 6          | 697 $\frac{3}{4}$                     | 530                                   | 459.76           | 416.84           | 3,792                             | 5,249        | .659                        | .787        | .528                    | .381          | .348         | .300         |
| Rewinders.....            |                     | 3          |                                       | 357                                   |                  | 178.50           |                                   | 7,793        |                             | .500        |                         | .257          |              | .128         |
| Grinders.....             | 2                   |            | 181                                   |                                       | 85.86            |                  | 14,617                            |              | .474                        |             | .137                    |               | .065         |              |
| <b>Total.....</b>         | <b>26</b>           | <b>22</b>  | <b>2,322<math>\frac{3}{4}</math></b>  | <b>2,128<math>\frac{3}{4}</math></b>  | <b>1,275.60</b>  | <b>1,261.90</b>  | <b>1,139</b>                      | <b>1,307</b> | <b>.549</b>                 | <b>.593</b> | <b>1.756</b>            | <b>1.530</b>  | <b>.964</b>  | <b>.907</b>  |
| <b>Receiving:</b>         |                     |            |                                       |                                       |                  |                  |                                   |              |                             |             |                         |               |              |              |
| Laborers.....             | 11                  | 19         | 1,113 $\frac{1}{2}$                   | 1,455 $\frac{3}{4}$                   | 556.75           | 727.88           | 2,376                             | 1,911        | .500                        | .500        | .842                    | 1.047         | .421         | .523         |
| Others.....               | 4                   | 4          | 417 $\frac{1}{2}$                     | 485 $\frac{1}{2}$                     | 227.93           | 261.88           | 6,337                             | 5,730        | .546                        | .539        | .316                    | .349          | .172         | .188         |
| <b>Total.....</b>         | <b>15</b>           | <b>23</b>  | <b>1,531</b>                          | <b>1,941<math>\frac{1}{4}</math></b>  | <b>784.68</b>    | <b>989.76</b>    | <b>1,728</b>                      | <b>1,433</b> | <b>.513</b>                 | <b>.510</b> | <b>1.157</b>            | <b>1.396</b>  | <b>.593</b>  | <b>.712</b>  |
| <b>Shipping:</b>          |                     |            |                                       |                                       |                  |                  |                                   |              |                             |             |                         |               |              |              |
| Laborers.....             | 9                   | 15         | 968 $\frac{1}{4}$                     | 1,498 $\frac{1}{2}$                   | 489.15           | 742.87           | 2,732                             | 1,856        | .505                        | .496        | .732                    | 1.077         | .370         | .534         |
| Others.....               | 2                   | 2          | 220                                   | 233                                   | 155.00           | 159.34           | 12,026                            | 11,940       | .705                        | .684        | .166                    | .168          | .117         | .115         |
| <b>Total.....</b>         | <b>11</b>           | <b>17</b>  | <b>1,188<math>\frac{3}{4}</math></b>  | <b>1,731<math>\frac{1}{2}</math></b>  | <b>644.15</b>    | <b>902.21</b>    | <b>2,226</b>                      | <b>1,607</b> | <b>.542</b>                 | <b>.521</b> | <b>.898</b>             | <b>1.245</b>  | <b>.487</b>  | <b>.649</b>  |
| <b>Maintenance.....</b>   | <b>21</b>           | <b>19</b>  | <b>2,401<math>\frac{1}{4}</math></b>  | <b>2,207<math>\frac{3}{4}</math></b>  | <b>1,654.68</b>  | <b>1,566.00</b>  | <b>1,102</b>                      | <b>1,260</b> | <b>.689</b>                 | <b>.709</b> | <b>1.815</b>            | <b>1.587</b>  | <b>1.250</b> | <b>1.126</b> |
| <b>Power.....</b>         | <b>26</b>           | <b>29</b>  | <b>2,842<math>\frac{1}{2}</math></b>  | <b>2,936<math>\frac{1}{4}</math></b>  | <b>1,777.67</b>  | <b>1,902.54</b>  | <b>931</b>                        | <b>947</b>   | <b>.625</b>                 | <b>.648</b> | <b>2.149</b>            | <b>2.111</b>  | <b>1.344</b> | <b>1.368</b> |
| <b>General.....</b>       | <b>5</b>            | <b>5</b>   | <b>597<math>\frac{3}{4}</math></b>    | <b>581<math>\frac{3}{4}</math></b>    | <b>550.13</b>    | <b>542.26</b>    | <b>4,428</b>                      | <b>4,782</b> | <b>.921</b>                 | <b>.932</b> | <b>.452</b>             | <b>.418</b>   | <b>.416</b>  | <b>.390</b>  |
| <b>Grand total.....</b>   | <b>176</b>          | <b>200</b> | <b>19,643<math>\frac{1}{4}</math></b> | <b>18,962<math>\frac{1}{4}</math></b> | <b>11,445.26</b> | <b>11,658.97</b> | <b>135</b>                        | <b>147</b>   | <b>.583</b>                 | <b>.615</b> | <b>14.850</b>           | <b>13.633</b> | <b>8.662</b> | <b>8.382</b> |

**TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued**  
**ESTABLISHMENT NO. 5**

| Department and occupation | Number of employees |           | Full-time positions |           | Total hours worked |               | Total wages     |                 | Output in pounds per one-man hour |            | Labor cost per one-man hour |             | Cost per ton of product |              |              |              |
|---------------------------|---------------------|-----------|---------------------|-----------|--------------------|---------------|-----------------|-----------------|-----------------------------------|------------|-----------------------------|-------------|-------------------------|--------------|--------------|--------------|
|                           |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             | In one-man hours        |              | Wages        |              |
|                           | 1924                | 1925      | 1924                | 1925      | 1924               | 1925          | 1924            | 1925            | 1924                              | 1925       | 1924                        | 1925        | 1924                    | 1925         | 1924         | 1925         |
| <b>Beater room:</b>       |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Head beater men.....      | 2                   | 3         | 2                   | 3         | 260                | 283½          | \$169.00        | \$230.35        | 13,018                            | 12,801     | \$0.650                     | \$0.813     | 0.154                   | 0.156        | \$0.100      | \$0.127      |
| First helpers.....        | 4                   | 6         | 4                   | 6         | 517                | 607½          | 284.35          | 417.67          | 6,547                             | 5,974      | .550                        | .688        | .806                    | .335         | .168         | .230         |
| Jordan men.....           | 4                   | 6         | 4                   | 6         | 503                | 594½          | 251.50          | 371.57          | 6,729                             | 6,104      | .500                        | .626        | .297                    | .328         | .149         | .205         |
| Beater men.....           | 31                  | 45        | 30                  | 42        | 3,826              | 3,849¼        | 1,721.71        | 2,165.24        | 885                               | 943        | .450                        | .563        | 2.261                   | 2.121        | 1.017        | 1.193        |
| <b>Total.....</b>         | <b>41</b>           | <b>60</b> | <b>40</b>           | <b>57</b> | <b>5,106</b>       | <b>5,334¾</b> | <b>2,428.56</b> | <b>3,184.83</b> | <b>663</b>                        | <b>680</b> | <b>.475</b>                 | <b>.597</b> | <b>3.017</b>            | <b>2.940</b> | <b>1.434</b> | <b>1.755</b> |
| <b>Machine room:</b>      |                     |           |                     |           |                    |               |                 |                 |                                   |            |                             |             |                         |              |              |              |
| Machine tenders.....      | 6                   | 7         | 4                   | 6         | 874                | 803           | 655.50          | 803.00          | 3,873                             | 4,519      | .750                        | 1.000       | .517                    | .443         | .387         | .443         |
| Back tenders.....         | 6                   | 6         | 4                   | 6         | 789                | 585½          | 433.95          | 402.54          | 4,200                             | 6,198      | .550                        | .688        | .466                    | .323         | .256         | .222         |
| Third hands.....          | 4                   | 6         | 4                   | 6         | 525                | 529           | 236.25          | 207.57          | 6,447                             | 6,860      | .450                        | .563        | .310                    | .262         | .140         | .164         |
| Screenmen.....            | 4                   | 6         | 4                   | 6         | 524                | 517           | 209.60          | 258.50          | 6,459                             | 7,019      | .400                        | .500        | .310                    | .285         | .124         | .143         |
| Cutter boys.....          | 26                  | 34        | 20                  | 30        | 2,548              | 2,705¼        | 1,022.35        | 1,352.64        | 1,323                             | 1,341      | .401                        | .500        | 1.506                   | 1.491        | .604         | .746         |
| <b>Total.....</b>         | <b>46</b>           | <b>59</b> | <b>36</b>           | <b>54</b> | <b>5,260</b>       | <b>5,139¾</b> | <b>2,557.65</b> | <b>3,114.25</b> | <b>643</b>                        | <b>706</b> | <b>.486</b>                 | <b>.606</b> | <b>3.108</b>            | <b>2.833</b> | <b>1.511</b> | <b>1.716</b> |

| Department and occupation | Number of employees |            | Total hours worked                     |  | Total wages      |                  | Output in pounds per one-man hour |              | Labor cost per one-man hour |             | Cost per ton of product |               |              |              |
|---------------------------|---------------------|------------|--|--|------------------|------------------|-----------------------------------|--------------|-----------------------------|-------------|-------------------------|---------------|--------------|--------------|
|                           | 1924                | 1925       | 1924                                   | 1925                                   | 1924             | 1925             | 1924                              | 1925         | 1924                        | 1925        | In one-man hours        |               | Wages        |              |
|                           |                     |            |  |  |                  |                  |                                   |              |                             |             | 1924                    | 1925          | 1924         | 1925         |
| <b>Receiving room:</b>    |                     |            |  |  |                  |                  |                                   |              |                             |             |                         |               |              |              |
| Laborers.....             | 9                   | 9          | 948                                    | 936                                    | \$426.60         | \$421.27         | 3,570                             | 3,877        | \$0.450                     | \$0.450     | 0.560                   | 0.516         | \$0.252      | \$0.232      |
| Others.....               | 6                   | 6          | 723                                    | 748 <sup>1</sup> / <sub>4</sub>        | 374.76           | 377.64           | 4,681                             | 4,847        | .518                        | .504        | .427                    | .413          | .222         | .208         |
| <b>Total.....</b>         | <b>15</b>           | <b>15</b>  | <b>1,671</b>                           | <b>1,684<sup>1</sup>/<sub>4</sub></b>  | <b>801.36</b>    | <b>798.91</b>    | <b>2,025</b>                      | <b>2,154</b> | <b>.480</b>                 | <b>.474</b> | <b>.987</b>             | <b>.929</b>   | <b>.474</b>  | <b>.440</b>  |
| <b>Shipping room:</b>     |                     |            |  |  |                  |                  |                                   |              |                             |             |                         |               |              |              |
| Laborers.....             | 12                  | 16         | 695 <sup>1</sup> / <sub>16</sub>       | 909 <sup>1</sup> / <sub>2</sub>        | 283.44           | 363.78           | 4,869                             | 3,990        | .408                        | .400        | .411                    | .501          | .168         | .201         |
| Others.....               | 3                   | 3          | 192 <sup>3</sup> / <sub>8</sub>        | 206 <sup>1</sup> / <sub>16</sub>       | 93.09            | 99.62            | 17,573                            | 17,608       | .483                        | .483        | .114                    | .114          | .055         | .055         |
| <b>Total.....</b>         | <b>15</b>           | <b>19</b>  | <b>887<sup>1</sup>/<sub>16</sub></b>   | <b>1,115<sup>3</sup>/<sub>2</sub></b>  | <b>376.53</b>    | <b>463.40</b>    | <b>3,813</b>                      | <b>3,253</b> | <b>.424</b>                 | <b>.415</b> | <b>.525</b>             | <b>.615</b>   | <b>.223</b>  | <b>.255</b>  |
| <b>Maintenance.....</b>   | <b>21</b>           | <b>20</b>  | <b>2,417</b>                           | <b>2,540<sup>3</sup>/<sub>4</sub></b>  | <b>1,641.42</b>  | <b>1,746.76</b>  | <b>1,400</b>                      | <b>1,428</b> | <b>.679</b>                 | <b>.688</b> | <b>1.423</b>            | <b>1.400</b>  | <b>.970</b>  | <b>.963</b>  |
| <b>Power.....</b>         | <b>17</b>           | <b>20</b>  | <b>2,367<sup>1</sup>/<sub>16</sub></b> | <b>2,120<sup>1</sup>/<sub>16</sub></b> | <b>1,369.84</b>  | <b>1,409.46</b>  | <b>1,429</b>                      | <b>1,711</b> | <b>.579</b>                 | <b>.665</b> | <b>1.399</b>            | <b>1.169</b>  | <b>.810</b>  | <b>.777</b>  |
| <b>General:</b>           |                     |            |  |  |                  |                  |                                   |              |                             |             |                         |               |              |              |
| Laborers.....             | 17                  | 15         | 1,945                                  | 1,776 <sup>3</sup> / <sub>4</sub>      | 811.14           | 723.46           | 1,740                             | 2,042        | .417                        | .407        | 1.149                   | .979          | .479         | .399         |
| Others.....               | 9                   | 12         | 1,257                                  | 1,266 <sup>3</sup> / <sub>4</sub>      | 784.94           | 949.07           | 2,693                             | 2,865        | .625                        | .749        | .743                    | .698          | .464         | .523         |
| <b>Total.....</b>         | <b>26</b>           | <b>27</b>  | <b>3,202</b>                           | <b>3,043<sup>1</sup>/<sub>2</sub></b>  | <b>1,596.08</b>  | <b>1,672.53</b>  | <b>1,057</b>                      | <b>1,192</b> | <b>.499</b>                 | <b>.550</b> | <b>1.892</b>            | <b>1.677</b>  | <b>.943</b>  | <b>.922</b>  |
| <b>Grand total.....</b>   | <b>181</b>          | <b>220</b> | <b>20,911<sup>3</sup>/<sub>8</sub></b> | <b>20,979<sup>1</sup>/<sub>4</sub></b> | <b>10,769.44</b> | <b>12,390.14</b> | <b>162</b>                        | <b>173</b>   | <b>.515</b>                 | <b>.591</b> | <b>12.357</b>           | <b>11.562</b> | <b>6.364</b> | <b>6.828</b> |

<sup>1</sup> Called assistant head beater men in 1925

TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued  
ESTABLISHMENT NO. 6

| Department and occupation      | Number of employees |      | Full-time positions |      | Total hours worked  |                     | Total wages |          | Output in pounds per one-man hour |        | Labor cost per one-man hour |         | Cost per ton of product |       |         |         |
|--------------------------------|---------------------|------|---------------------|------|---------------------|---------------------|-------------|----------|-----------------------------------|--------|-----------------------------|---------|-------------------------|-------|---------|---------|
|                                |                     |      |                     |      |                     |                     |             |          |                                   |        |                             |         | In one-man hours        |       | Wages   |         |
|                                | 1924                | 1925 | 1924                | 1925 | 1924                | 1925                | 1924        | 1925     | 1924                              | 1925   | 1924                        | 1925    | 1924                    | 1925  | 1924    | 1925    |
| <b>Beater room:</b>            |                     |      |                     |      |                     |                     |             |          |                                   |        |                             |         |                         |       |         |         |
| Beater engineers.....          | 3                   | 3    | 3                   | 3    | 310 $\frac{1}{2}$   | 259 $\frac{1}{2}$   | \$224.94    | \$187.96 | 12,020                            | 12,468 | \$0.725                     | \$0.725 | 0.166                   | 0.160 | \$0.121 | \$0.116 |
| Assistant boss beater men..... | 3                   | 3    | 3                   | 3    | 317 $\frac{1}{2}$   | 339 $\frac{1}{2}$   | 182.58      | 195.07   | 11,746                            | 9,528  | .575                        | .575    | .170                    | .210  | .098    | .121    |
| Plug pullers.....              | 4                   | 4    | 3                   | 3    | 404 $\frac{1}{2}$   | 388 $\frac{1}{2}$   | 222.61      | 213.68   | 9,214                             | 8,320  | .550                        | .550    | .217                    | .240  | .119    | .132    |
| Beater men.....                | 75                  | 76   | 66                  | 66   | 6,609               | 5,279 $\frac{1}{2}$ | 3,069.08    | 2,425.02 | 564                               | 612    | .464                        | .459    | 3.545                   | 3.267 | 1.646   | 1.501   |
| Total.....                     | 85                  | 86   | 75                  | 75   | 7,641 $\frac{1}{2}$ | 6,266 $\frac{1}{2}$ | 3,699.21    | 3,021.73 | 488                               | 516    | .484                        | .482    | 4.098                   | 3.877 | 1.984   | 1.870   |
| <b>Machine room:</b>           |                     |      |                     |      |                     |                     |             |          |                                   |        |                             |         |                         |       |         |         |
| Foremen.....                   | 1                   |      | 1                   |      | 120                 |                     | 90.00       |          | 31,077                            |        | .750                        |         | .064                    |       | .048    |         |
| Machine tenders.....           | 6                   | 6    | 6                   | 6    | 628 $\frac{1}{2}$   | 535 $\frac{1}{2}$   | 486.90      | 411.35   | 5,936                             | 6,039  | .775                        | .769    | .337                    | .331  | .261    | .255    |
| Back tenders.....              | 6                   | 6    | 6                   | 6    | 583 $\frac{1}{2}$   | 558 $\frac{1}{2}$   | 335.53      | 319.14   | 6,391                             | 5,738  | .575                        | .571    | .313                    | .346  | .180    | .198    |
| Second back tenders.....       | 5                   | 6    | 6                   | 6    | 583 $\frac{1}{2}$   | 586 $\frac{1}{2}$   | 304.43      | 322.72   | 6,737                             | 5,509  | .550                        | .550    | .297                    | .363  | .163    | .200    |
| Outter boys.....               | 38                  | 29   | 21                  | 21   | 2,510 $\frac{1}{2}$ | 2,209 $\frac{1}{2}$ | 1,031.64    | 886.80   | 1,485                             | 1,463  | .411                        | .401    | 1.347                   | 1.367 | .553    | .549    |
| Screenmen.....                 | 12                  | 12   | 12                  | 12   | 1,232               | 1,076 $\frac{1}{2}$ | 508.61      | 446.13   | 3,027                             | 3,003  | .413                        | .414    | .661                    | .666  | .273    | .276    |
| Total.....                     | 68                  | 59   | 52                  | 51   | 5,628               | 4,966 $\frac{1}{2}$ | 2,757.11    | 2,386.14 | 663                               | 651    | .490                        | .481    | 3.018                   | 3.073 | 1.479   | 1.476   |

| Department and occupation | Number of employees |            | Total hours worked                    |                                       | Total wages      |                  | Output in pounds per one-man hour |              | Labor cost per one-man hour |             | Cost per ton of product |               |              |              |
|---------------------------|---------------------|------------|---------------------------------------|---------------------------------------|------------------|------------------|-----------------------------------|--------------|-----------------------------|-------------|-------------------------|---------------|--------------|--------------|
|                           | 1924                | 1925       | 1924                                  | 1925                                  | 1924             | 1925             | 1924                              | 1925         | 1924                        | 1925        | In one-man hours        |               | Wages        |              |
|                           |                     |            |                                       |                                       |                  |                  |                                   |              |                             |             | 1924                    | 1925          | 1924         | 1925         |
| <b>Finishing room:</b>    |                     |            |                                       |                                       |                  |                  |                                   |              |                             |             |                         |               |              |              |
| Finishers.....            | 7                   | 7          | 919 $\frac{1}{4}$                     | 747 $\frac{1}{2}$                     | \$434.77         | \$355.27         | 4,055                             | 4,324        | \$0.473                     | \$0.475     | 0.493                   | 0.463         | \$0.233      | \$0.220      |
| Cutters.....              | 2                   | 1          | 190                                   | 114 $\frac{1}{2}$                     | 76.00            | 45.80            | 19,627                            | 28,230       | .400                        | .400        | .102                    | .071          | .041         | .028         |
| <b>Total.....</b>         | <b>9</b>            | <b>8</b>   | <b>1,109<math>\frac{1}{4}</math></b>  | <b>862</b>                            | <b>510.77</b>    | <b>401.07</b>    | <b>3,360</b>                      | <b>3,750</b> | <b>.460</b>                 | <b>.465</b> | <b>.595</b>             | <b>.533</b>   | <b>.274</b>  | <b>.248</b>  |
| <b>Receiving room:</b>    |                     |            |                                       |                                       |                  |                  |                                   |              |                             |             |                         |               |              |              |
| Laborers.....             | 24                  | 14         | 1,871 $\frac{1}{4}$                   | 1,237 $\frac{1}{4}$                   | 788.81           | 520.33           | 1,993                             | 2,613        | .422                        | .421        | 1.004                   | .766          | .423         | .322         |
| Others.....               | 5                   | 5          | 553                                   | 561 $\frac{1}{2}$                     | 249.83           | 250.10           | 6,744                             | 6,757        | .452                        | .445        | .297                    | .347          | .134         | .155         |
| <b>Total.....</b>         | <b>29</b>           | <b>19</b>  | <b>2,424<math>\frac{1}{4}</math></b>  | <b>1,798<math>\frac{3}{4}</math></b>  | <b>1,038.64</b>  | <b>770.43</b>    | <b>1,538</b>                      | <b>1,797</b> | <b>.428</b>                 | <b>.428</b> | <b>1.300</b>            | <b>1.113</b>  | <b>.557</b>  | <b>.477</b>  |
| <b>Maintenance.....</b>   | <b>50</b>           | <b>45</b>  | <b>4,946<math>\frac{1}{8}</math></b>  | <b>4,311<math>\frac{1}{8}</math></b>  | <b>2,736.43</b>  | <b>2,399.96</b>  | <b>754</b>                        | <b>750</b>   | <b>.553</b>                 | <b>.557</b> | <b>2.653</b>            | <b>2.668</b>  | <b>1.468</b> | <b>1.485</b> |
| Power.....                | 37                  | 35         | 3,937 $\frac{1}{2}$                   | 3,377 $\frac{1}{2}$                   | 2,224.28         | 1,909.63         | 947                               | 957          | .565                        | .565        | 2.112                   | 2.090         | 1.193        | 1.182        |
| General.....              | 16                  | 27         | 2,090 $\frac{1}{4}$                   | 3,209 $\frac{1}{4}$                   | 885.55           | 1,429.26         | 1,784                             | 1,007        | .424                        | .445        | 1.121                   | 1.986         | .475         | .884         |
| <b>Grand total.....</b>   | <b>294</b>          | <b>279</b> | <b>27,778<math>\frac{1}{4}</math></b> | <b>24,791<math>\frac{3}{8}</math></b> | <b>13,851.99</b> | <b>12,318.22</b> | <b>134</b>                        | <b>130</b>   | <b>.499</b>                 | <b>.497</b> | <b>14.898</b>           | <b>15.340</b> | <b>7.429</b> | <b>7.622</b> |

TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued

## ESTABLISHMENT NO. 7

| Department and occupation | Number of employees |      | Full-time positions |      | Total hours worked |        | Total wages |          | Output in pounds per one-man hour |        | Labor cost per one-man hour |         | Cost per ton of product |       |         |         |  |
|---------------------------|---------------------|------|---------------------|------|--------------------|--------|-------------|----------|-----------------------------------|--------|-----------------------------|---------|-------------------------|-------|---------|---------|--|
|                           | 1924                | 1925 | 1924                | 1925 | 1924               | 1925   | 1924        | 1925     | 1924                              | 1925   | 1924                        | 1925    | In one-man hours        |       | Wages   |         |  |
|                           |                     |      |                     |      |                    |        |             |          |                                   |        |                             |         | 1924                    | 1925  | 1924    | 1925    |  |
| <b>Beater room:</b>       |                     |      |                     |      |                    |        |             |          |                                   |        |                             |         |                         |       |         |         |  |
| Tour bosses.....          | 2                   | 2    | 2                   | 2    | 264½               | 264½   | \$200.59    | \$257.58 | 15,258                            | 20,023 | \$0.759                     | \$0.974 | 0.131                   | 0.100 | \$0.100 | \$0.097 |  |
| Head beater men.....      | 4                   | 6    | 4                   | 6    | 516                | 552    | 356.51      | 578.81   | 7,814                             | 9,594  | .691                        | 1.049   | .256                    | .269  | .177    | .219    |  |
| Breaker beater men.....   | 2                   | 4    | 2                   | 3    | 265                | 282    | 169.27      | 270.78   | 15,215                            | 18,780 | .639                        | .960    | .131                    | .107  | .084    | .102    |  |
| Valve men.....            | 4                   | 6    | 4                   | 6    | 518¾               | 552¾   | 279.47      | 452.12   | 7,773                             | 9,581  | .539                        | .818    | .257                    | .209  | .139    | .171    |  |
| Beater men.....           | 51                  | 68   | 40                  | 60   | 5,800              | 5,866¾ | 2,545.62    | 3,907.40 | 6,995                             | 9,903  | .439                        | .666    | 2.577                   | 2.216 | 1.263   | 1.476   |  |
| Total.....                | 63                  | 86   | 52                  | 77   | 7,364              | 7,518  | 3,551.46    | 5,466.69 | 548                               | 704    | .482                        | .727    | 3.653                   | 2.839 | 1.762   | 2.065   |  |
| <b>Machine room:</b>      |                     |      |                     |      |                    |        |             |          |                                   |        |                             |         |                         |       |         |         |  |
| Tour bosses.....          | 2                   | 3    | 2                   | 3    | 268½               | 275    | 283.00      | 487.51   | 15,017                            | 19,258 | 1.054                       | 1.773   | .133                    | .104  | .140    | .184    |  |
| Inspectors.....           | 3                   | 3    | 2                   | 3    | 246                | 262¾   | 113.36      | 164.23   | 16,390                            | 20,156 | .461                        | .625    | .122                    | .099  | .056    | .062    |  |
| Machine tenders.....      | 6                   | 7    | 4                   | 6    | 795                | 682¾   | 672.81      | 863.91   | 5,072                             | 7,763  | .846                        | 1.266   | .394                    | .258  | .334    | .326    |  |
| Back tenders.....         | 4                   | 6    | 4                   | 6    | 462½               | 563¾   | 284.10      | 489.26   | 8,718                             | 9,394  | .614                        | .868    | .229                    | .213  | .141    | .185    |  |
| Third hands.....          | 5                   | 7    | 4                   | 6    | 603¾               | 643¾   | 300.46      | 435.96   | 6,678                             | 8,233  | .498                        | .756    | .300                    | .243  | .149    | .184    |  |
| Felt boys.....            | 2                   | 3    | 2                   | 3    | 265                | 260¾   | 124.53      | 191.71   | 15,215                            | 19,891 | .470                        | .720    | .131                    | .101  | .062    | .072    |  |
| Screenmen.....            | 5                   | 6    | 4                   | 6    | 569¾               | 538    | 251.29      | 362.03   | 7,077                             | 9,844  | .441                        | .673    | .283                    | .203  | .125    | .137    |  |
| Broke boys.....           | 4                   | 6    | 4                   | 6    | 505                | 546½   | 225.11      | 367.80   | 7,984                             | 9,601  | .446                        | .673    | .251                    | .206  | .112    | .139    |  |
| Cutter boys.....          | 28                  | 27   | 18                  | 24   | 2,620¾             | 2,402¾ | 1,112.24    | 1,556.25 | 1,539                             | 2,204  | .425                        | .648    | 1.300                   | .907  | .552    | .688    |  |
| Total.....                | 59                  | 68   | 44                  | 63   | 6,335¾             | 6,180¾ | 3,366.90    | 4,968.66 | 636                               | 857    | .531                        | .804    | 3.143                   | 2.334 | 1.670   | 1.876   |  |

| Department and occupation    | Number of employees |      | Total hours worked |         | Total wages |           | Output in pounds per one-man hour |        | Labor cost per one-man hour |         | Cost per ton of product |        |         |         |
|------------------------------|---------------------|------|--------------------|---------|-------------|-----------|-----------------------------------|--------|-----------------------------|---------|-------------------------|--------|---------|---------|
|                              | 1924                | 1925 | 1924               | 1925    | 1924        | 1925      | 1924                              | 1925   | 1924                        | 1925    | In one-man hours        |        | Wages   |         |
|                              |                     |      |                    |         |             |           |                                   |        |                             |         | 1924                    | 1925   | 1924    | 1925    |
| <b>Finishing department:</b> |                     |      |                    |         |             |           |                                   |        |                             |         |                         |        |         |         |
| Rewinder men.....            | 3                   | 3    | 357½               | 383     | \$147.26    | \$171.27  | 11,278                            | 13,828 | \$0.412                     | \$0.447 | 0.177                   | 0.145  | \$0.073 | \$0.065 |
| Ream cutters.....            | 3                   | 4    | 342                | 482½    | 157.32      | 221.29    | 11,789                            | 10,976 | .460                        | .459    | .170                    | .182   | .078    | .084    |
| Finishers.....               | 4                   | 5    | 387½               | 512½    | 205.76      | 302.18    | 10,412                            | 10,334 | .531                        | .590    | .192                    | .194   | .102    | .114    |
| Others.....                  | 15                  | 17   | 1,470¾             | 1,549   | 730.86      | 739.09    | 2,741                             | 3,419  | .497                        | .477    | .730                    | .585   | .363    | .279    |
| Total.....                   | 25                  | 29   | 2,557½             | 2,927   | 1,241.20    | 1,433.83  | 1,577                             | 1,809  | .485                        | .490    | 1.269                   | 1.105  | .616    | .542    |
| <b>Receiving department:</b> |                     |      |                    |         |             |           |                                   |        |                             |         |                         |        |         |         |
| Laborers.....                | 16                  | 27   | 1,651½             | 2,553   | 666.92      | 1,038.52  | 2,441                             | 2,074  | .404                        | .407    | .819                    | .964   | .331    | .392    |
| Others.....                  | 4                   | 4    | 462                | 416½    | 243.64      | 223.48    | 8,727                             | 12,715 | .527                        | .537    | .229                    | .157   | .121    | .084    |
| Total.....                   | 20                  | 31   | 2,113½             | 2,969½  | 910.56      | 1,262.00  | 1,908                             | 1,783  | .431                        | .425    | 1.048                   | 1.121  | .452    | .477    |
| <b>Shipping department:</b>  |                     |      |                    |         |             |           |                                   |        |                             |         |                         |        |         |         |
| Laborers.....                | 13                  | 20   | 1,237½             | 1,879½  | 493.86      | 754.81    | 3,258                             | 2,818  | .399                        | .402    | .614                    | .710   | .245    | .285    |
| Others.....                  | 1                   | 1    | 114                | 114     | 66.00       | 66.00     | 35,368                            | 46,456 | .579                        | .579    | .057                    | .043   | .033    | .025    |
| Total.....                   | 14                  | 21   | 1,351½             | 1,993½  | 559.86      | 820.81    | 2,983                             | 2,657  | .414                        | .412    | .670                    | .753   | .278    | .310    |
| <b>Maintenance.....</b>      | 32                  | 37   | 3,674½             | 4,265¾  | 2,386.18    | 2,823.77  | 1,097                             | 1,242  | .649                        | .662    | 1.823                   | 1.611  | 1.184   | 1.066   |
| <b>Power.....</b>            | 55                  | 36   | 2,971              | 2,502¾  | 1,768.63    | 1,536.73  | 1,357                             | 2,116  | .595                        | .614    | 1.474                   | .945   | .877    | .580    |
| <b>General.....</b>          | 11                  | 10   | 1,345¾             | 1,206   | 598.47      | 545.84    | 2,996                             | 4,391  | .445                        | .453    | .668                    | .455   | .297    | .206    |
| <b>Grand total.....</b>      | 279                 | 318  | 27,713¾            | 29,562¾ | 14,383.26   | 18,858.33 | 145                               | 179    | .519                        | .638    | 13.747                  | 11.164 | 7.135   | 7.122   |

TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued

ESTABLISHMENT NO. 8

| Department and occupation      | Number of employees |           | Full-time positions |           | Total hours worked |              | Total wages     |                 | Output in pounds per one-man hour |            | Labor cost per one-man hour |             | Cost per ton of product |              |              |              |  |
|--------------------------------|---------------------|-----------|---------------------|-----------|--------------------|--------------|-----------------|-----------------|-----------------------------------|------------|-----------------------------|-------------|-------------------------|--------------|--------------|--------------|--|
|                                | 1924                | 1925      | 1924                | 1925      | 1924               | 1925         | 1924            | 1925            | 1924                              | 1925       | 1924                        | 1925        | In one-man hours        |              | Wages        |              |  |
|                                |                     |           |                     |           |                    |              |                 |                 |                                   |            |                             |             | 1924                    | 1925         | 1924         | 1925         |  |
| <b>Beater room:</b>            |                     |           |                     |           |                    |              |                 |                 |                                   |            |                             |             |                         |              |              |              |  |
| Head beater men.....           | 2                   | 3         | 2                   | 3         | 271½               | 301½         | \$203.63        | \$241.20        | 8,664                             | 9,340      | \$0.750                     | \$0.800     | 0.231                   | 0.214        | \$0.173      | \$0.171      |  |
| Assistant head beater men..... | 2                   | 4         | 2                   | 3         | 266                | 386          | 159.60          | 226.78          | 8,843                             | 7,296      | .600                        | .588        | .226                    | .274         | .136         | .161         |  |
| Liner beater men.....          | 1                   | 3         | 2                   | 3         | 131                | 344          | 62.23           | 165.85          | 17,956                            | 8,186      | .475                        | .482        | .111                    | .244         | .053         | .118         |  |
| Breaker beater men.....        | 2                   | 2         | 2                   | 3         | 243                | 194          | 109.35          | 87.30           | 9,680                             | 14,616     | .450                        | .450        | .207                    | .138         | .093         | .062         |  |
| Beater men.....                | 47                  | 62        | 32                  | 48        | 4,557              | 5,289½       | 1,845.77        | 2,249.73        | 516                               | 532        | .405                        | .425        | 3.875                   | 3.757        | 1.569        | 1.598        |  |
| Cleaners.....                  | 1                   | 1         | 1                   | 1         | 120                | 120          | 48.60           | 48.60           | 19,602                            | 23,468     | .405                        | .405        | .102                    | .085         | .041         | .035         |  |
| <b>Total.....</b>              | <b>55</b>           | <b>75</b> | <b>41</b>           | <b>61</b> | <b>5,588½</b>      | <b>6,635</b> | <b>2,429.18</b> | <b>3,019.46</b> | <b>421</b>                        | <b>424</b> | <b>.435</b>                 | <b>.455</b> | <b>4.712</b>            | <b>4.752</b> | <b>2.065</b> | <b>2.144</b> |  |
| <b>Machine room:</b>           |                     |           |                     |           |                    |              |                 |                 |                                   |            |                             |             |                         |              |              |              |  |
| Machine tenders.....           | 7                   | 10        | 6                   | 9         | 870½               | 930          | 626.60          | 720.89          | 2,702                             | 3,028      | .720                        | .775        | .740                    | .661         | .533         | .512         |  |
| Back tenders.....              | 7                   | 10        | 6                   | 9         | 841½               | 993½         | 434.08          | 561.49          | 2,795                             | 2,835      | .516                        | .565        | .716                    | .706         | .369         | .399         |  |
| Finishers.....                 | 13                  | 16        | 12                  | 15        | 1,297              | 1,368½       | 613.88          | 704.50          | 1,814                             | 2,058      | .473                        | .515        | 1.103                   | .972         | .522         | .500         |  |
| Cutter boys.....               | 20                  | 30        | 18                  | 24        | 2,026              | 2,305        | 824.25          | 985.49          | 1,161                             | 1,222      | .407                        | .428        | 1.723                   | 1.637        | .701         | .700         |  |
| Broke boys.....                | 18                  | 16        | 6                   | 9         | 1,067              | 1,187        | 432.19          | 501.66          | 2,205                             | 2,372      | .405                        | .423        | .907                    | .843         | .368         | .356         |  |
| Screenmen.....                 | 7                   | 10        | 6                   | 9         | 846                | 930½         | 342.57          | 395.49          | 2,708                             | 3,028      | .405                        | .425        | .719                    | .661         | .291         | .281         |  |
| Felt washers.....              | 1                   | 1         | 1                   | 1         | 109½               | 104½         | 44.35           | 42.33           | 21,482                            | 26,949     | .405                        | .405        | .093                    | .074         | .038         | .030         |  |
| <b>Total.....</b>              | <b>78</b>           | <b>93</b> | <b>55</b>           | <b>76</b> | <b>7,057½</b>      | <b>7,819</b> | <b>3,317.92</b> | <b>3,911.85</b> | <b>333</b>                        | <b>360</b> | <b>.470</b>                 | <b>.500</b> | <b>6.001</b>            | <b>5.553</b> | <b>2.821</b> | <b>2.778</b> |  |

| Department and occupation | Number of employees |      | Total hours worked |         | Total wages |           | Output in pounds per one-man hour |        | Labor cost per one-man hour |         | Cost per ton of product |        |         |         |
|---------------------------|---------------------|------|--------------------|---------|-------------|-----------|-----------------------------------|--------|-----------------------------|---------|-------------------------|--------|---------|---------|
|                           |                     |      |                    |         |             |           |                                   |        |                             |         | In one-man hours        |        | Wages   |         |
|                           | 1924                | 1925 | 1924               | 1925    | 1924        | 1925      | 1924                              | 1925   | 1924                        | 1925    | 1924                    | 1925   | 1924    | 1925    |
| <b>Finishing room:</b>    |                     |      |                    |         |             |           |                                   |        |                             |         |                         |        |         |         |
| Finishing bosses.....     | 1                   |      | 120                |         | \$60.00     |           | 19,602                            |        | \$0.500                     |         | 0.102                   |        | \$0.051 |         |
| Cutters.....              | 1                   |      | 105½               |         | 47.48       |           | 22,296                            |        | .450                        |         | .090                    |        | .040    |         |
| Rewinders.....            | 1                   |      | 114                |         | 51.30       |           | 20,634                            |        | .450                        |         | .097                    |        | .044    |         |
| Total.....                | 3                   |      | 339½               |         | 158.78      |           | 6,929                             |        | .468                        |         | .289                    |        | .135    |         |
| <b>Receiving room:</b>    |                     |      |                    |         |             |           |                                   |        |                             |         |                         |        |         |         |
| Laborers.....             | 14                  | 13   | 1,291½             | 1,347½  | 579.19      | \$606.62  | 1,821                             | 2,090  | .449                        | \$0.450 | 1.098                   | 0.957  | .493    | \$0.431 |
| Others.....               | 1                   | 1    | 120                | 120     | 70.00       | 70.00     | 19,602                            | 23,468 | .583                        | .583    | .102                    | .085   | .060    | .050    |
| Total.....                | 15                  | 14   | 1,411½             | 1,467½  | 649.19      | 676.62    | 1,666                             | 1,919  | .460                        | .461    | 1.200                   | 1.042  | .552    | .481    |
| <b>Shipping room:</b>     |                     |      |                    |         |             |           |                                   |        |                             |         |                         |        |         |         |
| Laborers.....             | 13                  | 23   | 1,360½             | 2,133½  | 550.06      | 861.71    | 1,729                             | 1,320  | .404                        | .404    | 1.157                   | 1.515  | .468    | .612    |
| Others.....               | 3                   | 3    | 360                | 376     | 168.00      | 193.00    | 6,534                             | 7,490  | .467                        | .513    | .306                    | .267   | .143    | .137    |
| Total.....                | 16                  | 26   | 1,720½             | 2,509½  | 718.06      | 1,054.71  | 1,367                             | 1,122  | .417                        | .420    | 1.463                   | 1.782  | .611    | .749    |
| <b>Maintenance.....</b>   | 23                  | 19   | 2,647½             | 2,550½  | 1,675.69    | 1,648.66  | 888                               | 1,104  | .633                        | .646    | 2.251                   | 1.812  | 1.425   | 1.171   |
| <b>Power.....</b>         | 13                  | 12   | 1,850½             | 1,837½  | 933.23      | 919.78    | 1,271                             | 1,533  | .504                        | .501    | 1.573                   | 1.305  | .794    | .653    |
| <b>General.....</b>       | 2                   | 6    | 262                | 931     | 240.00      | 596.80    | 8,978                             | 3,025  | .916                        | .641    | .223                    | .661   | .204    | .424    |
| <b>Grand total.....</b>   | 200                 | 245  | 20,877½            | 23,750½ | 10,122.05   | 11,827.88 | 113                               | 119    | .485                        | .498    | 17.751                  | 16.867 | 8.606   | 8.400   |

TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued

ESTABLISHMENT NO. 9

| Department and occupation | Number of employees |           | Full-time positions |           | Total hours worked |              | Total wages     |                 | Output in pounds per one-man hour |              | Labor cost per one-man hour |             | Cost per ton of product |              |              |              |  |
|---------------------------|---------------------|-----------|---------------------|-----------|--------------------|--------------|-----------------|-----------------|-----------------------------------|--------------|-----------------------------|-------------|-------------------------|--------------|--------------|--------------|--|
|                           | 1924                | 1925      | 1924                | 1925      | 1924               | 1925         | 1924            | 1925            | 1924                              | 1925         | 1924                        | 1925        | In one-man hours        |              | Wages        |              |  |
|                           |                     |           |                     |           |                    |              |                 |                 |                                   |              |                             |             | 1924                    | 1925         | 1924         | 1925         |  |
| <b>Beater room:</b>       |                     |           |                     |           |                    |              |                 |                 |                                   |              |                             |             |                         |              |              |              |  |
| Boss beater men.....      | 3                   | 3         | 2                   | 3         | 393                | 262          | \$286.61        | \$275.10        | 15,191                            | 19,491       | \$0.729                     | \$1.050     | 0.132                   | 0.103        | \$0.096      | \$0.108      |  |
| Valve men.....            | 6                   | 10        | 6                   | 9         | 854                | 765          | 470.70          | 535.50          | 6,991                             | 6,675        | .551                        | .700        | .286                    | .300         | .153         | .210         |  |
| Jordan men.....           | 2                   | 3         | 2                   | 3         | 309                | 258          | 169.95          | 180.60          | 19,321                            | 19,793       | .550                        | .700        | .104                    | .101         | .057         | .071         |  |
| Beater men.....           | 39                  | 42        | 36                  | 42        | 4,810              | 3,515        | 2,406.50        | 1,933.25        | 1,241                             | 1,453        | .500                        | .550        | 1.611                   | 1.377        | .806         | .757         |  |
| <b>Total.....</b>         | <b>50</b>           | <b>58</b> | <b>46</b>           | <b>57</b> | <b>6,366</b>       | <b>4,800</b> | <b>3,333.76</b> | <b>2,924.45</b> | <b>938</b>                        | <b>1,064</b> | <b>.524</b>                 | <b>.609</b> | <b>2.133</b>            | <b>1.880</b> | <b>1.117</b> | <b>1.145</b> |  |
| <b>Machine room:</b>      |                     |           |                     |           |                    |              |                 |                 |                                   |              |                             |             |                         |              |              |              |  |
| Machine tenders.....      | 7                   | 9         | 7                   | 9         | 1,081              | 779          | 918.83          | 895.85          | 5,523                             | 6,555        | .850                        | 1.150       | .362                    | .305         | .308         | .351         |  |
| Back tenders.....         | 6                   | 10        | 6                   | 9         | 933                | 794          | 559.80          | 635.20          | 6,399                             | 6,431        | .600                        | .800        | .313                    | .311         | .183         | .249         |  |
| Calender men.....         | 7                   | 9         | 6                   | 9         | 1,043              | 747          | 542.36          | 455.65          | 5,724                             | 6,836        | .520                        | .650        | .349                    | .293         | .182         | .190         |  |
| Screenmen.....            | 4                   | 6         | 4                   | 6         | 608½               | 526          | 304.25          | 289.30          | 9,811                             | 9,708        | .500                        | .550        | .204                    | .206         | .102         | .113         |  |
| Cutter boys.....          | 35                  | 39        | 32                  | 33        | 4,780              | 3,015        | 2,390.00        | 1,663.15        | 1,249                             | 1,694        | .500                        | .552        | 1.601                   | 1.181        | .801         | .651         |  |
| Slitter men.....          | 2                   |           | 2                   |           | 309                |              | 163.77          |                 | 19,321                            |              | .530                        |             | .104                    |              | .055         |              |  |
| <b>Total.....</b>         | <b>61</b>           | <b>73</b> | <b>57</b>           | <b>66</b> | <b>8,754½</b>      | <b>5,861</b> | <b>4,879.01</b> | <b>3,969.15</b> | <b>682</b>                        | <b>871</b>   | <b>.557</b>                 | <b>.677</b> | <b>2.933</b>            | <b>2.296</b> | <b>1.635</b> | <b>1.555</b> |  |

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| Department and occupation | Number of employees |            | Total hours worked |                | Total wages      |                  | Output in pounds per one-man hour |              | Labor cost per one-man hour |             | Cost per ton of product |              |              |              |
|---------------------------|---------------------|------------|--------------------|----------------|------------------|------------------|-----------------------------------|--------------|-----------------------------|-------------|-------------------------|--------------|--------------|--------------|
|                           | 1924                | 1925       | 1924               | 1925           | 1924             | 1925             | 1924                              | 1925         | 1924                        | 1925        | In one-man hours        |              | Wages        |              |
|                           |                     |            |                    |                |                  |                  |                                   |              |                             |             | 1924                    | 1925         | 1924         | 1925         |
| <b>Finishing room:</b>    |                     |            |                    |                |                  |                  |                                   |              |                             |             |                         |              |              |              |
| Finishers.....            | 10                  | 15         | 895                | 1,353          | \$686.29         | \$1,018.22       | 6,671                             | 3,774        | \$0.767                     | \$0.753     | 0.300                   | 0.530        | \$0.230      | \$0.399      |
| Rewinders.....            |                     | 2          |                    | 96             |                  | 52.68            |                                   | 53,193       |                             | .549        |                         | .038         |              | .021         |
| Others.....               | 4                   | 5          | 458                | 498½           | 354.24           | 404.80           | 12,234                            | 10,244       | .726                        | .812        | .164                    | .195         | .119         | .159         |
| <b>Total.....</b>         | <b>14</b>           | <b>22</b>  | <b>1,383</b>       | <b>1,947½</b>  | <b>1,040.53</b>  | <b>1,475.70</b>  | <b>4,317</b>                      | <b>2,622</b> | <b>.752</b>                 | <b>.758</b> | <b>.463</b>             | <b>.763</b>  | <b>.349</b>  | <b>.578</b>  |
| <b>Receiving room:</b>    |                     |            |                    |                |                  |                  |                                   |              |                             |             |                         |              |              |              |
| Laborers.....             | 9                   | 8          | 999                | 964            | 519.48           | 501.28           | 5,976                             | 5,297        | .520                        | .520        | .335                    | .378         | .174         | .196         |
| Others.....               | 2                   | 2          | 248                | 211            | 154.10           | 135.94           | 24,073                            | 24,202       | .621                        | .644        | .083                    | .083         | .052         | .053         |
| <b>Total.....</b>         | <b>11</b>           | <b>10</b>  | <b>1,247</b>       | <b>1,175</b>   | <b>673.58</b>    | <b>637.22</b>    | <b>4,788</b>                      | <b>4,346</b> | <b>.540</b>                 | <b>.542</b> | <b>.418</b>             | <b>.460</b>  | <b>.226</b>  | <b>.250</b>  |
| <b>Shipping room:</b>     |                     |            |                    |                |                  |                  |                                   |              |                             |             |                         |              |              |              |
| Laborers.....             | 22                  | 18         | 2,846½             | 1,251          | 1,435.17         | 688.04           | 2,097                             | 4,082        | .504                        | .550        | .954                    | .490         | .481         | .270         |
| <b>Maintenance.....</b>   | <b>21</b>           | <b>17</b>  | <b>2,719½</b>      | <b>1,931½</b>  | <b>2,010.73</b>  | <b>1,479.09</b>  | <b>2,195</b>                      | <b>2,644</b> | <b>.739</b>                 | <b>.766</b> | <b>.911</b>             | <b>.757</b>  | <b>.674</b>  | <b>.579</b>  |
| <b>Power.....</b>         | <b>15</b>           | <b>25</b>  | <b>2,350½</b>      | <b>2,244</b>   | <b>1,449.11</b>  | <b>1,642.80</b>  | <b>2,540</b>                      | <b>2,276</b> | <b>.617</b>                 | <b>.732</b> | <b>.787</b>             | <b>.879</b>  | <b>.485</b>  | <b>.643</b>  |
| <b>General:</b>           |                     |            |                    |                |                  |                  |                                   |              |                             |             |                         |              |              |              |
| Laborers.....             | 7                   | 6          | 1,029¾             | 640½           | 524.00           | 320.25           | 5,799                             | 7,973        | .509                        | .500        | .345                    | .251         | .176         | .125         |
| Others.....               | 6                   | 8          | 890                | 914            | 624.56           | 788.72           | 6,708                             | 5,587        | .702                        | .863        | .298                    | .358         | .209         | .309         |
| <b>Total.....</b>         | <b>13</b>           | <b>14</b>  | <b>1,919¾</b>      | <b>1,554½</b>  | <b>1,148.56</b>  | <b>1,106.97</b>  | <b>3,110</b>                      | <b>3,285</b> | <b>.598</b>                 | <b>.713</b> | <b>.643</b>             | <b>.609</b>  | <b>.385</b>  | <b>.434</b>  |
| <b>Grand total.....</b>   | <b>207</b>          | <b>237</b> | <b>27,586¾</b>     | <b>20,764½</b> | <b>15,970.45</b> | <b>13,925.42</b> | <b>216</b>                        | <b>246</b>   | <b>.579</b>                 | <b>.671</b> | <b>9.242</b>            | <b>8.133</b> | <b>5.350</b> | <b>5.454</b> |

PART I.—LABOR COST OF PRODUCTION

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TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued  
ESTABLISHMENT NO. 10

| Department and occupation      | Number of employees |      | Full-time positions |      | Total hours worked |        | Total wages |          | Output in pounds per one-man hour |        | Labor cost per one-man hour |         | Cost per ton of product |       |         |         |  |
|--------------------------------|---------------------|------|---------------------|------|--------------------|--------|-------------|----------|-----------------------------------|--------|-----------------------------|---------|-------------------------|-------|---------|---------|--|
|                                | 1924                | 1925 | 1924                | 1925 | 1924               | 1925   | 1924        | 1925     | 1924                              | 1925   | 1924                        | 1925    | In one-man hours        |       | Wages   |         |  |
|                                |                     |      |                     |      |                    |        |             |          |                                   |        |                             |         | 1924                    | 1925  | 1924    | 1925    |  |
| <b>Beater room:</b>            |                     |      |                     |      |                    |        |             |          |                                   |        |                             |         |                         |       |         |         |  |
| Boss beater men.....           | 2                   | 3    | 2                   | 3    | 288½               | 262    | \$183.53    | \$235.80 | 8,653                             | 9,208  | \$0.684                     | \$0.900 | 0.231                   | 0.217 | \$0.158 | \$0.196 |  |
| Assistant boss beater men..... | 2                   | 3    | 2                   | 3    | 291¾               | 254    | 188.20      | 190.50   | 7,963                             | 9,498  | .645                        | .750    | .251                    | .211  | .162    | .158    |  |
| Jordan men.....                | 2                   | 3    | 2                   | 3    | 292¾               | 300    | 153.53      | 195.01   | 7,936                             | 8,042  | .524                        | .650    | .252                    | .249  | .132    | .162    |  |
| Beater men.....                | 27                  | 31   | 18                  | 24   | 2,541¼             | 1,843¾ | 1,214.44    | 1,017.28 | 914                               | 1,308  | .478                        | .552    | 2.188                   | 1.529 | 1.046   | .843    |  |
| Total.....                     | 33                  | 40   | 24                  | 33   | 3,394¼             | 2,659¾ | 1,739.70    | 1,638.59 | 684                               | 907    | .513                        | .616    | 2.922                   | 2.205 | 1.498   | 1.358   |  |
| <b>Machine room:</b>           |                     |      |                     |      |                    |        |             |          |                                   |        |                             |         |                         |       |         |         |  |
| Machine tenders.....           | 2                   | 3    | 2                   | 3    | 303½               | 273    | 274.67      | 313.95   | 7,655                             | 8,837  | .905                        | 1.150   | .261                    | .226  | .237    | .260    |  |
| Back tenders.....              | 2                   | 3    | 2                   | 3    | 289¾               | 265    | 195.49      | 218.64   | 8,018                             | 9,104  | .675                        | .825    | .249                    | .220  | .168    | .181    |  |
| Third hands.....               | 2                   |      | 2                   |      | 289¾               |        | 180.00      |          | 8,018                             |        | .621                        |         | .249                    |       | .155    |         |  |
| Second hands.....              |                     | 4    |                     | 3    |                    | 346    |             | 266.42   |                                   | 6,972  |                             | .770    |                         | .287  |         | .221    |  |
| Screenmen (wet end).....       | 3                   | 3    | 2                   | 3    | 424                | 287    | 222.40      | 186.55   | 5,479                             | 8,406  | .525                        | .650    | .365                    | .238  | .192    | .155    |  |
| Weighers.....                  | 2                   | 2    | 2                   | 3    | 276                | 194½   | 144.50      | 120.59   | 8,417                             | 12,403 | .524                        | .620    | .238                    | .161  | .124    | .100    |  |
| Cutter boys.....               | 23                  | 15   | 8                   | 12   | 1,137              | 923¼   | 550.37      | 507.79   | 2,043                             | 2,613  | .484                        | .550    | .979                    | .765  | .474    | .421    |  |
| Total.....                     | 34                  | 30   | 18                  | 27   | 2,720              | 2,288¾ | 1,567.43    | 1,613.94 | 854                               | 1,054  | .576                        | .705    | 2.342                   | 1.897 | 1.349   | 1.338   |  |

| Department and occupation | Number of employees |      | Total hours worked   |                     | Total wages |          | Output in pounds per one-man hour |        | Labor cost per one-man hour |         | Cost per ton of product |       |         |         |
|---------------------------|---------------------|------|----------------------|---------------------|-------------|----------|-----------------------------------|--------|-----------------------------|---------|-------------------------|-------|---------|---------|
|                           | 1924                | 1925 | 1924                 | 1925                | 1924        | 1925     | 1924                              | 1925   | 1924                        | 1925    | In one-man hours        |       | Wages   |         |
|                           |                     |      |                      |                     |             |          |                                   |        |                             |         | 1924                    | 1925  | 1924    | 1925    |
| Finishing room.....       | 2                   | 1    | 319 $\frac{3}{4}$    | 110                 | \$153.42    | \$51.70  | 7,266                             | 21,931 | \$0.480                     | \$0.470 | 0.275                   | 0.091 | \$0.132 | \$0.043 |
| Receiving room:           |                     |      |                      |                     |             |          |                                   |        |                             |         |                         |       |         |         |
| Laborers.....             | 15                  | 7    | 1,206 $\frac{1}{2}$  | 734                 | 545.35      | 330.32   | 1,926                             | 3,287  | .452                        | .450    | 1.039                   | .609  | .470    | .274    |
| Others.....               | 8                   | 7    | 779                  | 719                 | 333.50      | 359.08   | 2,982                             | 3,355  | .492                        | .499    | .671                    | .596  | .330    | .298    |
| Total.....                | 23                  | 14   | 1,985 $\frac{1}{2}$  | 1,453               | 928.85      | 689.40   | 1,170                             | 1,660  | .468                        | .475    | 1.709                   | 1.205 | .800    | .572    |
| Maintenance.....          | 9                   | 10   | 1,216                | 1,227 $\frac{1}{2}$ | 831.76      | 839.50   | 1,911                             | 1,965  | .684                        | .684    | .047                    | .018  | .716    | .696    |
| Power.....                | 17                  | 17   | 1,886 $\frac{3}{4}$  | 1,743               | 1,268.85    | 1,172.12 | 1,231                             | 1,384  | .673                        | .673    | 1.624                   | 1.445 | 1.092   | .972    |
| General.....              | 6                   | 7    | 804 $\frac{1}{4}$    | 742                 | 415.70      | 405.28   | 2,889                             | 3,251  | .517                        | .546    | .692                    | .615  | .358    | .336    |
| Grand total.....          | 124                 | 119  | 12,326 $\frac{1}{2}$ | 10,224              | 6,905.71    | 6,410.53 | 188                               | 236    | .560                        | .627    | 10.612                  | 8.476 | 5.945   | 5.315   |

TABLE 13.—PRODUCTIVITY AND COST OF LABOR IN A TWO-WEEK PERIOD, 1924 AND 1925—Continued

## ESTABLISHMENT NO. 11

| Department and occupation          | Number of employees |      | Full-time positions |      | Total hours worked |        | Total wages |          | Output in pounds per one-man hour |       | Labor cost per one-man hour |         | Cost per ton of product |       |         |         |
|------------------------------------|---------------------|------|---------------------|------|--------------------|--------|-------------|----------|-----------------------------------|-------|-----------------------------|---------|-------------------------|-------|---------|---------|
|                                    |                     |      |                     |      |                    |        |             |          |                                   |       |                             |         | In one-man hours        |       | Wages   |         |
|                                    | 1924                | 1925 | 1924                | 1925 | 1924               | 1925   | 1924        | 1925     | 1924                              | 1925  | 1924                        | 1925    | 1924                    | 1925  | 1924    | 1925    |
| <b>Beater room:</b>                |                     |      |                     |      |                    |        |             |          |                                   |       |                             |         |                         |       |         |         |
| Head beater men.....               | 2                   | 3    | 2                   | 3    | 305                | 300    | \$228.75    | \$270.00 | 7,817                             | 8,339 | \$0.750                     | \$0.900 | 0.256                   | 0.240 | \$0.192 | \$0.216 |
| Roll setters and plug pullers..... | 2                   | 3    | 2                   | 3    | 302                | 302    | 181.20      | 211.40   | 7,894                             | 8,284 | .600                        | .700    | .253                    | .241  | .152    | .169    |
| Stuff boxes.....                   | 2                   | 3    | 2                   | 3    | 305½               | 300    | 145.16      | 165.01   | 7,810                             | 8,339 | .476                        | .550    | .256                    | .240  | .122    | .132    |
| Beater helpers.....                | 23                  | 28   | 20                  | 24   | 3,145½             | 2,577  | 1,568.35    | 1,417.38 | 758                               | 971   | .495                        | .550    | 2.639                   | 2.060 | 1.307   | 1.133   |
| Total.....                         | 29                  | 37   | 26                  | 33   | 4,057¼             | 3,479  | 2,113.46    | 2,063.79 | 588                               | 719   | .521                        | .593    | 3.404                   | 2.781 | 1.773   | 1.650   |
| <b>Machine room:</b>               |                     |      |                     |      |                    |        |             |          |                                   |       |                             |         |                         |       |         |         |
| Machine tenders.....               | 2                   | 3    | 2                   | 3    | 312¼               | 312½   | 265.41      | 343.75   | 7,635                             | 8,005 | .850                        | 1.100   | .262                    | .250  | .223    | .275    |
| Back tenders.....                  | 3                   | 4    | 2                   | 3    | 396¾               | 362½   | 249.21      | 271.88   | 6,009                             | 6,901 | .628                        | .750    | .333                    | .290  | .209    | .217    |
| Finishers.....                     | 2                   | 3    | 2                   | 3    | 369¼               | 362½   | 195.05      | 235.63   | 6,457                             | 6,901 | .528                        | .650    | .310                    | .290  | .194    | .188    |
| Cutter boys.....                   | 6                   | 6    | 6                   | 6    | 938                | 566    | 446.15      | 311.31   | 2,542                             | 4,420 | .476                        | .550    | .787                    | .453  | .374    | .249    |
| Broke boys.....                    | 2                   | 3    | 2                   | 3    | 310¼               | 325½   | 151.36      | 179.03   | 7,684                             | 7,686 | .488                        | .550    | .260                    | .260  | .127    | .143    |
| Screenmen.....                     | 2                   | 3    | 2                   | 3    | 289¾               | 310    | 140.76      | 170.50   | 8,228                             | 8,070 | .486                        | .550    | .243                    | .248  | .118    | .136    |
| Felt checkers.....                 | 2                   | 3    | 2                   | 3    | 311¼               | 259½   | 151.86      | 147.92   | 7,660                             | 9,640 | .488                        | .570    | .261                    | .208  | .127    | .118    |
| Total.....                         | 19                  | 25   | 18                  | 24   | 2,927½             | 2,498½ | 1,599.80    | 1,660.02 | 814                               | 1,001 | .547                        | .664    | 2.456                   | 1.997 | 1.342   | 1.327   |

| Department and occupation | Number of employees |      | Total hours worked |         | Total wages |          | Output in pounds per one-man hour |       | Labor cost per one-man hour. |         | Cost per ton of product |       |         |         |
|---------------------------|---------------------|------|--------------------|---------|-------------|----------|-----------------------------------|-------|------------------------------|---------|-------------------------|-------|---------|---------|
|                           | 1924                | 1925 | 1924               | 1925    | 1924        | 1925     | 1924                              | 1925  | 1924                         | 1925    | In one-man hours        |       | Wages   |         |
|                           |                     |      |                    |         |             |          |                                   |       |                              |         | 1924                    | 1925  | 1924    | 1925    |
| <b>Receiving:</b>         |                     |      |                    |         |             |          |                                   |       |                              |         |                         |       |         |         |
| Laborers.....             | 10                  | 8    | 763½               | 656¼    | \$305.40    | \$270.25 | 3,123                             | 3,812 | \$0.400                      | \$0.412 | 0.641                   | 0.525 | \$0.256 | \$0.216 |
| Others.....               | 3                   | 3    | 353¼               | 271     | 182.66      | 163.78   | 6,749                             | 9,231 | .517                         | .604    | .296                    | .216  | .153    | .131    |
| Total.....                | 13                  | 11   | 1,116¾             | 927¼    | 488.06      | 434.03   | 2,135                             | 2,698 | .437                         | .468    | .937                    | .741  | .409    | .347    |
| <b>Maintenance.....</b>   | 21                  | 19   | 2,508¾             | 2,235¼  | 1,677.98    | 1,603.06 | 951                               | 1,119 | .669                         | .717    | 2.104                   | 1.787 | 1.408   | 1.282   |
| <b>Power.....</b>         | 16                  | 17   | 1,851¼             | 1,751¾  | 1,137.18    | 1,118.10 | 1,288                             | 1,428 | .614                         | .638    | 1.553                   | 1.400 | .954    | .894    |
| <b>General:</b>           |                     |      |                    |         |             |          |                                   |       |                              |         |                         |       |         |         |
| Laborers.....             | 3                   | 3    | 325                | 275     | 135.50      | 110.00   | 7,336                             | 9,097 | .417                         | .400    | .273                    | .220  | .114    | .088    |
| Others.....               | 6                   | 7    | 819                | 827     | 474.25      | 637.63   | 2,911                             | 3,025 | .579                         | .771    | .687                    | .661  | .398    | .510    |
| Total.....                | 9                   | 10   | 1,144              | 1,102   | 609.75      | 747.63   | 2,084                             | 2,270 | .533                         | .678    | .960                    | .881  | .512    | .598    |
| <b>Grand total.....</b>   | 107                 | 119  | 13,605½            | 11,993¾ | 7,626.23    | 7,626.63 | 175                               | 209   | .561                         | .636    | 11.414                  | 9.589 | 6.398   | 6.097   |

## Part II.—WAGES AND HOURS OF LABOR IN THE PAPER BOX-BOARD INDUSTRY, 1925

### BRIEF HISTORY OF THE PAPER BOX-BOARD INDUSTRY

Before 1817 all paper in the United States was made by hand. In order to produce a thick board, handmade sheets of paper were coated with an adhesive substance and then pressed together. The first paper machine operated in this country (the cylinder machine) was invented by Gilpin, of Wilmington, Del., in 1816, and his machine, with many added improvements, forms the backbone of the paper-board industry of to-day. George A. Shryock, of Chambersburg, Pa., probably developed the first paper machine for producing thicker paper or boards. His mill operated between 1828 and 1831 and made the first heavy-weight strawboard. Both the Gilpin and the Shryock machines originally formed only the sheets, which then had to be pressed by hand and were loft or sun dried. Presses, driers, and calenders were added to Gilpin's machine shortly after its introduction.

Between 1830 and the period of the Civil War the paper-board business experienced slow expansion, but shortly after the war there was a great demand and this industry enlarged considerably. From that period on the business increased rapidly to its present large and overexpanded condition. The chief centers of growth were the regions west of the Alleghanies—Ohio, Illinois, and Indiana—where straw was both plentiful and cheap. From 1892 to 1893 new mills sprang up in or near cities and close to large centers of supply for raw material and to paper-board markets, as more and more board was made from waste paper. Improvements were effected in a number of ways, in cooking the straw, in beating, and in Jordaning facilities, as well as in the cylinder machines. Only three or four cylinders were used on the early machines because it was thought that only free stock, such as straw, could be used on multicylinder machines. It was soon found, however, that by increasing the number of cylinders, applying a thinner film of pulp to each and by carefully regulating the suction and speed of the machine, waste papers, wood pulp, etc., could be successfully made into boards. Machines with five, six, and seven cylinders began to be put into operation and the development of various grades of paper board was started.

The two recent developments that have tended to the further expansion of this industry are, first, the increasing demand for folded fiber-board boxes and the beginning of the fiber shipping container, due to the scarcity and the increasing cost of wood for the manufacture of wooden boxes and shipping containers; and, second, the fact that the Interstate Commerce Commission has indorsed the fiber shipping container and strengthened the position of the manufacturers of this article.

It becomes evident that the paper-board industry is an important one when it is considered that in the summer of 1923 the United States had 788 paper mills, of which 262, or 33.2 per cent, were board mills operating 320 cylinder machines and 180 wet machines. Both in tonnage and in number of mills the manufacture of paper board comprises approximately one-third of the paper industry of this country.<sup>1</sup>

#### IMPORTANCE OF THE INDUSTRY

The following table gives the production and value of the various grades of box board made in the United States, according to the United States Bureau of the Census. The varieties and grades of paper board and similar products are multitudinous. For instance white patent-coated news board is made in an enormous number of grades, considering the different finishes, colors, qualities of printing surface, relative compactness, etc., depending on the policy of the mills, the requirements of the customer, state of the raw-material market, and equipment at the mill. In no two board mills is the equipment identical, and this difference is reflected in the product.

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<sup>1</sup> "Paper," article by Arthur O. Bragg, Vol. XXXIV, No. 10, June 26, 1924.

TABLE 14.—PRODUCTION AND VALUE OF VARIOUS GRADES OF PAPER BOARD MADE IN THE UNITED STATES, BY YEAR

[United States Census of Manufactures]

| Year      | Wood-pulp board |             | Strawboard |             | News board |             | Binders, trunk, and press board |                  | Leather board    |                  | Cardboard, Bristol board, card middles, tickets, etc. |             | Chip board       |                  | All other boards |              | Total     |              |
|-----------|-----------------|-------------|------------|-------------|------------|-------------|---------------------------------|------------------|------------------|------------------|---|-------------|------------------|------------------|------------------|--------------|-----------|--------------|
|           | Tons            | Value       | Tons       | Value       | Tons       | Value       | Tons                            | Value            | Tons             | Value            | Tons  | Value       | Tons             | Value            | Tons             | Value        | Tons      | Value        |
| 1904..... | 60,863          | \$2,347,250 | 167,278    | \$4,367,560 | 38,560     | \$1,174,216 | ( <sup>1</sup> )                | ( <sup>1</sup> ) | ( <sup>1</sup> ) | ( <sup>1</sup> ) | 39,060  | \$2,764,444 | ( <sup>2</sup> ) | ( <sup>2</sup> ) | \$ 253,950       | \$9,070,531  | 559,711   | \$19,724,001 |
| 1909..... | 71,036          | 2,639,496   | 171,789    | 3,750,851   | 74,606     | 2,215,469   | ( <sup>1</sup> )                | ( <sup>1</sup> ) | ( <sup>1</sup> ) | ( <sup>1</sup> ) | 51,449  | 3,352,151   | ( <sup>2</sup> ) | ( <sup>2</sup> ) | \$ 422,196       | \$13,720,697 | 791,076   | 25,678,664   |
| 1914..... | 116,419         | 4,227,493   | 175,424    | 4,270,519   | 127,966    | 3,502,134   | 61,453                          | \$2,663,744      | 26,689           | \$1,177,189      | 83,010  | 5,376,434   | ( <sup>2</sup> ) | ( <sup>2</sup> ) | \$ 700,844       | \$23,652,095 | 1,291,805 | 44,869,608   |
| 1919..... | 179,747         | 14,887,881  | 228,248    | 12,229,837  | 88,839     | 4,604,082   | 43,091                          | 3,787,860        | 28,167           | 2,263,288        | 84,987  | 11,104,105  | 695,963          | \$37,749,210     | 518,022          | \$7,464,380  | 1,867,064 | 124,090,643  |
| 1921..... | 138,756         | 11,007,365  | 186,124    | 10,701,648  | 138,163    | 6,032,602   | 32,682                          | 3,179,940        | 21,830           | 1,554,728        | 163,216   | 12,784,560  | 609,718          | 27,251,027       | 449,312          | \$1,834,727  | 1,739,801 | 104,346,597  |

<sup>1</sup> Not reported separately.<sup>2</sup>Included in "All other boards."<sup>3</sup>Including chip board.

The following table shows by States the production of the different classes of paper board in the years 1921, 1919, and 1914, together with the value of production in 1921. These figures are taken from the United States Census of Manufactures.

TABLE 15.—CLASS AND VALUE OF PAPER BOARD PRODUCED, 1921, AND CLASS AND QUANTITY PRODUCED, 1921, 1919, AND 1914, BY STATES

[United States Census of Manufactures]

| Kind and State  | Value of production, 1921 | Quantity produced (tons of 2,000 pounds) |                  |                  |
|---|---------------------------|--|------------------|------------------|
|   |                           | 1921                                     | 1919             | 1914             |
| <b>Wood-pulp board:</b>                                       |                           |  |                  |                  |
| New York.....   | \$3,942,907               | 42,533                                   | 44,927           | 32,376           |
| All other States.....   | 7,064,458                 | 96,223                                   | 134,820          | 84,043           |
| Total.....  | 11,007,365                | 138,756                                  | 179,747          | 116,419          |
| <b>Strawboard:</b>  |                           |  |                  |                  |
| Indiana.....  | 4,301,236                 | 80,273                                   | ( <sup>1</sup> ) | 60,363           |
| Illinois.....   | 2,411,630                 | 34,241                                   | 42,246           | 42,952           |
| Ohio.....   | 1,486,323                 | 27,222                                   | 48,618           | 39,496           |
| All other States.....   | 2,502,459                 | 44,388                                   | 137,384          | 32,613           |
| Total.....  | 10,701,648                | 186,124                                  | 228,248          | 175,424          |
| <b>News board:</b>  |                           |  |                  |                  |
| New Jersey.....   | 1,848,219                 | 34,533                                   | 25,989           | 42,328           |
| All other States.....   | 4,684,383                 | 103,630                                  | 62,850           | 85,638           |
| Total.....  | 6,032,602                 | 138,163                                  | 88,839           | 127,966          |
| <b>Binders, trunk, and press board:</b>                       |                           |  |                  |                  |
| Connecticut.....  | 1,196,071                 | 9,901                                    | 8,814            | 12,895           |
| New Jersey.....   | 699,698                   | 6,924                                    | ( <sup>1</sup> ) | ( <sup>1</sup> ) |
| All other States.....   | 1,884,271                 | 15,857                                   | 34,277           | 48,558           |
| Total.....  | 3,179,940                 | 32,682                                   | 43,091           | 61,453           |
| <b>Cardboard, bristol board, card middles, tickets, etc.:</b> |                           |  |                  |                  |
| Massachusetts.....  | 3,848,278                 | 25,795                                   | 23,910           | 34,899           |
| All other States.....   | 8,941,282                 | 137,421                                  | 61,077           | 48,111           |
| Total.....  | 12,789,560                | 163,216                                  | 84,987           | 83,010           |
| <b>Leather board:</b>   |                           |  |                  |                  |
| New Hampshire.....  | 264,962                   | 3,932                                    | 6,250            | 3,972            |
| All other States.....   | 1,289,766                 | 17,898                                   | 21,917           | 22,717           |
| Total.....  | 1,554,728                 | 21,830                                   | 28,167           | 26,689           |
| <b>Chip board:</b>  |                           |  |                  |                  |
| Michigan.....   | 6,049,730                 | 135,614                                  | ( <sup>1</sup> ) | ( <sup>2</sup> ) |
| Ohio.....   | 4,890,477                 | 95,216                                   | ( <sup>1</sup> ) |                  |
| Illinois.....   | 3,042,779                 | 74,608                                   | 75,385           |                  |
| New Jersey.....   | 2,314,618                 | 56,375                                   | 41,041           |                  |
| Pennsylvania.....   | 2,139,943                 | 54,693                                   | ( <sup>1</sup> ) |                  |
| New York.....   | 1,644,232                 | 41,966                                   | 89,999           |                  |
| Indiana.....  | 1,581,314                 | 24,648                                   | ( <sup>1</sup> ) |                  |
| Connecticut.....  | 564,169                   | 13,749                                   | 22,047           |                  |
| All other States.....   | 5,014,765                 | 112,849                                  | 467,491          |                  |
| Total.....  | 27,251,027                | 609,718                                  | 695,963          |                  |
| <b>All other boards:</b>                                      |                           |  |                  |                  |
| New York.....   | 5,549,821                 | 65,049                                   | 82,316           | 135,467          |
| Ohio.....   | 4,741,870                 | 70,658                                   | 47,959           | 127,814          |
| Michigan.....   | 4,714,801                 | 61,937                                   | ( <sup>1</sup> ) | 80,482           |
| New Jersey.....   | 4,001,568                 | 61,221                                   | 53,236           | 74,569           |
| Connecticut.....  | 2,211,278                 | 36,814                                   | 69,514           | 62,937           |
| Indiana.....  | 1,882,281                 | 28,958                                   | 41,405           | 55,285           |
| All other States.....   | 8,733,108                 | 124,675                                  | 223,592          | 164,290          |
| Total.....  | 31,834,727                | 449,312                                  | 518,022          | 700,844          |

<sup>1</sup> Included in "All other States."

<sup>2</sup> Included in "All other boards."

## EXTENT AND SUMMARY OF SURVEY

In connection with the study a survey was made of wages and hours in the paper box-board industry in 1925. This survey covered 70 representative establishments employing 9,985 wage workers, distributed by States as follows:

| State   | Number of establishments | Number of employees |
|---|--------------------------|---------------------|
| Massachusetts.....  | 4                        | 436                 |
| Connecticut.....  | 5                        | 722                 |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 338                 |
| New York.....   | 9                        | 1,168               |
| New Jersey and Pennsylvania.....                                | 8                        | 1,076               |
| Ohio.....   | 7                        | 1,399               |
| Indiana.....  | 5                        | 417                 |
| Illinois.....   | 6                        | 886                 |
| Michigan.....   | 8                        | 1,913               |
| Minnesota and Wisconsin.....                                    | 5                        | 676                 |
| Virginia and West Virginia.....                                 | 3                        | 182                 |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 772                 |
| Total.....  | 70                       | 9,985               |

Of the 70 establishments covered in this survey there were two or three which had a department for the sorting of waste paper, also a number of the mills had box factories in which containers of various kinds were made. In order that the data for all mills should be as comparable as possible, none of the employees in the box factories or sorting rooms were included in this study.

The figures were computed from data taken by the agents of the bureau directly from the pay rolls or other records of the establishments for a representative pay period. These pay rolls were not for any particular month, but were secured from the January records of 2 establishments, the February records of 21, the March records of 13, the April records of 11, the May records of 6, the June records of 8, the July records of 6, and the August records of 3. The spring of 1925, therefore, covers the majority of the data.

In Table 16 are shown the number of establishments, number of employees, and average hours and earnings, by States.

TABLE 16.—NUMBER OF ESTABLISHMENTS AND EMPLOYEES, AVERAGE FULL-TIME HOURS PER TWO WEEKS, AVERAGE EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER TWO WEEKS, 1925, BY STATES

| State   | Number of establishments | Number of employees | Average full-time hours per two weeks | Average earnings per hour | Average full-time earnings per two weeks |
|---|--------------------------|---------------------|---------------------------------------|---------------------------|--|
| Massachusetts.....  | 4                        | 436                 | 98.8                                  | \$0.623                   | \$61.55                                  |
| Connecticut.....  | 5                        | 722                 | 105.4                                 | .529                      | 55.76                                    |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 338                 | 102.0                                 | .490                      | 48.96                                    |
| New York.....   | 9                        | 1,168               | 109.8                                 | .545                      | 59.84                                    |
| New Jersey and Pennsylvania.....                                | 8                        | 1,076               | 110.2                                 | .569                      | 62.70                                    |
| Ohio.....   | 7                        | 1,399               | 106.1                                 | .558                      | 59.20                                    |
| Indiana.....  | 5                        | 417                 | 130.4                                 | .444                      | 57.90                                    |
| Illinois.....   | 6                        | 886                 | 101.6                                 | .553                      | 56.18                                    |
| Michigan.....   | 8                        | 1,913               | 98.9                                  | .557                      | 55.09                                    |
| Minnesota and Wisconsin.....                                    | 5                        | 676                 | 106.9                                 | .504                      | 53.88                                    |
| Virginia and West Virginia.....                                 | 3                        | 182                 | 128.2                                 | .343                      | 43.97                                    |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 772                 | 137.8                                 | .301                      | 41.48                                    |
| Total.....  | 70                       | 9,985               | 108.6                                 | .517                      | 56.15                                    |

It will be noted from Table 16 that the average full-time hours per two weeks for all occupations range from 98.8 in Massachusetts to 137.8 in the southern group of Alabama, Georgia, Louisiana, South Carolina, and Tennessee, the average for the 70 establishments being 108.6 hours.

The average earnings per hour show the reverse of the full-time hours; that is, the lowest hourly earnings, 30.1 cents, occur in the southern group that has the longest full-time hours per two weeks, while the highest hourly rate, 62.3 cents, occurs in Massachusetts, the State having the shortest full-time hours, the average hourly earnings for the 70 establishments being 51.7 cents. In this same southern group are found the lowest average full-time earnings for two weeks, namely, \$41.48; the highest average full-time earnings of \$62.70 per two weeks are found in New Jersey and Pennsylvania, the average for all the States being \$56.15.

In Table 17, which follows, are shown the average full-time hours per week, average earnings per hour, average full-time earnings per week, and per cent of employees working each classified full-time hours per week for each occupation and for all occupations combined, by sex. The group designated "Other employees" includes employees whose occupations are not peculiar to the industry but rather are common to most industries, and employees in occupations too few in number or of too little significance to warrant a separate classification. Since the "clean-up" time in the large majority of the mills equaled the hours of one tour, this time has been included in the computation of full-time hours. In a small number of the mills, this is not absolutely accurate but as the "clean-up" time in these mills varied from week to week, it was decided for the sake of comparability to use the time of one tour to represent "clean-up" time.

It will be noted in Table 17 that the average full-time hours per week for all occupations for males are 54.3 and for females 53.9. Only 9 of the establishments scheduled employed females, the total number being 53, or an average of less than 6 for each of these plants. Fifty-one of these females employees were found in the finishing and the receiving departments performing such work as cutter girls, markers, sorters, counters, and plater helpers. One woman was a cleaner and another a weigher in the shipping department.

It will also be noted in the various occupations that the average earnings per hour range from 42.3 cents for laborers to 79.9 cents for machine tenders.

TABLE 17.—AVERAGE HOURS AND EARNINGS, AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1925, BY OCCUPATION AND SEX

| Occupation and sex                    | Number of establishments | Number of employees | Average full-time hours per week | Average earnings per hour | Average full-time earnings per week | Per cent of employees whose full-time hours per week were— |                      |     |                      |     |                      |     |                      |     |
|---------------------------------------|--------------------------|---------------------|----------------------------------|---------------------------|-------------------------------------|--|----------------------|-----|----------------------|-----|----------------------|-----|----------------------|-----|
|                                       |                          |                     |                                  |                           |                                     | 40   | Over 40 and under 48 | 48  | Over 48 and under 54 | 54  | Over 54 and under 60 | 60  | Over 60 and under 72 | 72  |
| <b>MALES</b>                          |                          |                     |                                  |                           |                                     |  |                      |     |                      |     |                      |     |                      |     |
| Head beater men.....                  | 70                       | 227                 | 52.6                             | \$0.669                   | \$35.19                             | ---  | 51                   | 12  | 5                    | --- | 1                    | 15  | 5                    | 11  |
| Assistant head beater men.....        | 20                       | 69                  | 54.9                             | .520                      | 28.55                               | ---  | 43                   | 16  | 4                    | --- | 6                    | 8   | 6                    | 22  |
| Plug pullers.....                     | 24                       | 118                 | 49.4                             | .511                      | 25.24                               | ---  | 71                   | --- | 5                    | --- | ---                  | 15  | 2                    | 7   |
| Jordan men.....                       | 17                       | 76                  | 50.2                             | .530                      | 26.61                               | ---  | 64                   | 4   | 8                    | --- | ---                  | 13  | ---                  | 11  |
| Beater helpers.....                   | 70                       | 1,873               | 50.6                             | .482                      | 23.38                               | ---  | 58                   | 9   | 8                    | --- | 1                    | 12  | 2                    | 10  |
| Machine tenders.....                  | 70                       | 300                 | 52.2                             | .799                      | 41.71                               | ---  | 51                   | 12  | 7                    | --- | 1                    | 14  | 4                    | 11  |
| Back tenders.....                     | 70                       | 307                 | 52.0                             | .682                      | 30.26                               | ---  | 51                   | 13  | 9                    | --- | 1                    | 13  | 4                    | 11  |
| Third hands.....                      | 34                       | 154                 | 50.2                             | .519                      | 26.05                               | ---  | 66                   | 8   | 2                    | --- | ---                  | 13  | 1                    | 10  |
| Finishers.....                        | 34                       | 215                 | 49.9                             | .501                      | 25.00                               | 6  | 52                   | 10  | 9                    | --- | 3                    | 11  | 4                    | 5   |
| Windermen.....                        | 16                       | 66                  | 57.4                             | .449                      | 25.77                               | ---  | 14                   | 32  | 18                   | --- | ---                  | 9   | ---                  | 27  |
| Finishers' helpers.....               | 11                       | 71                  | 48.9                             | .512                      | 25.04                               | 18   | 41                   | --- | 27                   | --- | ---                  | 3   | ---                  | 11  |
| Weighers.....                         | 6                        | 20                  | 56.6                             | .458                      | 25.92                               | ---  | 50                   | --- | ---                  | 5   | 5                    | --- | 30                   | 10  |
| Cutter boys.....                      | 57                       | 775                 | 50.1                             | .446                      | 22.34                               | ---  | 61                   | 8   | 8                    | --- | 1                    | 11  | 4                    | 7   |
| Broke boys.....                       | 39                       | 187                 | 54.1                             | .438                      | 23.70                               | ---  | 48                   | 3   | 13                   | 1   | ---                  | 16  | 2                    | 17  |
| Screenmen.....                        | 52                       | 231                 | 49.8                             | .472                      | 23.51                               | ---  | 61                   | 8   | 9                    | --- | ---                  | 10  | 5                    | 6   |
| Felt checkers.....                    | 19                       | 37                  | 58.0                             | .435                      | 25.23                               | ---  | 42                   | --- | 11                   | --- | ---                  | 14  | 7                    | 26  |
| Finishers, finishing room.....        | 25                       | 208                 | 56.7                             | .531                      | 30.11                               | ---  | ---                  | 4   | 16                   | 27  | 7                    | 39  | 4                    | 2   |
| Cutters, finishing room.....          | 18                       | 38                  | 55.2                             | .514                      | 28.37                               | ---  | ---                  | 3   | 32                   | 18  | 16                   | 29  | 3                    | --- |
| Rewinders, finishing room.....        | 13                       | 28                  | 58.5                             | .493                      | 28.84                               | ---  | ---                  | --- | 7                    | 32  | 21                   | 25  | 7                    | 7   |
| Laborers.....                         | 70                       | 1,459               | 56.7                             | .423                      | 23.98                               | ---  | 2                    | 2   | 8                    | 6   | 26                   | 9   | 37                   | 3   |
| Other employees.....                  | 70                       | 3,453               | 57.7                             | .564                      | 32.54                               | 1  | 1                    | 3   | 14                   | 9   | 20                   | 14  | 21                   | 5   |
| All occupations, males.....           | 70                       | 9,932               | 54.3                             | .518                      | 28.13                               | 1  | 1                    | 28  | 10                   | 8   | 11                   | 7   | 14                   | 8   |
| <b>FEMALES</b>                        |                          |                     |                                  |                           |                                     |  |                      |     |                      |     |                      |     |                      |     |
| Other employees.....                  | 9                        | 53                  | 53.9                             | .283                      | 15.25                               | 4  | ---                  | 9   | 26                   | 26  | ---                  | 34  | ---                  | --- |
| All occupations, male and female..... | 70                       | 9,985               | 54.3                             | .517                      | 28.07                               | 1  | 1                    | 28  | 10                   | 9   | 12                   | 7   | 14                   | 8   |

<sup>1</sup> Including 2 employees whose full-time hours were 12, 1 whose full-time hours were 24, 1 whose full-time hours were 26, and 1 whose full-time hours were 28.

Table 18 shows for each of 7 typical occupations the number of establishments, the number of employees, the average earnings per hour, and the per cent of employees earning each classified amount per hour. The total number of employees in these occupations represent 51.8 per cent of all the employees covered.

A study of this table will show that the largest number of head beater men and machine tenders earned 80 and under 90 cents per hour, the largest number of back tenders earned 60 and under 65 cents an hour, the largest number of beater helpers, cutter boys, and screenmen earned 50 and under 55 cents an hour, and the largest number of laborers earned 40 and under 45 cents an hour.

TABLE 18.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR OF EMPLOYEES IN 7 TYPICAL OCCUPATIONS, 1925

| Occupation           | Number of establishments | Number of employ-ees | Average earnings per hour | Per cent of employees whose earnings per hour were— |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |                         |
|----------------------|--------------------------|----------------------|---------------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|-------------------------|-------------------------|
|                      |                          |                      |                           | Under 20 cents                                      | 20 and under 25 cents | 25 and under 30 cents | 30 and under 35 cents | 35 and under 40 cents | 40 and under 45 cents | 45 and under 50 cents | 50 and under 55 cents | 55 and under 60 cents | 60 and under 65 cents | 65 and under 70 cents | 70 and under 75 cents | 75 and under 80 cents | 80 and under 90 cents | 90 and under 100 cents | 100 and under 125 cents | 125 and under 150 cents |
|                      |                          |                      |                           | Head beater men.....                                | 70                    | 227                   | \$0.669               | —                     | —                     | —                     | 2                     | 5                     | 2                     | 3                     | 5                     | 9                     | 10                    | 12                     | 13                      | 10                      |
| Beater helpers.....  | 70                       | 1,873                | .462                      | 1   | 2                     | 5                     | 1                     | 2                     | 16                    | 24                    | 25                    | 18                    | 1                     | 4                     | —                     | —                     | —                     | (1)                    | —                       | —                       |
| Machine tenders..... | 70                       | 300                  | .799                      | —   | —                     | —                     | —                     | —                     | —                     | 1                     | 5                     | 2                     | 6                     | —                     | —                     | —                     | —                     | (1)                    | —                       | —                       |
| Back tenders.....    | 70                       | 307                  | .532                      | —   | —                     | —                     | —                     | —                     | —                     | 1                     | 8                     | 10                    | 17                    | 4                     | —                     | —                     | —                     | —                      | —                       | —                       |
| Cutter boys.....     | 57                       | 775                  | .446                      | —   | —                     | —                     | 5                     | 3                     | 1                     | 5                     | 2                     | 6                     | 26                    | 8                     | —                     | —                     | —                     | —                      | —                       | —                       |
| Screenmen.....       | 52                       | 231                  | .472                      | 2   | 3                     | 4                     | 3                     | 5                     | 17                    | 23                    | 25                    | 14                    | 2                     | 1                     | (1)                   | —                     | —                     | —                      | —                       | —                       |
| Laborers.....        | 70                       | 1,459                | .423                      | 4   | 4                     | 5                     | 2                     | 3                     | 19                    | 23                    | 27                    | 17                    | 1                     | 4                     | (1)                   | (1)                   | (1)                   | —                      | —                       | —                       |

<sup>1</sup> Less than 1 per cent.

## REGULAR OR CUSTOMARY HOURS OF OPERATION

By regular or customary hours of operation is meant the regular or usual time between beginning work in the morning and closing in the afternoon minus the regular time off duty for midday lunch or dinner. The amount of employment as well as the amount of unemployment within the pay period covered is indicated in the comparison of "average full-time hours per pay period" with "average hours actually worked in the pay period." This information is furnished in Table A (p. 66). The averages under "full-time hours per pay period" show the possible hours of opportunity for work in one pay period under normal conditions, while the averages for hours actually worked in the pay period show what was actually done in one pay period.

Some of the employees in an occupation or an establishment may have worked more than the full-time hours during the pay period scheduled because of overtime work, while others may have worked less than the full-time hours because of illness or of being laid off part time, or on account of termination of service before the end of the pay period covered or of having entered service after the beginning of the pay period.

Table 17 shows the per cent of employees working each classified number of regular or customary hours a week while Table A shows the number of employees within each group. The full-time hours per week of 28 per cent of the 9,985 employees covered are over 40 and under 48; of 10 per cent are 48; of 12 per cent are 54; of 14 per cent are 60; and of 8 per cent are over 72.

Twenty-four of the 70 establishments covered reported a reduction in their regular or customary full-time hours between January 1, 1924, and the period covered by this study. These reductions in hours affected the tour workers in all the establishments except one, in which the yard crew alone received a reduction of 1 hour a day. Although employees in the power department are tour workers, it is necessary for them to be employed longer hours than the other tour workers on account of the nature of their work. Only 3 of the establishments that reported a reduction in hours to tour workers included the power employees, as will be noted in Table 19.

In 18 of the establishments the days of operation were reduced from 6 days to 5 days a week. Three of the establishments had been operating 5 days a week prior to January 1, 1924, but their weekly hours were reduced from 60 to 40 hours.

The following table covers the establishments reporting a reduction in their regular hours, the employees affected, and the hours of operation:

TABLE 19.—CHANGES IN REGULAR OR CUSTOMARY HOURS OF OPERATION BETWEEN JANUARY 1, 1924, AND THE PERIOD COVERED BY THIS STUDY

| Number of establishments | Employees whose hours were decreased                  | Hours of operation  |                                       |
|--------------------------|---|---|---------------------------------------|
|                          |   | Prior to Jan. 1, 1924   | Since Jan. 1, 1924                    |
| 8.....                   | Tour workers, except power employees.                 | Alternating, 11 and 13 hours, 6 days.                           | Alternating, 11 and 13 hours, 5 days. |
| 7.....                   | do.....   | 8 hours, 6 days.....  | 8 hours, 5 days.                      |
| 3.....                   | Tour workers, including power employees. <sup>1</sup> | Alternating, 11 and 13 hours, 6 days.                           | Do.                                   |
| 3.....                   | Tour workers, except power employees.                 | Alternating, 11 and 13 hours, 5 days.                           | Do.                                   |
| 1.....                   | do.....   | Alternating, 11 and 13 hours, 6 days.                           | 8 hours, 6 days.                      |
| 1.....                   | do.....   | Alternating, 11 and 13 hours, 5 days, and 11 hours on Saturday. | 8 hours, 5 days.                      |
| 1.....                   | Yard crew.....  | 10 hours, 6 days.....   | 9 hours, 6 days.                      |

<sup>1</sup> In 1 of these establishments the hours of operation for power employees were decreased from alternating 11 and 13 hours for 7 days, with every other Sunday off, to 8 hours for 7 days with every other Sunday off; in another establishment the hours of operation of power employees were reduced from alternating 11 and 13 hours for 7 days to 8 hours for 6 days, while in the third establishment the hours of operation of power employees were decreased from 8 hours for 7 days to 8 hours for 6 days.

### CHANGES IN WAGE RATES SINCE JANUARY 1, 1924

Of the 70 establishments covered, 12 made changes in their wage rates between January 1, 1924, and the period covered by this study. It will be noted in a study of Table 20 that in 8 of these establishments the increases in wage rates vary considerably according to the different occupations. In only 1 establishment a straight increase of 50 per cent applied to all tour workers. In 3 other plants all the employees that worked four or more nights received the same pay for five nights that was previously received for six nights. In only 2 establishments were reductions in wage rates reported and these affected only the tour bosses, 1 establishment reducing their weekly wage 17 per cent and the other 14 per cent.

The various occupations affected by the wage increases and the per cents of increase applicable to each occupation are presented in the following table:

TABLE 20.—CHANGES IN WAGE RATES OF EMPLOYEES BETWEEN JANUARY 1, 1924, AND THE PERIOD COVERED BY THIS STUDY

| Number of establishments | Employees whose wage rates were increased or decreased between Jan. 1, 1924, and the period covered by this study | Per cent of increase (+) or decrease (-) in wage rates |
|--------------------------|---|--|
| 1                        | Tour bosses.....  | -17  |
|                          | Head beater men and machine tenders.....  | +7   |
|                          | Back tenders.....   | +10  |
|                          | Finishers.....  | +9   |
|                          | Cutter boys, screenmen, broke haulers, beater helpers.....  | +5   |
| 1                        | Head beater men.....  | +20-27   |
|                          | Beater men.....   | +12-46   |
|                          | Machine tenders.....  | +17-19   |
|                          | Back tenders.....   | +25  |
|                          | Broke boys.....   | +19  |
|                          | Screenmen.....  | +12-18   |
| 1                        | Boss beater men.....  | +56  |
|                          | Machine tenders.....  | +35  |
|                          | Back tenders.....   | +53½   |
|                          | Checkers, Jordan men, and valve men.....  | +27  |
|                          | Calender men.....   | +25  |
|                          | Screenmen, beater men, cutter boys, shipping laborers.....  | +10  |
| 1                        | Boss beater men.....  | +38  |
|                          | Assistant boss beater men.....  | +25  |

TABLE 20.—CHANGES IN WAGE RATES OF EMPLOYEES BETWEEN JANUARY 1, 1924, AND THE PERIOD COVERED BY THIS STUDY—Continued

| Number of establishments | Employees whose wage rates were increased or decreased between Jan. 1, 1924, and the period covered by this study | Per cent of increase (+) or decrease (-) in wage rates |
|--------------------------|---|--|
|                          | Jordan men and screenmen.....   | +80  |
|                          | Beater men and cutter boys.....   | +22  |
|                          | Machine tenders and back tenders.....   | +27  |
|                          | Third hands.....  | +28  |
|                          | Weighers.....   | +24  |
|                          | Filter men.....   | +5   |
| 1                        | Head beater men.....  | +6-18  |
|                          | Jordan men and valve men.....   | +0-10  |
|                          | Beater men and cutter boys.....   | +10  |
|                          | Machine tenders.....  | +12½   |
|                          | Back tenders.....   | +8   |
|                          | Third hands.....  | +9   |
|                          | Stackers out and felt boys.....   | +5   |
| 1                        | Head beater men.....  | +12½   |
|                          | Beater men.....   | +16  |
|                          | Machine tenders.....  | +10  |
|                          | Back tenders and finishers.....   | +13  |
|                          | Cutter boys and screenmen.....  | +16  |
|                          | Engineers in power department.....  | +8   |
| 8                        | All tour workers.....   | (1)  |
| 1                        | do.....   | +50  |
| 1                        | Four bosses.....  | -14  |
|                          | All tour workers, except machine tenders.....   | +25  |
|                          | Machine tenders.....  | +33½   |
| 1                        | Four bosses.....  | +9   |
|                          | Head beater men.....  | +20  |
|                          | Roll setters and plug pullers.....  | +16½   |
|                          | Jordan men, cutter boys, broke boys, screenmen, and oilers.....   | +22  |
|                          | Beater men.....   | +10  |
|                          | Machine tenders.....  | +20  |
|                          | Back tenders.....   | +15  |
|                          | Finishers and firemen.....  | +8½  |
|                          | Felt boys.....  | +26½   |

<sup>1</sup> When these plants started a 5-day productive operation, employees working 4 or more nights received the same pay for 5 nights that was previously received for 6.

#### EXTRA PAY FOR OVERTIME AND FOR WORK ON SUNDAY AND HOLIDAYS

Between January 1, 1924, and the period for which 1925 data were obtained, 12 of the 70 establishments covered paid an extra rate for any time worked over the customary full-time hours per day or per week and for work on Sunday and holidays. In 6 of these establishments all of the employees were affected, while in the remaining 6, certain specified classes of labor received the extra rate. One establishment paid to all its employees time and one-quarter over the regular rate for overtime as well as for Sunday and holiday work—the highest rate reported. Two establishments did not pay extra for overtime but paid double the regular rate for Sunday and holiday work. Another establishment paying double the regular rate for Sunday and holiday work paid time and a half for overtime to employees after working 1½ shifts, while 2 establishments paid time and a half for overtime as well as for Sunday and holiday work. In 1 of these establishments, however, the extra rate was paid only for work done before 6 a. m. or after 6 p. m. Three establishments that did not pay for overtime paid one and one-half times the regular rate for Sunday and holiday work. Two other establishments that did not pay for overtime paid time and a quarter for Sunday and holiday work. In 1 establishment where no overtime was paid for, all employees were paid for 1 hour extra if they worked all day Sunday and for one-half hour extra if they worked a half day on Sunday.

The following table presents in detail the 12 establishments reporting extra rate for overtime and for Sunday and holiday work and the employees affected:

TABLE 21.—NUMBER OF ESTABLISHMENTS PAYING EXTRA RATE FOR OVERTIME AND FOR SUNDAY AND HOLIDAY WORK, PERIOD COVERED, AND EMPLOYEES AFFECTED

| Number of establishments | Employees affected                                    | Period during which employees were entitled to extra pay | Rate for—                           |                     |
|--------------------------|---|--|-------------------------------------|---------------------|
|                          |   |  | Overtime                            | Sunday and holidays |
|                          |   |  | <i>Regular rate, multiplied by—</i> |                     |
| 1                        | Maintenance employees.....                            | Jan. 1, 1924, to date of study.....                      |                                     | 2                   |
| 1                        | Productive employees.....                             | do.....  | 1½                                  | 2                   |
| 2                        | All employees.....                                    | do.....  |                                     | 1½                  |
| 1                        | All employees, except 7-day and clean-up workers..... | do.....  |                                     | 1½                  |
| 1                        | Maintenance employees.....                            | do.....  |                                     | 1½                  |
| 1                        | All employees.....                                    | do.....  |                                     | 2                   |
| 1                        | Shipping and receiving employees.....                 | do.....  | 1½                                  | 1½                  |
| 1                        | Day workers, except power employees.....              | do.....  | 1½                                  | 1½                  |
| 1                        | All employees.....                                    | do.....  |                                     | ( <sup>1</sup> )    |
| 1                        | do.....   | do.....  | 2½                                  | 2½                  |
| 1                        | All employees except yard.....                        | do.....  |                                     | 2                   |
| 1                        | All employees.....                                    | do.....  |                                     | 1½                  |

<sup>1</sup> After working 1½ shifts.

<sup>2</sup> Before 6 a. m. or after 6 p. m.

<sup>3</sup> One hour extra pay if employees work all day Sunday and half-hour extra pay if they work half day Sunday.

### BONUS SYSTEMS

Eleven of the 70 paper box-board establishments for which data are presented had in operation, during the period for which 1925 figures are shown, bonus systems which increased the earnings of employees over and above earnings at the regular rates.

It will be noted from the following table that 8 of these bonus systems are based on production, on the excess above a certain set standard or minimum. This standard varies, of course, with each mill, according to size and equipment. In 1 mill, however, the bonus is paid on all board produced. In 4 of the establishments all of the employees receive the production bonus, while the remaining 7 mills make eligible only those employees engaged in specified occupations.

One establishment paid a service bonus to all wage earners after 6 months' service with the company. This bonus specifies a 2 per cent advance in wages every 6 months until the end of 3 years when the employees receive a life-insurance policy for \$1,000. The bonus table presents detailed information relative to the "service" bonus, which also includes a "compensation-for-injury" feature whereby 50 per cent of the weekly wages of an employee is paid after the second week of injury.

Another establishment reported a bonus system based on a graduated scale of 15-minute intervals between 6.30 and 7.30 a. m., with specified amounts for each 15-minute period. The highest amount (\$2) is paid at 6.30, and for every 15 minutes later than 6.30 the amount is \$1. In order for the worker to be eligible for this bonus the paper must pass over the machine continuously for 30 minutes on Monday morning before 8 o'clock.

TABLE 22.—BONUS SYSTEMS OF ELEVEN ESTABLISHMENTS

| Period covered                  | Employees entitled  | Amount  | Conditions   |
|---------------------------------|---|---|--|
| Jan. 1, 1924, to date of study. | Wage earners, after 6 months with company.  | 2 per cent advance in wages every 6 months until end of 3 years when they receive a life insurance policy for \$1,000, effective as long as employee is with the company in good standing, or its equivalent if ineligible for life insurance. Any employee injured while in the employ of company will receive 50 per cent of his weekly wages effective the second week of injury. This is in addition to insurance payable under the workmen's compensation law. | Permission to be absent must be secured on the previous day and reason for same must be approved by the superintendent. Employees absent from duty more than 5 days in any one month without showing sickness as cause and supported by physician's certificate, will not be entitled to benefits. |
| Do.....                         | All productive employees, including receiving and shipping departments.                                 | Head beater men and machine tenders, 13 cents per ton; back tenders, third hands, and others, 10 cents per ton; laborers 5 cents per ton.   | On excess above a certain set standard or minimum  |
| Do.....                         | All.....  | 1½ per cent for each 5 tons.....  | Do.  |
| Do.....                         | do.....   | ¼ of the per cent that excess production is of the standard.  | Do.  |
| Do.....                         | Machine tenders.....  | 33¾ cents per ton.....  | Do.  |
| Do.....                         | Other machine hands.....  | 18 cents per ton.....   | Do.  |
| Do.....                         | Beater foremen.....   | 26¾ cents per ton.....  | Do.  |
| Do.....                         | Other beater-room hands.....  | 13¾ cents per ton.....  | Do.  |
| Do.....                         | Millwrights.....  | 10 cents per ton.....   | Do.  |
| Do.....                         | Master mechanics.....   | 15 cents per ton.....   | Do.  |
| Do.....                         | Machine tenders.....  | 14 cents per ton.....   | On all board produced.   |
| Do.....                         | All.....  | From 2 to 12 cents per ton.....   | On excess above a certain set standard or minimum.   |
| Do.....                         | Maintenance foremen, head beater men, and machine tenders.  | \$2, and \$1 additional for each 15 minutes prior to 7.30 a. m., up to \$6.   | That the paper must pass over the machine continuously for 30 minutes on Monday morning before 8 o'clock.  |
| Do.....                         | Back tenders.....   | \$1, and \$1 additional for each 15 minutes prior to 7.30 a. m. up to \$5.  | Do.  |
| Do.....                         | Third hands.....  | \$1, and \$1 additional for each 15 minutes prior to 7.15 a. m. up to \$4.  | Do.  |
| Jan. 1, 1925, to date of study. | All who have been with the company 3 months or over, except straight piece work and salaried employees. | ¼ of the per cent that excess production is above the standard.   | On excess above a certain set standard or minimum.   |
| Do.....                         | do.....   | do.....   | Do.  |
| May 11, 1925, to date of study. | All.....  | 2 per cent for 5 tons and 2½ per cent for each additional 5 tons.   | Do.  |

## DAYS WORKED IN ONE PAY PERIOD

Table 23 shows, for 7 typical occupations in the paper box-board industry, the average and specified number of days of work in each occupation, the number of employees, and average and specified number of days worked by employees during the pay period for which data are presented.

"Days of work in the occupation" means the number of calendar days or parts of days on which there was work for the occupation as a whole in the two-week pay period. Any part of a day worked is counted a day for the purpose of this table.

Of the 70 mills covered in this study, 43 were on a five-day production week and 27 on a six-day production week.

The average number of days of work in the occupation was obtained by weighting the number of days on which there was work in the occupation in each establishment by the number of employees in the occupation in that establishment, without regard to the actual days worked by individual employees.

The average number of days worked by employees in each occupation is a simple average obtained by dividing the aggregate number of days on which some work was done by the total number of employees in the occupation.

In 5 of the 7 typical occupations shown the average number of days actually worked by employees is less than the average number of days of work in the occupation. This is due to the fact that some of the employees did not work the entire time that there was work in the occupation. In the two occupations where the average days worked by employees equal the average number of days of work in the occupation all the employees in these occupations worked full time during the pay period covered. If there had been some overtime worked in addition to the full time during the pay period, the average number of days actually worked would have exceeded the number of days of work in the occupation.

TABLE 23.—AVERAGE AND CLASSIFIED DAYS OF WORK IN SEVEN TYPICAL OCCUPATIONS IN ONE PAY PERIOD, 1925

| Occupation           | Number of establishments | Average number of days of work in occupation in two weeks | Number of employees | Average number of days worked by employees in two weeks | Number of employees who in two weeks worked specified number of days |    |    |    |    |    |    |    |     |     |     |     |    |    |    |   |
|----------------------|--------------------------|---|---------------------|---|--|----|----|----|----|----|----|----|-----|-----|-----|-----|----|----|----|---|
|                      |                          |   |                     |   | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9   | 10  | 11  | 12  | 13 | 14 |    |   |
| Head beater men..... | 70                       | 11.3  | 227                 | 11.3  |  |    |    |    |    | 1  | 1  |    | 2   | 3   | 2   | 29  | 91 | 62 | 30 | 6 |
| Beater helpers.....  | 70                       | 11.2  | 1,873               | 10.0  | 59   | 24 | 14 | 28 | 50 | 27 | 31 | 48 | 103 | 439 | 567 | 363 | 94 | 26 |    |   |
| Machine tenders..... | 70                       | 11.3  | 300                 | 11.3  |  |    |    | 3  | 2  | 3  | 1  | 3  | 3   | 35  | 101 | 101 | 42 | 6  |    |   |
| Back tenders.....    | 70                       | 11.3  | 307                 | 11.0  | 2  | 1  | 2  |    | 2  | 5  | 4  | 1  | 9   | 44  | 98  | 105 | 32 | 2  |    |   |
| Cutter boys.....     | 57                       | 11.2  | 775                 | 9.8   | 18   | 18 | 18 | 8  | 21 | 20 | 16 | 15 | 42  | 167 | 283 | 115 | 30 | 4  |    |   |
| Screenmen.....       | 52                       | 11.1  | 231                 | 10.5  | 5  | 3  | 1  | 2  | 1  | 5  | 1  | 7  | 8   | 39  | 90  | 48  | 17 | 4  |    |   |
| Laborers.....        | 70                       | 11.9  | 1,459               | 10.4  | 32   | 29 | 15 | 16 | 34 | 51 | 35 | 47 | 64  | 157 | 183 | 649 | 96 | 51 |    |   |

#### AVERAGE AND CLASSIFIED DAYS OF OPERATION DURING THE YEAR 1924

Table 24 shows for each State, and for all States combined, average and classified days of operation during the year ending December 31, 1924, in the industry.

It will be noted that data are given for 68 establishments, information for 2 plants not being available. The number of days of operation for these 68 establishments ranged from 62½ to 311 days, the average being 270 days.

The difference between the average days of operation and the possible full time of 366 days was due to the following conditions:

Sixty-two establishments did not operate on any Sunday, 5 establishments were closed from 42 to 51 Sundays, and 1 was closed on 11 Sundays.

Six establishments were closed on all Saturdays, 1 was closed on all except 2 Saturdays, 14 establishments were closed from 35 to 48 Saturdays, and 15 were closed from 1 to 35 Saturdays.

Sixty-seven establishments were closed for holidays from 2 to 13 days, 49 were closed on account of market conditions from 2 to 80 days, and 19 were closed for repairs from ½ to 231 days.

Seven establishments were closed from 1 to 7 days for such causes as no fuel oil, high or low water, electrical trouble, fire, and vacation.

TABLE 24.—AVERAGE AND CLASSIFIED DAYS OF OPERATION DURING YEAR ENDING DECEMBER 31, 1924

| State   | Number of establishments | Average number of days of operation in year | Number of establishments in which days of operation in year were— |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|---|--------------------------|---|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|   |                          |   | 100 and under 125   | 175 and under 200 | 230 and under 240 | 240 and under 250 | 250 and under 260 | 260 and under 270 | 270 and under 280 | 280 and under 290 | 290 and under 300 | 300 and under 310 | 310 and under 315 |
| Massachusetts.....  | 4                        | 300   |   |                   |                   |                   |                   |                   |                   | 1                 | 1                 | 1                 | 1                 |
| Connecticut.....  | 5                        | 250   |   | 1                 |                   | 1                 |                   | 1                 | 1                 |                   | 1                 |                   |                   |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 285   |   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| New York.....   | 9                        | 279   |   |                   | 1                 |                   | 1                 | 2                 | 1                 | 1                 |                   | 1                 | 2                 |
| New Jersey and Pennsylvania.....                                | 8                        | 248   | 1   |                   |                   | 2                 | 2                 |                   |                   |                   |                   | 2                 | 1                 |
| Ohio.....   | 6                        | 270   |   |                   |                   |                   |                   | 4                 | 1                 | 1                 |                   |                   |                   |
| Indiana.....  | 5                        | 294   |   |                   |                   |                   |                   |                   | 1                 | 1                 | 1                 | 1                 | 1                 |
| Illinois.....   | 6                        | 266   |   |                   | 1                 |                   | 2                 |                   | 2                 |                   |                   |                   | 1                 |
| Michigan.....   | 8                        | 265   |   |                   | 1                 | 1                 | 1                 | 2                 | 1                 | 1                 |                   |                   | 1                 |
| Minnesota and Wisconsin.....                                    | 5                        | 273   |   |                   |                   | 2                 |                   |                   |                   | 2                 |                   |                   |                   |
| Virginia and West Virginia.....                                 | 3                        | 233   | 1   |                   |                   |                   |                   |                   |                   | 1                 |                   |                   | 1                 |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 6                        | 278   |   |                   |                   | 1                 |                   |                   | 1                 | 1                 | 1                 | 1                 |                   |
| Total.....  | 68                       | 270   | 2   | 1                 | 3                 | 7                 | 6                 | 11                | 9                 | 8                 | 6                 | 9                 | 6                 |

<sup>1</sup> Less than 100 days.

<sup>2</sup> Not including 1 for which data are not available.

<sup>3</sup> Not including 2 for which data are not available.

<sup>4</sup> Including 1 in which the days of operation were less than 100.

The average number of days that the 68 establishments were idle during the year and the cause of same are shown in Table 25.

TABLE 25.—AVERAGE NUMBER OF DAYS OF OPERATION AND AVERAGE NUMBER OF DAYS IDLE DURING YEAR ENDING DECEMBER 31, 1924, BY SPECIFIED CAUSES

| State   | Number of establishments | Average number of days of operation in year | Average number of days idle during year on account of— |        |         |                   |                  |                  |
|---|--------------------------|---|--|--------|---------|-------------------|------------------|------------------|
|   |                          |   | Saturday   | Sunday | Holiday | Market conditions | Repairs          | Other            |
| Massachusetts.....  | 4                        | 300   |  | 52     | 6       | 7                 | 1                |                  |
| Connecticut.....  | 5                        | 250   | 35   | 52     | 7       | 19                |                  | 2                |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 285   |  | 52     | 5       | 22                | ( <sup>1</sup> ) | 2                |
| New York.....   | 9                        | 279   | 18   | 52     | 4       | 10                | 2                | ( <sup>1</sup> ) |
| New Jersey and Pennsylvania.....                                | 8                        | 248   | 17   | 52     | 4       | 15                | 30               |                  |
| Ohio.....   | 6                        | 270   | 25   | 51     | 3       | 15                | 1                | 1                |
| Indiana.....  | 5                        | 294   |  | 44     | 4       | 22                | 2                |                  |
| Illinois.....   | 6                        | 266   | 23   | 52     | 4       | 8                 | 13               |                  |
| Michigan.....   | 8                        | 265   | 28   | 51     | 4       | 16                | 2                |                  |
| Minnesota and Wisconsin.....                                    | 5                        | 273   | 29   | 52     | 4       | 8                 |                  |                  |
| Virginia and West Virginia.....                                 | 3                        | 233   | 28   | 52     | 4       | 14                | 36               |                  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 6                        | 278   | 5  | 50     | 5       | 24                | 4                | ( <sup>1</sup> ) |
| Total.....  | 68                       | 270   | 18   | 51     | 4       | 15                | 8                |                  |

<sup>1</sup> Less than 1 day.

<sup>2</sup> Not including 1 for which data are not available.

<sup>3</sup> Not including 2 for which data are not available.

## GENERAL TABLES

In addition to the text tables already shown, four general tables are presented as follows:

Table A shows average hours and earnings and classified full-time hours per week, 1925, by occupation and State.

In this table the average number of days of work and average full-time hours of work in the two-week pay period are presented in parallel columns with the average days and hours actually worked in order that the regular full-time days and hours during which, under normal conditions, it is possible for employees in an occupation to work may be compared with the days and hours actually worked during the two-week pay period by all the employees in the occupation, including those who worked less than the days of opportunity.

Likewise, the average full-time earnings per two-week pay period and the average amount actually earned in the two-week pay period are presented in parallel columns, so that the regular earnings which, under normal conditions, it would be possible for employees in an occupation to receive may be compared with the earnings actually received during the two-week pay period by all the employees in the occupation.

This table also presents a classification of the full-time weekly hours of the employees in the different occupations and the average full-time hours per week.

Table B shows the average and classified earnings per hour of employees in 7 typical occupations during the two-week pay period, 1925, by State.

Table C gives the average and classified hours actually worked in two weeks by employees in 7 typical occupations, 1925, by State.

Table D presents average and classified amounts actually earned in two weeks by employees in 7 typical occupations, 1925, by State.

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1925, BY OCCUPATION AND STATE

| Occupation and State  | Number of establishments | Number of employees | Average number of days—                |                                  | Hours                                 |  |  |  |                      |    |                      | Earnings |                      |    |                                  |                           |  |   |                      |         |         |       |
|---|--------------------------|---------------------|--|----------------------------------|---------------------------------------|--|--|--|----------------------|----|----------------------|----------|----------------------|----|----------------------------------|---------------------------|--|---|----------------------|---------|---------|-------|
|   |                          |                     | Of work in the occupation in two weeks | Worked by employees in two weeks | Average full-time hours per two weeks | Average hours actually worked in two weeks | Percent of full-time hours actually worked | Number of employees whose full-time hours per week were— |                      |    |                      |          |                      |    | Average full-time hours per week | Average earnings per hour | Average full-time earnings per two weeks | Average amount actually earned in two weeks |                      |         |         |       |
|   |                          |                     |  |                                  |                                       |  |  | 40   | Over 40 and under 48 | 48 | Over 48 and under 54 | 54       | Over 54 and under 60 | 60 |                                  |                           |  |   | Over 60 and under 72 | 72      | Over 72 |       |
| <b>HEAD BEATER MEN</b>  |                          |                     |  |                                  |                                       |  |  |  |                      |    |                      |          |                      |    |                                  |                           |  |   |                      |         |         |       |
| Massachusetts.....  | 4                        | 15                  | 12.1                                   | 12.1                             | 97.1                                  | 96.8                                       | 99.7                                       |  |                      |    | 12                   | 3        |                      |    |                                  |                           | 48.5                                     | \$0.806                                     | \$78.26              | \$78.04 |         |       |
| Connecticut.....  | 5                        | 14                  | 11.1                                   | 11.1                             | 101.4                                 | 102.3                                      | 100.9                                      |  | 6                    |    | 4                    |          |                      |    |                                  | 4                         | 50.7                                     | .733  | 74.33                | 74.97   |         |       |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 8                   | 11.8                                   | 11.8                             | 104.8                                 | 103.8                                      | 99.0                                       |  |                      | 6  |                      |          |                      |    | 2                                |                           | 52.4                                     | .563  | 59.00                | 58.48   |         |       |
| New York.....   | 9                        | 29                  | 11.4                                   | 11.7                             | 104.6                                 | 109.8                                      | 105.0                                      |  | 18                   |    |                      | 3        |                      |    |                                  | 6                         | 52.3                                     | .705  | 73.74                | 77.36   |         |       |
| New Jersey and Pennsylvania.....                                | 8                        | 23                  | 11.4                                   | 11.9                             | 117.4                                 | 123.8                                      | 105.5                                      |  | 8                    |    |                      | 3        |                      |    | 5                                | 4                         | 58.7                                     | .690  | 81.01                | 85.41   |         |       |
| Ohio.....   | 7                        | 27                  | 10.7                                   | 10.4                             | 95.5                                  | 95.6                                       | 100.1                                      |  | 21                   |    |                      |          |                      |    | 6                                |                           | 47.7                                     | .763  | 72.87                | 72.91   |         |       |
| Indiana.....  | 5                        | 13                  | 11.4                                   | 11.5                             | 130.3                                 | 136.1                                      | 104.5                                      |  | 3                    |    |                      |          |                      |    | 2                                | 6                         | 65.2                                     | .492  | 64.11                | 66.91   |         |       |
| Illinois.....   | 6                        | 18                  | 11.1                                   | 11.3                             | 88.9                                  | 92.6                                       | 104.2                                      |  | 12                   | 6  |                      |          |                      |    |                                  |                           | 44.0                                     | .732  | 65.07                | 67.78   |         |       |
| Michigan.....   | 8                        | 40                  | 10.9                                   | 11.0                             | 90.0                                  | 93.8                                       | 104.2                                      |  | 35                   |    |                      | 3        |                      |    |                                  | 2                         | 45.4                                     | .767  | 69.03                | 71.93   |         |       |
| Minnesota and Wisconsin.....                                    | 5                        | 16                  | 11.0                                   | 10.9                             | 99.8                                  | 101.4                                      | 101.6                                      |  | 12                   |    |                      |          |                      |    | 2                                | 2                         | 49.9                                     | .592  | 59.08                | 60.06   |         |       |
| Virginia and West Virginia.....                                 | 3                        | 6                   | 11.7                                   | 11.7                             | 131.7                                 | 136.3                                      | 103.5                                      |  |                      |    |                      |          |                      |    | 2                                | 2                         | 65.8                                     | .354  | 46.62                | 48.29   |         |       |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 18                  | 12.0                                   | 11.8                             | 143.1                                 | 137.7                                      | 96.2                                       |  |                      |    |                      |          |                      |    | 9                                |                           | 71.6                                     | .507  | 72.55                | 69.77   |         |       |
| Total.....  | 70                       | 227                 | 11.3                                   | 11.3                             | 105.2                                 | 107.6                                      | 102.3                                      |  | 115                  | 28 | 12                   |          |                      |    | 2                                | 34                        | 12                                       | 24  | 52.6                 | .669    | 70.38   | 71.97 |
| <b>ASSISTANT HEAD BEATER MEN</b>                                |                          |                     |  |                                  |                                       |  |  |  |                      |    |                      |          |                      |    |                                  |                           |  |   |                      |         |         |       |
| Massachusetts.....  | 1                        | 6                   | 12.0                                   | 11.8                             | 96.0                                  | 94.7                                       | 98.6                                       |  |                      |    | 6                    |          |                      |    |                                  |                           | 48.0                                     | .690  | 66.24                | 65.32   |         |       |
| Connecticut.....  | 3                        | 10                  | 11.3                                   | 11.4                             | 90.7                                  | 102.7                                      | 113.2                                      |  | 5                    | 5  |                      |          |                      |    |                                  |                           | 45.3                                     | .600  | 54.42                | 61.63   |         |       |
| New York.....   | 2                        | 6                   | 13.0                                   | 12.0                             | 155.0                                 | 140.5                                      | 90.6                                       |  |                      |    |                      |          |                      |    |                                  |                           | 77.5                                     | .484  | 75.02                | 68.03   |         |       |
| New Jersey and Pennsylvania.....                                | 2                        | 5                   | 12.0                                   | 11.4                             | 113.2                                 | 110.4                                      | 97.5                                       |  |                      |    |                      | 3        |                      |    |                                  | 2                         | 56.6                                     | .700  | 79.24                | 77.28   |         |       |
| Ohio.....   | 1                        | 6                   | 10.7                                   | 11.2                             | 86.3                                  | 101.3                                      | 118.8                                      |  | 6                    |    |                      |          |                      |    |                                  |                           | 42.7                                     | .688  | 58.69                | 69.61   |         |       |
| Indiana.....  | 2                        | 6                   | 11.7                                   | 11.5                             | 148.0                                 | 138.0                                      | 93.2                                       |  |                      |    |                      |          |                      |    |                                  |                           | 74.0                                     | .372  | 55.06                | 51.38   |         |       |
| Illinois.....   | 2                        | 6                   | 10.7                                   | 10.7                             | 85.3                                  | 88.3                                       | 103.5                                      |  | 6                    |    |                      |          |                      |    |                                  | 4                         | 42.7                                     | .597  | 50.92                | 52.70   |         |       |
| Michigan.....   | 2                        | 4                   | 11.8                                   | 12.3                             | 120.2                                 | 141.5                                      | 117.7                                      |  | 2                    |    |                      |          |                      |    |                                  |                           | 60.1                                     | .589  | 70.80                | 83.33   |         |       |
| Minnesota and Wisconsin.....                                    | 2                        | 11                  | 10.7                                   | 10.9                             | 85.3                                  | 106.8                                      | 125.2                                      |  | 11                   |    |                      |          |                      |    |                                  |                           | 42.7                                     | .498  | 42.56                | 53.29   |         |       |
| Virginia and West Virginia.....                                 | 1                        | 4                   | 12.0                                   | 12.3                             | 120.0                                 | 133.5                                      | 111.3                                      |  |                      |    |                      |          |                      |    | 4                                |                           | 60.0                                     | .299  | 35.88                | 39.91   |         |       |

|   |    |       |      |      |       |       |       |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
|---|----|-------|------|------|-------|-------|-------|--|-------|-----|-----|--|--|---|---|---|------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 2  | 5     | 13.0 | 11.4 | 155.6 | 137.3 | 88.2  |  |       |     |     |  |  |   |   | 5 | 77.8 | .284 | 44.19 | 39.06 |       |      |       |       |       |       |       |
| Total.....  | 20 | 69    | 11.6 | 11.4 | 109.7 | 114.7 | 104.6 |  | 30    | 11  | 3   |  |  | 4 | 2 | 4 | 15   | 54.9 | .520  | 57.04 | 59.70 |      |       |       |       |       |       |
| <b>PLUG FULLERS</b>   |    |       |      |      |       |       |       |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Connecticut.....  | 2  | 8     | 10.8 | 11.0 | 96.8  | 103.1 | 106.5 |  | 6     |     |     |  |  |   |   |   |      | 48.4 | .544  | 52.66 | 56.02 |      |       |       |       |       |       |
| New York.....   | 1  | 15    | 10.7 | 11.3 | 85.3  | 98.9  | 115.9 |  | 15    |     |     |  |  |   |   |   |      | 42.7 | .521  | 44.44 | 51.54 |      |       |       |       |       |       |
| Ohio.....   | 3  | 13    | 10.8 | 10.3 | 99.4  | 96.9  | 97.5  |  | 9     |     |     |  |  |   |   |   |      | 49.7 | .643  | 63.91 | 62.29 |      |       |       |       |       |       |
| Indiana.....  | 2  | 5     | 10.8 | 11.0 | 103.6 | 111.5 | 107.6 |  | 3     |     |     |  |  |   |   |   |      | 51.8 | .475  | 49.21 | 53.00 |      |       |       |       |       |       |
| Illinois.....   | 1  | 10    | 10.7 | 9.5  | 85.3  | 76.5  | 89.7  |  | 10    |     |     |  |  |   |   |   |      | 42.7 | .700  | 59.71 | 53.55 |      |       |       |       |       |       |
| Michigan.....   | 1  | 43    | 10.9 | 10.2 | 87.6  | 86.4  | 98.6  |  | 37    |     | 6   |  |  |   |   |   |      | 43.8 | .559  | 48.97 | 48.35 |      |       |       |       |       |       |
| Minnesota and Wisconsin.....                                    | 2  | 8     | 10.8 | 10.0 | 108.2 | 105.4 | 97.4  |  | 4     |     |     |  |  |   |   |   |      | 54.1 | .529  | 57.24 | 55.83 |      |       |       |       |       |       |
| Virginia and West Virginia.....                                 | 1  | 2     | 12.0 | 12.0 | 144.0 | 144.0 | 100.0 |  | 4     |     |     |  |  |   |   |   |      | 72.0 | .283  | 40.80 | 40.80 |      |       |       |       |       |       |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 5  | 14    | 12.1 | 11.2 | 144.9 | 133.6 | 92.2  |  |       |     |     |  |  |   |   |   |      | 6    |       | 8     | 72.4  | .265 | 38.40 | 35.45 |       |       |       |
| Total.....  | 24 | 118   | 11.0 | 10.5 | 98.8  | 98.4  | 99.6  |  | 84    |     | 6   |  |  |   |   |   |      | 18   | 2     | 8     | 49.4  | .511 | 50.49 | 50.30 |       |       |       |
| <b>JORDAN MEN</b>   |    |       |      |      |       |       |       |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Connecticut.....  | 1  | 4     | 11.0 | 11.0 | 131.0 | 133.5 | 101.9 |  |       |     |     |  |  |   |   |   |      | 4    |       |       | 65.5  | .475 | 62.23 | 63.45 |       |       |       |
| Maine, New Hampshire, and Vermont.....                          | 1  | 3     | 12.0 | 12.0 | 96.0  | 96.0  | 100.0 |  |       | 3   |     |  |  |   |   |   |      |      |       |       | 48.0  | .480 | 46.03 | 46.03 |       |       |       |
| New York.....   | 2  | 16    | 10.7 | 10.9 | 85.3  | 101.4 | 118.9 |  | 16    |     |     |  |  |   |   |   |      |      |       |       | 42.7  | .545 | 46.49 | 55.28 |       |       |       |
| New Jersey and Pennsylvania.....                                | 3  | 10    | 11.4 | 11.0 | 108.4 | 105.4 | 97.2  |  | 3     |     | 3   |  |  |   |   |   |      |      |       |       | 54.2  | .583 | 63.20 | 61.41 |       |       |       |
| Ohio.....   | 3  | 14    | 10.7 | 10.3 | 91.9  | 98.1  | 106.7 |  | 12    |     |     |  |  |   |   |   |      |      |       |       | 45.9  | .590 | 54.22 | 57.89 |       |       |       |
| Illinois.....   | 2  | 6     | 10.7 | 10.8 | 85.3  | 93.0  | 109.0 |  | 6     |     |     |  |  |   |   |   |      |      |       |       | 42.7  | .673 | 57.41 | 62.60 |       |       |       |
| Michigan.....   | 4  | 20    | 11.6 | 10.6 | 105.2 | 98.5  | 93.6  |  | 12    |     | 3   |  |  |   |   |   |      |      |       |       | 5     | .497 | 52.28 | 49.01 |       |       |       |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 1  | 3     | 13.0 | 10.3 | 155.0 | 124.4 | 80.3  |  |       |     |     |  |  |   |   |   |      |      |       |       | 3     | 77.5 | .175  | 27.13 | 21.77 |       |       |
| Total.....  | 17 | 76    | 11.2 | 10.8 | 100.4 | 102.3 | 101.9 |  | 49    | 3   | 6   |  |  |   |   |   |      |      |       |       | 10    |      | 8     | 50.2  | .530  | 53.21 | 54.24 |
| <b>BEATER HELPERS</b>   |    |       |      |      |       |       |       |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Massachusetts.....  | 4  | 89    | 12.1 | 11.8 | 97.0  | 97.3  | 100.3 |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Connecticut.....  | 5  | 159   | 10.9 | 9.8  | 102.1 | 94.3  | 92.4  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Maine, New Hampshire, and Vermont.....                          | 3  | 73    | 11.9 | 11.2 | 99.8  | 96.1  | 96.3  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| New York.....   | 9  | 192   | 11.5 | 10.7 | 111.1 | 103.6 | 93.2  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| New Jersey and Pennsylvania.....                                | 8  | 211   | 11.3 | 10.8 | 104.2 | 98.8  | 94.8  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Ohio.....   | 7  | 243   | 10.7 | 9.8  | 92.1  | 88.2  | 95.8  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Indiana.....  | 5  | 64    | 11.4 | 11.2 | 133.2 | 130.2 | 97.7  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Illinois.....   | 6  | 127   | 10.8 | 9.4  | 86.3  | 76.6  | 88.8  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Michigan.....   | 6  | 419   | 11.1 | 9.3  | 89.2  | 78.3  | 87.8  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Minnesota and Wisconsin.....                                    | 5  | 156   | 10.8 | 9.5  | 95.8  | 96.4  | 90.2  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Virginia and West Virginia.....                                 | 3  | 27    | 11.7 | 10.3 | 125.0 | 118.9 | 95.1  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7  | 113   | 12.1 | 9.3  | 143.9 | 110.3 | 76.7  |  |       |     |     |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |
| Total.....  | 70 | 1,873 | 11.2 | 10.0 | 101.1 | 92.3  | 91.3  |  | 1,089 | 168 | 159 |  |  |   |   |   |      |      |       |       |       |      |       |       |       |       |       |





**TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1925, BY OCCUPATION AND STATE—Continued**

| Occupation and State  | Number of establishments | Number of employees | Average number of days—                |                                  | Hours                                 |  |  |  |                      |    |                      |    |                      |    | Earnings                         |                           |  |   |                      |         |         |
|---|--------------------------|---------------------|--|----------------------------------|---------------------------------------|--|--|--|----------------------|----|----------------------|----|----------------------|----|----------------------------------|---------------------------|--|---|----------------------|---------|---------|
|   |                          |                     | Of work in the occupation in two weeks | Worked by employees in two weeks | Average full-time hours per two weeks | Average hours actually worked in two weeks | Percent of full-time hours actually worked | Number of employees whose full-time hours per week were— |                      |    |                      |    |                      |    | Average full-time hours per week | Average earnings per hour | Average full-time earnings per two weeks | Average amount actually earned in two weeks |                      |         |         |
|   |                          |                     |  |                                  |                                       |  |  | 40   | Over 40 and under 48 | 48 | Over 48 and under 54 | 54 | Over 54 and under 60 | 60 |                                  |                           |  |   | Over 60 and under 72 | 72      | Over 72 |
| <b>WINDER MEN—continued</b>                                     |                          |                     |  |                                  |                                       |  |  |  |                      |    |                      |    |                      |    |                                  |                           |  |   |                      |         |         |
| Minnesota and Wisconsin.....                                    | 1                        | 2                   | 13.0                                   | 13.0                             | 155.0                                 | 147.0                                      | 94.8                                       |  |                      |    |                      |    |                      |    |                                  | 2                         | 77.5                                     | \$0.450                                     | \$69.75              | \$66.15 |         |
| Virginia and West Virginia.....                                 | 1                        | 6                   | 11.0                                   | 7.5                              | 131.0                                 | 87.3                                       | 66.6                                       |  |                      |    |                      |    |                      |    |                                  | 6                         | 65.5                                     | .302  | 39.56                | 26.40   |         |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 2                        | 6                   | 13.0                                   | 12.8                             | 155.3                                 | 150.5                                      | 96.9                                       |  |                      |    |                      |    |                      |    |                                  | 6                         | 77.7                                     | .203  | 31.53                | 30.62   |         |
| Total.....  | 16                       | 66                  | 12.1                                   | 11.2                             | 114.8                                 | 106.1                                      | 92.4                                       |  | 9                    | 21 | 12                   |    |                      |    | 6                                | 18                        | 57.4                                     | .449  | 51.55                | 47.65   |         |
| <b>FINISHERS' HELPERS</b>                                       |                          |                     |  |                                  |                                       |  |  |  |                      |    |                      |    |                      |    |                                  |                           |  |   |                      |         |         |
| Massachusetts.....  | 1                        | 3                   | 12.7                                   | 12.7                             | 101.2                                 | 100.0                                      | 98.7                                       |  |                      |    | 3                    |    |                      |    |                                  |                           | 50.7                                     | .551  | 55.82                | 55.14   |         |
| New York.....   | 3                        | 17                  | 11.2                                   | 10.4                             | 101.7                                 | 96.8                                       | 95.2                                       |  | 13                   | 13 |                      |    |                      |    |                                  | 4                         | 50.9                                     | .492  | 50.04                | 47.61   |         |
| New Jersey and Pennsylvania.....                                | 2                        | 29                  | 10.4                                   | 10.3                             | 91.8                                  | 83.8                                       | 91.3                                       | 13   |                      |    | 16                   |    |                      |    |                                  |                           | 45.9                                     | .554  | 50.86                | 46.43   |         |
| Indiana.....  | 1                        | 4                   | 11.0                                   | 11.0                             | 156.0                                 | 132.0                                      | 84.6                                       |  |                      |    |                      |    |                      |    |                                  | 4                         | 78.0                                     | .400  | 62.40                | 52.80   |         |
| Michigan.....   | 3                        | 16                  | 10.7                                   | 9.9                              | 85.3                                  | 83.7                                       | 98.1                                       |  | 16                   |    |                      |    |                      |    |                                  |                           | 42.7                                     | .501  | 42.74                | 41.94   |         |
| Minnesota and Wisconsin.....                                    | 1                        | 2                   | 11.0                                   | 10.0                             | 131.0                                 | 120.0                                      | 91.6                                       |  |                      |    |                      |    |                      |    | 2                                |                           | 65.5                                     | .480  | 62.88                | 57.60   |         |
| Total.....  | 11                       | 71                  | 10.8                                   | 10.4                             | 97.8                                  | 91.3                                       | 93.4                                       | 13   | 29                   |    | 19                   |    |                      |    | 2                                | 8                         | 48.9                                     | .512  | 50.07                | 46.74   |         |
| <b>WEIGHERS</b>   |                          |                     |  |                                  |                                       |  |  |  |                      |    |                      |    |                      |    |                                  |                           |  |   |                      |         |         |
| New York.....   | 2                        | 9                   | 10.8                                   | 10.7                             | 88.7                                  | 92.0                                       | 103.7                                      |  | 8                    |    |                      |    | 1                    |    |                                  |                           | 44.4                                     | .521  | 46.21                | 47.94   |         |
| New Jersey and Pennsylvania.....                                | 1                        | 6                   | 12.0                                   | 11.7                             | 144.0                                 | 142.5                                      | 99.0                                       |  |                      |    |                      |    |                      |    |                                  | 6                         | 72.0                                     | .432  | 62.21                | 61.54   |         |
| Illinois.....   | 2                        | 3                   | 11.1                                   | 11.0                             | 96.9                                  | 101.5                                      | 104.7                                      |  | 2                    |    |                      |    |                      |    |                                  |                           | 48.4                                     | .561  | 54.36                | 56.95   |         |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 1                        | 2                   | 13.0                                   | 11.5                             | 155.0                                 | 146.0                                      | 94.2                                       |  |                      |    |                      |    |                      |    |                                  | 2                         | 77.5                                     | .249  | 38.60                | 36.38   |         |
| Total.....  | 6                        | 20                  | 11.4                                   | 11.1                             | 113.2                                 | 114.0                                      | 100.7                                      |  | 10                   |    |                      |    | 1                    | 1  |                                  | 6                         | 2  | 56.6  | .458                 | 51.85   | 52.21   |

| CUTTER BOYS   |           |            |             |             |              |             |             |            |           |           |          |  |           |           |           |             |             |              |              |              |
|---|-----------|------------|-------------|-------------|--------------|-------------|-------------|------------|-----------|-----------|----------|--|-----------|-----------|-----------|-------------|-------------|--------------|--------------|--------------|
| Massachusetts.....  | 1         | 9          | 12.0        | 11.8        | 96.0         | 95.8        | 99.8        |            |           |           |          |  |           |           |           | 48.0        | .548        | 52.61        | 52.51        |              |
| Connecticut.....  | 5         | 59         | 10.9        | 9.6         | 95.7         | 88.6        | 92.6        | 41         | 6         |           |          |  |           |           | 12        | 47.9        | .444        | 42.49        | 39.30        |              |
| Maine, New Hampshire, and Vermont.....                          | 3         | 33         | 11.8        | 9.6         | 101.3        | 80.7        | 79.7        |            | 28        |           |          |  |           |           |           |             |             |              |              |              |
| New York.....   | 8         | 77         | 11.2        | 10.2        | 101.9        | 95.8        | 94.0        | 55         | 3         |           |          |  |           | 5         |           | 50.7        | .407        | 41.23        | 32.84        |              |
| New Jersey and Pennsylvania.....                                | 7         | 75         | 11.2        | 9.8         | 103.2        | 91.9        | 89.1        | 40         | 18        |           |          |  | 4         | 12        | 5         | 51.6        | .471        | 48.61        | 43.27        |              |
| Ohio.....   | 6         | 136        | 10.8        | 9.8         | 96.9         | 90.6        | 93.5        | 97         |           |           |          |  | 33        |           |           | 48.5        | .499        | 48.35        | 45.19        |              |
| Indiana.....  | 2         | 14         | 12.0        | 9.0         | 144.0        | 110.3       | 76.6        |            |           |           |          |  |           | 14        |           | 72.0        | .289        | 41.62        | 31.92        |              |
| Illinois.....   | 5         | 87         | 10.9        | 8.9         | 87.5         | 73.0        | 83.4        | 69         | 18        |           |          |  |           |           |           | 43.8        | .508        | 44.45        | 37.08        |              |
| Michigan.....   | 8         | 168        | 11.2        | 10.2        | 89.4         | 85.4        | 95.5        | 125        | 43        |           |          |  |           |           |           | 44.7        | .472        | 42.20        | 40.29        |              |
| Minnesota and Wisconsin.....                                    | 4         | 57         | 10.7        | 9.9         | 93.3         | 87.9        | 94.2        | 47         |           |           |          |  | 10        |           |           | 46.7        | .423        | 39.47        | 37.16        |              |
| Virginia and West Virginia.....                                 | 3         | 11         | 12.0        | 9.3         | 130.9        | 105.2       | 80.4        |            |           |           |          |  |           | 5         | 2         | 65.5        | .295        | 38.62        | 31.05        |              |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 5         | 55         | 12.3        | 9.6         | 147.1        | 111.1       | 75.5        |            |           |           |          |  |           |           | 18        | 37          | 73.6        | .217         | 31.92        | 24.12        |
| <b>Total.....</b>   | <b>57</b> | <b>775</b> | <b>11.2</b> | <b>9.8</b>  | <b>100.1</b> | <b>89.4</b> | <b>89.3</b> | <b>474</b> | <b>61</b> | <b>64</b> |          |  | <b>5</b>  | <b>84</b> | <b>30</b> | <b>57</b>   | <b>50.1</b> | <b>.446</b>  | <b>44.64</b> | <b>39.90</b> |
| BROKE BOYS  |           |            |             |             |              |             |             |            |           |           |          |  |           |           |           |             |             |              |              |              |
| Massachusetts.....  | 2         | 5          | 12.3        | 12.4        | 98.1         | 100.4       | 102.3       |            | 3         | 2         |          |  |           |           |           | 49.1        | .524        | 51.40        | 52.58        |              |
| Connecticut.....  | 3         | 15         | 10.9        | 10.6        | 109.1        | 107.5       | 98.5        | 6          | 1         | 1         |          |  |           | 7         |           | 54.6        | .419        | 45.71        | 44.99        |              |
| New York.....   | 4         | 22         | 12.0        | 11.0        | 126.5        | 115.6       | 91.4        | 9          |           |           |          |  |           |           | 13        | 63.3        | .455        | 57.56        | 52.55        |              |
| New Jersey and Pennsylvania.....                                | 6         | 32         | 11.2        | 11.2        | 102.5        | 98.3        | 95.9        | 15         | 11        |           |          |  |           | 4         | 2         | 51.2        | .491        | 50.33        | 48.29        |              |
| Ohio.....   | 6         | 30         | 10.8        | 9.9         | 99.0         | 92.4        | 93.3        | 21         |           |           |          |  |           |           | 9         | 49.5        | .522        | 51.68        | 48.25        |              |
| Indiana.....  | 3         | 7          | 10.9        | 11.3        | 118.6        | 121.8       | 102.7       | 3          | 3         |           |          |  |           | 2         | 2         | 59.3        | .416        | 49.34        | 50.71        |              |
| Illinois.....   | 2         | 9          | 11.1        | 10.4        | 83.9         | 84.4        | 94.9        | 6          | 3         |           |          |  |           |           |           | 44.4        | .470        | 41.78        | 39.63        |              |
| Michigan.....   | 5         | 38         | 11.2        | 8.2         | 90.0         | 71.2        | 79.1        | 27         | 11        |           |          |  |           |           |           | 45.0        | .469        | 42.21        | 33.41        |              |
| Minnesota and Wisconsin.....                                    | 2         | 7          | 10.9        | 10.7        | 111.4        | 108.3       | 97.2        | 3          |           |           |          |  |           | 4         |           | 55.7        | .450        | 50.13        | 48.73        |              |
| Virginia and West Virginia.....                                 | 1         | 3          | 11.0        | 9.0         | 131.0        | 106.5       | 81.3        |            |           |           |          |  |           |           | 3         | 65.5        | .302        | 39.56        | 32.20        |              |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 5         | 19         | 12.5        | 9.8         | 148.7        | 120.0       | 80.7        |            |           |           |          |  |           |           | 5         | 14          | 74.3        | .211         | 31.38        | 26.28        |
| <b>Total.....</b>   | <b>39</b> | <b>187</b> | <b>11.3</b> | <b>10.1</b> | <b>108.1</b> | <b>97.6</b> | <b>90.3</b> | <b>90</b>  | <b>6</b>  | <b>25</b> | <b>1</b> |  | <b>30</b> | <b>4</b>  | <b>31</b> | <b>54.1</b> | <b>.438</b> | <b>47.35</b> | <b>42.71</b> |              |
| SCREENMEN   |           |            |             |             |              |             |             |            |           |           |          |  |           |           |           |             |             |              |              |              |
| Massachusetts.....  | 3         | 10         | 12.2        | 11.1        | 97.6         | 92.8        | 95.1        |            | 7         | 3         |          |  |           |           |           | 48.8        | .552        | 53.88        | 51.26        |              |
| Connecticut.....  | 4         | 21         | 11.0        | 11.0        | 99.9         | 102.7       | 102.8       | 12         | 3         |           |          |  |           |           |           | 50.0        | .458        | 45.75        | 47.01        |              |
| New York.....   | 6         | 23         | 11.4        | 11.4        | 107.5        | 111.3       | 103.5       | 12         |           | 3         |          |  | 6         |           | 4         | 53.7        | .483        | 51.92        | 53.73        |              |
| New Jersey and Pennsylvania.....                                | 8         | 29         | 11.3        | 11.2        | 110.3        | 112.8       | 102.3       | 10         |           | 9         |          |  |           | 3         | 4         | 55.1        | .485        | 53.50        | 54.73        |              |
| Ohio.....   | 5         | 24         | 10.7        | 10.5        | 89.1         | 89.5        | 100.4       | 22         |           |           |          |  |           |           | 3         | 44.6        | .550        | 49.01        | 49.26        |              |
| Indiana.....  | 4         | 10         | 11.4        | 9.0         | 128.8        | 100.7       | 78.2        | 3          |           |           |          |  |           | 5         | 2         | 64.4        | .346        | 44.56        | 34.86        |              |
| Illinois.....   | 6         | 24         | 11.2        | 11.4        | 89.3         | 93.4        | 104.6       | 15         | 9         |           |          |  |           |           |           | 44.7        | .507        | 45.28        | 47.32        |              |
| Michigan.....   | 7         | 56         | 10.9        | 9.0         | 87.0         | 74.3        | 85.4        | 50         |           | 6         |          |  |           |           |           | 43.5        | .500        | 43.50        | 37.16        |              |
| Minnesota and Wisconsin.....                                    | 5         | 24         | 10.9        | 11.1        | 98.8         | 99.4        | 100.6       | 18         |           |           |          |  |           |           | 4         | 42.8        | .428        | 42.29        | 42.57        |              |
| Virginia and West Virginia.....                                 | 1         | 2          | 12.0        | 9.5         | 144.0        | 114.0       | 79.2        |            |           |           |          |  |           |           | 2         | 72.0        | .333        | 47.95        | 38.00        |              |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 3         | 8          | 12.0        | 11.3        | 143.0        | 141.2       | 98.7        |            |           |           |          |  |           |           | 4         | 71.5        | .286        | 40.90        | 40.38        |              |
| <b>Total.....</b>   | <b>52</b> | <b>231</b> | <b>11.1</b> | <b>10.5</b> | <b>99.5</b>  | <b>96.2</b> | <b>96.7</b> | <b>142</b> | <b>19</b> | <b>21</b> |          |  | <b>23</b> | <b>11</b> | <b>15</b> | <b>49.8</b> | <b>.472</b> | <b>46.96</b> | <b>45.41</b> |              |

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1925, BY OCCUPATION AND STATE—Continued

| Occupation and State  | Number of establishments | Number of employees | Average number of days—                |                                  | Hours                                 |  |  |  |                      |          |                      |           |                      |           | Earnings                         |                           |  |   |                      |              |
|---|--------------------------|---------------------|--|----------------------------------|---------------------------------------|--|--|--|----------------------|----------|----------------------|-----------|----------------------|-----------|----------------------------------|---------------------------|--|---|----------------------|--------------|
|   |                          |                     | Of work in the occupation in two weeks | Worked by employees in two weeks | Average full-time hours per two weeks | Average hours actually worked in two weeks | Percent of full-time hours actually worked | Number of employees whose full-time hours per week were— |                      |          |                      |           |                      |           | Average full-time hours per week | Average earnings per hour | Average full-time earnings per two weeks | Average amount actually earned in two weeks |                      |              |
|   |                          |                     |  |                                  |                                       |  |  | 40   | Over 40 and under 48 | 48       | Over 48 and under 54 | 54        | Over 54 and under 60 | 60        |                                  |                           |  |   | Over 60 and under 72 | 72           |
| <b>FELT CHECKERS</b>  |                          |                     |  |                                  |                                       |  |  |  |                      |          |                      |           |                      |           |                                  |                           |  |   |                      |              |
| Massachusetts.....  | 1                        | 3                   | 12.7                                   | 12.3                             | 101.3                                 | 97.0                                       | 95.8                                       |  |                      |          |                      |           |                      |           |                                  |                           | 50.7                                     | \$0.552                                     | \$55.92              | \$3.50       |
| New York.....   | 3                        | 10                  | 12.3                                   | 10.5                             | 134.1                                 | 112.1                                      | 83.6                                       |  | 3                    |          |                      |           |                      |           |                                  |                           | 67.1                                     | .465  | 62.36                | 52.16        |
| New Jersey and Pennsylvania.....                                | 5                        | 15                  | 11.7                                   | 10.6                             | 113.4                                 | 107.3                                      | 94.6                                       |  | 6                    |          | 3                    |           |                      |           |                                  |                           | 56.7                                     | .454  | 51.48                | 48.75        |
| Ohio.....   | 4                        | 9                   | 10.8                                   | 10.3                             | 105.6                                 | 105.6                                      | 100.0                                      |  | 5                    |          |                      |           |                      | 4         |                                  |                           | 52.8                                     | .520  | 54.91                | 54.91        |
| Indiana.....  | 1                        | 2                   | 11.0                                   | 12.0                             | 131.0                                 | 155.5                                      | 118.7                                      |  |                      |          |                      |           |                      | 2         |                                  |                           | 65.5                                     | .460  | 60.26                | 71.54        |
| Michigan.....   | 2                        | 10                  | 10.7                                   | 8.5                              | 85.3                                  | 68.4                                       | 80.2                                       |  | 10                   |          |                      |           |                      |           |                                  |                           | 42.7                                     | .500  | 42.65                | 34.18        |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 3                        | 8                   | 12.5                                   | 11.9                             | 149.0                                 | 147.1                                      | 98.7                                       |  |                      |          |                      |           |                      | 2         |                                  |                           | 74.5                                     | .240  | 35.76                | 35.36        |
| <b>Total.....</b>   | <b>19</b>                | <b>57</b>           | <b>11.6</b>                            | <b>10.5</b>                      | <b>115.9</b>                          | <b>107.8</b>                               | <b>93.0</b>                                |  | <b>24</b>            |          | <b>6</b>             |           |                      | <b>8</b>  | <b>4</b>                         | <b>15</b>                 | <b>58.0</b>                              | <b>.435</b>                                 | <b>50.42</b>         | <b>46.93</b> |
| <b>FINISHERS, FINISHING ROOM</b>                                |                          |                     |  |                                  |                                       |  |  |  |                      |          |                      |           |                      |           |                                  |                           |  |   |                      |              |
| Massachusetts.....  | 1                        | 4                   | 12.0                                   | 12.3                             | 100.0                                 | 100.9                                      | 100.9                                      |  |                      |          | 4                    |           |                      |           |                                  |                           | 50.0                                     | .633  | 63.30                | 63.89        |
| Connecticut.....  | 1                        | 10                  | 12.0                                   | 11.2                             | 100.0                                 | 104.4                                      | 104.4                                      |  |                      |          | 10                   |           |                      |           |                                  |                           | 50.0                                     | .530  | 53.00                | 55.36        |
| New York.....   | 3                        | 20                  | 11.8                                   | 11.0                             | 120.2                                 | 106.5                                      | 88.6                                       |  |                      |          |                      |           |                      | 6         |                                  |                           | 60.1                                     | .576  | 69.24                | 61.34        |
| New Jersey and Pennsylvania.....                                | 2                        | 17                  | 12.0                                   | 11.6                             | 115.1                                 | 109.6                                      | 95.2                                       |  |                      |          |                      |           |                      |           |                                  |                           | 57.5                                     | .472  | 54.33                | 51.71        |
| Ohio.....   | 5                        | 35                  | 12.0                                   | 11.2                             | 116.9                                 | 106.7                                      | 91.3                                       |  |                      |          | 4                    |           |                      | 5         |                                  |                           | 58.4                                     | .498  | 58.22                | 53.20        |
| Indiana.....  | 1                        | 7                   | 12.0                                   | 11.4                             | 120.0                                 | 129.2                                      | 107.7                                      |  |                      |          |                      |           |                      | 7         |                                  |                           | 60.0                                     | .513  | 61.56                | 66.26        |
| Illinois.....   | 1                        | 15                  | 12.0                                   | 10.8                             | 120.0                                 | 90.2                                       | 75.2                                       |  |                      |          |                      |           |                      | 15        |                                  |                           | 60.0                                     | .753  | 90.36                | 67.88        |
| Michigan.....   | 7                        | 81                  | 12.0                                   | 10.2                             | 106.8                                 | 94.9                                       | 88.9                                       |  |                      | 8        | 15                   | 48        |                      | 10        |                                  |                           | 53.4                                     | .558  | 59.59                | 53.00        |
| Minnesota and Wisconsin.....                                    | 2                        | 9                   | 12.0                                   | 11.6                             | 117.3                                 | 106.4                                      | 90.7                                       |  |                      |          |                      |           |                      | 7         |                                  |                           | 58.7                                     | .481  | 56.42                | 51.14        |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 2                        | 10                  | 11.5                                   | 9.7                              | 137.5                                 | 111.3                                      | 80.9                                       |  |                      |          |                      |           |                      | 5         | 5                                |                           | 68.8                                     | .212  | 29.15                | 23.63        |
| <b>Total.....</b>   | <b>25</b>                | <b>208</b>          | <b>12.0</b>                            | <b>10.8</b>                      | <b>113.3</b>                          | <b>101.9</b>                               | <b>89.9</b>                                |  |                      | <b>8</b> | <b>33</b>            | <b>57</b> | <b>15</b>            | <b>81</b> | <b>9</b>                         | <b>5</b>                  | <b>56.7</b>                              | <b>.531</b>                                 | <b>60.16</b>         | <b>54.08</b> |

| CUTTERS, FINISHING ROOM                                    |    |       |      |      |       |       |    |    |     |    |     |     |     |    |    |      |      |       |       |       |
|--|----|-------|------|------|-------|-------|----|----|-----|----|-----|-----|-----|----|----|------|------|-------|-------|-------|
| Massachusetts  | 1  | 2     | 12.0 | 12.5 | 100.0 | 100.3 |    |    |     |    |     |     |     |    |    | 50.0 | .702 | 70.20 | 70.35 |       |
| Connecticut  | 2  | 4     | 12.0 | 9.8  | 102.0 | 84.7  |    |    | 2   | 3  | 1   |     |     |    |    | 51.0 | .532 | 54.28 | 45.03 |       |
| Maine, New Hampshire, and Vermont                          | 1  | 1     | 12.0 | 12.0 | 96.0  | 96.0  |    | 1  |     |    |     |     |     |    |    | 48.0 | .550 | 52.80 | 52.80 |       |
| New York   | 1  | 3     | 12.0 | 9.7  | 120.0 | 94.5  |    |    |     |    |     | 3   |     |    |    | 60.0 | .519 | 62.28 | 49.06 |       |
| New Jersey and Pennsylvania                                | 1  | 2     | 12.0 | 5.5  | 116.0 | 64.9  |    |    |     |    | 2   |     |     |    |    | 58.0 | .600 | 69.60 | 38.93 |       |
| Ohio   | 5  | 14    | 12.0 | 10.4 | 108.3 | 104.7 |    | 7  |     |    | 4   | 3   |     |    |    | 54.1 | .509 | 55.12 | 53.31 |       |
| Indiana  | 1  | 2     | 12.0 | 12.0 | 130.0 | 108.3 |    |    |     |    |     | 2   |     |    |    | 60.0 | .450 | 54.00 | 58.50 |       |
| Michigan   | 2  | 6     | 12.0 | 11.7 | 108.0 | 103.9 |    |    |     | 6  |     |     |     |    |    | 54.0 | .543 | 58.64 | 56.43 |       |
| Minnesota and Wisconsin                                    | 2  | 2     | 12.0 | 12.0 | 126.0 | 119.8 |    |    |     |    |     | 1   | 1   |    |    | 63.0 | .421 | 53.05 | 50.40 |       |
| Virginia and West Virginia                                 | 1  | 1     | 12.0 | 13.0 | 120.0 | 130.0 |    |    |     |    |     |     | 1   |    |    | 60.0 | .340 | 40.80 | 44.20 |       |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 1  | 1     | 12.0 | 12.0 | 120.0 | 100.0 |    |    |     |    |     |     |     |    |    | 60.0 | .450 | 54.00 | 54.00 |       |
| Total  | 18 | 38    | 12.0 | 10.7 | 110.3 | 102.3 |    |    | 1   | 12 | 7   | 6   | 11  | 1  |    | 55.2 | .514 | 56.69 | 52.62 |       |
| REWINDERS, FINISHING ROOM                                  |    |       |      |      |       |       |    |    |     |    |     |     |     |    |    |      |      |       |       |       |
| Massachusetts  | 1  | 1     | 13.0 | 13.0 | 100.0 | 110.0 |    |    | 1   |    |     |     |     |    |    | 50.0 | .742 | 74.20 | 81.60 |       |
| Connecticut  | 1  | 1     | 12.0 | 12.0 | 108.0 | 108.0 |    |    |     | 1  |     |     |     |    |    | 54.0 | .500 | 54.00 | 54.00 |       |
| New York   | 2  | 5     | 12.0 | 11.0 | 118.4 | 120.9 |    |    |     |    |     | 2   | 3   |    |    | 58.2 | .507 | 60.03 | 61.28 |       |
| New Jersey and Pennsylvania                                | 2  | 3     | 12.7 | 12.7 | 141.7 | 155.2 |    |    |     |    |     | 1   |     |    |    | 70.8 | .600 | 85.02 | 93.10 |       |
| Ohio   | 2  | 4     | 12.0 | 11.8 | 115.5 | 123.5 |    |    |     |    |     | 3   | 1   |    |    | 57.8 | .445 | 51.40 | 55.02 |       |
| Illinois   | 2  | 3     | 11.3 | 8.0  | 120.0 | 70.5  |    |    |     |    |     |     | 3   |    |    | 60.0 | .528 | 63.36 | 37.19 |       |
| Michigan   | 2  | 9     | 12.0 | 9.8  | 107.1 | 110.6 |    |    | 1   | 8  |     |     |     |    |    | 63.6 | .418 | 44.77 | 46.24 |       |
| Minnesota and Wisconsin                                    | 1  | 2     | 12.0 | 12.0 | 132.0 | 150.0 |    |    |     |    |     |     |     | 2  |    | 66.0 | .510 | 67.32 | 76.50 |       |
| Total  | 13 | 28    | 12.0 | 10.8 | 117.0 | 117.5 |    |    | 2   | 9  | 6   | 7   | 2   | 2  |    | 58.5 | .493 | 57.68 | 57.93 |       |
| LABORERS   |    |       |      |      |       |       |    |    |     |    |     |     |     |    |    |      |      |       |       |       |
| Massachusetts  | 4  | 68    | 12.1 | 11.1 | 97.9  | 95.2  |    | 46 | 17  | 5  |     |     |     |    |    | 48.9 | .505 | 49.44 | 48.11 |       |
| Connecticut  | 5  | 98    | 11.9 | 10.6 | 108.6 | 100.7 |    |    | 23  | 55 |     | 20  |     |    |    | 54.3 | .463 | 50.28 | 46.64 |       |
| Maine, New Hampshire, and Vermont                          | 3  | 27    | 12.0 | 10.6 | 104.0 | 94.5  |    | 9  |     | 18 |     |     |     |    |    | 52.0 | .366 | 38.06 | 34.58 |       |
| New York   | 9  | 225   | 11.6 | 10.5 | 108.6 | 104.6 | 36 |    | 22  | 50 | 10  | 96  | 9   | 2  |    | 54.3 | .467 | 50.72 | 48.85 |       |
| New Jersey and Pennsylvania                                | 8  | 145   | 12.0 | 10.8 | 113.8 | 106.8 |    |    | 22  | 25 | 30  | 58  | 10  |    |    | 56.9 | .493 | 56.10 | 52.66 |       |
| Ohio   | 7  | 230   | 11.9 | 10.7 | 112.6 | 101.6 |    | 24 | 15  | 27 | 20  | 42  | 91  |    | 11 | 56.3 | .450 | 50.67 | 45.75 |       |
| Indiana  | 5  | 80    | 12.0 | 11.1 | 121.8 | 116.1 |    |    |     | 29 |     | 25  | 11  | 15 |    | 60.9 | .415 | 50.55 | 48.21 |       |
| Illinois   | 6  | 97    | 11.9 | 10.0 | 118.4 | 95.4  |    |    |     | 19 |     | 71  | 7   |    |    | 59.2 | .451 | 53.40 | 43.08 |       |
| Michigan   | 8  | 226   | 12.0 | 9.4  | 107.8 | 84.9  |    | 7  | 7   | 20 | 138 | 28  | 26  |    |    | 53.9 | .459 | 49.48 | 38.95 |       |
| Minnesota and Wisconsin                                    | 5  | 67    | 12.0 | 10.4 | 117.4 | 101.7 |    |    |     | 25 | 14  | 14  | 14  |    |    | 58.7 | .409 | 48.02 | 41.61 |       |
| Virginia and West Virginia                                 | 3  | 31    | 12.3 | 10.7 | 128.5 | 113.6 |    |    |     |    |     | 20  |     | 11 |    | 64.3 | .273 | 35.08 | 31.05 |       |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 7  | 165   | 12.3 | 10.4 | 127.3 | 109.4 |    |    |     |    | 12  | 114 |     | 8  | 31 | 63.7 | .210 | 26.73 | 23.00 |       |
| Total  | 70 | 1,459 | 11.9 | 10.4 | 113.4 | 101.0 | 36 | 31 | 121 | 87 | 384 | 136 | 535 | 51 | 36 | 42   | 56.7 | .423  | 47.97 | 42.71 |

**TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1925, BY OCCUPATION AND STATE—Continued**

| Occupation and State  | Number of establishments | Number of employ-ees | Average number of days—                |                                   | Hours                                 |  |   |  |                      |           |                      |            |                      |            |                                  |                           | Earnings                                 |   |                      |             |              |              |
|---|--------------------------|----------------------|--|-----------------------------------|---------------------------------------|--|---|--|----------------------|-----------|----------------------|------------|----------------------|------------|----------------------------------|---------------------------|--|---|----------------------|-------------|--------------|--------------|
|   |                          |                      | Of work in the occupation in two weeks | Worked by employ-ees in two weeks | Average full-time hours per two weeks | Average hours actually worked in two weeks | Per cent of full-time hours actually worked | Number of employees whose full-time hours per week were— |                      |           |                      |            |                      |            | Average full-time hours per week | Average earnings per hour | Average full-time earnings per two weeks | Average amount actually earned in two weeks |                      |             |              |              |
|   |                          |                      |  |                                   |                                       |  |   | 40   | Over 40 and under 48 | 48        | Over 48 and under 54 | 54         | Over 54 and under 60 | 60         |                                  |                           |  |   | Over 60 and under 72 | 72          | Over 72      |              |
| <b>OTHER EMPLOYEES, MALE</b>                                    |                          |                      |  |                                   |                                       |  |   |  |                      |           |                      |            |                      |            |                                  |                           |  |   |                      |             |              |              |
| Massachusetts.....  | 4                        | 165                  | 12.3                                   | 12.4                              | 99.9                                  | 104.0                                      | 104.1                                       |  |                      |           | 81                   | 76         | 1                    | 3          |                                  | 2                         | 2  |   | 50.0                 | \$0.669     | \$66.83      | \$69.63      |
| Connecticut.....  | 5                        | 219                  | 12.1                                   | 11.9                              | 114.3                                 | 114.9                                      | 100.5                                       | 1  | 12                   |           | 18                   | 27         |                      | 39         | 41                               | 19                        | 17                                       | 9   | 57.1                 | .595        | 68.01        | 68.30        |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 120                  | 12.2                                   | 11.5                              | 105.1                                 | 102.5                                      | 97.5  |  |                      | 71        |                      |            | 25                   | 10         | 4                                | 2                         | 6  |   | 52.5                 | .527        | 55.39        | 54.02        |
| New York.....   | 9                        | 378                  | 12.1                                   | 11.9                              | 112.4                                 | 113.9                                      | 101.3                                       | 2  | 6                    | 102       | 13                   | 81         | 15                   | 69         | 7                                | 23                        | 36                                       | 56.2  | .599                 | 67.33       | 68.30        |              |
| New Jersey and Pennsylvania.....                                | 8                        | 358                  | 12.2                                   | 11.7                              | 116.4                                 | 115.9                                      | 99.6  | 13   | 11                   | 37        | 21                   | 56         | 74                   | 70         | 21                               | 28                        | 27                                       | 58.2  | .626                 | 72.87       | 72.61        |              |
| Ohio.....   | 7                        | 511                  | 12.0                                   | 11.8                              | 115.9                                 | 114.7                                      | 99.0  |  | 38                   | 34        | 36                   | 100        | 69                   | 130        | 65                               | 4                         | 35                                       | 58.0  | .581                 | 67.84       | 66.62        |              |
| Indiana.....  | 5                        | 141                  | 12.6                                   | 11.9                              | 136.6                                 | 128.0                                      | 93.7  |  |                      |           |                      | 25         | 11                   | 24         | 17                               | 20                        | 44                                       | 68.3  | .497                 | 67.89       | 63.58        |              |
| Illinois.....   | 6                        | 375                  | 12.2                                   | 11.4                              | 110.7                                 | 106.0                                      | 95.8  | 3  | 6                    | 74        | 66                   | 58         | 16                   | 127        | 13                               | 2                         | 10                                       | 55.3  | .563                 | 62.32       | 59.66        |              |
| Michigan.....   | 8                        | 602                  | 12.3                                   | 11.5                              | 104.2                                 | 104.8                                      | 96.0  | 3  | 25                   | 38        | 60                   | 272        | 129                  | 39         | 12                               | 10                        | 14                                       | 54.6  | .620                 | 67.70       | 64.91        |              |
| Minnesota and Wisconsin.....                                    | 5                        | 240                  | 12.4                                   | 11.8                              | 117.1                                 | 116.0                                      | 99.1  |  |                      | 22        | 2                    | 26         | 118                  | 34         | 17                               | 4                         | 58.5                                     | .551  | 64.52                | 63.90       |              |              |
| Virginia and West Virginia.....                                 | 3                        | 61                   | 12.0                                   | 11.7                              | 126.5                                 | 126.5                                      | 100.0                                       |  |                      |           |                      |            |                      | 43         | 7                                | 9                         | 2  | 63.2  | .391                 | 49.44       | 49.44        |              |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 283                  | 12.9                                   | 12.0                              | 134.9                                 | 135.0                                      | 100.1                                       |  |                      |           |                      |            | 2                    | 145        | 5                                | 63                        | 68                                       | 67.4  | .360                 | 48.56       | 48.67        |              |
| <b>Total.....</b>   | <b>70</b>                | <b>3,453</b>         | <b>12.2</b>                            | <b>11.8</b>                       | <b>115.3</b>                          | <b>113.7</b>                               | <b>98.6</b>                                 | <b>4</b>   | <b>49</b>            | <b>98</b> | <b>477</b>           | <b>301</b> | <b>677</b>           | <b>486</b> | <b>726</b>                       | <b>187</b>                | <b>197</b>                               | <b>255</b>                                  | <b>57.7</b>          | <b>.564</b> | <b>65.03</b> | <b>64.10</b> |
| <b>OTHER EMPLOYEES, FEMALE</b>                                  |                          |                      |  |                                   |                                       |  |   |  |                      |           |                      |            |                      |            |                                  |                           |  |   |                      |             |              |              |
| Connecticut.....  | 1                        | 1                    | 11.0                                   | 11.0                              | 96.0                                  | 87.3                                       | 90.9  |  |                      | 1         |                      |            |                      |            |                                  |                           |  |   | 48.0                 | .520        | 49.92        | 45.41        |
| Maine, New Hampshire, and Vermont.....                          | 1                        | 4                    | 12.0                                   | 7.5                               | 96.0                                  | 58.5                                       | 60.9  |  |                      | 4         |                      |            |                      |            |                                  |                           |  |   | 48.0                 | .339        | 32.54        | 19.83        |
| New York.....   | 1                        | 2                    | 10.0                                   | 10.0                              | 80.0                                  | 80.0                                       | 100.0                                       | 2  |                      |           |                      |            |                      |            |                                  |                           |  |   | 40.0                 | .307        | 24.55        | 24.55        |
| Ohio.....   | 1                        | 4                    | 12.0                                   | 10.5                              | 120.0                                 | 94.6                                       | 78.8  |  |                      |           |                      |            |                      | 4          |                                  |                           |  |   | 60.0                 | .330        | 39.60        | 31.21        |
| Indiana.....  | 1                        | 14                   | 12.0                                   | 10.3                              | 120.0                                 | 100.2                                      | 83.5  |  |                      |           |                      |            |                      | 14         |                                  |                           |  |   | 60.0                 | .285        | 34.20        | 28.50        |
| Illinois.....   | 1                        | 14                   | 12.0                                   | 10.8                              | 100.0                                 | 89.9                                       | 89.9  |  |                      |           |                      | 14         |                      |            |                                  |                           |  |   | 50.0                 | .211        | 21.10        | 19.01        |
| Michigan.....   | 1                        | 4                    | 12.0                                   | 11.5                              | 108.0                                 | 91.0                                       | 84.3  |  |                      |           |                      | 4          |                      |            |                                  |                           |  |   | 54.0                 | .340        | 36.72        | 30.94        |
| Minnesota and Wisconsin.....                                    | 2                        | 10                   | 12.0                                   | 9.2                               | 108.0                                 | 80.3                                       | 74.4  |  |                      |           |                      | 10         |                      |            |                                  |                           |  |   | 54.0                 | .296        | 31.97        | 23.74        |
| <b>Total.....</b>   | <b>9</b>                 | <b>53</b>            | <b>11.9</b>                            | <b>10.1</b>                       | <b>107.8</b>                          | <b>88.5</b>                                | <b>82.1</b>                                 | <b>2</b>   |                      | <b>5</b>  | <b>14</b>            | <b>14</b>  |                      | <b>18</b>  |                                  |                           |  |   | <b>53.9</b>          | <b>.283</b> | <b>30.51</b> | <b>25.00</b> |

<sup>1</sup> Including 1 whose full-time hours were 28 hours a week.  
<sup>2</sup> Including 1 whose full-time hours were 26 hours per week.  
<sup>3</sup> Including 2 whose full-time hours were 12, and 1 whose full-time hours were 24.  
<sup>4</sup> Including 2 whose full-time hours were 12, 1 whose full-time hours were 24, 1 whose full-time hours were 26, and 1 whose full-time hours were 28.

TABLE B.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR OF EMPLOYEES IN SEVEN TYPICAL OCCUPATIONS, 1925, BY STATE

| Occupation and State  | Number of establishments | Number of employees | Average earnings per hour | Number of employees whose earnings per hour were— |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |
|---|--------------------------|---------------------|---------------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|-------------------------|
|   |                          |                     |                           | Under 20 cents                                    | 20 and under 25 cents | 25 and under 30 cents | 30 and under 35 cents | 35 and under 40 cents | 40 and under 45 cents | 45 and under 50 cents | 50 and under 55 cents | 55 and under 60 cents | 60 and under 65 cents | 65 and under 70 cents | 70 and under 75 cents | 75 and under 80 cents | 80 and under 90 cents | 90 and under 100 cents | 100 and under 125 cents |
| <b>HEAD BEATER MEN</b>  |                          |                     |                           |   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |
| Massachusetts.....  | 4                        | 15                  | \$. 806                   |   |                       |                       |                       |                       |                       |                       |                       |                       | 3                     |                       | 3                     |                       | 3                     | 6                      |                         |
| Connecticut.....  | 5                        | 14                  | . 733                     |   |                       |                       |                       |                       |                       |                       |                       |                       | 2                     | 1                     | 4                     | 1                     | 3                     |                        |                         |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 8                   | . 563                     |   |                       |                       | 2                     |                       |                       |                       |                       |                       | 3                     | 3                     | 2                     |                       |                       |                        |                         |
| New York.....   | 9                        | 29                  | . 705                     |   |                       |                       |                       |                       |                       |                       | 1                     | 8                     |                       | 6                     | 4                     |                       | 12                    |                        |                         |
| New Jersey and Pennsylvania.....                                | 8                        | 23                  | . 690                     |   |                       |                       |                       | 2                     |                       |                       |                       |                       | 4                     | 9                     |                       | 6                     |                       | 3                      |                         |
| Ohio.....   | 7                        | 27                  | . 763                     |   |                       |                       |                       |                       |                       | 1                     |                       |                       | 3                     | 2                     | 1                     |                       |                       |                        | 6                       |
| Indiana.....  | 5                        | 13                  | . 492                     |   |                       |                       | 1                     | 3                     | 2                     |                       |                       |                       | 3                     | 2                     | 2                     |                       |                       |                        |                         |
| Illinois.....   | 6                        | 18                  | . 732                     |   |                       |                       |                       |                       |                       |                       |                       |                       | 7                     | 3                     | 1                     |                       |                       |                        |                         |
| Michigan.....   | 8                        | 40                  | . 767                     |   |                       |                       |                       |                       |                       |                       | 3                     | 5                     |                       | 1                     | 3                     | 6                     | 13                    | 19                     | 3                       |
| Minnesota and Wisconsin.....                                    | 5                        | 16                  | . 592                     |   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |
| Virginia and West Virginia.....                                 | 3                        | 6                   | . 354                     |   |                       |                       | 2                     | 4                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 18                  | . 507                     |   |                       |                       |                       | 2                     | 3                     | 3                     | 4                     | 2                     | 1                     | 2                     |                       | 1                     |                       |                        |                         |
| <b>Total.....</b>   | <b>70</b>                | <b>227</b>          | <b>. 669</b>              |   |                       |                       | <b>5</b>              | <b>11</b>             | <b>5</b>              | <b>6</b>              | <b>11</b>             | <b>20</b>             | <b>22</b>             | <b>28</b>             | <b>29</b>             | <b>23</b>             | <b>46</b>             | <b>12</b>              | <b>9</b>                |
| <b>BEATER HELPERS</b>   |                          |                     |                           |   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |
| Massachusetts.....  | 4                        | 89                  | . 545                     |   |                       |                       |                       |                       |                       |                       | 36                    | 52                    | 1                     |                       |                       |                       |                       |                        |                         |
| Connecticut.....  | 5                        | 159                 | . 439                     |   |                       |                       |                       | 16                    | 81                    | 22                    | 40                    |                       |                       |                       |                       |                       |                       |                        |                         |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 73                  | . 419                     |   |                       | 1                     | 7                     |                       | 45                    | 20                    |                       |                       |                       |                       |                       |                       |                       |                        |                         |
| New York.....   | 9                        | 192                 | . 483                     |   |                       |                       |                       |                       | 38                    | 50                    | 62                    | 42                    |                       |                       |                       |                       |                       |                        |                         |
| New Jersey and Pennsylvania.....                                | 8                        | 211                 | . 517                     |   |                       | 6                     |                       | 1                     | 17                    | 7                     | 49                    | 110                   | 15                    | 6                     |                       |                       |                       |                        |                         |
| Ohio.....   | 7                        | 243                 | . 551                     |   |                       |                       |                       | 4                     | 34                    | 2                     | 75                    | 57                    | 3                     | 64                    |                       |                       |                       | 4                      |                         |
| Indiana.....  | 5                        | 64                  | . 375                     |   |                       | 17                    |                       |                       | 13                    | 22                    | 12                    |                       |                       |                       |                       |                       |                       |                        |                         |
| Illinois.....   | 6                        | 127                 | . 504                     |   |                       |                       |                       |                       | 10                    | 20                    | 18                    | 6                     | 73                    |                       |                       |                       |                       |                        |                         |
| Michigan.....   | 8                        | 419                 | . 480                     |   |                       |                       |                       |                       |                       | 1                     | 216                   | 196                   | 6                     |                       |                       |                       |                       |                        |                         |
| Minnesota and Wisconsin.....                                    | 5                        | 156                 | . 451                     |   |                       |                       |                       |                       |                       | 45                    | 109                   |                       | 2                     |                       |                       |                       |                       |                        |                         |
| Virginia and West Virginia.....                                 | 3                        | 27                  | . 277                     |   |                       | 1                     | 20                    | 6                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 113                 | . 214                     | 25  | 40                    | 48                    |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |
| <b>Total.....</b>   | <b>70</b>                | <b>1,873</b>        | <b>. 462</b>              | <b>25</b>   | <b>41</b>             | <b>92</b>             | <b>13</b>             | <b>44</b>             | <b>303</b>            | <b>456</b>            | <b>464</b>            | <b>342</b>            | <b>19</b>             | <b>70</b>             |                       |                       |                       | <b>4</b>               |                         |

**TABLE B.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR OF EMPLOYEES IN SEVEN TYPICAL OCCUPATIONS, 1925, BY STATE—Continued**

| Occupation and State                                       | Number of establishments | Number of employees | Average earnings per hour | Number of employees whose earnings per hour were— |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |                         |  |
|--|--------------------------|---------------------|---------------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|-------------------------|-------------------------|--|
|  |                          |                     |                           | Under 20 cents                                    | 20 and under 25 cents | 25 and under 30 cents | 30 and under 35 cents | 35 and under 40 cents | 40 and under 45 cents | 45 and under 50 cents | 50 and under 55 cents | 55 and under 60 cents | 60 and under 65 cents | 65 and under 70 cents | 70 and under 75 cents | 75 and under 80 cents | 80 and under 90 cents | 90 and under 100 cents | 100 and under 125 cents | 125 and under 150 cents |  |
| <b>MACHINE TENDERS</b>                                     |                          |                     |                           |   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |                         |  |
| Massachusetts  | 4                        | 17                  | \$0.925                   |   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 2                     |                       |                       |                        | 9                       | 6                       |  |
| Connecticut  | 5                        | 21                  | .805                      |   |                       |                       |                       |                       |                       |                       |                       |                       |                       | 3                     |                       | 4                     |                       | 12                     | 2                       |                         |  |
| Maine, New Hampshire, and Vermont                          | 3                        | 16                  | .645                      |   |                       |                       |                       |                       |                       | 2                     |                       |                       | 9                     |                       |                       |                       |                       | 5                      |                         |                         |  |
| New York   | 9                        | 36                  | .779                      |   |                       |                       |                       |                       |                       |                       | 2                     |                       |                       | 5                     |                       | 4                     |                       | 3                      | 17                      | 5                       |  |
| New Jersey and Pennsylvania                                | 8                        | 31                  | .857                      |   |                       |                       |                       |                       | 1                     |                       |                       |                       | 1                     |                       | 1                     |                       | 3                     |                        | 5                       | 14                      |  |
| Ohio   | 7                        | 40                  | .897                      |   |                       |                       |                       |                       |                       |                       | 1                     |                       | 1                     |                       | 1                     |                       | 4                     |                        | 8                       | 15                      |  |
| Indiana  | 5                        | 13                  | .630                      |   |                       |                       |                       |                       |                       |                       | 2                     |                       | 2                     |                       |                       |                       | 5                     |                        | 2                       |                         |  |
| Illinois   | 6                        | 27                  | .895                      |   |                       |                       |                       |                       |                       |                       |                       |                       |                       | 6                     |                       |                       |                       | 3                      |                         |                         |  |
| Michigan   | 8                        | 53                  | .878                      |   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 2                      |                         | 12                      |  |
| Minnesota and Wisconsin                                    | 5                        | 21                  | .790                      |   |                       |                       |                       |                       |                       |                       |                       |                       | 2                     |                       | 3                     |                       | 1                     | 9                      |                         | 31                      |  |
| Virginia and West Virginia                                 | 3                        | 8                   | .498                      |   |                       |                       |                       |                       |                       | 4                     |                       | 2                     | 2                     |                       |                       |                       |                       |                        |                         | 3                       |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 7                        | 17                  | .582                      |   |                       |                       |                       |                       | 1                     | 6                     | 2                     |                       |                       |                       | 3                     | 3                     |                       |                        |                         | 2                       |  |
| <b>Total</b>   | <b>70</b>                | <b>300</b>          | <b>.799</b>               |   |                       |                       |                       |                       |                       | 2                     | 14                    | 7                     | 17                    |                       | 11                    | 15                    | 21                    | 29                     | 78                      | 66                      |  |
| <b>BACK TENDERS</b>  |                          |                     |                           |   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                        |                         |                         |  |
| Massachusetts  | 4                        | 18                  | .666                      |   |                       |                       |                       |                       |                       |                       |                       |                       | 3                     |                       | 6                     |                       | 1                     | 8                      |                         |                         |  |
| Connecticut  | 5                        | 21                  | .613                      |   |                       |                       |                       |                       |                       |                       | 2                     |                       | 10                    |                       | 3                     |                       | 5                     | 1                      |                         |                         |  |
| Maine, New Hampshire, and Vermont                          | 9                        | 38                  | .496                      |   |                       |                       | 4                     |                       |                       |                       | 9                     |                       |                       |                       | 6                     |                       |                       |                        |                         |                         |  |
| New York   | 9                        | 38                  | .620                      |   |                       |                       |                       |                       |                       |                       | 4                     |                       | 10                    |                       | 3                     |                       | 15                    |                        |                         |                         |  |
| New Jersey and Pennsylvania                                | 8                        | 33                  | .613                      |   |                       |                       |                       | 2                     |                       |                       | 4                     |                       | 10                    |                       | 4                     |                       | 9                     | 4                      |                         |                         |  |
| Ohio   | 7                        | 36                  | .645                      |   |                       |                       |                       |                       |                       | 1                     | 6                     |                       | 3                     |                       | 10                    |                       | 4                     |                        |                         | 6                       |  |
| Indiana  | 5                        | 13                  | .473                      |   |                       |                       |                       | 3                     | 2                     |                       | 5                     |                       | 3                     |                       | 3                     |                       |                       |                        |                         |                         |  |
| Illinois   | 6                        | 28                  | .637                      |   |                       |                       |                       |                       |                       |                       | 9                     |                       | 3                     |                       | 3                     |                       |                       |                        | 13                      |                         |  |
| Michigan   | 8                        | 53                  | .625                      |   |                       |                       |                       |                       |                       |                       |                       |                       | 3                     |                       | 3                     |                       |                       |                        |                         |                         |  |
| Minnesota and Wisconsin                                    | 5                        | 21                  | .554                      |   |                       |                       |                       |                       |                       | 2                     | 3                     |                       | 15                    |                       | 44                    |                       | 2                     | 4                      |                         |                         |  |
| Virginia and West Virginia                                 | 3                        | 8                   | .368                      |   |                       |                       | 4                     | 2                     | 2                     |                       |                       |                       |                       |                       |                       |                       | 1                     |                        |                         |                         |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 7                        | 19                  | .430                      |   |                       |                       |                       | 6                     | 2                     |                       | 5                     | 4                     | 1                     | 1                     |                       |                       |                       |                        |                         |                         |  |
| <b>Total</b>   | <b>70</b>                | <b>307</b>          | <b>.582</b>               |   |                       |                       | 14                    | 9                     | 4                     | 26                    | 31                    | 51                    | 81                    | 26                    | 41                    | 5                     | 19                    |                        |                         |                         |  |

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| CUTTER BOYS  |           |              |             |           |           |           |           |           |            |            |            |            |          |          |          |          |   |  |  |  |
|--|-----------|--------------|-------------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|----------|----------|----------|----------|---|--|--|--|
| Massachusetts  | 1         | 9            | .548        |           |           |           |           |           |            |            | 9          |            |          |          |          |          |   |  |  |  |
| Connecticut  | 5         | 59           | .444        |           |           |           |           | 8         | 23         | 7          | 21         |            |          |          |          |          |   |  |  |  |
| Maine, New Hampshire, and Vermont                          | 3         | 33           | .407        |           |           |           | 5         |           | 27         | 1          |            |            |          |          |          |          |   |  |  |  |
| New York   | 8         | 77           | .502        |           |           |           |           |           | 7          | 15         | 28         | 27         |          |          |          |          |   |  |  |  |
| New Jersey and Pennsylvania                                | 7         | 75           | .471        |           |           |           | 10        | 2         |            | 7          | 32         | 24         |          |          |          |          |   |  |  |  |
| Ohio   | 6         | 130          | .490        |           |           |           |           | 1         | 24         | 8          | 70         |            | 14       | 10       | 3        |          |   |  |  |  |
| Indiana  | 2         | 14           | .289        |           |           | 8         | 5         | 1         |            |            |            |            |          |          |          |          |   |  |  |  |
| Illinois   | 5         | 87           | .508        |           |           |           |           |           | 29         | 13         |            | 54         |          |          |          |          |   |  |  |  |
| Michigan   | 8         | 168          | .472        |           |           |           |           |           | 5          | 126        | 36         | 1          |          |          |          |          |   |  |  |  |
| Minnesota and Wisconsin                                    | 4         | 57           | .423        |           |           |           |           | 3         | 41         | 11         | 1          | 1          |          |          |          |          |   |  |  |  |
| Virginia and West Virginia                                 | 3         | 11           | .295        |           |           | 2         | 5         | 4         |            |            |            |            |          |          |          |          |   |  |  |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 5         | 55           | .217        | 12        | 24        | 19        |           |           |            |            |            |            |          |          |          |          |   |  |  |  |
| <b>Total</b>   | <b>57</b> | <b>775</b>   | <b>.446</b> |           |           |           |           |           |            |            |            |            |          |          |          |          |   |  |  |  |
| SCREENMEN  |           |              |             |           |           |           |           |           |            |            |            |            |          |          |          |          |   |  |  |  |
| Massachusetts  | 3         | 10           | .552        |           |           |           |           |           |            |            | 4          | 6          |          |          |          |          |   |  |  |  |
| Connecticut  | 4         | 21           | .458        |           |           |           |           |           |            | 12         | 3          |            |          |          |          |          |   |  |  |  |
| New York   | 6         | 23           | .483        |           |           |           |           |           |            | 5          | 2          | 16         |          |          |          |          |   |  |  |  |
| New Jersey and Pennsylvania                                | 8         | 29           | .485        |           |           |           | 3         |           |            | 2          | 2          | 15         | 6        | 1        |          |          |   |  |  |  |
| Ohio   | 5         | 24           | .550        |           |           |           |           |           |            | 2          | 2          | 15         |          | 1        | 6        |          |   |  |  |  |
| Indiana  | 4         | 10           | .346        |           |           | 2         | 2         |           | 3          | 3          |            |            |          |          |          |          |   |  |  |  |
| Illinois   | 6         | 24           | .507        |           |           |           |           |           | 1          | 2          | 11         | 1          | 6        |          | 3        |          |   |  |  |  |
| Michigan   | 7         | 56           | .500        |           |           |           |           |           | 1          | 6          | 23         | 6          | 21       |          |          |          |   |  |  |  |
| Minnesota and Wisconsin                                    | 5         | 24           | .428        |           |           |           |           |           |            | 15         | 9          |            |          |          |          |          |   |  |  |  |
| Virginia and West Virginia                                 | 1         | 2            | .333        |           |           |           |           | 2         |            |            |            |            |          |          |          |          |   |  |  |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 3         | 8            | .286        |           |           | 6         |           |           | 2          |            |            |            |          |          |          |          |   |  |  |  |
| <b>Total</b>   | <b>52</b> | <b>231</b>   | <b>.472</b> |           |           |           | 11        | 4         | 6          | 45         | 52         | 63         | 39       | 2        | 9        |          |   |  |  |  |
| LABORERS   |           |              |             |           |           |           |           |           |            |            |            |            |          |          |          |          |   |  |  |  |
| Massachusetts  | 4         | 68           | .505        |           |           |           |           |           |            | 7          | 14         | 36         | 11       |          |          |          |   |  |  |  |
| Connecticut  | 5         | 98           | .483        |           |           |           |           |           |            | 31         | 29         | 38         |          |          |          |          |   |  |  |  |
| Maine, New Hampshire, and Vermont                          | 3         | 27           | .366        |           |           |           | 12        | 6         |            | 9          |            |            |          |          |          |          |   |  |  |  |
| New York   | 9         | 225          | .467        |           |           |           |           |           | 1          | 58         | 75         | 88         | 3        |          |          |          |   |  |  |  |
| New Jersey and Pennsylvania                                | 8         | 145          | .493        |           |           |           |           | 2         |            | 32         | 6          | 53         | 51       |          |          |          |   |  |  |  |
| Ohio   | 7         | 230          | .450        |           |           |           |           |           | 29         | 84         | 44         | 58         | 9        | 3        | 3        | 3        |   |  |  |  |
| Indiana  | 5         | 80           | .415        |           |           | 1         | 13        | 1         | 16         | 31         |            | 3          | 6        | 3        | 2        | 3        | 1 |  |  |  |
| Illinois   | 6         | 97           | .451        |           |           |           |           |           | 17         | 34         |            | 14         | 14       | 18       |          |          |   |  |  |  |
| Michigan   | 8         | 228          | .459        |           |           |           |           |           |            | 161        | 18         | 7          | 29       | 1        | 4        | 5        | 1 |  |  |  |
| Minnesota and Wisconsin                                    | 5         | 67           | .409        |           |           |           |           |           | 25         | 30         |            |            |          |          |          |          |   |  |  |  |
| Virginia and West Virginia                                 | 3         | 31           | .273        |           |           | 20        | 11        |           |            |            |            |            |          |          |          |          |   |  |  |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 7         | 165          | .210        | 52        | 62        | 47        | 4         |           |            |            |            |            |          |          |          |          |   |  |  |  |
| <b>Total</b>   | <b>70</b> | <b>1,459</b> | <b>.423</b> | <b>52</b> | <b>63</b> | <b>80</b> | <b>30</b> | <b>95</b> | <b>477</b> | <b>212</b> | <b>297</b> | <b>127</b> | <b>7</b> | <b>9</b> | <b>8</b> | <b>2</b> |   |  |  |  |

TABLE C.—AVERAGE AND CLASSIFIED HOURS ACTUALLY OCCUPATIONS,

| Occupation and State                                       | Number of establishments | Number of employees | Average actual hours worked in two weeks | Number of employees whose hours actually worked in two weeks were— |                      |                      |                      |                      |                 |                      |                 |    |    |              |
|--|--------------------------|---------------------|--|--|----------------------|----------------------|----------------------|----------------------|-----------------|----------------------|-----------------|----|----|--------------|
|  |                          |                     |  | Under 40   | Over 40 and under 48 | Over 48 and under 54 | Over 54 and under 60 | Over 60 and under 66 | 66 and under 72 | Over 72 and under 78 | 78 and under 80 | 80 |    |              |
| <b>HEAD BEATER MEN</b>                                     |                          |                     |  |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Massachusetts  | 4                        | 15                  | 96.8                                     |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Connecticut  | 5                        | 14                  | 102.3                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Maine, New Hampshire, and Vermont                          | 3                        | 8                   | 103.8                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| New York   | 9                        | 29                  | 109.8                                    | 1  |                      |                      |                      |                      |                 |                      |                 |    |    | 2            |
| New Jersey and Pennsylvania                                | 8                        | 23                  | 123.8                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Ohio   | 7                        | 27                  | 95.6                                     | 1  |                      |                      |                      |                      | 1               |                      |                 |    |    | 1            |
| Indiana  | 5                        | 13                  | 136.1                                    |  |                      |                      |                      |                      | 1               |                      |                 |    |    | 1            |
| Illinois   | 6                        | 18                  | 92.6                                     |  |                      |                      |                      |                      |                 |                      |                 |    |    | 1            |
| Michigan   | 8                        | 40                  | 93.8                                     |  |                      |                      |                      |                      |                 | 1                    |                 |    |    | 4            |
| Minnesota and Wisconsin                                    | 5                        | 16                  | 101.4                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Virginia and West Virginia                                 | 3                        | 6                   | 136.3                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 7                        | 18                  | 137.7                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Total  | 70                       | 227                 | 107.6                                    | 1  | 1                    |                      |                      |                      | 1               |                      | 1               |    |    | 1 8          |
| <b>BEATER HELPERS</b>                                      |                          |                     |  |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Massachusetts  | 4                        | 89                  | 97.3                                     | 2  |                      |                      |                      |                      |                 |                      |                 |    |    | 1 1          |
| Connecticut  | 5                        | 159                 | 94.3                                     | 10   | 1                    | 2                    | 2                    | 1                    | 1               | 1                    | 2               | 1  | 1  | 4            |
| Maine, New Hampshire, and Vermont                          | 3                        | 73                  | 96.1                                     | 1  | 1                    | 1                    |                      |                      | 2               |                      | 1               |    |    | 2            |
| New York   | 9                        | 192                 | 103.6                                    | 5  | 1                    | 2                    |                      | 2                    | 2               | 2                    | 2               | 1  | 1  | 24           |
| New Jersey and Pennsylvania                                | 8                        | 211                 | 98.8                                     | 2  | 2                    | 2                    | 3                    | 2                    | 4               | 1                    | 1               | 4  | 1  | 25           |
| Ohio   | 7                        | 243                 | 88.2                                     | 11   | 7                    | 4                    | 1                    | 3                    | 1               | 7                    | 2               | 6  | 1  | 13           |
| Indiana  | 5                        | 64                  | 130.2                                    | 1  |                      |                      |                      |                      |                 |                      |                 |    |    | 1            |
| Illinois   | 6                        | 127                 | 76.6                                     | 14   | 1                    | 1                    |                      | 4                    | 1               | 1                    | 2               | 3  |    | 20           |
| Michigan   | 8                        | 419                 | 78.3                                     | 45   | 11                   | 4                    | 4                    | 8                    | 1               | 13                   | 6               | 23 | 11 | 91           |
| Minnesota and Wisconsin                                    | 5                        | 156                 | 86.4                                     | 10   | 4                    | 4                    |                      | 2                    |                 | 3                    | 5               | 4  | 3  | 6            |
| Virginia and West Virginia                                 | 3                        | 27                  | 118.9                                    | 1  |                      |                      |                      |                      |                 |                      |                 |    |    | 1            |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 7                        | 113                 | 110.3                                    | 17   |                      | 1                    | 3                    |                      | 2               | 1                    |                 | 3  | 1  |              |
| Total  | 70                       | 1,873               | 92.3                                     | 119  | 28                   | 16                   | 9                    | 13                   | 1               | 24                   | 3               | 34 | 18 | 36 28 23 184 |
| <b>MACHINE TENDERS</b>                                     |                          |                     |  |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Massachusetts  | 4                        | 17                  | 105.8                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Connecticut  | 5                        | 21                  | 104.5                                    |  |                      | 1                    |                      |                      |                 |                      | 1               |    |    |              |
| Maine, New Hampshire, and Vermont                          | 3                        | 16                  | 106.7                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    | 1 1          |
| New York   | 9                        | 36                  | 112.6                                    |  |                      |                      |                      |                      |                 | 1                    |                 |    |    | 2            |
| New Jersey and Pennsylvania                                | 8                        | 31                  | 113.9                                    |  |                      |                      |                      |                      |                 | 1                    |                 |    |    | 4            |
| Ohio   | 7                        | 40                  | 108.7                                    |  | 1                    |                      |                      | 1                    |                 | 1                    |                 |    |    |              |
| Indiana  | 5                        | 13                  | 135.0                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Illinois   | 6                        | 27                  | 94.5                                     |  |                      |                      |                      |                      |                 |                      |                 |    |    | 3            |
| Michigan   | 8                        | 53                  | 94.9                                     |  | 1                    | 1                    |                      |                      |                 |                      |                 |    |    | 1 3          |
| Minnesota and Wisconsin                                    | 5                        | 21                  | 105.6                                    |  |                      |                      |                      |                      |                 |                      |                 |    | 1  |              |
| Virginia and West Virginia                                 | 3                        | 8                   | 139.9                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee | 7                        | 17                  | 139.2                                    |  |                      |                      |                      | 1                    |                 |                      |                 |    |    |              |
| Total  | 70                       | 300                 | 108.9                                    |  | 2                    | 1                    | 1                    | 2                    |                 | 2                    | 1               | 1  | 1  | 2 13         |
| <b>BACK TENDERS</b>  |                          |                     |  |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Massachusetts  | 4                        | 18                  | 98.5                                     |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Connecticut  | 5                        | 21                  | 103.4                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |              |
| Maine, New Hampshire, and Vermont                          | 3                        | 19                  | 99.4                                     |  |                      | 1                    |                      | 1                    |                 |                      |                 |    |    |              |
| New York   | 9                        | 38                  | 104.3                                    | 2  |                      |                      |                      | 1                    | 1               | 1                    |                 |    |    | 3            |
| New Jersey and Pennsylvania                                | 8                        | 33                  | 104.4                                    |  |                      |                      |                      | 1                    |                 |                      | 1               | 1  | 1  | 2            |
| Ohio   | 7                        | 36                  | 101.1                                    |  |                      | 1                    |                      |                      |                 |                      |                 |    |    | 1 1          |

WORKED IN TWO WEEKS BY EMPLOYEES IN SEVEN TYPICAL 1925, BY STATE

| Number of employees whose hours actually worked in two weeks were— |                      |                 |                       |                   |                        |                   |                   |     |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
|--|----------------------|-----------------|-----------------------|-------------------|------------------------|-------------------|-------------------|-----|------------------------|-------------------|-------------------|-------------------|-----|------------------------|-------------------|-----|------------------------|-----|----------|----|---|---|---|----|
| Over 80 and under 84   | Over 84 and under 90 | 90 and under 96 | Over 96 and under 102 | 102 and under 108 | Over 108 and under 112 | 112 and under 116 | 116 and under 120 | 120 | Over 120 and under 126 | 126 and under 132 | 132 and under 138 | 138 and under 144 | 144 | Over 144 and under 150 | 150 and under 156 | 156 | Over 156 and under 168 | 168 | Over 168 |    |   |   |   |    |
|  |                      |                 |                       |                   |                        |                   |                   |     |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
|  | 1                    | 2               | 1                     | 11                | 2                      |                   |                   |     | 1                      |                   | 2                 |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
|  |                      |                 | 2                     | 4                 | 1                      |                   |                   |     |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
|  |                      |                 | 6                     |                   |                        |                   |                   |     |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
| 1  |                      | 4               | 2                     | 1                 | 7                      |                   |                   |     | 1                      | 1                 | 1                 | 2                 | 1   | 2                      | 1                 | 1   |                        |     |          |    |   |   |   |    |
| 1  |                      | 2               | 2                     | 4                 |                        |                   |                   |     | 2                      | 2                 | 2                 | 1                 | 1   | 2                      | 1                 | 1   | 3                      |     |          |    |   |   |   |    |
| 2  |                      | 5               | 7                     | 3                 | 2                      |                   |                   |     | 2                      | 3                 | 3                 |                   |     |                        |                   |     |                        |     | 3        |    |   |   |   |    |
| 1  |                      | 1               |                       | 1                 | 1                      |                   |                   | 1   |                        |                   | 2                 |                   |     | 1                      | 1                 |     |                        |     |          |    |   |   |   |    |
| 4  | 1                    | 2               | 6                     | 4                 | 3                      | 1                 |                   |     | 2                      |                   |                   |                   |     |                        | 2                 |     |                        |     |          |    |   |   |   |    |
| 5  |                      | 15              | 6                     | 1                 | 3                      |                   |                   |     | 1                      |                   |                   |                   |     |                        | 2                 |     |                        |     |          |    |   |   |   |    |
|  |                      | 4               | 1                     |                   | 1                      |                   |                   |     | 1                      |                   |                   |                   |     | 2                      | 1                 |     |                        |     |          |    |   |   |   |    |
|  |                      |                 |                       | 1                 |                        |                   |                   |     |                        |                   |                   |                   |     | 1                      |                   |     |                        |     |          |    |   |   |   |    |
|  |                      |                 |                       |                   | 1                      |                   |                   |     | 2                      | 7                 |                   | 1                 | 1   |                        | 4                 |     | 2                      |     |          |    |   |   |   |    |
| 14   | 2                    | 35              | 27                    | 26                | 17                     | 16                |                   |     | 4                      | 1                 |                   |                   |     | 9                      | 15                | 10  | 4                      | 5   | 7        | 10 | 3 | 6 | 3 |    |
|  |                      |                 |                       |                   |                        |                   |                   |     |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
| 3  | 3                    | 4               | 7                     | 35                | 13                     | 18                |                   | 2   | 2                      |                   | 2                 |                   |     | 2                      |                   |     |                        |     |          |    |   |   |   | 1  |
|  |                      | 21              | 30                    | 17                | 12                     | 3                 |                   | 4   | 5                      | 4                 |                   |                   |     | 3                      | 21                |     |                        |     |          |    |   |   |   |    |
|  |                      | 3               | 2                     | 37                | 2                      | 9                 |                   | 1   | 2                      | 1                 | 3                 | 4                 | 1   |                        |                   |     |                        |     |          |    |   |   |   | 2  |
| 4  |                      | 19              | 13                    | 14                | 7                      | 15                | 1                 | 1   | 5                      | 3                 | 4                 | 4                 | 32  | 9                      |                   | 9   | 3                      |     |          |    |   |   |   | 2  |
| 4  | 6                    | 47              | 19                    | 12                | 16                     | 7                 |                   | 3   | 4                      | 2                 | 2                 | 2                 | 3   | 2                      | 4                 |     |                        |     |          |    |   |   |   | 2  |
| 23   | 2                    | 47              | 31                    | 7                 | 28                     |                   |                   | 3   | 1                      | 3                 |                   | 5                 | 20  | 8                      |                   |     |                        |     |          |    |   |   |   | 2  |
|  | 1                    | 5               | 3                     | 1                 | 2                      |                   |                   | 1   |                        | 4                 |                   | 4                 | 7   | 2                      | 9                 |     |                        |     |          |    |   |   |   | 1  |
| 23   | 2                    | 17              | 14                    | 14                | 4                      | 3                 |                   | 1   |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   | 3  |
| 28   | 9                    | 66              | 10                    | 8                 | 17                     | 19                | 2                 | 4   | 8                      | 3                 | 4                 | 1                 | 6   | 1                      | 1                 |     |                        |     |          |    |   |   |   | 3  |
| 22   |                      | 37              | 7                     | 3                 | 6                      | 3                 | 1                 | 8   | 3                      | 6                 | 1                 | 10                | 5   | 4                      | 1                 | 6   |                        |     |          |    |   |   |   | 3  |
|  |                      |                 |                       |                   | 1                      | 1                 |                   | 2   |                        | 3                 | 1                 | 6                 | 5   | 4                      |                   | 1   |                        |     |          |    |   |   |   |    |
| 1  |                      |                 |                       |                   | 1                      | 1                 |                   | 1   | 5                      | 3                 | 8                 | 4                 | 18  | 5                      | 8                 | 5   | 11                     | 5   | 1        | 6  |   |   |   | 2  |
| 108  | 23                   | 266             | 136                   | 148               | 109                    | 79                | 5                 | 29  | 36                     | 28                | 28                | 38                | 94  | 59                     | 16                | 30  | 37                     | 27  | 8        | 19 |   |   |   | 14 |
|  |                      |                 |                       |                   |                        |                   |                   |     |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
| 1  |                      | 4               | 4                     | 7                 | 3                      | 1                 |                   |     | 1                      |                   | 1                 |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
|  |                      |                 |                       |                   |                        |                   |                   |     |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
| 1  | 1                    | 7               | 3                     | 1                 | 1                      | 3                 |                   | 1   | 1                      | 1                 |                   | 2                 | 2   | 1                      | 2                 | 2   |                        |     |          |    |   |   |   |    |
| 1  |                      | 3               | 5                     |                   | 2                      | 2                 |                   | 1   |                        |                   |                   | 2                 | 3   | 3                      |                   |     |                        |     |          |    |   |   |   | 1  |
| 1  |                      | 4               | 6                     |                   | 4                      | 4                 |                   | 1   |                        | 2                 |                   |                   | 8   | 4                      | 4                 |     |                        |     |          |    |   |   |   | 1  |
|  |                      | 3               | 7                     | 5                 | 3                      | 3                 |                   | 1   | 1                      |                   |                   |                   |     | 3                      | 3                 |     |                        |     |          |    |   |   |   | 1  |
| 7  |                      | 15              | 5                     | 3                 | 6                      | 4                 |                   | 1   | 1                      |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
|  |                      | 4               | 4                     | 1                 | 4                      |                   |                   | 1   |                        |                   |                   |                   |     | 1                      | 1                 |     |                        |     |          |    |   |   |   |    |
|  |                      |                 |                       |                   |                        |                   |                   |     |                        |                   |                   |                   |     | 2                      | 1                 |     |                        |     |          |    |   |   |   |    |
|  |                      |                 |                       |                   | 1                      |                   |                   |     |                        |                   |                   |                   |     | 1                      |                   |     |                        |     |          |    |   |   |   |    |
| 11   | 1                    | 40              | 36                    | 24                | 28                     | 18                |                   | 7   | 3                      | 5                 | 2                 | 8                 | 11  | 19                     | 16                | 7   | 11                     | 5   | 1        | 18 |   |   |   | 3  |
|  |                      |                 |                       |                   |                        |                   |                   |     |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
| 1  |                      | 1               | 1                     | 7                 | 5                      | 4                 |                   |     |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
|  |                      | 2               | 4                     | 3                 | 4                      | 1                 |                   |     |                        |                   |                   |                   |     | 4                      |                   |     |                        |     |          |    |   |   |   |    |
| 1  |                      | 8               | 1                     | 1                 | 1                      | 1                 |                   | 8   | 1                      | 1                 |                   | 1                 |     | 3                      | 3                 | 2   | 3                      | 1   |          |    |   |   |   |    |
| 1  | 1                    | 3               | 8                     | 1                 | 2                      | 2                 |                   | 2   |                        |                   |                   |                   |     |                        |                   |     |                        |     |          |    |   |   |   |    |
| 3  |                      | 6               | 4                     | 1                 | 5                      | 4                 |                   | 2   |                        |                   |                   |                   |     | 3                      |                   |     | 1                      |     |          |    |   |   |   | 4  |

TABLE C.—AVERAGE AND CLASSIFIED HOURS ACTUALLY OCCUPATIONS, 1925,

| Occupation and State  | Number of establishments | Number of employees | Average actual hours worked in two weeks | Number of employees whose hours actually worked in two weeks were— |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
|---|--------------------------|---------------------|--|--|----------------------|----------------------|----------------------|----------------------|-----------------|----------------------|-----------------|----|----|----|----|
|   |                          |                     |  | Under 40   | Over 40 and under 48 | Over 48 and under 54 | Over 54 and under 60 | Over 60 and under 66 | 66 and under 72 | Over 72 and under 76 | 76 and under 80 | 80 |    |    |    |
|   |                          |                     |  |  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| <b>BACK TENDERS—continued</b>                                   |                          |                     |  |  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Indiana.....  | 5                        | 18                  | 136.3                                    |  |                      |                      |                      |                      |                 |                      |                 |    | 1  |    |    |
| Illinois.....   | 6                        | 28                  | 88.4                                     | 1  | 1                    |                      | 1                    |                      |                 |                      |                 |    |    |    | 4  |
| Michigan.....   | 8                        | 53                  | 91.6                                     |  |                      |                      |                      |                      |                 |                      |                 | 1  |    | 2  | 7  |
| Minnesota and Wisconsin.....                                    | 5                        | 21                  | 104.0                                    | 1  |                      |                      |                      |                      |                 |                      |                 |    |    |    | 1  |
| Virginia and West Virginia.....                                 | 3                        | 8                   | 133.1                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 19                  | 135.4                                    | 1  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Total.....  | 70                       | 307                 | 103.6                                    | 5  | 1                    | 2                    | 2                    | 2                    | 1               | 2                    | 2               | 2  | 4  | 17 |    |
| <b>CUTTER BOYS</b>  |                          |                     |  |  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Massachusetts.....  | 1                        | 9                   | 95.8                                     |  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Connecticut.....  | 5                        | 59                  | 88.6                                     | 4  | 1                    | 1                    | 2                    | 2                    |                 |                      |                 |    | 3  | 1  |    |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 33                  | 80.7                                     | 3  | 1                    | 1                    |                      | 1                    | 2               | 1                    | 2               |    |    | 1  | 2  |
| New York.....   | 8                        | 77                  | 95.8                                     | 3  |                      |                      |                      | 1                    | 2               | 1                    | 3               |    |    | 1  | 5  |
| New Jersey and Pennsylvania.....                                | 7                        | 75                  | 91.9                                     | 5  | 1                    | 1                    | 2                    |                      | 2               | 1                    | 1               | 3  | 3  | 1  | 9  |
| Ohio.....   | 6                        | 180                 | 90.6                                     | 9  |                      | 1                    | 1                    | 1                    |                 | 5                    | 1               | 2  | 3  | 3  | 6  |
| Indiana.....  | 2                        | 14                  | 110.3                                    | 3  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Illinois.....   | 8                        | 87                  | 73.9                                     | 14   | 4                    | 1                    | 2                    |                      |                 | 3                    | 2               | 2  | 2  | 3  | 12 |
| Michigan.....   | 5                        | 168                 | 85.4                                     | 10   | 1                    | 1                    | 2                    | 1                    | 2               |                      | 2               | 4  | 4  | 4  | 18 |
| Minnesota and Wisconsin.....                                    | 4                        | 57                  | 87.9                                     | 4  |                      | 1                    | 1                    | 1                    |                 | 1                    | 1               | 3  | 4  | 1  |    |
| Virginia and West Virginia.....                                 | 3                        | 11                  | 105.2                                    | 2  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 5                        | 55                  | 111.1                                    | 6  |                      | 1                    |                      | 1                    |                 |                      |                 |    |    |    | 1  |
| Total.....  | 57                       | 775                 | 89.4                                     | 63   | 8                    | 7                    | 7                    | 7                    | 1               | 9                    | 15              | 6  | 16 | 18 | 20 |
| <b>SCREENMEN</b>  |                          |                     |  |  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Massachusetts.....  | 3                        | 10                  | 92.8                                     |  |                      | 1                    | 1                    |                      |                 |                      |                 |    |    |    |    |
| Connecticut.....  | 4                        | 21                  | 102.7                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| New York.....   | 6                        | 23                  | 111.3                                    |  |                      |                      |                      |                      |                 | 1                    |                 | 1  |    |    |    |
| New Jersey and Pennsylvania.....                                | 8                        | 29                  | 112.8                                    | 1  |                      |                      |                      |                      |                 |                      |                 |    |    |    | 2  |
| Ohio.....   | 5                        | 24                  | 89.5                                     | 1  |                      |                      |                      |                      |                 |                      |                 |    |    |    | 2  |
| Indiana.....  | 4                        | 10                  | 100.7                                    | 1  |                      | 1                    |                      |                      |                 |                      | 1               |    |    |    |    |
| Illinois.....   | 6                        | 24                  | 93.4                                     |  |                      |                      |                      |                      |                 |                      | 1               |    |    |    | 1  |
| Michigan.....   | 7                        | 56                  | 74.3                                     | 7  |                      | 1                    |                      |                      | 1               | 2                    | 3               | 5  | 1  |    | 3  |
| Minnesota and Wisconsin.....                                    | 5                        | 24                  | 99.4                                     |  |                      |                      |                      |                      |                 |                      |                 |    |    |    | 1  |
| Virginia and West Virginia.....                                 | 1                        | 2                   | 114.0                                    |  |                      |                      |                      |                      |                 |                      |                 | 1  |    |    | 2  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 3                        | 8                   | 141.2                                    |  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Total.....  | 52                       | 231                 | 96.2                                     | 10   |                      | 2                    | 2                    | 1                    | 1               | 3                    | 5               | 7  | 1  | 1  | 10 |
| <b>LABORERS</b>   |                          |                     |  |  |                      |                      |                      |                      |                 |                      |                 |    |    |    |    |
| Massachusetts.....  | 4                        | 68                  | 95.2                                     | 3  |                      | 1                    | 3                    | 1                    | 1               |                      |                 |    |    |    | 2  |
| Connecticut.....  | 5                        | 98                  | 100.7                                    | 5  |                      | 1                    | 2                    |                      | 2               | 1                    |                 |    |    | 1  | 3  |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 27                  | 94.5                                     | 1  |                      | 1                    |                      | 1                    |                 |                      |                 | 1  |    |    |    |
| New York.....   | 9                        | 225                 | 104.6                                    | 12   |                      | 2                    | 1                    | 1                    | 3               | 1                    | 3               |    | 6  | 1  | 3  |
| New Jersey and Pennsylvania.....                                | 8                        | 145                 | 106.8                                    | 4  |                      |                      | 2                    | 1                    | 2               | 4                    | 1               | 4  |    | 3  | 2  |
| Ohio.....   | 7                        | 230                 | 101.6                                    | 10   | 2                    | 3                    | 1                    | 1                    | 3               | 4                    | 2               | 4  |    | 5  | 7  |
| Indiana.....  | 5                        | 80                  | 116.1                                    | 4  |                      | 1                    |                      |                      |                 |                      |                 | 1  |    |    | 1  |
| Illinois.....   | 6                        | 97                  | 95.4                                     | 10   | 1                    | 1                    |                      |                      | 2               | 1                    | 2               |    |    |    | 2  |
| Michigan.....   | 8                        | 226                 | 84.9                                     | 29   |                      | 4                    |                      | 7                    | 2               | 5                    | 7               | 4  | 5  | 3  | 4  |
| Minnesota and Wisconsin.....                                    | 5                        | 67                  | 101.7                                    | 6  |                      | 1                    |                      | 2                    |                 |                      |                 |    |    |    |    |
| Virginia and West Virginia.....                                 | 3                        | 31                  | 113.6                                    | 2  |                      |                      |                      |                      |                 | 1                    |                 |    |    |    |    |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 165                 | 109.4                                    | 8  |                      | 2                    |                      | 1                    | 1               | 3                    | 3               | 4  | 8  |    | 5  |
| Total.....  | 70                       | 1,459               | 101.0                                    | 94   | 3                    | 17                   | 7                    | 16                   | 5               | 18                   | 16              | 19 | 22 | 13 | 21 |



TABLE D.—AVERAGE AND CLASSIFIED AMOUNTS ACTUALLY OCCUPATIONS,

| Occupation and State  | Number of establishments | Number of employees | Average amt't actually earned in two weeks | Number of employees whose actual earnings in two weeks were— |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
|---|--------------------------|---------------------|--|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----|--|
|   |                          |                     |  | Under \$15   | \$15 and under \$20 | \$20 and under \$25 | \$25 and under \$30 | \$30 and under \$35 | \$35 and under \$40 | \$40 and under \$45 | \$45 and under \$50 | \$50 and under \$55 |    |  |
|   |                          |                     |  |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| <b>HEAD BEATER MEN</b>  |                          |                     |  |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Massachusetts.....  | 4                        | 15                  | \$78.04                                    |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Connecticut.....  | 5                        | 14                  | 74.97                                      |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 8                   | 58.48                                      |  |                     |                     |                     |                     |                     | 2                   |                     |                     |    |  |
| New York.....   | 9                        | 29                  | 77.36                                      |  |                     | 1                   |                     |                     |                     |                     |                     | 2                   |    |  |
| New Jersey and Pennsylvania.....                                | 8                        | 23                  | 85.41                                      |  |                     |                     |                     |                     |                     |                     |                     | 2                   |    |  |
| Ohio.....   | 7                        | 27                  | 72.91                                      |  | 1                   |                     |                     |                     |                     |                     |                     | 2                   |    |  |
| Indiana.....  | 5                        | 13                  | 66.91                                      |  |                     |                     |                     | 1                   |                     | 1                   |                     | 2                   |    |  |
| Illinois.....   | 6                        | 18                  | 67.78                                      |  |                     |                     |                     |                     |                     |                     |                     | 2                   |    |  |
| Michigan.....   | 8                        | 40                  | 71.93                                      |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Minnesota and Wisconsin.....                                    | 5                        | 16                  | 60.06                                      |  |                     |                     |                     |                     |                     | 3                   | 1                   | 2                   |    |  |
| Virginia and West Virginia.....                                 | 3                        | 6                   | 48.29                                      |  |                     |                     |                     | 1                   |                     |                     | 3                   |                     |    |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 18                  | 69.77                                      |  |                     |                     |                     |                     |                     |                     |                     | 3                   |    |  |
| <b>Total.....</b>   | <b>70</b>                | <b>227</b>          | <b>71.97</b>                               |  | <b>1</b>            | <b>1</b>            |                     | <b>2</b>            |                     | <b>6</b>            | <b>6</b>            | <b>14</b>           |    |  |
| <b>BEATER HELPERS</b>   |                          |                     |  |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Massachusetts.....  | 4                        | 89                  | 52.98                                      | 2  |                     |                     |                     |                     |                     |                     | 2                   | 14                  | 41 |  |
| Connecticut.....  | 5                        | 159                 | 41.42                                      | 9  | 3                   | 7                   | 2                   | 6                   | 26                  | 27                  | 48                  | 25                  |    |  |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 73                  | 40.27                                      | 1  | 2                   | 1                   | 2                   | 4                   | 32                  | 9                   | 20                  | 2                   |    |  |
| New York.....   | 9                        | 192                 | 50.06                                      | 4  | 2                   | 3                   | 4                   | 2                   | 3                   | 33                  | 45                  | 27                  |    |  |
| New Jersey and Pennsylvania.....                                | 8                        | 211                 | 51.08                                      |  | 2                   | 4                   | 5                   | 3                   | 7                   | 51                  | 32                  | 47                  |    |  |
| Ohio.....   | 7                        | 243                 | 48.66                                      | 10   | 2                   | 10                  | 2                   | 8                   | 11                  | 28                  | 41                  | 52                  |    |  |
| Indiana.....  | 5                        | 64                  | 48.78                                      |  |                     |                     |                     | 3                   | 11                  | 13                  | 5                   | 13                  |    |  |
| Illinois.....   | 6                        | 127                 | 38.59                                      | 12   | 4                   | 1                   | 4                   | 9                   | 15                  | 49                  | 28                  | 3                   |    |  |
| Michigan.....   | 8                        | 419                 | 37.55                                      | 41   | 12                  | 12                  | 16                  | 21                  | 33                  | 139                 | 53                  | 22                  |    |  |
| Minnesota and Wisconsin.....                                    | 5                        | 156                 | 38.90                                      | 9  | 7                   | 2                   | 4                   | 12                  | 54                  | 28                  | 17                  | 10                  |    |  |
| Virginia and West Virginia.....                                 | 8                        | 27                  | 32.97                                      | 1  |                     | 1                   | 4                   | 8                   | 11                  | 2                   |                     |                     |    |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 113                 | 23.59                                      | 21   | 9                   | 14                  | 38                  | 23                  | 8                   |                     |                     |                     |    |  |
| <b>Total.....</b>   | <b>70</b>                | <b>1,873</b>        | <b>42.62</b>                               | <b>111</b>   | <b>43</b>           | <b>55</b>           | <b>81</b>           | <b>99</b>           | <b>261</b>          | <b>381</b>          | <b>303</b>          | <b>242</b>          |    |  |
| <b>MACHINE TENDERS</b>  |                          |                     |  |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Massachusetts.....  | 4                        | 17                  | 97.78                                      |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Connecticut.....  | 5                        | 21                  | 84.13                                      |  |                     |                     |                     |                     | 1                   |                     |                     |                     |    |  |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 16                  | 68.83                                      |  |                     |                     |                     |                     |                     |                     | 1                   | 7                   |    |  |
| New York.....   | 9                        | 36                  | 87.64                                      |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| New Jersey and Pennsylvania.....                                | 8                        | 31                  | 97.53                                      |  |                     |                     |                     |                     |                     |                     | 1                   |                     |    |  |
| Ohio.....   | 7                        | 40                  | 97.48                                      |  |                     |                     |                     |                     |                     |                     |                     | 1                   |    |  |
| Indiana.....  | 5                        | 13                  | 85.14                                      |  |                     |                     |                     |                     | 1                   |                     |                     |                     |    |  |
| Illinois.....   | 6                        | 27                  | 84.64                                      |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Michigan.....   | 8                        | 33                  | 83.39                                      |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Minnesota and Wisconsin.....                                    | 5                        | 21                  | 83.41                                      |  |                     |                     |                     |                     | 1                   | 1                   |                     |                     |    |  |
| Virginia and West Virginia.....                                 | 3                        | 8                   | 69.64                                      |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 17                  | 81.00                                      |  |                     | 1                   |                     |                     |                     |                     |                     |                     |    |  |
| <b>Total.....</b>   | <b>70</b>                | <b>300</b>          | <b>87.02</b>                               |  |                     | <b>1</b>            |                     | <b>1</b>            | <b>2</b>            | <b>2</b>            | <b>2</b>            | <b>8</b>            |    |  |
| <b>BACK TENDERS</b>   |                          |                     |  |  |                     |                     |                     |                     |                     |                     |                     |                     |    |  |
| Massachusetts.....  | 4                        | 18                  | 65.60                                      |  |                     |                     |                     |                     |                     |                     |                     | 1                   |    |  |
| Connecticut.....  | 5                        | 21                  | 63.42                                      |  |                     |                     |                     |                     |                     |                     | 3                   | 2                   |    |  |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 19                  | 49.24                                      |  |                     | 1                   |                     | 2                   | 1                   | 2                   | 6                   | 1                   |    |  |
| New York.....   | 9                        | 38                  | 64.69                                      | 1  | 1                   |                     |                     |                     |                     | 2                   | 2                   | 1                   |    |  |
| New Jersey and Pennsylvania.....                                | 8                        | 33                  | 64.02                                      |  |                     |                     |                     |                     | 1                   |                     | 4                   | 2                   |    |  |
| Ohio.....   | 7                        | 36                  | 65.21                                      |  |                     |                     |                     |                     | 1                   |                     | 1                   | 2                   |    |  |
| Indiana.....  | 5                        | 13                  | 64.50                                      |  |                     |                     |                     |                     |                     | 1                   |                     | 2                   |    |  |
| Illinois.....   | 6                        | 28                  | 56.24                                      | 1  |                     |                     |                     | 1                   |                     | 1                   | 9                   | 3                   |    |  |
| Michigan.....   | 8                        | 53                  | 57.19                                      |  |                     |                     |                     |                     |                     |                     | 6                   | 16                  |    |  |
| Minnesota and Wisconsin.....                                    | 5                        | 21                  | 57.60                                      | 1  |                     |                     |                     |                     |                     | 2                   | 5                   | 3                   |    |  |
| Virginia and West Virginia.....                                 | 3                        | 8                   | 48.94                                      |  |                     |                     |                     |                     |                     | 3                   | 2                   | 1                   |    |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 19                  | 58.18                                      | 1  |                     |                     |                     |                     | 1                   |                     |                     | 5                   |    |  |
| <b>Total.....</b>   | <b>70</b>                | <b>307</b>          | <b>60.32</b>                               | <b>4</b>   | <b>1</b>            | <b>1</b>            |                     | <b>4</b>            | <b>3</b>            | <b>11</b>           | <b>38</b>           | <b>40</b>           |    |  |



TABLE D.—AVERAGE AND CLASSIFIED AMOUNTS ACTUALLY OCCUPATIONS, 1925,

| Occupation and State  | Number of establishments | Number of employees | Average amt't actually earned in two weeks | Number of employees whose actual earnings in two weeks were— |                     |                     |                     |                     |                     |                     |                     |                     |   |  |
|---|--------------------------|---------------------|--|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---|--|
|   |                          |                     |  | Under \$15   | \$15 and under \$20 | \$20 and under \$25 | \$25 and under \$30 | \$30 and under \$35 | \$35 and under \$40 | \$40 and under \$45 | \$45 and under \$50 | \$50 and under \$55 |   |  |
|   |                          |                     |  |  |                     |                     |                     |                     |                     |                     |                     |                     |   |  |
| <b>CUTTER BOYS</b>  |                          |                     |  |  |                     |                     |                     |                     |                     |                     |                     |                     |   |  |
| Massachusetts.....  | 1                        | 9                   | \$52.51                                    |  |                     |                     |                     |                     |                     |                     |                     | 2                   | 5 |  |
| Connecticut.....  | 5                        | 59                  | 39.30                                      | 4  |                     | 3                   | 3                   | 6                   | 12                  | 6                   | 13                  | 10                  |   |  |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 33                  | 32.84                                      |  | 5                   | 2                   | 2                   | 6                   | 8                   | 8                   | 1                   |                     |   |  |
| New York.....   | 8                        | 77                  | 48.04                                      | 2  | 1                   | 1                   | 1                   | 3                   | 5                   | 15                  | 17                  | 10                  |   |  |
| New Jersey and Pennsylvania.....                                | 7                        | 75                  | 43.27                                      |  | 4                   | 1                   | 5                   | 1                   | 7                   | 23                  | 17                  | 7                   |   |  |
| Ohio.....   | 6                        | 130                 | 45.19                                      | 8  | 2                   | 3                   | 2                   | 2                   | 8                   | 16                  | 35                  | 30                  |   |  |
| Indiana.....  | 2                        | 14                  | 31.92                                      |  |                     | 1                   |                     |                     | 7                   | 1                   | 1                   | 1                   |   |  |
| Illinois.....   | 5                        | 87                  | 37.08                                      | 12   | 3                   | 5                   | 3                   | 1                   | 13                  | 24                  | 17                  | 8                   |   |  |
| Michigan.....   | 8                        | 168                 | 40.29                                      | 9  | 3                   | 4                   | 1                   | 7                   | 53                  | 45                  | 24                  | 9                   |   |  |
| Minnesota and Wisconsin.....                                    | 4                        | 57                  | 37.16                                      | 4  | 1                   | 2                   | 2                   | 17                  | 12                  | 5                   | 3                   | 4                   |   |  |
| Virginia and West Virginia.....                                 | 3                        | 11                  | 31.05                                      | 2  |                     | 1                   | 1                   | 1                   | 2                   | 1                   | 3                   |                     |   |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 5                        | 55                  | 24.12                                      | 8  | 5                   | 18                  | 8                   | 6                   | 10                  |                     |                     |                     |   |  |
| Total.....  | 57                       | 775                 | 39.90                                      | 57   | 21                  | 45                  | 24                  | 50                  | 137                 | 144                 | 133                 | 84                  |   |  |
| <b>SCREENMEN</b>  |                          |                     |  |  |                     |                     |                     |                     |                     |                     |                     |                     |   |  |
| Massachusetts.....  | 3                        | 10                  | 51.26                                      |  |                     | 1                   | 1                   |                     |                     |                     | 2                   | 1                   |   |  |
| Connecticut.....  | 4                        | 21                  | 47.01                                      |  |                     |                     |                     |                     | 4                   | 8                   | 8                   | 1                   |   |  |
| New York.....   | 6                        | 23                  | 53.73                                      |  |                     |                     |                     | 1                   | 2                   |                     | 10                  |                     |   |  |
| New Jersey and Pennsylvania.....                                | 8                        | 29                  | 54.73                                      | 1  |                     |                     | 1                   |                     | 1                   | 7                   | 2                   | 3                   |   |  |
| Ohio.....   | 5                        | 24                  | 49.26                                      |  | 1                   |                     |                     |                     |                     | 6                   | 7                   | 2                   |   |  |
| Indiana.....  | 4                        | 10                  | 34.86                                      | 1  | 2                   |                     | 1                   |                     |                     | 2                   | 2                   | 2                   |   |  |
| Illinois.....   | 6                        | 24                  | 47.32                                      |  |                     |                     | 1                   |                     | 1                   | 6                   | 11                  | 2                   |   |  |
| Michigan.....   | 7                        | 55                  | 37.16                                      | 7  | 1                   | 1                   | 2                   | 5                   | 10                  | 12                  | 15                  | 2                   |   |  |
| Minnesota and Wisconsin.....                                    | 5                        | 24                  | 42.57                                      |  |                     |                     |                     | 3                   | 13                  | 2                   | 1                   | 2                   |   |  |
| Virginia and West Virginia.....                                 | 1                        | 2                   | 38.00                                      |  |                     | 1                   |                     |                     |                     |                     |                     | 1                   |   |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 3                        | 8                   | 40.38                                      |  |                     | 1                   |                     | 2                   | 1                   |                     | 3                   | 1                   |   |  |
| Total.....  | 52                       | 231                 | 45.41                                      | 9  | 4                   | 4                   | 6                   | 11                  | 32                  | 38                  | 61                  | 17                  |   |  |
| <b>LABORERS</b>   |                          |                     |  |  |                     |                     |                     |                     |                     |                     |                     |                     |   |  |
| Massachusetts.....  | 4                        | 68                  | 48.11                                      | 1  | 3                   | 4                   | 1                   |                     |                     | 7                   | 17                  | 18                  |   |  |
| Connecticut.....  | 5                        | 98                  | 46.64                                      | 2  | 4                   | 3                   | 1                   | 2                   | 7                   | 27                  | 11                  | 17                  |   |  |
| Maine, New Hampshire, and Vermont.....                          | 3                        | 27                  | 34.58                                      | 1  | 1                   | 3                   | 1                   | 1                   | 12                  | 7                   |                     | 1                   |   |  |
| New York.....   | 9                        | 225                 | 48.85                                      | 11   | 2                   | 2                   | 4                   | 8                   | 17                  | 29                  | 39                  | 40                  |   |  |
| New Jersey and Pennsylvania.....                                | 8                        | 145                 | 52.66                                      | 4  | 1                   | 2                   | 5                   | 6                   | 5                   | 11                  | 11                  | 18                  |   |  |
| Ohio.....   | 7                        | 230                 | 45.75                                      | 10   | 3                   | 8                   | 11                  | 4                   | 7                   | 37                  | 63                  | 41                  |   |  |
| Indiana.....  | 5                        | 80                  | 45.71                                      | 4  | 1                   |                     | 1                   | 2                   | 8                   | 29                  | 11                  | 6                   |   |  |
| Illinois.....   | 6                        | 97                  | 43.08                                      | 10   | 1                   | 1                   | 3                   | 5                   | 5                   | 17                  | 25                  | 14                  |   |  |
| Michigan.....   | 8                        | 226                 | 38.95                                      | 27   | 5                   | 11                  | 19                  | 15                  | 42                  | 40                  | 20                  | 9                   |   |  |
| Minnesota and Wisconsin.....                                    | 5                        | 67                  | 41.61                                      | 6  | 2                   | 1                   |                     |                     | 1                   | 13                  | 21                  | 7                   |   |  |
| Virginia and West Virginia.....                                 | 3                        | 31                  | 31.05                                      | 2  | 1                   | 2                   | 4                   | 8                   | 13                  | 1                   |                     |                     |   |  |
| Alabama, Georgia, Louisiana, South Carolina, and Tennessee..... | 7                        | 165                 | 23.00                                      | 31   | 18                  | 27                  | 61                  | 23                  | 5                   |                     |                     |                     |   |  |
| Total.....  | 70                       | 1,459               | 42.71                                      | 109  | 42                  | 64                  | 111                 | 75                  | 134                 | 226                 | 204                 | 169                 |   |  |

EARNED IN TWO WEEKS BY EMPLOYEES IN SEVEN TYPICAL BY STATE—Continued

| Number of employees whose actual earnings in two weeks were— |                     |                     |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| \$55 and under \$60  | \$60 and under \$65 | \$65 and under \$70 | \$70 and under \$75 | \$75 and under \$80 | \$80 and under \$85 | \$85 and under \$90 | \$90 and under \$95 | \$95 and under \$100 | \$100 and under \$105 | \$105 and under \$110 | \$110 and under \$115 | \$115 and under \$120 | \$120 and under \$125 | \$125 and under \$130 | \$130 and under \$135 | \$135 and under \$140 | \$140 and under \$145 | \$145 and under \$150 | \$150 and over |
| 2  |                     |                     |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 7  | 12                  | 2                   |                     | 1                   |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 8  |                     |                     | 3                   | 3                   |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 12   | 11                  | 1                   |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 1  |                     |                     |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 9  |                     | 1                   | 3                   |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 6  | 1                   |                     |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 42   | 24                  | 4                   | 6                   | 4                   |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 3  | 1                   |                     | 1                   |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 5  |                     |                     |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 2  | 3                   | 2                   | 3                   |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 2  | 3                   | 3                   | 3                   | 1                   | 2                   |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 3  | 5                   |                     |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 1  | 1                   | 1                   |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 1  |                     |                     |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
|  | 1                   | 2                   |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 17   | 14                  | 8                   | 7                   | 1                   | 2                   |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 8  | 5                   | 4                   |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 6  | 15                  | 3                   |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 32   | 19                  | 8                   | 6                   | 7                   |                     | 1                   |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 42   | 23                  | 8                   | 2                   | 3                   | 3                   |                     | 1                   |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 23   | 17                  | 3                   |                     | 3                   |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 1  | 3                   | 2                   | 4                   | 4                   |                     | 3                   | 1                   |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 5  | 11                  |                     |                     |                     |                     |                     |                     | 1                    |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 7  | 6                   | 16                  | 1                   |                     | 7                   |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 4  | 7                   |                     |                     |                     |                     |                     |                     |                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |
| 128  | 106                 | 4                   | 13                  | 17                  | 10                  | 4                   | 2                   | 1                    |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                |

## GENERAL PROCESSES OF MANUFACTURE

The principal material used in the manufacture of paper box board is waste paper, of which there are several grades. In the manufacture of the better grades of board some wood pulp is used, but in only two or three of the mills covered in this study is wood pulp used exclusively or to a very large extent.

The paper-stock warehouse supplies the raw material to the beaters in the beater room, while the beater room furnishes prepared pulp fibers ready for making into the separate layers constituting multicylinder-machine made paper board.

The beaters, large oval tanklike machines, about 25 feet long by 11 feet wide, hold from about 1,200 to 1,800 pounds of completed stock. Into these beaters are fed the various other ingredients of the paper board, as coloring matter, size and alum for waterproofing and stiffening, and special material as fillers and stiffeners. The machines require intelligent and experienced supervision.

After the stock leaves the beaters the next operation is treatment in the Jordan engine or some other type of refiner. The Jordan engine consists of a conical cast-iron shell, the inside of which is fitted with long, narrow steel bars, and rotating inside this conical shell is a conical casting called the "plug" or runner, the outside surface of which is fitted with long, narrow steel bars or knives. These engines weigh several tons and the driving power required varies with the grade of paper board being made. Kraft and jute stock take considerably more power than any other kind on account of their long fiber and heavy consistency. The Jordan engine gives the paper "stuff" the last refining touch before it goes to the cylinder machine, which is the standard machine for making paper box board. The design of this machine, however, is often greatly altered so that certain grades of board can be made on it. This machine is really a modification of the Fourdrinier machine, which is the standard machine in the paper-making industry.

The leading characteristics of the cylinder machine are the cylinder vat and the cylinder molds. The number of vats varies, some machines having only one while the largest contain as many as eight. The cylinder molds, covered with wire mesh, are immersed in a vat of stock in which they rotate, and, while turning, the fiber is drawn from the water to the cylinder wire and thence carried on to the felt. Circulation of the stock is separate and self-contained for each cylinder vat and mold without interfering in any way with the other cylinder vats and molds. The finished sheet of paper is made up of stock from all the vats and contains as many layers as there are vats in use. The outside layers, which are formed of stock from the first and last vats, are called liners. The intermediate layers are called fillers. The liners are composed of material best suited for the outside in color and finish, while the fillers may be composed of less expensive stock. The paper so made is called board and is named according to the fillers and liners, as white-lined, news board, box board, etc. The cylinder machine can make a board eight layers thick. Since the "stuff" employed for making boards parts with its moisture slowly, thick board is made by forming a thin sheet on each of the cylinders of the cylinder machine and then pressing these together into a single sheet.

The presses remove all water possible from the sheet by pressure and the driers complete the removal of water by evaporation from the paper-board web. The calender rolls of the board machine (usually three) give finish and quality to the paper board, after which the board is slit to size and cut into sheets or wound into a roll. In a number of mills the slitter, rewinder, or cutter is considered as much a part of the paper machine as the calender, the board, after leaving the drying cylinders, passing through these machines in a continuous operation. Other mills have a separate and distinct finishing department. Slitters are used to trim the rough and usually dirty edges of the sheet and also to cut the large rolls into narrower widths. The rewinders wind the large roll into rolls of smaller diameter and more uniform hardness. Cutters are used to cut the roll into sheets suitable for further operations at the mill, or for shipment. In some mills the sheets are counted, wrapped, and tied into bundles immediately after being removed from the cutter table and the men engaged in this work are considered a part of the machine-room crew. In mills maintaining a separate and distinct finishing department, this work is done in that department. In a few mills the wrapping and tying of sheets and the wrapping of rolls is performed in the shipping department.

The pasting process is used for pasting together two or more sheets of paper.

Coated papers have been developed within comparatively recent years. It costs considerably more to produce these coated grades than it does to make the plain box board. The object of the coating is to form an even, semiabsorbent surface for printing and to form a glazed or other specially prepared paper for box covering, folders, etc. Coating mixture ordinarily consists of from 6 to 12 ingredients. There are many kinds of coated papers constantly being introduced to fit some special requirement. Single-coated papers are coated on one side only, while double-coated papers are papers in which coating is applied to both sides.

A description of the typical occupations of the industry follows:

## DESCRIPTION OF OCCUPATIONS

### BEATER ROOM

*Tour boss.*—This employee is a skilled head beater man employed in some mills to supervise the beater room, directing and assisting the individual head beater man and performing the usual duties of a room foreman.

*Head beater man (boss beater man, beater engineer).*—Has charge of the beater room or of a group of machines in that room, directing the tour he works; directs the loading and dumping of the beaters, the mixing and addition of sizing, clay, alum, and color, and the refining process in the Jordan engine. He is responsible directly to the mill superintendent or in a few of the larger mills to a special supervisor known as a tour boss.

*Assistant head beater man.*—Assists the head beater man, and, in mills not having plug pullers or Jordan men, usually performs the work done by them.

*Plug puller (valve man, dropper, dumper).*—After the material has been beaten to the necessary consistency the plug puller dumps

the stock into the storage chest by removing plug in bottom of the beater.

*Jordan man.*—The duties of the Jordan man are to regulate the setting of the knives in the Jordan engines and the flow of stock to and from the Jordan engines to the stuff boxes or cylinders.

*Beater helper (beater man, furnisher, broke beater, shartle beater).*—Loads stock into beater, usually by hand except in mills having shartle beaters, adjusts the beater roll, adds size, alum, color, etc., as directed by the head beater man, and in those mills having no separate and distinct plug pullers, dumps the beater upon completion of the beating process.

### MACHINE ROOM

*Tour boss.*—Is a skilled machine tender employed in some mills to supervise the machine room, directing and assisting the individual machine tenders and performing the usual duties of a room-foreman.

*Machine tender.*—Has charge of one machine and its crew and directs the process from the time the stock leaves the Jordan engines until the board is ready to be sent to the shipping department or, in some instances, where a mill has a separate finishing department, to that department. However, he works principally at the wet end of the machine, watching the flow of stock, etc. The machine tender is responsible for the operation of his machine. He directs the work of the back tender, third hands, and other helpers, although the more detailed supervision of these men is largely in charge of his assistant, the back tender. The machine tender is responsible for starting the machine.

*Back tender.*—This employee is the machine tender's principal helper and is in charge of the dry end of the machine, controlling the speed and heating of the drying rolls. When the board is started over the machine he leads the web from the felts to the drying rolls and from the drying rolls to the calender stack, watching to see that the dryers are hot enough to dry the sheet thoroughly before it is led through the calender stack. He is largely responsible for the third hands and other helpers. In case of breaks in the paper the chief responsibility devolves upon the back tender. He must see that the other help are in their proper places to take the paper after he has passed it over the dryers, etc.

*Third hand (calender man).*—The assistant to the back tender is the third hand or calender man, who generally has direct charge of the calender stack, seeing that the rolls are kept clean and properly adjusted; also assists back tender in taking the web from the wet end to the drying rolls and from the drying rolls to the calender stack.

*Finisher.*—Ties the sheets in bundles, usually of 50 pounds, and places same on truck or truck platform to be taken to shipping department or stock room. Where no weigher is employed the finisher usually weighs the sheets before tying them up.

*Winder man.*—Has charge of the winder, starting the new rolls of board and taking them off when completed. He usually weighs the rolls and keeps a record of the weights.

*Finisher's helper (winder man's helper, piler down, stacker out, carrier).*—The work of this employee varies according to the product of the mill. When sheets are being made he assists the finisher in

tying the bundles and placing them on a truck. When rolls are being made he assists the winder man in starting new rolls and removing the completed ones.

*Weigher.*—Weighs the sheets before they are tied into bundles by the finisher.

*Cutter boy.*—Takes the sheets off the cutter table and, if the finishing is done immediately behind the paper machine, places them on the stand of either the weigher or the finisher. If the finishing is done in a separate department, he places the sheets on a truck.

*Broke boy.*—The broke boy gathers up trimmings and "broke" (paper which accumulates when the web of paper breaks) and trucks them back to the beater room or to the broke beater.

*Felt checker.*—Watches the felts and when necessary guides them so that they will run true and even.

*Felt washer.*—Washes the felts which have been taken from the machine during the previous clean-up period.

*Screenman (stuff boxes).*—The work of the screenman is to keep the surfaces of the screens cleaned off so as to permit the free flow of the fibers into the stuff boxes; also regulates the pumping or flow by gravity from the stuff boxes to the machine vats.

#### FINISHING DEPARTMENT

*Finisher.*—The finisher performs practically the same work as the finisher in the machine room except that in some instances the bundles of better-grade board are wrapped before being tied.

*Rewinder.*—Places the rolls of paper coming from the board machine onto a winding machine to be rewound evenly or cut to smaller rolls by slitters. He also rewinds rolls that have been doubled or tripled, according to the thickness required.

*Cutter (trimmer).*—The piles of sheets are evened up by the cutter, who jogs them against the walls of the trimmer table and releases the knife which cuts off the edges squarely.

*Paster.*—Operates the machine which pastes together two or more thicknesses of board.

*Liner.*—Operates the machine which lines one side or both sides of the ordinary board with board of better quality or with colored board.

