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WAGES AND HOURS OF LABOR SERIES

**TIME AND LABOR COSTS IN MANU-
FACTURING 100 PAIRS OF SHOES**
1923



JULY, 1924

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TIME AND LABOR COSTS IN MANUFACTURING 100 PAIRS OF SHOES, 1923.

INTRODUCTION.

This report presents time and labor costs in the production of 100 pairs of shoes of a specified style and average hourly wages or earnings of shoe workers for each of the operations in each of the departments of the modern shoe manufacturing establishment, and for the factory as a whole, and also shows for each operation the number of pairs of shoes on which such work could be completed in one hour, assuming that the employees would work at the same speed during the hour as they did during the time required for the 100 pairs of shoes.

The figures in this report were computed from detailed time and labor cost reports carefully compiled during the summer of 1923 and furnished, as requested, to the Bureau of Labor Statistics by representative shoe manufacturing establishments located in 9 of the important shoe-producing States, namely, Massachusetts, New York, Missouri, Ohio, Pennsylvania, New Hampshire, Maine, Illinois, and Virginia.

Sixteen detailed reports were furnished covering the manufacture of men's shoes, 14 of which were for high shoes and 2 for oxfords; 27 reports were received for women's shoes, 24 of which were for low shoes and 3 for high shoes. Twenty-six of these reports were for shoes manufactured by the Goodyear welt method and 17 were for shoes manufactured by the McKay method.

The operations and departments in the modern shoe factory, as shown in the tables of this report, emphasize the minute specifications as well as the specialization of work in the manufacture of shoes, the careful and efficient organization, the many different employees through whose hands a shoe passes in the process of manufacture, the comparatively short time consumed in performing each operation on a pair of shoes, and the very small labor cost not only for each operation but for all the operations necessary in the manufacture of a pair of shoes.

The work of the sole-leather department is divided into cutting and preparation of outsoles, insoles, counters, heels, etc. Many of the establishments covered in this report purchase the various sole-leather parts from establishments specializing in the production of such parts. By the inclusion of data drawn from reports obtained

from representative establishments engaged in the manufacture and sale of sole-leather parts, complete time and labor costs and other figures are presented for all work necessary in the manufacture of shoes. For figures covering establishments engaged in the manufacture and sale of sole-leather parts only, see pages 132 to 140.

For each department of the factory, operations are given as far as possible in the order in which the work is performed. At the end of each department are shown "general work," and "organization." "General work" represents work of a miscellaneous character, while "organization" represents work of foremen and assistant foremen. Costs and other data for clerks, superintendents, managers, watchmen, and power-house employees are not included. The column "time cost" shows the time in minutes required for one person to perform the operation on 100 pairs of shoes. The "labor cost" is the amount paid for the work done in the time indicated in the time-cost column.

The manufacturers from whom statements were obtained used different methods in arriving at time and labor cost for each operation necessary in the manufacture of 100 pairs of shoes.

In all sections of the country where shoes are manufactured to any extent, a large per cent of the operations are paid for at piece rates. The rate, of course, varies with the style of the shoe and as between different factories. The sum total of all piece-rate costs for the work on a particular shoe in each department, plus the proportionate amount chargeable for time work, operators and foremen and general workers, paid weekly rates, constitute the labor cost for that department. By combining the costs for the various departments of the factory the entire labor cost was obtained for the shoe. The piece rate (money cost) per case (one to four dozen pairs) for each operation and for all operations combined was converted to an equivalent cost figure for 100 pairs.

Approximately 17 per cent of the factories covered by this study had records of *time* cost and furnished the desired information from such records. In approximately 10 per cent a man was detailed from the cost department to use a stop watch to arrive at the time ordinarily used by the selected average worker in the performance of each operation on a certain number of shoes, while time figures for approximately 65 per cent of the plants were obtained by having each operator on a lot of shoes (usually four cases) indicate on a memorandum furnished by this bureau the amount of time spent on each operation on the lot.

In the remaining establishments, where complete time-clock records for both time and pieceworkers were available, the total hours worked and total earnings at each occupation during a representative pay period were used in arriving at an average earning rate per hour. In these establishments the time cost was computed from the piece rate and the average earnings per hour for each operation. Example: If the piece rate for slugging heels is 35 cents per case of 36 pairs, and the average hourly earnings for this occupation is 70 cents, the time cost is 30 minutes for 36 pairs. The time cost of each operation in each particular lot of shoes was then converted to an equivalent time-cost figure for 100 pairs.

Both money-labor cost and time-labor cost shown in this report for organization (foremen and assistants) and other general workers paid on a weekly basis were obtained from the average weekly production for the entire factory and the combined hours and wage rate for each of such employees. If there was more than one worker employed at any of the miscellaneous occupations, all were included. For example: If in a factory whose average output was 10,000 pairs of all kinds of shoes per week the foreman in the cutting department was paid \$75 per week of 48 hours (2,880 minutes), the labor cost would be 75 cents and the time cost 28.8 minutes for 100 pairs. In case there were three foremen in this department receiving the same rate the labor cost would be \$2.25 and the time cost 86.4 minutes.

The Bureau of Labor Statistics, beginning with the Nineteenth Annual Report (1904) of the Commissioner of Labor, and ending with Bulletin No. 324 (March, 1923), has published many reports on wages and hours of labor of employees in boot and shoe manufacturing. In the Thirteenth Annual Report (pp. 540 to 550), published in 1899, time and labor costs are presented for each operation in the manufacture of shoes by the hand method in 1863 and by the machine method in 1895. This appears as Appendix A of this bulletin. In Bulletin No. 232 (pp. 165 to 169), published by this bureau in 1918, are presented like cost figures in the manufacture of 100 pairs of men's shoes in 1916. This has been made Appendix B of the present bulletin.

Comparing the 1916 cost figures (Appendix B) with the 1923 figures of the same establishment (pp. 5-8) it is found that the time cost in 1923 is 25.1 per cent less than in 1916, while the labor cost in 1923 is 48.5 per cent more than in 1916. The decrease in the time cost has no doubt been accomplished by the introduction of more effective machinery and by more efficient organization, while the great increase in labor cost is due to increased basic wage rates and the reduction of hours of work. Appendix A shows that to produce 100 pairs of shoes by the hand method in 1863 required 1,831 hours and 40 minutes and that the labor cost for these was \$458.19. The same number of similar shoes were made in 1895 by the machine method in 236 hours and 6 minutes, the labor cost being \$59.55.

In comparing the productivity and labor costs in these periods it is well to note a few of the important changes incident to the growth of this important industry. The production of boots and shoes in the United States was started in a small way by the primitive shoemaker who worked at the bench in his own home, making shoes to order for the community, and the itinerant shoemaker who traveled from village to village, carrying his tools on his back, doing repair work and often contracting to shoe an entire family (the work might take a week or longer, the contract including his entertainment); next came the small shop which accommodated three or four workmen, followed closely by the primitive factory, in which much of the work was still done by hand, and which had an output of only a few pairs per day. The modern factory of to-day with its power-driven machinery can turn out 75,000 pairs every workday in the year. This marvelous change, which is due in a large measure to the introduction of machinery, has taken place within a period of about 65 years.

For more than 600 years prior to 1858, when the McKay sewing machine was introduced, the methods of shoe making were not greatly improved. The list of machines invented, which followed closely the introduction of the McKay machine, goes well into the thousands, and the inventions by which these were improved are almost numberless. Steam power was first introduced to run shoe machinery in 1863, gas engines in 1885, and electric motors in 1889. Another great factor instrumental in lowering time costs has been the division of labor, whereby the various operations necessary for the construction of a shoe, theretofore usually performed by one man, were divided among several workmen, each doing one particular part.

It soon became a well-established fact that some workers were unusually proficient in certain operations, some in cutting, others in preparing the soles, fastening them to the uppers, etc. By this constant attention to a particular part of the shoe, the worker was able to accomplish much more in a given length of time and to do that work better and with less effort than when making the entire shoe. This division of labor continued to increase, and in a much larger degree, after the introduction of machinery. At the present time there are between two and three hundred different operations on a shoe (depending on the method of construction), and in many large establishments each operation is performed by a different employee.

One other means of lowering time costs has been the proper arrangement of the several departments so as to form an unbroken chain in performing the various operations, all following in one direction throughout the factory. This is usually accomplished by locating on the top floor of the factory the upper-cutting department, where the various parts of the upper portion of the shoe are cut and then sent to the next floor below to be stitched together to form the upper. These stitched uppers then go to the lasting department, where they are pulled over the last and united with certain parts sent there from the sole-leather department. These assembled shoes then continue on to the bottoming, finishing, treeing, packing, and shipping departments, arranged in the order named, except the sole-leather department, which is usually located in the basement because of the heavy material and the heavy machinery necessary in the cutting and preparation of the soles and heels. Thus it is seen that the raw material for the upper is started on the top floor of the factory, continues down through the various departments, and ends on the first floor in the packing department as a completed shoe, ready for shipment.

COST BY DISTRICT, ESTABLISHMENT, AND OPERATION.

The figures in the following table are presented separately for each of three geographical districts: (1) New England—including Maine, Massachusetts, and New Hampshire; (2) Central Atlantic States—including New York, Pennsylvania, and Virginia; and (3) Mid-west States—including Illinois, Missouri, and Ohio.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION.

NEW ENGLAND DISTRICT.

Establishment No. 1.—Men's Goodyear welt, tan bal., perforated vamp and eyelet row, straight tip, single sole, leather heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Sort leather.....	15.000	\$0.158	\$0.632	400.00
Put up jobs for cutters.....	4.400	.053	.723	1,363.64
Cut vamp, top, tip, and tongue, machine.....	325.000	4.460	.823	18.46
Cut backstays, hand.....	50.000	.330	.396	120.00
Inspect cut parts.....	33.000	.417	.758	181.82
Case up cut parts.....	25.000	.125	.300	240.00
Sort upper leather remnants.....	32.600	.250	.460	184.05
Cut eyelet facings, hand.....	42.000	.292	.417	142.86
Cut leather top facings, hand.....	14.000	.110	.471	428.57
Skive eyelet facings.....	5.800	.046	.476	1,034.48
Sort and case eyelet facings.....	14.700	.077	.314	408.16
Case heel stays.....	6.600	.041	.373	909.09
Cut cloth linings, machine.....	2.500	.034	.816	2,400.00
Case cloth linings.....	11.000	.080	.436	545.45
Cut vamp doublers, machine.....	1.100	.015	.818	5,454.55
Case vamp doublers.....	3.000	.023	.460	2,000.00
Cut top doublers, machine.....	1.900	.026	.821	3,157.89
Case top doublers.....	3.600	.027	.450	1,666.67
Cut vamp patches.....	.500	.009	1.080	12,000.00
Cut felt heel pads, machine.....	.400	.005	.750	15,000.00
Sort felt heel pads.....	2.400	.019	.475	2,500.00
Stamp linings.....	11.700	.083	.426	512.82
Match up linings.....	28.000	.146	.313	214.29
Mark vamps for tips.....	15.000	.083	.332	400.00
Mark tops for vamp lap.....	9.200	.053	.346	652.17
Perforate lace row.....	54.500	.167	.184	110.09
Skive tips.....	10.000	.063	.378	600.00
Punch tips.....	20.000	.083	.249	300.00
Skive vamps at cut off.....	10.900	.063	.378	600.00
Perforate vamps.....	53.500	.333	.373	112.15
Skive vamps at heel and throat.....	20.000	.125	.375	300.00
Skive tongues.....	2.770	.023	.498	2,166.66
Skive tops, narrow at back and bottom.....	23.800	.177	.446	252.10
Skive tops for folding.....	21.700	.167	.462	276.50
Organization.....	21.820	.340	.985	274.98
Total.....	896.490	8.503	.569	
STITCHING DEPARTMENT.				
Stitch cloth heel stay.....	60.000	.333	.333	100.00
Stitch eyelet facing.....	100.500	.585	.349	59.70
Stitch top facing.....	40.000	.209	.314	150.00
Stitch lace row perforation.....	83.333	.522	.376	72.00
Paste vamp patch.....	23.500	.115	.294	255.32
Double vamp.....	42.800	.208	.292	140.19
Double top.....	25.700	.125	.292	233.46
Stitch tips.....	44.000	.292	.396	136.36
Close vamps.....	25.800	.167	.388	232.56
Stay vamps.....	25.800	.167	.388	232.56
Close tops.....	42.000	.219	.313	142.86
Rub down back seams.....	10.800	.063	.350	555.56
Cement tops for folding.....	17.500	.115	.394	342.86
Fold tops, machine.....	55.000	.345	.376	109.09
Paste eyelet stays.....	42.800	.209	.293	140.19
Stitch backstays.....	86.750	.543	.376	69.16
Stitch tops (undertrim).....	204.000	1.417	.417	29.41
Eyelet invisible eyelets.....	28.000	.252	.604	214.29
Stain edges.....	21.700	.125	.346	276.60
Lace, machine, 4 holes.....	20.800	.125	.361	288.46
Lace, machine, 1 hole.....	18.400	.115	.375	326.09
Seam lining at toe.....	39.200	.250	.383	153.06
Vamp 2-needle space rows.....	323.000	2.910	.641	18.88
Size out uppers.....	18.400	.104	.339	326.09
Cripple and general work.....	133.333	.833	.375	45.00
Organization.....	21.820	.260	.715	274.98
Total.....	1,554.936	10.638	.411	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 1.—Men's Goodyear welt, tan bal., perforated vamp and eyelet row, straight tip, single
sole, leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Sort stock.....	0.900	\$0.008	\$0.533	6,666.67
File near machine.....	.400	.006	.900	15,000.00
File on machine.....	.500	.004	.480	12,000.00
Cut.....	33.540	.400	.716	178.89
Grade and skive.....	10.000	.080	.480	600.00
Sort.....	16.779	.210	.751	357.78
Count.....	1.210	.011	.545	4,958.68
Put away.....	2.600	.019	.438	2,307.69
Case.....	6.880	.073	.637	872.09
Ship.....	1.730	.016	.555	3,468.21
General work.....	11.985	.053	.265	500.63
Organization.....	4.240	.074	1.047	1,415.09
Total.....	90.755	.954	.646	
Insoles:				
Cut.....	31.900	.265	.687	188.09
Grade and skive.....	10.190	.068	.400	588.81
Sort.....	14.710	.185	.755	407.89
Put away.....	1.440	.015	.625	4,166.67
Case.....	5.090	.048	.566	1,178.78
Ship.....	1.730	.015	.520	3,468.21
General work.....	11.985	.052	.260	500.63
Organization.....	4.520	.063	.836	1,327.41
Total.....	81.565	.811	.597	
Counters:				
Cut.....	28.880	.292	.607	207.76
Grade and skive.....	8.000	.070	.525	750.00
Sort, flat.....	8.660	.090	.624	692.84
Skive.....	4.000	.035	.525	1,500.00
Trim ends.....	4.600	.040	.522	1,304.35
Temper.....	2.450	.023	.563	2,448.98
Roll.....	3.760	.034	.543	1,595.74
Mold.....	20.000	.180	.540	300.00
Sort molded.....	4.810	.045	.561	1,247.40
Put away.....	.200	.002	.600	30,000.00
Case.....	3.400	.034	.600	1,764.71
General work.....	3.965	.038	.575	1,513.24
Ship.....	.450	.004	.533	13,333.33
Organization.....	5.600	.128	1.371	1,071.43
Total.....	98.775	1.015	.617	
Box toe:				
Cut.....	1.480	.015	.608	4,054.05
Skive.....	4.060	.045	.665	1,477.83
Sort.....	2.640	.022	.500	2,272.73
Case.....	3.560	.033	.556	1,685.39
Ship.....	.410	.003	.439	14,634.15
Organization.....	1.000	.017	1.020	6,000.00
Total.....	13.150	.135	.616	
Heels (log base, with rand):				
Make rands (cup grade, crimp, etc.).....	50.000	.261	.313	120.00
Make logs (cup lifts, build logs, etc.).....	134.510	1.125	.502	44.61
Saw log blanks.....	6.500	.045	.415	923.08
Gouge log blanks.....	7.210	.051	.424	832.18
Tack rands.....	23.280	.220	.567	257.73
Butt rands.....	6.750	.038	.338	888.89
Compress heels.....	10.000	.063	.378	600.00
Buff heels.....	3.070	.030	.536	1,954.40
Sort heels.....	7.420	.062	.501	808.63
Case heels.....	3.110	.029	.559	1,929.26
Case rubber top lifts.....	3.640	.034	.500	1,648.35
Ship heels and top lifts.....	.860	.007	.488	6,976.74
General work.....	23.070	.177	.460	260.08
Organization.....	5.550	.079	.854	1,061.08
Total.....	284.970	2.221	.468	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 1.—Men's Goodyear welt, tan bal., perforated vamp and eyelet row, straight tip, single sole, leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Stock fitting:				
Stamp size, outsoles.....	5.850	\$0.042	\$0.431	1,025.64
Scour outsoles.....	8.330	.063	.454	720.29
Shank outsoles.....	13.330	.083	.374	450.11
Cement outsoles.....	8.330	.063	.454	720.29
Wet outsoles.....	8.330	.063	.454	720.29
Round insoles.....	11.650	.115	.592	515.02
Stamp size, insoles.....	11.700	.063	.323	512.82
Channel insoles.....	34.200	.323	.507	175.44
Cement lip, insoles.....	14.200	.083	.351	422.54
Set lip, insoles.....	27.500	.178	.388	218.18
Form gem duck, insoles.....	32.500	.229	.423	184.62
Trim lip, insoles.....	25.000	.157	.377	240.00
Stamp insole welt line.....	11.700	.073	.374	512.82
Round down insole lip.....	15.000	.104	.416	400.00
Cripple work.....	3.300	.021	.382	1,818.18
General work.....	6.825	.058	.510	879.12
Organization.....	3.240	.074	1.370	1,851.85
Total.....	240.985	1.792	.446	-----
Total, sole-leather department.....	810.200	6.928	.513	-----
LASTING DEPARTMENT.				
Case up lasts.....	18.000	.125	.417	333.33
Put insoles, etc., on rack.....	19.500	.136	.418	307.69
Throw lasts in bin.....	23.400	.146	.374	256.41
Tack insoles, machine.....	23.200	.177	.458	253.62
Chalk toes of lasts.....	8.200	.063	.461	731.71
Assemble.....	68.750	.573	.500	87.27
Pull over, machine, and slip in box toes.....	116.000	1.210	.626	51.72
Side last machine.....	118.750	1.112	.562	50.53
Operate bed machine.....	240.000	2.500	.625	25.00
Inspect.....	21.800	.170	.468	275.23
Organization.....	21.820	.350	.962	274.98
Total.....	679.420	6.562	.579	-----
BOTTOMING DEPARTMENT.				
Trim toes.....	19.550	.136	.417	306.91
Staple uppers.....	26.300	.146	.333	228.14
Pull tacks.....	60.000	.416	.416	100.00
Wet grooves.....	7.000	.042	.360	857.14
Goodyear welt.....	87.000	1.182	.815	68.97
Trim in seams, machine.....	30.000	.261	.522	200.00
Butt welts.....	22.100	.178	.433	271.49
Beat welts.....	22.100	.178	.433	271.49
Knock tacks, insoles.....	25.450	.178	.420	235.76
Tack ends of welts.....	27.400	.219	.480	218.98
Tack shanks.....	21.700	.135	.373	276.50
Fill bottoms.....	27.300	.208	.457	219.78
Cement bottoms.....	15.000	.083	.332	400.00
Put outsoles on rack.....	11.250	.063	.336	533.33
Lay soles.....	28.800	.250	.521	208.33
Rough round.....	60.000	.688	.688	100.00
Goodyear stitch.....	172.500	1.915	.606	34.78
Wind bobbins.....	7.500	.042	.336	800.00
Loose nail heel seats.....	28.700	.230	.481	209.06
Round heel seats.....	25.000	.157	.377	240.00
Level.....	28.700	.230	.481	209.06
Cement heel bases (leather).....	14.130	.083	.352	424.63
Cement top lifts (rubber).....	19.450	.115	.355	308.48
Heeling, leather base.....	50.000	.553	.664	120.00
Help heeler.....	50.000	.313	.376	120.00
Heeling rubber top lift.....	50.000	.553	.664	120.00
Help heeler.....	50.000	.313	.376	120.00
Inspect.....	21.800	.146	.402	275.23
Cripple work.....	5.000	.042	.504	1,200.00
General work.....	53.500	.445	.499	112.15
Trim heels.....	34.200	.386	.677	175.44
Breast heels.....	25.000	.219	.526	240.00
Fill heels.....	34.000	.178	.314	176.47
Trim edges.....	115.000	1.500	.783	52.17
Knife-up (joint).....	35.000	.303	.519	171.43
Organization.....	21.820	.220	.605	274.98
Total.....	1,332.250	12.306	.654	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 1.—Men's Goodyear welt, tan bal., perforated vamp and eyelet row, straight tip, single sole, leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
FINISHING DEPARTMENT.				
Scour heels, first time.....	45.900	\$0.438	\$0.573	130.72
Scour heel breasts.....	27.500	.199	.434	218.18
Scour heels, second time.....	35.800	.303	.508	167.60
Set edges, first time.....	66.000	.740	.673	90.91
Stain heels.....	17.500	.125	.429	342.86
Stain edges.....	27.100	.292	.646	221.40
Set edges, second time.....	57.500	.646	.674	104.35
Burnish heels.....	45.000	.427	.569	133.33
Scour bottoms.....	56.000	.673	.721	107.14
Dust and gum.....	21.650	.188	.521	277.14
Paint bottoms.....	33.300	.261	.470	180.18
Gum and brush bottoms.....	38.400	.333	.520	156.25
Wax bottoms.....	22.500	.167	.445	266.67
Cut lacing strings.....	16.670	.104	.374	359.93
Pull lasts.....	37.300	.261	.420	160.86
Wheel bottoms and breasts.....	16.670	.104	.374	359.93
Brand bottoms.....	16.670	.115	.414	359.93
General work.....	18.000	.125	.417	333.33
Organization.....	10.910	.110	.605	549.95
Total.....	610.370	5.611	.552	
TREEING AND PACKING DEPARTMENT.				
Feeling for tacks.....	32.000	.167	.313	187.50
Paste heel pads.....	24.000	.136	.340	250.00
Tree, hand.....	178.000	1.540	.519	33.71
Repair tan leather.....	65.000	.584	.539	92.31
Dress.....	75.900	.542	.428	79.05
Lace.....	33.333	.208	.374	180.00
Brush heels and edges.....	30.000	.208	.416	200.00
Pack.....	25.900	.167	.387	231.66
Seal fiber cases.....	11.700	.083	.426	512.82
Stamp fiber cases.....	3.330	.028	.505	1,801.80
Ship.....	20.000	.178	.534	300.00
General work.....	18.000	.125	.417	333.33
Organization.....	10.910	.110	.605	549.95
Total.....	528.073	4.076	.463	
Grand total.....	6,411.739	54.624	.511	

Establishment No. 2.—Men's Goodyear welt, black kid, high blucher with arch shank, flexible sole, leather heel with rubber top lift.

CUTTING DEPARTMENT.				
Put up stock.....	6.250	\$0.084	\$0.806	960.00
Die boy.....	15.625	.098	.378	384.00
Cut vamps and whole shoe, machine.....	480.208	6.483	.810	12.49
Sort and case up.....	62.500	.844	.810	96.00
Cut cloth linings, machine.....	29.167	.394	.810	205.71
Mark linings.....	11.458	.072	.377	523.65
Skive uppers.....	135.417	1.216	.539	44.31
Perforate tips.....	9.375	.127	.813	640.00
Put up facings.....	18.750	.152	.496	320.00
Put up tongues and back stays.....	26.042	.203	.468	230.40
Mark vamps.....	5.208	.042	.484	1,152.07
Match marks.....	31.250	.164	.315	192.00
Match up work.....	5.208	.041	.472	1,152.07
Crimp.....	26.042	.203	.468	230.40
Tip stain.....	7.292	.038	.313	822.82
Day work.....	16.000	.140	.525	375.90
Organization.....	33.333	.590	1.062	180.00
Total.....	919.125	10.891	.711	
STITCHING DEPARTMENT.				
Check work.....	3.125	.019	.365	1,020.00
Double tops.....	62.500	.323	.315	96.00
Mark eyelet rows.....	41.667	.246	.354	144.00
Stitch eyelet rows.....	270.833	1.875	.415	22.15
Seam tops.....	31.250	.310	.595	192.00
Rub down seams.....	15.625	.178	.684	334.00
Backstay long blucher.....	145.833	1.000	.411	41.14

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 3.—Men's Goodyear welt, black kid, high blucher with arch shank, flexible sole, leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Trim tops.....	20 833	\$0.109	\$0.314	288.00
Fold.....	109 375	.917	.503	54.86
Hookstay and sort.....	57 292	.301	.315	104.73
Hook.....	26 042	.366	.843	230.40
Mark linings.....	15 625	.175	.672	384.00
Stitch linings.....	98 958	1.022	.620	60.63
Stitch top facings.....	20 833	.125	.360	288.00
Trim linings.....	9 375	.049	.314	640.00
Match up.....	5 208	.038	.438	1,152.07
Turn bals.....	114 583	1.000	.524	52.36
Undertrim.....	145 833	1.097	.451	41.14
Eyelet.....	26 042	.281	.647	230.40
Trim linings.....	9 375	.049	.314	640.00
Fold tips.....	15 625	.178	.684	384.00
Line tips.....	31 250	.225	.432	192.00
Mark vamps.....	18 750	.173	.554	320.00
Double vamps and cement stays.....	46 875	.459	.588	128.00
Stitch box toes.....	26 042	.310	.714	230.40
Sort tips and vamps, and match up.....	10 417	.072	.415	575.98
Stitch tips.....	46 875	.441	.564	128.00
Cement tongue to lining.....	26 042	.169	.389	230.40
Stitch tongue lining to tongue.....	78 125	.563	.432	76.80
Trim and sort vamps and stitch blucher tongue.....	104 167	1.031	.594	57.60
Arch support on vamps.....	15 625	.104	.399	384.00
Sort vamps for vamps.....	10 417	.072	.415	575.98
Vamp.....	265 625	2.948	.666	22.59
Lace.....	36 458	.160	.263	164.57
Day work.....	16 000	.140	.525	375.00
Organization.....	33 333	.500	.900	180.00
Total.....	2,011.833	17.030	.507	-----
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	35 417	.425	.720	169.41
Grade.....	10 417	.059	.340	575.98
Sort.....	26 042	.289	.666	230.40
Case.....	6 250	.069	.662	960.00
Total.....	78.126	.842	.647	76.80
Insoles:				
Cut.....	46 875	.527	.675	128.00
Grade.....	15 625	.088	.338	384.00
Sort.....	15 625	.159	.611	384.00
Case.....	5 208	.053	.611	1,152.07
Total.....	83.333	.827	.595	72.00
Counters, leather ¹	158.915	1.314	.496	-----
Box toes, leather ¹	113.788	1.033	.545	-----
Heels, leather, men's, 4/8 ¹	230.247	2.147	.559	-----
Stock fitting:				
Skive outsoles.....	6 250	.045	.432	960.00
Stamp outsoles.....	3 125	.023	.442	1,920.00
Reduce shanks and tie up.....	26 042	.188	.433	230.40
Round insoles.....	16 667	.143	.515	350.99
Stamp insoles and tie up.....	8 333	.047	.338	720.03
Stamp sizes and cut shanks.....	8 333	.048	.346	720.03
Channel.....	19 792	.450	1.364	302.15
Cement insoles.....	9 375	.094	.602	640.00
Set lips.....	18 750	.188	.602	320.00
Lay cloth.....	15 625	.060	.346	384.00
Form.....	15 625	.103	.396	384.00
Trim.....	23 958	.273	.684	250.44
Inspect cases and tie up.....	9 375	.062	.397	640.00
Day work.....	32 000	.290	.544	187.50
Organization.....	33 333	.533	.959	180.00
Total.....	246.583	2.577	.627	-----
Total, sole-leather department.....	910.992	8.740	.576	-----

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 5.—Men's Goodyear welt, black kid, high blucher with arch shank, flexible sole, leather
heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Cripple work	4.167	\$0.024	\$0.346	1,439.88
Stock-room work	14.583	.100	.411	411.44
Pick lasts	11.458	.273	1.430	523.65
Tack insoles and trim	30.208	.431	.856	198.62
Assemble and slide last, hand	491.667	4.584	.559	12.20
Pull over, machine	125.000	1.587	.762	48.00
Operate bed machine	383.333	4.821	.754	15.65
Cobble	3.125	.031	.595	1,920.00
Crown	46.875	.469	.600	128.00
Organization	33.333	.613	1.103	180.00
Total	1,143.749	12.932	.679	
BOTTOMING DEPARTMENT.				
Pull last tacks	36.458	.338	.556	164.57
Staple uppers	21.875	.273	.749	274.29
Trim toes	17.708	.244	.827	338.88
Goodyear welt	133.333	2.250	1.013	45.00
Pull toe wires	36.458	.273	.449	164.57
Knock tacks	31.250	.296	.483	192.00
Trim insoles	34.375	.435	.769	174.55
Butt welts	31.250	.218	.419	192.00
Beet welts	41.667	.373	.393	144.00
Tack shanks	24.479	.244	.598	245.11
Fill bottoms	33.542	.373	.425	155.67
Cart soles	22.917	.172	.450	261.81
Rivet soles	47.917	.256	.321	125.22
Pick stock	4.167	.026	.374	1,439.88
Wet stock	7.292	.046	.378	822.82
Cement soles	13.542	.102	.452	443.07
Cement bottoms	14.583	.131	.539	411.44
Lay soles	28.125	.435	.928	213.33
Nail heel seats	25.000	.292	.701	240.00
Rough round	46.354	1.125	1.456	129.44
Trim heel seats	13.542	.188	.833	443.07
Goodyear stitch	97.396	2.550	1.571	61.60
Sort shoes	12.500	.078	.374	480.00
Wheel edges	23.646	.375	.785	209.45
Level	38.542	.450	.701	155.67
Pick heels	7.292	.035	.268	822.82
Heel	77.604	1.637	1.266	77.32
Shave heels	30.208	.900	1.788	198.62
Breast	21.875	.375	1.029	274.29
Trim edges	135.417	3.075	1.363	44.31
Joining	28.125	.490	1.045	213.33
Day work	31.000	.270	.523	193.55
Organization	33.333	.613	1.103	180.00
Total	1,212.772	18.678	.925	
FINISHING DEPARTMENT.				
Burnish	22.396	.272	.729	267.90
Set edges	223.958	3.075	.824	26.79
Scour heel breasts	12.500	.180	.864	480.00
Align heels	8.333	.131	.943	720.03
Scour heels, first time	20.833	.713	2.053	288.00
Scour heels, second time	25.000	.713	1.711	240.00
Wet heels	8.333	.043	.310	720.03
Black heels	8.333	.056	.396	720.03
Mate shoes	3.333	.043	.310	720.03
Stone and key heels	62.500	.788	.756	96.00
Scour bottoms	62.500	1.065	1.022	96.00
Dust	12.500	.117	.562	480.00
Gum	41.667	.391	.563	144.00
Stripe	20.833	.145	.418	288.00
Clean heels	4.167	.029	.413	1,439.88
Pull lasts	50.000	.383	.400	120.00
Stamp bottoms	37.500	.241	.386	160.00
Organization	33.333	.623	1.121	180.00
Total	663.019	9.007	.815	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 3.—Men's Goodyear welt, black kid, high blucher with arch shank, flexible sole, leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREEING AND PACKING DEPARTMENT.				
Cut tacks.....	26.042	\$0.146	\$0.336	230.40
Line heels.....	21.875	.123	.337	274.29
Tree, hand.....	278.958	3.114	.625	20.07
Repair.....	55.333	.438	.451	102.86
Brush heels and edges.....	27.083	.381	.844	221.54
Dress.....	151.042	.929	.369	39.72
Mate, tie, tag, and lace, and clean linings.....	97.917	.551	.338	61.28
Label.....	12.500	.084	.403	480.00
Stencil cartons.....	12.500	.077	.370	480.00
Pack.....	25.000	.155	.372	240.00
Put on and take shoes from bench.....	16.667	.094	.338	359.99
Take from elevator and nail cases.....	21.875	.144	.395	274.29
Stencil cases.....	18.750	.146	.467	320.00
Ship and load on trucks.....	9.375	.073	.467	640.00
Organization.....	57.333	.743	.778	104.65
Total.....	855.250	7.198	.505	-----
Grand total.....	7,716.740	84.476	.657	-----

Establishment No. 4.—Men's Goodyear welt, russian bal, 12 square edge, 8 iron sole, 8/8 leather heel with rubber top lift.

CUTTING DEPARTMENT.				
Put up job for cutters.....	83.333	\$1.125	\$0.810	72.00
Get out patterns.....	20.833	.118	.340	288.00
Cut cloth linings, hand.....	50.000	.597	.716	120.00
Case, cloth linings.....	33.333	.190	.342	180.00
Cut, whole bal facings.....	162.500	1.288	.498	36.92
Case-up trimmings.....	41.667	.237	.341	144.00
Cut and case-up tongues.....	45.833	.261	.342	130.91
Cut vamps and whole shoe, hand.....	812.500	9.350	.630	7.38
Sort.....	83.333	1.125	.810	72.00
Match marks.....	83.333	.425	.306	72.00
Punch tips.....	8.333	.050	.360	720.00
Skive tops, wide for fold.....	62.500	.609	.585	96.00
Skive tops, narrow.....	50.000	.487	.584	120.00
Skive tips.....	8.333	.081	.583	720.00
Skive vamp throats.....	29.170	.284	.584	205.69
Skive vamp toes.....	12.500	.122	.586	480.00
Skive backstays.....	25.000	.207	.497	240.00
Skive tongues.....	25.000	.188	.451	240.00
Assemble shoes.....	20.833	.118	.340	288.00
Organization.....	86.000	1.376	.960	69.77
Total.....	1,744.334	18.218	.627	-----
STITCHING DEPARTMENT.				
Check in and give out work.....	36.860	.185	.301	162.78
Stamp and grade linings.....	33.333	.355	.639	180.00
Make linings.....	145.833	1.509	.621	41.14
Stitch tongues to linings.....	79.170	.853	.646	75.79
Stitch top facings to linings.....	41.670	.365	.526	143.99
Mark eyelet rows.....	20.830	.234	.674	288.05
Stitch eyelet rows.....	41.670	.600	.864	143.99
Seam tops.....	29.170	.365	.751	205.69
Rub down seams.....	12.500	.177	.850	480.00
Cement tops.....	16.670	.177	.637	359.93
Fold tops.....	62.500	.731	.702	96.00
Stitch backstays.....	75.000	.731	.585	80.00
Cement hookstays.....	41.670	.252	.363	143.99
Turn bals.....	166.670	1.321	.467	36.00
Stitch tops (undertrim).....	145.830	1.200	.494	41.14
Eyelet.....	33.330	.544	.979	180.02
Sort tops.....	8.330	.102	.735	720.29
Double tops.....	66.667	.380	.342	90.00
Double heels of vamps.....	12.500	.071	.341	480.00
Cement vamp doublers.....	41.670	.309	.445	143.99
Cement tip doublers.....	20.830	.177	.510	288.05

12 TIME AND LABOR COSTS—NEW ENGLAND DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 4.—Men's Goodyear welt, russian bal., 12 square edge, 8 iron sole, 8/8 leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Trim vamp doublers.....	12.500	\$0.132	\$0.634	480.00
Stitch tips on vamps.....	41.670	.496	.714	143.99
Stitch tips holding box toes under vamps.....	41.670	.552	.795	143.99
Close heel seams, rub seams, and trim ends.....	54.170	.720	.797	110.76
Sort vamps.....	16.670	.132	.475	359.93
Bar toe lining, holding in tongue.....	75.000	.600	.480	80.00
Give out work to vampers, etc.....	36.860	.233	.379	162.78
Vamp.....	291.670	3.674	.756	20.57
Bar.....	20.830	.234	.674	288.05
Lace.....	20.830	.225	.648	288.05
Inspect.....	20.830	.108	.311	288.05
Organization.....	43.000	.480	.670	139.53
Total.....	1,808.403	18.224	.605	
SOLE-LEATHER DEPARTMENT.				
Outsoles.....	98.008	1.010	.619	
Insoles:				
Cut.....	50.000	.580	.696	120.00
Grade.....	15.000	.084	.236	400.00
Sort.....	50.000	.510	.612	120.00
Case-up.....	10.000	.132	.792	600.00
Total.....	125.000	1.306	.627	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels:				
Grade stock.....	3.000	.023	.460	2,000.00
Build bases (Alsop machine).....	50.000	.540	.648	120.00
Gouge bases.....	15.000	.121	.464	400.00
Compress bases.....	15.000	.121	.484	400.00
Sort bases.....	20.000	.156	.468	300.00
Count bases.....	3.000	.014	.280	2,000.00
Cement rubber heel bases.....	100.000	.500	.300	60.00
Organization.....	64.500	.380	.353	93.02
Total.....	270.500	1.855	.411	
Stock fitting:				
Take in and check.....	2.000	.019	.570	3,000.00
Take in stock, cut shanks, check lots, etc.....	2.000	.019	.570	3,000.00
Round insoles.....	20.000	.262	.786	300.00
Stamp and snip.....	8.330	.112	.807	720.29
Channel insoles.....	33.330	.450	.810	180.02
Turn up channels and tie up insoles.....	37.500	.300	.480	160.00
Check up insoles.....	10.000	.057	.342	600.00
Shank outsoles.....	20.830	.150	.432	288.05
Cement and tie up.....	15.150	.084	.333	396.04
Organization.....	21.500	.357	.996	279.07
Total.....	170.640	1.810	.636	
Total, sole-leather department.....	936.851	8.328	.533	
LASTING DEPARTMENT.				
Case counters.....	8.330	.065	.468	720.29
Assemble counters, lasts, and insoles.....	33.330	.226	.407	180.02
Pick lasts.....	33.330	.380	.684	180.02
Tack and trim insoles.....	29.170	.426	.876	205.69
Assemble for pull-over machine.....	125.000	1.670	.802	48.00
Pull over, machine.....	104.170	1.723	.992	57.60
Side last, hand.....	187.500	2.656	.850	32.00
Operate bed machine.....	375.000	4.877	.780	16.00
Crown.....	62.500	.591	.567	96.00
Organization.....	43.000	.480	.670	139.53
Total.....	1,001.330	13.094	.784	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 4.—Men's Goodyear welt, russian bal., 12 square edge, 8 iron sole, 8/8 leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT				
Trim toes.....	20.830	\$0.244	\$0.703	288.05
Pull tacks.....	79.170	.250	.189	75.79
Goodyear welt.....	125.000	2.475	1.188	48.00
Pull insole and side tacks, tack and butt welts.....	100.000	.708	.425	60.00
Trim in seams.....	29.170	.436	.897	205.69
Beat welts.....	33.330	.298	.536	180.02
Tack in shanks.....	29.170	.272	.559	205.69
Fill bottoms.....	33.330	.273	.491	180.02
Cement bottoms.....	20.630	.136	.396	290.84
Lay soles.....	41.670	.500	.720	143.99
Nail heel seats.....	33.330	.292	.526	180.02
Rough round.....	58.330	1.200	1.234	102.86
Trim heel seats.....	20.830	.190	.547	288.05
Turn channels.....	20.830	.190	.547	288.05
Goodyear stitch.....	166.670	2.925	1.063	36.00
Cement channels.....	16.670	.169	.608	359.98
Close channels.....	20.830	.220	.634	288.05
Wheel stitch.....	45.830	.435	.570	130.92
Level.....	37.500	.489	.782	160.00
Heeling.....	83.330	1.202	.865	72.00
Slug heels.....	41.670	.648	.933	143.99
Shave heels.....	33.330	.733	1.320	180.02
Breast heels.....	33.330	.412	.742	180.02
Rough scour heels.....	29.170	.343	.706	205.69
Trim edges.....	133.330	3.075	1.384	45.00
Knife up joints.....	41.670	.490	.706	143.99
Organization.....	43.000	.536	.748	139.53
Total.....	1,371.950	19.141	.836	
FINISHING DEPARTMENT.				
Set edges.....	187.500	3.075	.984	32.00
Scour heel breasts.....	16.670	.189	.680	359.98
Scour and smooth heels.....	58.330	.712	.732	102.86
Wet in heels.....	25.000	.148	.355	240.00
Black heels.....	29.170	.173	.350	205.69
Clean soles.....	25.000	.215	.516	240.00
Clean top pieces.....	25.000	.300	.720	240.00
Wet natural bottoms.....	20.830	.435	1.233	288.04
Gum natural bottoms.....	54.170	.600	.665	110.76
Stripe.....	20.830	.225	.648	288.04
Expedite.....	62.500	.787	.756	96.00
Organization.....	21.500	.357	.996	279.07
Total.....	546.500	7.216	.792	
TREEING AND PACKING DEPARTMENTS.				
Pull lasts.....	25.000	.375	.900	240.00
Stamp bottoms.....	16.670	.106	.382	359.98
Peel for tacks.....	41.670	.234	.337	143.99
Line heels.....	62.500	.352	.338	96.00
Dress.....	70.830	.436	.369	84.71
Tree, hand.....	395.830	5.000	.768	15.16
Repair.....	250.000	18.800	.451	24.00
Brush heels and edges.....	25.000	.357	.857	240.00
Lacc.....	37.500	.337	.539	160.00
Clean stitches.....	104.170	.641	.369	57.60
Inspect.....	25.000	.239	.574	240.00
Emboss.....	16.670	.103	.371	359.98
Stamp cartons.....	16.670	.103	.371	359.98
Pack.....	29.170	.179	.368	205.69
Ship.....	24.100	.218	.543	248.96
Organization.....	21.500	.357	.996	279.07
Total.....	1,162.230	10.917	.563	
Grand total.....	8,571.648	95.138	.666	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 5.—Women's Goodyear welt, black kid, lace oxford, perforated tip, single sole, 8/8 leather
heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Cut vamps and whole shoe, hand.....	400.000	\$8.200	\$1.230	15.00
Cut vamps and toe linings, hand.....	60.000	.625	.625	100.00
Stamp linings (quarter and toe).....	26.000	.253	.639	300.00
Mark uppers.....	15.000	.194	.776	400.00
Cut backstays, hand.....	30.000	.200	.490	200.00
Skive.....	60.000	.870	.870	100.00
Perforate tips.....	45.000	.403	.587	133.33
Assemble.....	15.000	.250	1.000	400.00
Day work.....	256.000	1.540	.362	23.53
Organization.....	60.000	1.068	1.068	100.00
Total.....	960.000	13.583	.849	
STITCHING DEPARTMENT.				
Stitch lace rows.....	60.000	.666	.666	100.00
Stitch vamps and quarter linings.....	60.000	.588	.588	100.00
Stitch quarters and linings.....	50.000	.541	.649	130.00
Stitch backstays.....	60.000	.639	.639	100.00
Snip backstay stitch.....	105.000	.833	.480	57.14
Cement side stay.....	40.000	.250	.375	150.00
Make linings.....	90.000	1.000	.667	66.67
Press and cement quarters, tips, and vamps.....	270.000	2.027	.450	22.22
Stitch tips.....	95.000	1.000	.632	68.16
Stitch tops.....	150.000	1.666	.666	60.00
Black.....	25.000	.166	.398	240.00
Eyelet.....	30.000	.333	.666	200.00
Vamp.....	180.000	2.750	.917	33.33
Lace.....	35.000	.277	.475	171.43
Bar.....	35.000	.277	.475	171.43
Close toes.....	65.000	.583	.538	92.31
Pack.....	30.000	.250	.500	200.00
Day work.....	240.000	2.500	.625	25.00
Organization.....	45.000	.801	1.068	133.33
Total.....	1,665.000	17.147	.617	
SOLE-LEATHER DEPARTMENT.				
Insoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.581	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Dink.....	25.000	.222	.533	240.00
Stamp and cut heel seats.....	15.000	.100	.400	400.00
Cut toes.....	15.000	.083	.332	400.00
Channel.....	40.000	.669	1.004	150.00
Cement.....	20.000	.250	.750	300.00
Rib set.....	35.000	.650	1.114	171.43
Cut off and form in.....	30.000	.388	.776	200.00
Reenforce.....	30.000	.388	.776	200.00
Size and tie up.....	15.000	.116	.464	400.00
Day work.....	15.000	.070	.280	400.00
Organization.....	15.000	.278	1.112	400.00
Total.....	255.000	3.214	.756	
Total, sole-leather department.....	1,145.397	10.775	.564	
LASTING DEPARTMENT.				
Pick and throw away lasts.....	25.000	.555	1.332	240.00
Tack insoles.....	25.000	.444	1.066	240.00
Assemble for pull-over machine.....	130.000	2.833	1.307	48.15
Pull over, machine.....	90.000	1.583	1.055	66.67
Side last, machine.....	90.000	2.041	1.361	66.67
Operate bed machine.....	180.000	3.583	1.194	33.33
Day work.....	23.500	.155	.396	255.32
Organization.....	15.000	.278	1.112	400.00
Total.....	678.500	11.472	1.100	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 5.—Women's Goodyear welt, black kid, lace oxford, perforated tip, single sole, 8/8 leather
heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT.				
Trim uppers.....	25.000	\$0.361	\$0.866	240.00
Staple.....	25.000	.250	.600	240.00
Pull upper tacks.....	40.000	.666	.999	150.00
Goodyear welt.....	90.000	2.708	1.805	66.67
Pull bottom tacks.....	40.000	.533	.500	150.00
Trim inseams.....	22.000	.722	1.969	272.73
Butts.....	15.000	.277	1.108	400.00
Beat welts.....	15.000	.381	1.524	400.00
Put in shank.....	12.000	.250	1.250	500.00
Fill in cork.....	22.000	.416	1.135	272.73
Cement shoes.....	18.000	.194	.647	353.33
Cement soles.....	12.000	.115	.575	500.00
Lay and find soles.....	35.000	.750	1.286	171.43
Rough round.....	35.000	1.200	2.057	171.43
Turn channels.....	15.000	.305	1.220	400.00
Skive shanks.....	15.000	.277	1.108	400.00
Stitch (fudge).....	135.000	3.000	1.333	44.44
Break shanks.....	15.000	.277	1.108	400.00
Lay and cement channels.....	30.000	.472	.944	260.00
Level.....	45.000	1.083	1.444	133.33
Nail heel seats.....	40.000	.354	.631	150.00
Trim heel seats.....	20.000	.250	.750	300.00
Nail heels.....	70.000	1.125	.964	85.71
Slug heels (three nails).....	20.000	.354	1.062	300.00
Shave heels.....	25.000	.875	2.100	240.00
Breast heels.....	17.900	.417	1.472	352.94
Trim edges.....	150.000	3.000	1.200	40.00
Day work.....	23.500	.155	.396	255.32
Organization.....	15.000	.278	1.112	400.00
Total.....	1,041.500	20.845	1.201	-----
FINISHING DEPARTMENT.				
Sour heels, first time.....	25.000	.542	1.301	240.00
Sour breasts.....	20.000	.209	.627	300.00
Set edges.....	140.000	2.750	1.179	42.86
Sour heels, second time.....	25.000	.542	1.301	240.00
Align breasts.....	20.000	.250	.750	300.00
Slick heels.....	20.000	.413	1.239	300.00
Enamel heels.....	20.000	.250	.750	300.00
Black heels.....	15.000	.138	.552	400.00
Burnish heels.....	70.000	.833	.714	85.71
Buff.....	25.000	.750	1.900	240.00
Naumkeag.....	30.000	.583	1.166	200.00
Bleach.....	15.000	.333	1.332	400.00
Hard finish bottoms.....	55.000	.916	.999	109.09
Wax bottoms.....	25.000	.833	1.999	240.00
Black heel tops.....	10.000	.250	1.500	600.00
Clean.....	60.000	1.000	1.000	100.00
Pull lasts.....	20.000	.472	1.416	300.00
Day work.....	25.000	.180	.432	240.00
Organization.....	30.000	.556	1.112	200.00
Total.....	650.000	11.800	1.089	-----
TREEING AND PACKING DEPARTMENT.				
Line-in sock line.....	15.000	.250	1.000	400.00
Iron, clean, and dress.....	270.000	4.020	.893	22.22
Inspect.....	24.000	.222	.555	250.00
Repair.....	60.000	.430	.480	100.00
Lace.....	60.000	.430	.480	100.00
Brush.....	15.000	.138	.552	400.00
Pack.....	72.000	.666	.555	83.33
Stamp cartons.....	15.000	.120	.480	400.00
Day work.....	55.000	.450	.491	109.09
General work (shipping).....	90.000	.900	.600	66.67
Organization.....	15.000	.278	1.112	400.00
Total.....	691.000	8.004	.695	-----
Grand total.....	6,731.397	93.626	.835	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 9.—Men's Goodyear welt, tan, full quarter bals., perforated tip stitched aloft, single sole, leather heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Put up work for cutters.....	86.667	\$0.858	\$0.504	69.23
Cut vamps, quarters, and tongues, machine.....	273.333	4.267	.937	21.95
Cut piece facings, mallet die.....	108.333	1.167	.046	55.38
Cut backstays, machine.....	12.500	1.100	.480	490.00
Cut linings, machine.....	17.500	.145	.497	342.86
Cut doublers, machine.....	10.250	.087	.580	585.37
Sort vamps, etc.....	50.000	.658	.790	120.00
Mark heel stays.....	21.667	.187	.518	276.92
Perforate eyelet row, fox row, vamps, and tips.....	83.333	1.468	1.050	72.00
Stamp linings.....	21.667	.125	.346	276.92
Skive uppers.....	130.000	1.208	.557	46.15
Organization.....	62.381	.639	.615	96.18
Total.....	877.631	10.899	.745	-----
STITCHING DEPARTMENT.				
Make facings.....	67.167	.333	.297	89.33
General work.....	216.667	1.808	.501	27.69
Paste facings.....	54.167	.333	.309	110.77
Paint edges, backstays.....	6.667	.062	.558	899.96
Paint edges, tips.....	4.167	.042	.605	1,439.88
Paint edges, vamps.....	10.833	.125	.692	553.86
Double vamps.....	21.666	.250	.692	276.93
Close quarters.....	43.333	.312	.432	138.46
Paste tip lining.....	14.167	.125	.529	423.52
Paste eyelet stay.....	28.333	.250	.529	211.77
Rub quarter seams.....	16.667	.125	.450	359.99
Stitch perforated eyelet row.....	43.750	.833	1.142	137.14
Stitch foxing perforation.....	43.750	.750	1.029	137.14
Stitch back stays.....	50.000	.625	.750	120.00
Stitch tips.....	43.333	.417	.577	138.46
Stitch box toes.....	43.333	.375	.519	138.46
Cement tops.....	43.333	.167	.231	138.46
Fold tops.....	47.917	.500	.626	125.22
Line tongues.....	66.667	.417	.375	90.00
Stitch eyelet facings.....	64.583	.625	.581	92.90
Stitch heel stays.....	43.333	.417	.577	138.46
Stitch top facing.....	21.667	.250	.692	276.92
Stitch tops.....	208.333	1.667	.480	28.80
Stain edge facings.....	8.333	.062	.446	720.03
Eyelet.....	43.333	.333	.461	138.46
Vamp.....	258.333	3.417	.794	23.23
Seam toe linings.....	43.333	.375	.519	138.46
Lace "ensign".....	43.333	.229	.317	138.46
Sort.....	37.500	.167	.267	160.00
Cripple work.....	43.333	.275	.381	138.46
Organization.....	62.381	.639	.615	96.18
Total.....	1,743.712	16.305	.561	-----
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	98.008	1.010	.619	-----
Insoles, leather ¹	110.404	1.069	.581	-----
Counters, leather ¹	158.915	1.314	.496	-----
Box toes, leather ¹	113.788	1.033	.545	-----
Heels, leather, men's, 4/8 ¹	230.247	2.147	.559	-----
Stock fitting:				
Put up jobs.....	43.333	.850	.485	138.46
Round insoles.....	12.500	.167	.802	490.00
Cut lips and score insoles.....	12.500	.135	.648	490.00
Channel insoles.....	25.000	.375	.900	240.00
Cement lips of insoles.....	16.667	.167	.601	359.99
Set lips of insoles.....	20.833	.250	.720	288.00
Gum insoles.....	25.000	.208	.499	240.00
Reinforce insoles.....	66.667	.250	.225	90.00
Case and sort insoles.....	33.333	.125	.225	180.00
Reduce outsole shanks.....	12.500	.125	.600	490.00
Cement outsoles.....	12.500	.117	.562	490.00
Organization.....	62.381	.639	.615	96.18
Total.....	343.214	2.908	.508	-----
Total, sole-leather department.....	1,064.576	9.481	.539	-----

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 2.—Men's Goodyear welt, tan, full quarter bals., perforated tip stitched aloft, single
sole, leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Throw back to bins, pick out lasts, and put up work	37.500	\$0.417	\$0.667	160.00
Tack insoles	37.500	.417	.667	160.00
Chalk lasts	5.833	.083	.854	1,028.63
Wet uppers	3.333	.083	1.494	1,800.18
Assemble for pull-over machine	83.333	1.333	.960	72.00
Pull over, machine	108.333	1.500	.831	55.38
Slide last, machine	108.333	1.500	.831	55.38
Operate bed machine	285.000	3.750	.849	22.64
Cobble	23.333	.279	.717	267.15
Crown	106.667	1.396	.785	56.25
Organization	62.381	.639	.615	96.18
Total	841.546	11.397	.813	
BOTTOMING DEPARTMENT.				
Trim toes	16.667	.333	1.199	359.99
Staple uppers	25.000	.417	1.001	240.00
Pull upper tacks	33.333	.500	.900	180.00
Goodyear welt	106.667	2.083	1.172	56.25
Trim inseams	25.000	.583	1.399	240.00
Pull insole tacks	20.833	.333	.959	288.00
Trim welts	16.667	.375	1.350	359.99
Tack welts	20.833	.375	1.080	288.00
Beat welts	20.833	.417	1.201	288.00
Tack shanks	20.833	.250	.720	288.00
Fill bottoms	25.000	.333	.799	240.00
Cement bottoms	12.500	.208	.998	480.00
Laying soles	33.333	.583	1.049	180.00
Rough round	54.167	1.083	1.200	110.77
Nail heel seats	29.167	.500	1.029	205.71
Round heel seats	33.333	.250	.450	180.00
Goodyear stitch	126.667	2.292	1.066	47.37
Level	43.333	.417	.577	138.46
Heel, one nailing	52.083	1.167	1.344	115.20
Trim heels	41.667	.750	1.080	144.00
Trim edges	130.000	2.625	1.211	46.15
Knife up (joint)	33.333	.583	1.049	180.00
Pull lasts, hand	20.833	.417	1.201	288.00
Return lasts to picker	20.833	.083	.239	288.00
Inspect	21.667	.283	.784	276.92
General work	21.667	.275	.762	276.92
Organization	62.381	.639	.615	96.18
Total	1,068.630	18.154	1.018	
FINISHING DEPARTMENT.				
Scour breasts	20.833	.375	1.080	288.00
Scour heels, first time	41.667	.750	1.080	144.00
Set edges, first time	75.000	1.583	1.266	80.00
Set edges, second time	54.167	1.000	1.108	110.77
Scour fine heels	19.167	.229	.717	313.04
Ink heels	19.167	.167	.523	313.04
Expedite	54.167	.687	.761	110.77
Naumkeag shank	33.333	.275	.495	180.00
Return rack to last puller	8.333	.083	.598	720.03
Buff forepart	43.333	.600	.831	138.46
Gum bottoms	27.083	.292	.647	221.54
Gum dry, brush	66.667	.500	.450	90.00
Wax	37.500	.250	.400	160.00
Stamp on bottoms	12.500	.146	.701	480.00
Organization	62.381	.639	.615	96.18
Total	575.298	7.576	.790	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 9.—Men's Goodyear welt, tan, full quarter bals., perforated tip stitched aloft, single sole, leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREEING AND PACKING DEPARTMENT.				
Feel for tacks, line-in.....	29.167	\$0.229	\$0.471	205.71
Tree, hand.....	218.333	2.500	.687	27.48
Brush, power.....	87.500	1.167	.800	68.57
Lace.....	29.167	.229	.471	205.71
Repair.....	87.500	.667	.457	68.57
Pack, and stencil cartons.....	43.750	.312	.428	137.14
Inspect, emboss, and general work.....	43.333	.350	.485	138.46
Label.....	40.000	.225	.338	150.00
Ship, and general work.....	86.667	.700	.485	69.23
Organization.....	62.381	.639	.615	96.18
Total.....	727.798	7.018	.578	-----
Grand total.....	6,889.191	80.830	.704	-----

Establishment No. 10.—Men's Goodyear welt, lace oxford, leather lining, single sole, leather heel with rubber top lift.

CUTTING DEPARTMENT.				
Give out stock.....	33.333	\$0.493	\$0.987	180.00
Cut vamps and whole shoe, hand.....	64.167	8.542	.848	9.93
Throat.....	50.000	.285	.342	120.00
Sort.....	83.333	.946	.681	72.00
Match marks.....	66.667	.358	.322	90.00
Skive and trim.....	50.000	.290	.348	120.00
Skive tops, vamps, and tips.....	25.000	.342	.821	240.00
Skive.....	37.500	.372	.605	160.00
Perforate.....	41.667	.307	.442	144.00
Punch tips.....	25.000	.210	.504	240.00
Assemble.....	50.000	.426	.511	120.00
General work.....	37.500	.224	.358	160.00
Block out trimmings.....	91.667	.862	.564	65.45
Cut leather, linings, and stays, hand.....	87.500	.821	.563	68.57
Mark linings.....	62.500	.438	.420	96.00
Skive trimmings.....	76.000	.482	.386	80.00
Checking.....	37.500	.224	.358	160.00
Organization.....	76.000	1.275	1.020	80.00
Total.....	1,533.334	16.897	.661	-----
STITCHING DEPARTMENT.				
Check-in.....	6.250	.025	.240	960.00
Cement tongue linings.....	33.333	.310	.558	180.00
Stitch tongue linings.....	62.500	.479	.460	96.00
Make linings.....	88.333	.600	.432	72.00
Beam linings.....	33.333	.310	.558	180.00
Rub seams.....	20.833	.178	.513	288.00
Beam quarters.....	33.333	.366	.659	180.00
Rub seams.....	20.833	.178	.513	288.00
Stitch anchor backstays.....	126.000	1.097	.527	48.00
Trim out under backstays.....	20.833	.160	.461	288.00
Cement quarters.....	20.833	.178	.513	288.00
Fold quarters.....	62.500	.488	.658	96.00
Eyelet stays.....	12.500	.178	.854	480.00
Sort and match up.....	8.333	.031	.223	720.00
Turn bals.....	83.333	.600	.432	72.00
Undertrim.....	126.000	1.097	.527	48.00
Eyelet.....	33.333	.310	.558	180.00
Double tops.....	29.167	.184	.379	205.71
Stain and sort.....	41.667	.281	.405	144.00
Double tips.....	33.333	.253	.455	180.00
Double vamps.....	33.333	.366	.659	180.00
Stitch tips.....	62.500	.563	.540	96.00
Stitch boxes.....	62.500	.525	.504	96.00
Stitch toe linings.....	41.667	.253	.364	144.00
Lace.....	25.000	.178	.427	240.00
Sort vamps.....	20.833	.103	.207	288.00
Match up for vampers.....	6.250	.025	.240	960.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 10.—Men's Goodyear welt, lace oxford, leather lining, single sole, leather heel with
rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Vamp.....	250.000	\$3.131	\$0.751	24.00
Count, inspect, and check-out.....	50.000	.354	.425	120.00
Day labor.....	300.000	2.250	.450	20.00
Organization.....	37.500	.700	1.120	160.00
Total.....	1,779.163	15.751	.631	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	41.667	.514	.740	144.00
Grade.....	25.000	.357	.857	240.00
Sort and case.....	41.667	.595	.857	144.00
Total.....	108.334	1.466	.812	
Insoles:				
Cut.....	41.667	.482	.694	144.00
Grade.....	16.667	.175	.630	359.99
Sort and case.....	25.000	.262	.629	240.00
Total.....	83.334	.919	.662	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels:				
Build.....	66.667	.592	.533	90.00
Tack rands.....	75.000	.630	.504	80.00
Cut off rands.....	41.667	.221	.318	144.00
Compress.....	29.167	.334	.687	205.71
Cut top pieces.....	41.667	.390	.562	144.00
Total.....	254.168	2.167	.512	
Stock fitting:				
Round outsoles.....	33.333	.342	.616	180.00
Stamp and shank outsoles.....	20.833	.178	.513	288.00
Stamp insoles.....	12.500	.118	.566	480.00
Flex outsoles.....	41.667	.221	.318	144.00
Wet and cement outsoles.....	41.667	.268	.386	144.00
Channel insoles.....	37.500	.450	.720	160.00
Cement insoles.....	16.667	.083	.299	359.99
Set lip, insoles.....	16.667	.125	.450	359.99
Lay cloth insoles.....	41.667	.221	.318	144.00
Trim Gem and Johnson insoles.....	25.000	.310	.744	240.00
Crown insoles.....	20.833	.144	.415	288.00
Assemble.....	37.500	.341	.546	160.00
Check and miscellaneous.....	37.500	.259	.414	160.00
Organization.....	37.500	.608	.973	160.00
Total.....	420.834	3.871	.552	
Total, sole leather department.....	1,139.373	10.770	.567	
LASTING DEPARTMENT.				
Pick lasts and day labor.....	83.333	.740	.533	72.00
Trim and nail insoles.....	41.667	.632	.766	144.00
Assemble for pull-over machine.....	175.000	2.042	.700	34.29
Pull over, machine.....	116.667	1.563	.804	51.43
Side last.....	250.000	3.000	.720	24.00
Operate bed machine.....	387.600	4.225	.654	15.48
Day labor.....	166.667	2.200	.792	36.00
Organization.....	37.500	.546	.874	160.00
Total.....	1,258.334	14.848	.708	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 10.—Men's Goodyear welt, lace oxford, leather lining, single sole, leather heel with
rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT.				
Staple.....	29.167	\$0.272	\$0.560	205.71
Pull tacks.....	49.493	.565	.685	121.25
Trim vamp.....	21.351	.244	.686	281.02
Goodyear welt.....	125.000	2.475	1.188	48.00
Knock out insole tacks.....	27.745	.235	.508	216.26
Pull toe wires.....	29.955	.254	.509	200.30
Butt welts.....	25.633	.218	.510	234.07
Trim in seams.....	41.667	.435	.626	144.00
Beat welts.....	33.333	.327	.589	180.00
Tack shanks and butts.....	50.000	.413	.496	120.00
Fill bottoms.....	28.108	.272	.581	213.46
Cement bottoms.....	13.558	.131	.580	442.54
Lay soles.....	41.667	.545	.785	144.00
Nail heel seats.....	20.833	.263	.757	288.00
Rough round.....	83.333	1.200	.864	72.00
Turn up channels.....	13.438	.218	.973	446.50
Round heel seats.....	11.562	.188	.976	518.94
Goodyear stitch.....	208.333	2.925	.842	28.80
Cement channels.....	20.833	.169	.487	288.00
Joint.....	50.000	.490	.588	120.00
Turn down channels.....	29.167	.188	.387	205.71
Prick stitches.....	50.000	.545	.654	120.00
Level.....	41.667	.545	.785	144.00
Nail base.....	41.667	.708	1.020	144.00
Put in rubber heel.....	83.333	1.083	.783	72.00
Nail, machine.....	29.167	.563	1.158	205.71
Shave heels.....	62.500	.900	.864	96.00
Breast heels.....	45.833	.619	.810	130.91
Trim edges.....	166.667	3.075	1.107	36.00
Day labor.....	450.000	3.880	.517	13.33
Organization.....	37.500	.608	.973	160.00
Total.....	1,962.500	24.558	.751	
FINISHING DEPARTMENT.				
Scour heels.....	50.000	.713	.856	120.00
Set edges.....	166.667	3.075	1.107	36.00
Scour heel breasts.....	20.833	.180	.518	288.00
Gum heel breasts.....	12.500	.163	.782	480.00
Smooth rubber heels.....	41.667	.281	.405	144.00
Black heels.....	16.667	.150	.540	359.99
Expedite heels.....	62.500	.788	.753	96.00
Scour top pieces.....	41.667	.394	.567	144.00
Scour bottoms.....	83.333	1.065	.767	72.00
Dust bottoms.....	12.500	.063	.278	480.00
Bleach bottoms.....	12.500	.058	.273	480.00
Wet bottoms.....	41.667	.625	.900	144.00
Gum bottoms.....	41.667	.625	.900	144.00
Black top pieces and bottoms.....	41.667	.553	.796	144.00
Stripe.....	20.833	.225	.648	288.00
Polish foreparts.....	29.167	.450	.926	205.71
Fake shanks and clean slugs.....	70.833	.863	.731	84.71
Wheel shanks.....	25.000	.360	.864	240.00
Wheel upsoles.....	70.833	.653	.553	84.71
Clean rubber heels.....	12.500	.118	.566	480.00
Full lasts.....	33.333	.450	.810	180.00
Organization.....	37.500	.487	.779	160.00
Total.....	945.834	12.334	.782	
TREEING AND PACKING DEPARTMENT.				
Feel for and cut tacks.....	29.167	.207	.426	205.71
Stamp shanks and bottoms.....	29.167	.225	.463	205.71
Emboss.....	33.333	.225	.405	180.00
Tree, hand.....	562.500	5.530	.622	10.67
Line and put in heel pads.....	66.667	.594	.555	90.00
Dress.....	70.833	.481	.365	84.71
Lace.....	62.500	.394	.378	96.00
Brush.....	66.667	.481	.388	90.00
Crown.....	37.500	.274	.438	160.00
Repair.....	187.500	1.295	.414	32.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 10.—Men's Goodyear welt, lace oxford, leather lining, single sole, leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREEING AND PACKING DEPARTMENT—concluded.				
Label.....	33.333	\$0.215	\$0.387	180.00
Stencil cartons.....	33.333	.216	.389	180.00
Sort shoes and stick tags.....	37.500	.197	.315	160.00
Insert and pack shoes in cartons.....	62.500	.450	.432	96.00
Floor work.....	37.500	.197	.315	160.00
Stamp and nail cases.....	112.500	.738	.394	83.33
Ship.....	37.500	.487	.779	160.00
Organization.....	37.500	.608	.973	160.00
Total.....	1,537.500	12.814	.500	-----
Grand total.....	10,156.038	107.972	.638	-----

Establishment No. 13.—Women's McKay, circular vamp, 6 inches high, quarter polish, tip and tongue, sole and tap, leather heel with rubber top lift.

CUTTING DEPARTMENT.				
Put up jobs for cutter.....	16.875	\$0.438	\$1.557	355.56
Cut vamps and whole shoe, hand.....	467.000	7.780	1.000	12.85
Cut linings, hand.....	30.000	.585	1.170	200.00
Mark sizes.....	25.000	.260	.624	240.00
Stamp linings.....	23.000	.200	.522	260.87
Skive tips.....	19.000	.168	.531	315.79
General work.....	67.500	.491	.436	88.89
Organization.....	16.875	.437	1.554	355.56
Total.....	665.250	10.359	.934	-----
STITCHING DEPARTMENT.				
Make linings.....	147.000	1.370	.559	40.82
Gum side stays.....	42.000	.415	.593	142.86
Close.....	41.000	.333	.487	146.34
Stay.....	45.000	.363	.484	133.33
Close on.....	60.000	.500	.500	100.00
Turn.....	65.000	.500	.462	92.31
Stitch tops.....	130.000	1.225	.565	46.15
Stitch tips.....	100.000	.835	.601	60.00
Close toes.....	60.000	.585	.585	100.00
Eyelet.....	60.000	.560	.560	100.00
Vamp.....	190.000	2.750	.868	31.58
Bar.....	42.000	.278	.397	142.86
Sort and tie.....	47.000	.415	.530	127.66
Organization.....	67.500	.788	.700	88.89
Total.....	1,096.500	10.917	.597	-----
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	-----
Insoles, leather ¹	110.404	1.069	.581	-----
Counters, leather ¹	158.915	1.314	.496	-----
Box toes, leather ¹	113.788	1.033	.545	-----
Heels, leather, 3/8 ¹	423.179	3.253	.461	-----
Stock fitting:				
Fit outsoles.....	80.000	1.410	1.058	75.00
Fit insoles.....	20.000	.300	.900	300.00
Total.....	100.000	1.710	1.026	-----
Total, sole-leather department.....	990.397	9.271	.562	-----

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 13.—Women's McKay, circular vamp, 6 inches high, quarter polish, tip and tongue, sole
and top, leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Put up lasts.....	33.750	\$0.163	\$0.290	177.78
Pull over, hand.....	290.000	4.590	.950	20.69
Operate niggerhead.....	125.000	2.250	1.080	43.00
Organization.....	33.750	.500	.889	177.78
Total.....	482.500	7.503	.933	
SOFTING DEPARTMENT.				
Lay soles.....	74.000	.700	.568	81.08
McKay sew.....	120.000	1.250	.625	50.00
Beat out.....	72.000	.660	.550	83.33
Heel.....	91.000	1.720	1.134	65.92
Shave heels.....	42.000	.630	.900	142.86
Breast heels.....	29.000	.320	.662	206.90
Relast.....	40.000	.278	.417	150.00
Trim edges.....	74.000	1.050	.851	81.08
Organization.....	16.875	.469	1.668	355.56
Total.....	558.875	7.077	.760	
FINISHING DEPARTMENT.				
Scour heels.....	70.000	.700	.600	85.71
Set edges.....	60.000	1.050	1.050	100.00
Burnish heels.....	58.000	.700	.724	103.45
Buff.....	78.000	1.000	.769	76.92
Finish bottoms.....	81.000	1.500	1.111	74.07
Naumkeag.....	28.000	.350	.750	214.29
Pull forms.....	81.000	.200	.887	198.55
Organization.....	16.875	.469	1.668	355.56
Total.....	422.875	5.969	8.47	
TREEING AND PACKING DEPARTMENTS.				
Clean uppers.....	31.000	.450	.871	193.55
Dress.....	74.000	.600	.486	81.08
Iron, hand.....	58.000	.900	.931	103.45
Lace.....	28.000	.335	.718	214.29
Brush up.....	14.000	.135	.579	428.57
Line-in.....	80.000	.600	.450	75.00
Inspect.....	33.750	.269	.473	177.78
Pack.....	31.000	.450	.871	193.55
Ship.....	33.750	.213	.379	177.78
Organization.....	33.750	.625	1.111	177.78
Total.....	417.250	4.577	.653	
Grand total.....	4,633.647	55.673	.721	

Establishment No. 15.—Men's McKay, tan bal., perforated vamp and eyelet row, straight tip, sole with tap,
leather heel with rubber top lift.

CUTTING DEPARTMENT.				
Sort leather.....	15.000	\$0.158	\$0.632	400.00
Pick up jobs for cutters.....	4.400	.055	.723	1,363.64
Cut vamps, top tips, and tongues, machine.....	325.000	4.460	.823	18.46
Cut back stays, hand.....	50.000	.390	.896	120.00
Inspect cut parts.....	33.000	.417	.758	181.82
Case up cut parts.....	25.000	.125	.900	240.00
Sort upper leather remnants.....	32.600	.250	.460	184.05
Cut eyelet facings, hand.....	42.000	.292	.417	142.86
Cut leather top facings, hand.....	14.000	.110	.471	428.57
Skive eyelet facings.....	5.800	.046	.476	1,034.45
Sort and case eyelet facings.....	14.700	.077	.814	408.16
Case heel stays.....	6.600	.041	.873	909.09
Cut cloth linings, machine.....	2.500	.084	.816	2,400.00
Case cloth linings.....	11.000	.080	.436	545.45
Cut vamp doublers, machine.....	1.100	.016	.816	5,454.55

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 15.—Men's McKay, tan bal., perforated vamp and eyelet row, straight tip, sole with tap,
leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT—concluded.				
Case vamp doublers.....	3.000	\$0.023	\$0.460	2,000.00
Cut top doublers, machine.....	1.900	.026	.821	3,157.89
Case top doublers.....	3.600	.027	.450	1,666.67
Cut vamp patches.....	.500	.009	1.080	12,000.00
Cut felt heel pads, machine.....	.400	.005	.750	15,000.00
Sort felt heel pads.....	2.400	.019	.475	2,500.00
Stamp lining.....	11.700	.083	.426	512.82
Match up linings.....	28.000	.146	.313	214.29
Mark vamps for tips.....	15.000	.083	.332	400.00
Mark tops for vamp laps.....	9.200	.053	.346	652.17
Perforate lace row.....	54.500	.167	.184	110.09
Skive tips.....	10.000	.063	.378	600.00
Punch tips.....	20.000	.083	.249	300.00
Skive vamps at cut off.....	10.000	.063	.378	600.00
Perforate vamps.....	53.500	.333	.373	112.15
Skive vamps at heel and throat.....	20.000	.125	.375	300.00
Skive tongues.....	2.770	.023	.498	2,166.07
Skive tops narrow at back and bottom.....	23.800	.177	.446	252.10
Skive tops for folding.....	21.700	.167	.462	276.50
Organization.....	21.820	.340	.935	274.98
Total.....	896.490	8.503	.569	
STITCHING DEPARTMENT.				
Stitch cloth heel stays.....	60.000	.333	.333	100.00
Stitch eyelet facings.....	100.500	.585	.349	59.70
Stitch top facings.....	40.000	.269	.314	150.00
Stitch lace row perforation.....	83.333	.522	.376	72.00
Paste vamp patch.....	23.500	.115	.204	255.32
Double vamps.....	42.800	.208	.292	140.19
Double tops.....	25.700	.125	.292	233.46
Stitch tips.....	44.000	.292	.398	136.36
Close vamps.....	25.800	.167	.388	232.56
Stay vamps.....	25.800	.167	.388	232.56
Close tops.....	42.000	.219	.313	142.86
Rub down back seams.....	10.800	.063	.350	555.55
Cement tops for folding.....	17.500	.115	.394	342.86
Fold tops, machine.....	55.000	.345	.376	109.09
Paste eyelet stays.....	42.800	.209	.293	140.19
Stitch backstays.....	86.750	.543	.376	69.16
Stitch tops (undertrim).....	204.000	1.417	.417	20.41
Eyelet invisible eyelet.....	28.000	.282	.604	214.29
Stain edges.....	21.700	.125	.346	276.50
Lace, machine, 4-hole.....	20.800	.125	.361	288.46
Lace, machine, 1-hole.....	18.400	.115	.375	326.09
Seam linings at toes.....	39.200	.250	.383	153.06
Vamp 2-needle space row.....	323.000	2.010	.541	18.58
Size out uppers.....	18.400	.104	.339	326.09
Cripple and general work.....	133.333	.833	.375	45.00
Organization.....	21.820	.260	.715	274.98
Total.....	1,554.936	10.638	.411	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Sort stock.....	.900	.008	.533	6,666.67
Pile near machine.....	.400	.006	.900	15,000.00
Pile on machine.....	.500	.004	.480	12,000.00
Cut.....	33.540	.400	.716	178.89
Grade and skive.....	10.000	.080	.480	600.00
Sort.....	16.770	.210	.751	357.78
Count.....	1.210	.011	.545	4,958.63
Put away.....	2.600	.019	.438	2,307.69
Case.....	6.880	.073	.637	872.09
Ship.....	1.730	.016	.555	3,468.21
General work.....	11.985	.053	.265	500.63
Organization.....	4.240	.074	1.047	1,415.07
Total.....	90.755	.954	.646	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 15.—Men's McKay, tan bal., perforated vamp and eyelet row, straight tip, sole with tap,
leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLR-LEATHER DEPARTMENT—continued.				
Insoles:				
Cut.....	31.900	\$0.365	\$0.687	188.00
Grade and skive.....	10.190	.068	.400	588.81
Sort.....	14.710	.185	.755	407.89
Put away.....	1.440	.015	.625	4,166.67
Case.....	5.090	.048	.566	1,178.78
Ship.....	1.730	.015	.520	3,468.21
General work.....	11.985	.052	.260	500.63
Organization.....	4.520	.063	.836	1,327.41
Total.....	81.565	.811	.597	-----
Taps:				
Cut.....	28.880	.290	.603	207.76
Grade.....	10.080	.083	.494	595.24
Butt.....	6.250	.050	.480	960.00
Sort and put away.....	10.000	.100	.600	600.00
Case.....	6.150	.055	.537	975.61
Ship.....	.450	.004	.533	13,333.33
Organization.....	1.373	.021	.918	4,369.99
Total.....	63.183	.603	.573	-----
Counters:				
Cut.....	28.880	.292	.607	207.76
Grade and skive.....	8.000	.070	.525	750.00
Sort flat.....	8.660	.090	.624	692.84
Skive.....	4.000	.035	.525	1,500.00
Trim ends.....	4.600	.040	.522	1,304.25
Temper.....	2.450	.023	.563	2,448.97
Roll.....	3.780	.034	.543	1,595.74
Mold.....	20.000	.180	.540	300.00
Sort molded.....	4.810	.045	.561	1,247.40
Put away.....	.200	.002	.600	30,000.00
Case.....	3.400	.034	.600	1,764.71
Ship.....	.450	.004	.533	13,333.33
General work.....	3.965	.038	.575	1,513.24
Organization.....	5.600	.128	1.371	1,071.43
Total.....	98.775	1.015	.617	-----
Box toes:				
Cut.....	1.480	.015	.608	4,054.05
Skive.....	4.060	.045	.665	1,477.83
Sort.....	2.640	.022	.500	2,272.73
Case.....	3.560	.033	.556	1,685.39
Ship.....	.410	.003	.439	14,634.15
Organization.....	1.000	.017	1.020	6,000.00
Total.....	13.150	.135	.616	-----
Heels (log method and rands):				
Make rands (cut, grade, crimp, etc.).....	50.000	.261	.313	120.00
Make logs (cut lifts, build logs, etc.).....	134.510	1.125	.502	44.61
Saw log blanks.....	6.500	.045	.415	923.07
Gouge log blanks.....	7.210	.051	.424	832.18
Tack rands.....	23.280	.220	.567	257.73
Butt rands.....	6.750	.038	.338	888.88
Compress heels.....	10.000	.063	.378	600.00
Buff heels.....	3.070	.030	.586	1,954.40
Sort heels.....	7.420	.062	.501	808.63
Case heels.....	3.110	.029	.559	1,929.26
Case rubber top lift.....	3.640	.034	.560	1,648.35
Ship heel and top lift.....	.860	.007	.488	6,976.75
General work.....	23.070	.177	.480	200.08
Organization.....	5.550	.079	.854	1,061.08
Total.....	234.970	2.221	.468	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 15.—Men's McKay, tan bal., perforated vamp and eyelet row, straight tip, sole with
tap, leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Stock fitting:				
Round insoles	14.300	\$0.115	\$0.483	419.88
Mold insoles	7.500	.052	.416	800.00
Inspect and check out insoles	6.000	.042	.420	1,000.00
Welt outsoles	10.000	.063	.378	600.00
Case outsoles and taps	6.000	.042	.420	1,000.00
Stamp sizes and case number, outsoles	6.000	.042	.420	1,000.00
Roll outsoles	6.000	.042	.420	1,000.00
Round outsoles	22.800	.198	.521	263.16
Channel outsoles	16.800	.146	.521	357.14
Stitch top to outsole	48.000	.324	.405	125.00
Trim taps	22.800	.167	.439	263.16
Gouge outsoles	11.670	.063	.324	514.14
Tack shanks	16.700	.125	.449	359.28
Mold outsoles	13.450	.094	.419	446.10
Paraffin outsoles	6.000	.042	.420	1,000.00
Welt channels	3.330	.021	.378	1,801.80
Turn channels	15.700	.146	.558	382.17
Stain edges	10.000	.083	.498	600.00
Inspect and check out outsoles	12.000	.083	.415	500.00
General work	3.965	.038	.575	1,513.24
Organization	3.240	.074	1.370	1,851.85
Total	262.255	2.002	.458	-----
Total, sole-leather department	894.653	7.741	.519	-----
LASTING DEPARTMENT.				
Case lasts	18.000	.125	.417	333.33
Throw lasts (in bins)	23.400	.146	.374	256.41
Case up work	19.500	.136	.418	307.69
Tack insoles	40.000	.250	.375	150.00
Assemble	68.750	.480	.419	87.27
Pull over, machine, and put in box toes	92.000	.959	.625	65.22
Side last, machine	100.000	.959	.575	60.00
Operate bed machine	195.000	2.000	.615	30.77
Full tacks, insoles	10.800	.125	.694	555.55
Pound toes	22.500	.292	.779	266.67
Tack outsoles	42.500	.418	.590	141.18
Full lasts	38.000	.333	.526	157.89
Organization	21.820	.260	.715	274.98
Total	692.270	6.483	.562	-----
BOTTOMING DEPARTMENT.				
Loose nail heel seat	21.850	.135	.371	274.60
McKay sew	64.200	.667	.623	93.46
Cement channels	32.000	.167	.313	187.50
Welt channels	24.000	.115	.288	250.00
Lay channels	24.000	.125	.313	250.00
Wheel edges	31.500	.198	.377	190.48
Level	28.800	.250	.521	208.33
Heeling (off last)	34.300	.418	.731	174.93
Help heeler	84.200	.167	.292	174.93
Slug	28.000	.250	.536	214.29
Shave heels	30.000	.313	.626	200.00
Breast heels	20.000	.167	.501	300.00
Trim edges	100.000	1.000	.600	60.00
Organization	21.820	.840	.935	274.98
Total	494.770	4.312	.523	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923.
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 15.—Men's McKay, tan bal., perforated vamp and eyelet row, straight tip, sole with tap, leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
FINISHING DEPARTMENT.				
Scour heels, first time.....	37.000	\$0.292	\$0.474	162.16
Set edges (once).....	68.000	.709	.626	88.24
Scour heels, second time.....	16.500	.115	.418	303.64
Stain heels.....	17.500	.104	.357	342.86
Burnish heels.....	35.000	.281	.482	171.43
Scour bottoms.....	56.000	.673	.721	107.14
Dust off and gum.....	21.650	.188	.521	277.14
Paint bottoms.....	33.300	.261	.470	180.18
Gum and brush bottoms.....	38.400	.333	.520	156.25
Wax bottoms.....	22.500	.167	.445	286.67
Cut lacing strings.....	16.670	.104	.374	359.93
Pull lasts.....	37.300	.261	.420	160.86
Wheel bottoms and breasts.....	16.670	.104	.374	359.93
Brand bottoms.....	16.670	.115	.414	359.93
General work.....	18.000	.125	.417	333.33
Organization.....	10.910	.110	.605	549.95
Total.....	462.070	3.942	.512	
TREEING AND PACKING DEPARTMENT.				
Inspect for tacks.....	32.000	.167	.313	187.50
Stock lining.....	10.000	.050	.300	600.00
Paste heel pad.....	24.000	.136	.340	250.00
Tree, hand.....	178.000	1.540	.519	33.71
Repair tan leather.....	65.000	.584	.539	92.31
Dress.....	75.900	.542	.428	79.05
Lace.....	33.350	.208	.374	180.02
Brush heels and edges.....	30.000	.208	.416	200.00
Pack.....	25.900	.167	.387	231.66
Seal fiber cases.....	11.700	.083	.426	512.82
Stamp fiber cases.....	3.330	.028	.505	1,801.60
Ship.....	20.000	.178	.534	300.00
General work.....	18.000	.125	.417	333.33
Organization.....	10.910	.110	.605	549.95
Total.....	538.070	4.128	.460	11.51
Grand total.....	5,533.259	45.745	.496	

Establishment No. 18.—Women's Goodyear welt, 8" polish, black kid, 2-fold vamp, stitched tip fold, black finish, 3/8-leather heel with rubber top lift.

CUTTING DEPARTMENT.				
Cut vamps and whole shoe, hand.....	776.669	\$14.670	\$1.134	7.73
Cut linings, hand.....	57.383	.859	.889	104.55
Cut trimmings, hand.....	82.598	1.060	.770	72.64
Dink trimmings.....	30.000	.306	.600	200.00
Skive quarters, uppers, tips, and backstays.....	145.000	1.643	.761	41.38
Stamp linings.....	45.600	.360	.500	131.58
Perforate tips.....	21.000	.249	.686	285.71
Sweep.....	12.796	.066	.309	468.90
Organization.....	102.370	1.706	1.000	58.61
Total.....	1,273.416	21.112	.995	
STITCHING DEPARTMENT.				
Press vamps, machine.....	24.000	.240	.600	250.00
Press quarters, tips, and backstays.....	235.997	2.360	.600	25.43
Close backs, quarters, side, and back up.....	105.000	.950	.543	67.14
Close side stays (zig-zag).....	90.000	.480	.320	66.67
Close linings.....	31.000	.340	.658	193.55
Close top facings.....	45.000	.270	.360	133.33
Stay seams.....	147.000	.960	.392	40.82
Rub seams.....	38.667	.290	.450	155.17
Line vamps.....	45.000	.270	.360	133.33
Tape vamps.....	65.000	.270	.249	92.31

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 18.—Women's Goodyear welt, 8" polish, black kid, $\frac{1}{4}$ -fold vamp, stitched tip fold,
black finish, 8/8-leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Cement side stays.....	55.000	\$0.490	\$0.535	109.09
Cement toe pieces.....	60.000	.270	.270	160.00
Make linings.....	172.603	1.720	.600	34.88
Close toe.....	50.500	.630	.755	120.00
Black edges.....	43.000	.390	.544	139.53
Eyellet.....	81.000	.810	.600	74.06
Stitch tongue linings.....	62.300	.410	.397	96.77
Stitch tips.....	57.000	.770	.811	105.26
Stitch backstays.....	106.001	1.090	.600	55.56
Stitch tops.....	271.000	2.610	.578	22.14
Vamp.....	370.286	4.320	.700	16.20
Bar.....	35.060	.300	.514	171.43
Lace.....	35.000	.300	.514	171.43
Pack.....	36.860	.230	.375	163.04
Odd shoe work.....	102.370	.597	.350	58.61
Organization.....	102.370	1.422	.833	58.61
Total.....	2,467.494	22.779	.554	2.43
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	-----
Insoles, leather ¹	110.404	1.069	.581	-----
Counters, leather ¹	158.915	1.314	.496	-----
Box toes, leather ¹	113.788	1.033	.545	-----
Heels, leather, 8/8 ¹	423.179	3.253	.461	-----
Stock fitting:				
Round insoles.....	22.000	.270	.736	272.73
Cut toes, insoles.....	10.000	.110	.660	600.00
Stamp insoles.....	9.000	.110	.733	666.67
Channel and knife insoles.....	45.000	.880	1.173	133.33
Cement insoles.....	43.000	.270	.377	139.53
Set lips insoles.....	75.000	.700	.560	80.00
Form insoles.....	51.000	.420	.494	117.65
Trim insoles.....	38.500	.420	.663	157.89
Count, sort, and tie-up insoles.....	28.000	.130	.279	214.29
Wet outsoles.....	6.000	.045	.450	1000.00
Skive and roll outsoles.....	16.000	.180	.675	375.00
Round outsoles.....	24.000	.329	.800	250.00
Stamp outsoles.....	7.000	.070	.600	857.14
Shank outsoles.....	28.000	.300	.643	214.29
Forepart.....	30.750	.410	.800	185.12
Odd shoe work.....	51.185	.379	.444	117.22
Sweep.....	12.796	.066	.309	468.90
Organization.....	51.185	.948	1.111	117.22
Total.....	547.916	6.023	.660	-----
Total, sole-leather department.....	1,438.313	13.589	.567	-----
LASTING DEPARTMENT.				
Put up lasts.....	31.000	.430	.832	193.55
Pull over, hand.....	860.000	10.890	.760	6.98
Operate bed machine.....	270.000	3.870	.860	22.22
Operate elevator.....	12.793	.052	.244	468.90
Organization.....	17.062	.379	1.333	351.06
Total.....	1,190.858	15.621	.787	-----
BOTTOMING DEPARTMENT.				
Trim uppers, machine.....	57.000	.300	.411	105.26
Staple.....	43.000	.270	.377	130.53
Pull side tacks, machine.....	58.000	.720	.745	103.45
Goodyear welt.....	138.000	2.920	1.288	44.12
Pull bottom tacks, machine.....	44.000	.390	.532	136.36
Trim inseams, machine.....	66.858	.780	.700	89.74

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 18.—Women's Goodyear welt, 8" polish, black kid, 2-fold vamp, stitched tip fold,
black finish, 8/8-leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Tack, butt, and slash.....	110.000	\$1.040	\$0.567	54.55
Beat welts.....	35.143	.410	.700	170.74
Fill bottoms.....	46.000	.450	.587	130.43
Cement shoes.....	27.000	.320	.711	222.22
Lay soles.....	45.000	.700	.933	133.33
Tack heel seats.....	11.143	.130	.700	538.46
Rough round.....	78.000	1.300	1.000	76.92
Turn channels.....	26.000	.320	.738	230.77
Reduce shanks.....	30.857	.360	.700	194.45
Goodyear stitch.....	148.000	3.240	1.313	40.54
Cement channels.....	18.857	.220	.700	318.19
Lay channels.....	33.000	.300	.545	181.82
Level.....	60.000	1.230	1.230	100.00
Break shanks.....	27.000	.450	1.000	222.22
Loose nailing.....	43.000	.450	.628	139.53
Nail rubber heels.....	105.000	1.900	1.086	57.14
Nail heels.....	85.000	1.430	1.009	70.59
Shave heels.....	63.000	1.530	1.457	95.24
Breast heels.....	32.000	.530	.994	187.50
Trim edges.....	170.000	4.090	1.443	35.29
General work.....	51.185	.436	.511	117.22
Operate elevators.....	12.796	.062	.244	468.90
Sweep.....	12.796	.066	.309	468.90
Organization.....	17.062	.379	1.333	351.66
Total.....	1,692.697	26.803	.950	
FINISHING DEPARTMENT.				
Scour breasts.....	45.000	.580	.773	133.33
Scour heels, first time.....	115.988	1.590	.823	51.73
Scour heels, second time.....	115.988	1.590	.823	51.73
Set edges.....	235.000	4.030	1.029	25.53
Slick, first and third times.....	35.000	.630	1.090	171.43
Slick, second time.....	35.000	.740	1.269	171.43
Finish heels.....	116.000	1.590	.822	51.72
Buff.....	70.000	.970	.831	85.71
Naumkeag.....	54.400	.680	.750	110.30
Finish bottoms.....	105.000	1.600	.914	57.14
Clean.....	90.000	1.350	.900	66.67
Brush edges.....	30.000	.180	.360	200.00
Pull lasts.....	80.000	.630	.473	75.00
Operate elevators.....	12.796	.062	.244	468.90
Organization.....	17.062	.379	1.333	351.66
Total.....	1,157.234	16.591	.860	
TREEING AND PACKING DEPARTMENT.				
Tree, hand.....	303.750	4.050	.800	19.75
Line-in.....	68.000	.430	.379	88.24
Buff insoles.....	30.400	.380	.750	197.37
Lace.....	55.000	.430	.469	109.09
Dress.....	60.000	.650	.650	100.00
Repair.....	140.000	1.120	.480	42.86
Pack.....	180.000	1.200	.480	40.00
Ship.....	51.185	.379	.444	117.22
Sweep.....	12.796	.066	.309	468.90
Operate elevators.....	12.796	.062	.244	468.90
Organization.....	102.370	1.573	.922	58.61
Total.....	986.297	10.330	.628	
Grand total.....	10,206.309	126.825	.746	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 20.—Women's McKay, patent leather, one-strap, side seam pump, stitch imitation binding all around, single sole, 1½ leather heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Put up stock for cutters.....	30.000	\$0.444	\$0.888	200.00
Cut outsides, hand.....	416.667	7.500	1.080	14.40
Cut linings, hand.....	41.667	.625	.900	144.00
Cut trimmings, hand.....	260.000	2.778	.667	24.00
Dink sock linings.....	11.111	.183	.988	540.01
Skive vamp line.....	25.000	.250	.600	240.00
Mark and stamp.....	27.778	.208	.449	216.00
Organization.....	120.000	1.558	.778	50.00
Total.....	922.223	13.544	.881	
STITCHING DEPARTMENT.				
Press vamp line.....	300.000	1.083	.217	20.00
Close vamps.....	30.000	.250	.500	200.00
Stay vamps.....	33.333	.361	.650	180.00
Make linings.....	166.667	1.500	.540	36.00
Rub seams.....	41.667	.278	.400	144.00
Vamp.....	194.444	3.056	.943	30.86
Stitch bindings, vamps, and quarters.....	250.000	5.083	1.220	24.00
Pump stitch (including hold stay).....	266.667	5.583	1.256	22.50
Make buttonholes.....	30.000	.417	.834	200.00
Sew on buttons.....	30.000	.444	.888	200.00
Button.....	33.333	.250	.450	180.00
Trim buttonholes.....	30.000	.208	.416	200.00
Line vamps.....	30.000	.208	.416	200.00
Iron vamp stays.....	27.778	.250	.540	216.00
Cement button stays.....	30.000	.167	.334	200.00
Cement stiffeners.....	30.000	.167	.334	200.00
Pack.....	30.000	.208	.416	200.00
Floor work.....	30.000	.178	.356	200.00
Odd shoe work.....	60.000	.400	.400	100.00
Organization.....	120.000	1.444	.722	50.00
Total.....	1,763.899	21.535	.733	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.581	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, women's, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Wet soles, roll, and skive.....	11.111	.208	1.123	540.01
Round.....	19.444	.300	.926	308.58
Channel and stamp.....	25.000	.419	1.006	240.00
Shank out.....	13.889	.250	1.080	432.00
Flesh.....	16.667	.250	.900	360.00
Put in shanks.....	13.889	.139	.600	432.00
Mold.....	15.000	.192	.768	400.00
Mark case number on outsoles.....	2.778	.017	.367	2,159.83
Turn channels.....	18.750	.283	.906	320.00
Stain edges.....	13.889	.111	.480	432.00
Wax.....	13.889	.111	.480	432.00
Dink insoles.....	16.667	.333	1.199	359.99
Slash insoles.....	8.333	.139	1.001	720.03
Cement insoles.....	8.333	.069	.497	720.03
Put in boxes.....	19.444	.222	.685	308.58
Mark insoles.....	5.556	.056	.605	1,079.91
General work.....	30.000	.167	.334	200.00
Organization.....	30.000	.500	1.000	200.00
Total.....	282.639	3.766	.799	
Total, sole-leather department.....	1,173.036	11.327	.579	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 20.—Women's McKay, patent leather, one-strap, side seam pump, stitch imitation
binding all around, single sole, 1½ leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Pick lasts.....	41.667	\$0.250	\$0.360	144.00
Wet toes.....	27.778	.250	.540	216.00
Assemble for pull-over machine.....	188.889	2.444	.776	31.76
Pull over, machine.....	100.000	1.500	.900	60.00
Operate niggerhead.....	300.000	4.375	.875	20.00
Pound up.....	60.000	.667	.667	100.00
Buff patent tip.....	27.778	.250	.540	216.00
Put in filler.....	27.778	.167	.361	216.00
Lay soles; nail toes.....	100.00	1.472	.883	60.00
Pull lasts.....	30.556	.417	.819	196.36
Take out tacks in pumps.....	41.667	.167	.240	144.00
Odd shoe work.....	30.000	.200	.400	200.00
Organization.....	30.000	.556	1.112	200.00
Total.....	1,006.113	12.715	.758	
BOTTOMING DEPARTMENT.				
Nail heel seat.....	16.667	.319	1.148	360.00
McKay sew.....	100.000	2.000	1.200	60.00
Line-in.....	60.000	.600	.600	100.00
Cement chameks.....	30.000	.278	.556	200.00
Heat out.....	75.000	1.600	1.280	80.00
Heel.....	60.000	1.250	1.250	100.00
Shug heels.....	16.667	.319	1.148	360.00
Relast.....	30.000	.481	.962	200.00
Shave heels.....	41.667	1.028	1.480	144.00
Breast heels.....	30.000	.489	.978	200.00
Trim edges.....	136.111	2.333	1.028	44.08
Sweep.....	30.000	.200	.400	200.00
Organization.....	30.000	.500	1.000	200.00
Total.....	656.112	11.397	1.042	
FINISHING DEPARTMENT.				
Scour heels, first time.....	50.000	\$0.981	\$1.177	120.00
Scour breasts, first time.....	22.222	.342	.923	270.00
Set edges.....	150.000	2.625	1.050	40.00
Scour heels and slick, second time.....	97.222	1.469	.907	61.71
Buff.....	60.000	1.000	1.000	100.00
Naumkeag.....	30.000	.400	.800	200.00
Black and stain bottoms.....	75.000	.800	.640	80.00
Roll bottoms.....	55.556	1.000	1.000	100.00
Burnish heels.....	75.000	1.078	.862	80.00
Pull lasts.....	22.222	.642	1.463	270.00
Clean.....	97.222	2.631	1.562	61.71
General work.....	30.000	.178	.356	200.00
Organization.....	30.000	.600	1.000	200.00
Total.....	794.444	13.446	1.016	
TREEING AND PACKING DEPARTMENT.				
Iron, hand.....	333.333	7.000	1.260	18.00
Repair.....	500.000	6.833	.700	12.00
Line-in.....	60.000	.600	.500	100.00
Button.....	60.000	.333	.333	100.00
Brush bottoms.....	22.222	.167	.451	270.00
Stamp cartons.....	13.889	.194	.838	432.00
Pack.....	250.000	2.500	.600	24.00
Nail cases.....	13.889	.139	.600	432.00
Ship.....	30.000	.266	.512	200.00
Organization.....	60.000	.604	.094	100.00
Total.....	1,343.333	17.616	.787	
Grand total.....	7,659.150	101.580	.796	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 21.—Men's Goodyear welt, tan calf, blucher oxford, single sole, leather heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Stock-room work.....	22.727	\$0.322	\$0.850	264.00
Cut vamps and whole shoe, machine.....	584.848	7.895	.810	10.26
Sort.....	22.727	.307	.810	264.00
Mark matches.....	30.303	.155	.307	198.00
Mark vamps.....	3.030	.017	.337	1,980.00
Skive.....	121.212	1.182	.585	49.50
Cut cloth linings, machine.....	45.455	.568	.750	132.00
Cut block trimmings.....	6.061	.037	.366	989.94
Case-up cloth linings.....	30.303	.173	.343	198.00
Crimp facings.....	7.576	.060	.475	791.97
Crimp uppers.....	19.697	.163	.497	304.61
Punch tips.....	7.576	.045	.356	791.97
Assemble.....	7.576	.054	.428	791.97
Organization.....	43.636	.500	.688	137.50
Total.....	952.727	11.478	.723	
STITCHING DEPARTMENT.				
Check.....	3.030	.021	.416	1,980.00
Give out work and odd jobs.....	27.273	.308	.667	220.00
Sort tops.....	7.576	.103	.816	791.97
Cement tops for folders.....	15.152	.178	.665	395.99
Fold.....	78.788	.680	.518	76.15
Double top.....	56.061	.366	.392	107.02
Double trimmings.....	27.273	.155	.341	220.00
Seam tops.....	37.879	.396	.627	158.40
Mark eyelet rows.....	44.642	.208	.280	134.40
Stitch eyelet rows.....	43.750	.492	.675	137.14
Hook.....	66.664	1.158	1.042	90.00
Stitch back stays.....	116.667	.972	.500	51.43
Stamp linings.....	15.152	.160	.634	395.99
Seam linings.....	71.212	.505	.426	84.26
Paste hook stays.....	36.364	.262	.432	165.00
Stitch top facings.....	37.500	.310	.496	160.00
Paste top to linings.....	30.303	.441	.873	198.00
Turn bals.....	83.333	.510	.367	72.00
Undertrim.....	128.788	1.134	.528	46.59
Eyelet.....	29.545	.394	.800	263.08
Lace.....	21.212	.197	.557	232.86
Seam toe lining.....	13.636	.115	.506	440.01
Trim hook stays.....	38.889	.184	.284	154.29
Trim back stays.....	16.667	.131	.472	359.99
Trim blucher lining.....	27.777	.159	.343	216.01
Line tongues.....	67.576	.665	.693	104.21
Line tips.....	33.333	.253	.455	180.00
Stitch tips, first row.....	37.879	.487	.771	158.40
Stitch tips, box rows.....	42.424	.487	.659	141.42
Sort vamps.....	19.697	.111	.838	304.61
Seam vamps and foxings.....	33.330	.310	.558	180.02
Stitch blind stays.....	33.330	.281	.506	180.02
Double vamps.....	43.939	.283	.345	136.55
Perforate vamps.....	50.000	.562	.674	120.00
Trim under perforations.....	50.000	.236	.283	120.00
Stitch blucher tongues.....	69.444	.731	.632	86.40
Vamp.....	244.550	3.201	.800	24.53
Trim tongues.....	19.697	.094	.286	304.61
Brace blucher vamps.....	27.779	.225	.498	215.99
Stain edges.....	14.788	.076	.308	405.73
Check.....	7.576	.070	.554	791.97
Organization.....	43.636	.650	.894	137.50
Total.....	1,904.117	18.286	.576	
SOLE-LEATHER DEPARTMENT.				
Outsoles ¹	93.008	1.010	.619	
Insoles:				
Cut.....	45.455	.568	.750	132.00
Sort.....	45.455	.464	.612	132.00
Case.....	33.333	.340	.612	180.00
Total.....	124.243	1.372	.983	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 21.—Men's Goodyear welt, tan calf, blucher oxford, single sole, leather heel with rubber
top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Heels:				
Tack heels (builders).....	36.000	\$0.450	\$0.750	166.67
Tack rands.....	24.242	.167	.413	247.50
Compress heels.....	6.061	.049	.485	989.94
Scour heels (leather).....	21.212	.119	.337	282.86
Scour heels (rubber).....	13.636	.077	.339	440.01
Lump.....	12.121	.084	.416	495.01
Total.....	113.272	.946	.501	
Stock fitting:				
Give out work.....	30.303	.374	.741	198.00
Channel.....	34.848	.450	.775	172.18
Turn lips.....	7.576	.048	.380	791.97
Cut cloth.....	13.636	.070	.308	440.01
Set lips.....	45.455	.314	.414	132.00
Johnson trim.....	36.364	.251	.414	165.00
Lump.....	22.727	.170	.449	284.00
Tie up.....	10.606	.058	.328	565.72
Organization.....	43.636	.650	.894	137.50
Total.....	245.151	2.385	.584	
Total, sole-leather department.....	853.377	8.060	.567	
LASTING DEPARTMENT.				
Give out work.....	7.576	.059	.467	791.97
Assemble leather heels.....	15.152	.085	.337	395.99
Assemble rubber heels.....	15.152	.095	.376	395.99
Assemble soles and counters.....	9.091	.081	.535	659.99
Pick lasts.....	30.303	.356	.705	198.00
Push racks.....	10.606	.077	.436	565.72
Tack and trim insoles.....	40.909	.427	.626	146.67
Mark off work.....	6.061	.032	.317	989.94
Assemble for pull-over machine.....	137.879	1.775	.772	43.52
Pull over, machine.....	87.879	1.725	1.178	68.28
Side last, machine.....	84.848	1.708	1.208	70.71
Operate bed machines.....	243.939	4.875	1.199	24.60
Crown.....	121.212	1.250	.619	49.50
Organization.....	43.636	.450	.619	137.50
Total.....	854.243	12.995	.913	
BOTTOMING DEPARTMENT.				
Trim uppers.....	21.212	.244	.090	282.86
Pull tacks.....	37.879	.490	.776	158.40
Staple.....	21.212	.272	.769	282.86
Goodyear welt.....	98.485	2.250	1.371	60.92
Trim seams.....	45.455	.435	.574	132.00
Beat welts.....	30.303	.272	.539	198.00
Knock insole tacks and butt welts.....	57.576	.718	.748	104.21
Fill bottoms and tack shanks.....	60.606	.546	.641	90.00
Cement bottoms.....	15.152	.131	.619	395.99
Cement soles.....	19.682	.131	.400	304.85
Lay soles.....	38.374	.544	.850	186.36
Nail heel seats.....	22.727	.292	.771	264.00
Rough round.....	75.758	1.125	.891	79.20
Goodyear stitch.....	159.091	2.625	.990	37.71
Trim heel seats.....	21.758	.218	.609	275.76
Cement channels.....	20.255	.169	.500	296.22
Cobble.....	28.788	.303	.632	208.42
Level.....	45.230	.490	.650	132.66
Wheel stitches.....	32.142	.375	.700	186.67
Rub down channels.....	21.212	.188	.532	282.86
Open channels.....	18.182	.188	.621	330.00
Double clinch.....	13.636	.188	.827	440.01
Rub white stitches.....	20.370	.217	.639	294.70
Cement heels.....	37.879	.284	.450	158.40
Heel, leather bases.....	45.238	.942	1.250	132.63
Heel, rubber.....	51.515	1.242	1.447	116.47
Shave heels.....	46.970	.900	1.150	127.74
Breast heels.....	24.242	.412	1.120	247.50
Trim edges.....	163.636	3.075	1.128	36.67
Joint (knife up).....	31.818	.490	.924	188.57
Organization.....	43.636	.450	.619	137.50
Total.....	1,370.019	26.206	.885	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 21.—Men's Goodyear welt, tan calf, blucher oxford, single sole, leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
FINISHING DEPARTMENT.				
Set edges.....	168.182	\$3.075	\$1.097	35.68
Scour breasts.....	24.242	.212	.525	247.50
Scour heels.....	40.909	.712	1.044	146.67
Black heels.....	21.212	.150	.339	282.86
Expedite heels.....	51.818	.691	.800	115.79
Scour bottoms.....	93.939	1.065	.680	63.87
Bleach bottoms.....	48.758	.488	.600	123.06
Paint or stain bottoms.....	36.364	.545	.899	165.00
Gum bottoms.....	60.606	.525	.520	99.00
Stripe.....	25.758	.262	.610	232.94
Wax or roll bottoms.....	31.818	.558	1.052	188.57
Wheel breasts.....	16.667	.180	.648	359.99
Pull lasts.....	30.752	.410	.800	195.11
Clean and rub heels.....	25.758	.131	.305	232.94
Stain breasts.....	15.152	.077	.305	395.99
Check.....	7.105	.032	.270	844.48
Organization.....	43.636	.460	.633	137.50
Total.....	742.676	9.573	.773	-----
TREEING AND PACKING DEPARTMENT.				
Stamp.....	21.212	.224	.634	282.86
Inspect for tacks.....	19.697	.244	.743	304.63
Tree, hand.....	636.364	6.205	.585	9.43
Put in sock linings.....	30.303	.170	.337	198.00
Brush vamps.....	37.579	.227	.366	158.40
Dress and dope.....	90.909	.559	.369	66.00
Repair russia.....	83.333	.625	.450	72.00
Lace.....	45.455	.256	.338	132.00
Brush heels and edges.....	33.333	.356	.641	180.00
Stencil.....	22.727	.140	.370	264.00
Pack.....	68.182	.419	.360	88.00
Pack cases, nail, and strap.....	90.909	.597	.394	66.00
Ship.....	43.636	.315	.433	137.50
Organization.....	43.636	.450	.619	137.50
Total.....	1,267.575	10.787	.511	-----
Grand total.....	7,846.726	90.375	.691	-----

Establishment No. 22.—Women's Goodyear welt, lace, russia calf, polish boot, leather sole, 8/8 leather heel.

CUTTING DEPARTMENT.				
Cut outsides, hand.....	600.000	\$10.500	\$1.050	10.00
Cut trimmings, hand.....	180.000	1.200	.400	33.33
Cut linings, hand.....	36.000	1.190	1.933	166.67
Stamp.....	15.000	.115	.460	400.00
Mark sizes.....	20.000	.140	.420	300.00
Skive uppers.....	45.000	1.120	1.493	133.33
Skive toes.....	15.000	.165	.660	400.00
Perforate tips.....	10.000	.130	.780	600.00
Perforate vamps.....	60.000	.640	.640	100.00
Assemble work.....	15.000	.230	.920	400.00
Organization.....	75.282	1.255	1.000	79.70
Total.....	1,071.282	16.685	.934	-----
STITCHING DEPARTMENT.				
Black vamp, edges, etc.....	65.000	.720	.665	92.31
Close and tape linings.....	30.000	.260	.520	200.00
Close tops and stays.....	115.000	1.240	.647	52.17
Plug tips.....	12.000	.250	1.250	500.00
Stitch tips.....	60.000	.660	.660	100.00
Mark eyelet rows.....	45.000	.370	.493	133.33
Eyelet and stay.....	80.000	.450	.338	75.00
Stitch side stays.....	60.000	.900	.900	100.00
Close (quarters).....	30.000	.375	.750	200.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 22.—Women's Goodyear welt, lace, russia calf, polish boot, leather sole, 3/8 leather heel—
Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Close (sides).....	30.000	\$0.250	\$0.500	200.00
Close (heels).....	30.000	.290	.580	200.00
Stay (quarters).....	30.000	.440	.880	200.00
Stay (sides).....	30.000	.270	.540	200.00
Stay (heels).....	30.000	.360	.720	200.00
Press quarters.....	120.000	1.610	.805	50.00
Stitch backstays.....	120.000	.740	.370	50.00
Stitch tops.....	80.000	2.250	1.688	75.00
Eyelet.....	36.000	.500	.833	166.67
Line tongues.....	50.000	.700	.840	120.00
Lace.....	30.000	.270	.540	200.00
Close toes.....	50.000	.680	.696	120.00
Cement vamp linings.....	60.000	.250	.250	100.00
Vamp.....	540.000	5.310	.590	11.11
Bar.....	30.000	.270	.540	200.00
Pack.....	20.000	.200	.600	300.00
Floor work (girls).....	80.000	.540	.405	75.00
Organization.....	37.641	1.046	1.667	150.40
Total.....	1,900.641	21.101	.667	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.581	
Counters, leather ¹	158.915	1.314	.496	
Top piece, leather ¹	55.330	.587	.636	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, 3/8 ¹	423.179	3.253	.461	
Stock fitting:				
Channel.....	45.000	.670	.893	133.33
Round.....	28.000	.300	.720	240.00
Cut off and form in.....	40.000	.430	.645	150.00
Trim, size, and tie.....	40.000	.480	.720	150.00
Set lips.....	40.000	.560	.840	150.00
Stamp, cut-off-mark splits.....	15.000	.120	.480	400.00
Skive.....	10.000	.200	1.200	600.00
Cement.....	20.000	.250	.750	300.00
Knife.....	20.000	.150	.450	300.00
Shank out.....	20.000	.230	.690	300.00
Form toe lips, machine.....	30.000	.250	.500	200.00
Organization.....	37.641	.697	1.111	159.40
Total.....	342.641	4.337	.759	
Total, sole-leather department.....	1,288.368	12.485	.581	
LASTING DEPARTMENT.				
Put up work (for puller-over).....	15.000	.400	1.600	400.00
Pull over and side last, machine.....	540.000	10.800	1.200	11.11
Operate bed machine.....	165.000	3.880	1.411	36.36
Trim uppers and wet soles.....	25.000	.360	.860	240.00
Organization.....	37.641	.697	1.111	159.40
Total.....	782.641	16.137	1.237	
BOTTOMING DEPARTMENT.				
Trim uppers and sweep.....	29.000	.520	1.076	206.90
Pull side tacks.....	30.000	.750	1.500	200.00
Goodyear welt.....	120.000	2.700	1.350	50.00
Trim inseams, machine.....	30.000	.720	1.440	200.00
Pull bottom tacks, machine.....	24.000	.330	.825	260.00
Butt and tack ends.....	45.000	.410	.547	133.33

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 22.—Women's Goodyear welt, lace, russia calf, polish boot, leather sole, 8/8 leather heel—
Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Beat welts.....	24.000	\$0.380	\$0.950	250.00
Put in shanks.....	30.000	.250	.500	200.00
Fill bottoms.....	45.000	.410	.547	133.33
Cement bottoms.....	15.000	.190	.760	400.00
Lay soles.....	60.000	.750	.750	100.00
Rough round.....	45.000	1.200	1.600	133.33
Turn channels.....	15.000	.300	1.200	400.00
Goodyear stitch.....	135.000	3.300	1.467	44.44
Cement and lay channels.....	36.000	.470	.783	166.67
Level.....	54.000	.760	.844	111.11
Pull lasts.....	45.000	.470	.627	133.33
Staple uppers.....	18.000	.250	.833	333.33
Nail heel seats.....	27.000	.410	.911	222.22
Trim heel seats.....	15.000	.250	1.000	400.00
Heel.....	30.000	.730	1.460	200.00
Slug.....	36.000	.460	.767	166.67
Shave.....	45.000	.830	1.107	133.33
Breast.....	30.000	.390	.780	200.00
Trim edges.....	345.000	3.630	.631	17.39
Odd shoe work.....	37.641	.290	.462	159.40
Sweep.....	75.282	.260	.207	79.70
Organization.....	37.641	.697	1.111	159.40
Total.....	1,478.564	22.107	.898	-----
FINISHING DEPARTMENT.				
Scour breasts.....	18.000	.240	.800	333.33
Scour heels, first time.....	36.000	.490	.817	166.67
Set edges.....	120.000	2.790	1.395	50.00
Scour heels, second time.....	51.000	.490	.576	117.65
Burnish heels.....	45.000	1.000	1.333	133.33
Buff.....	45.000	.750	1.000	133.33
Naumkeag.....	45.000	.630	.840	133.33
Hard finish.....	75.000	.960	.768	80.00
Clean.....	135.000	1.130	.602	44.44
Pull lasts, and put away.....	30.000	.360	.720	200.00
Relast.....	36.000	.580	.967	166.67
Scour.....	30.000	.350	.700	200.00
Odd shoe work.....	37.641	.260	.414	159.40
Pound heels.....	70.000	.350	.300	85.71
Inspect.....	37.641	.230	.367	159.40
Organization.....	37.641	.836	1.332	159.40
Total.....	848.923	11.446	.809	-----
TREERING AND PACKING DEPARTMENT. ¹				
Pull tacks and inspect.....	36.000	.300	.500	166.67
Lace.....	75.000	.320	.256	80.00
Line-in.....	45.000	.300	.400	133.33
Dress.....	300.000	2.400	.480	20.00
Pack.....	150.000	1.200	.480	40.00
Repair.....	240.000	1.320	.480	25.00
General work.....	112.923	.948	.804	53.13
Ship.....	37.641	.538	.889	159.40
Organization.....	37.641	.697	1.111	159.40
Total.....	1,034.205	8.643	.501	-----
Grand total.....	8,404.624	108.606	.775	-----

¹ No treering is done on this shoe.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 26.—Women's Goodyear welt, black kid oxford, five midget eyelets, perforated vamp
and eyelet row, circular vamp with tip, 10/8 rubber heel with leather top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Prepare jobs for cutters.....	149.610	\$1.216	\$0.488	40.10
Cut vamps and whole shoe, machine.....	319.444	5.500	1.033	18.78
Cut linings, machine.....	65.741	.750	.685	91.27
Cut toe linings and doublers, machine.....	43.519	.552	.761	137.87
Dink heel pieces, hand.....	18.519	.180	.583	323.99
Mark uppers.....	6.481	.038	.352	925.78
Skive.....	74.074	.643	.521	81.00
Perforate tips.....	20.833	.229	.660	288.00
Perforate vamps.....	29.630	.375	.759	202.50
Stamp linings.....	9.259	.053	.343	648.02
Assemble.....	9.259	.058	.376	648.02
Sweep.....	24.935	.142	.342	240.62
Organization.....	74.805	.747	.599	80.21
Total.....	846.109	10.483	.743	
STITCHING DEPARTMENT.				
Tape linings.....	41.667	.208	.300	144.00
Stitch-on heel pieces.....	76.852	.542	.423	78.07
Seam heel pieces.....	18.056	.146	.485	332.30
Stitch toe linings.....	62.500	.521	.500	95.99
Cement tops.....	22.222	.167	.451	270.00
Fold tops.....	58.796	.583	.595	102.05
Seam heels.....	79.074	.396	.300	75.88
Stay heels.....	23.148	.229	.594	259.20
Line tongues.....	59.722	.500	.502	100.46
Cement and fold tips.....	55.556	.174	.188	108.00
Stitch tips.....	60.185	.542	.540	99.70
Stitch eyelet rows.....	64.815	.500	.463	92.57
Cement eyelet stays.....	27.778	.271	.585	215.99
Stitch tops.....	113.426	1.417	.750	52.90
Eyelet.....	26.852	.168	.375	223.45
Lace.....	13.889	.125	.540	431.99
Cement vamps.....	27.778	.125	.270	216.00
Fold vamps.....	57.870	.375	.389	103.68
Double vamps.....	18.519	.167	.541	323.99
Reinforce vamps.....	26.852	.208	.465	223.45
Vamp.....	134.259	1.917	.857	44.69
Close toes.....	43.056	.375	.523	139.36
Bar.....	54.000	.208	.231	111.11
Bag.....	11.574	.125	.648	518.41
Cripple work.....	49.870	.208	.250	120.31
Sweep.....	24.935	.142	.342	240.62
Organization.....	274.285	2.455	.537	21.88
Total.....	1,527.536	12.794	.503	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	55.556	.579	.625	108.00
Grade.....	27.788	.183	.395	215.99
Sort.....	27.778	.289	.624	215.99
Total.....	111.112	1.051	.568	
Insoles:				
Cut.....	66.520	.462	.417	90.20
Stamp and case.....	18.519	.135	.437	323.99
Total.....	85.039	.597	.421	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, women's, 8/8 ¹	423.179	3.253	.461	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 26.—Women's Goodyear welt, black kid oxford, five midget eyelets, perforated vamp
and eyelet row, circular vamp with tip, 10/8 rubber heel with leather top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Stock fitting:				
Split.....	15.741	\$0.109	\$0.415	381.17
Thin edges.....	37.037	.309	.501	162.00
Stamp soles.....	6.481	.020	.185	925.78
Shank out.....	21.296	.167	.471	281.74
Scour insoles.....	9.259	.056	.363	648.02
Round insoles.....	27.778	.231	.489	215.99
Snip toes.....	4.630	.013	.168	1,295.88
Channel insoles.....	32.407	.366	.678	185.14
Stitch channels.....	27.778	.159	.343	215.99
Cut and form gem cloths.....	36.667	.229	.375	163.64
Trim gems.....	36.667	.229	.375	163.64
Staple butts.....	11.111	.041	.221	540.00
Wipe toes.....	12.963	.067	.310	462.86
Case up insoles.....	10.185	.053	.312	589.10
Sweep.....	24.935	.142	.342	240.62
Organization.....	24.935	.346	.833	240.62
Total.....	339.870	2.537	.448	-----
Total, sole-leather department.....	1,231.903	9.785	.477	-----
LASTING DEPARTMENT.				
Pick lasts.....	25.000	.208	.499	240.00
Tack insoles.....	29.630	.250	.506	202.50
Assemble for pull-over machine.....	55.556	.750	.810	109.00
Pull over, machine.....	111.111	1.350	.729	54.00
Side last, machine.....	162.037	1.688	.625	37.03
Operate bed machine.....	111.111	2.167	1.170	54.00
Inspect.....	44.444	.281	.379	135.00
Organization.....	37.403	.606	.972	160.41
Total.....	576.292	7.300	.760	-----
BOTTOMING DEPARTMENT.				
Trim toes.....	40.741	.250	.368	147.27
Pull tacks.....	63.889	.250	.285	93.91
Staple.....	36.111	.229	.380	166.15
Pull wires.....	53.333	.364	.374	102.86
Goodyear welt.....	179.111	2.000	.670	83.50
Knock out bottom tacks.....	16.667	.122	.439	359.99
Butt welts.....	25.000	.191	.458	240.00
Trim in seams.....	19.444	.203	.626	308.58
Beat welts.....	8.333	.072	.518	720.03
Shank.....	11.111	.046	.248	540.01
Fill bottoms.....	25.000	.208	.499	240.00
Cement bottoms.....	13.889	.072	.311	432.00
Mold soles.....	17.593	.134	.457	341.04
Cement soles.....	13.889	.072	.311	432.00
Lay soles.....	42.593	.266	.375	140.87
Staple soles.....	12.963	.050	.231	462.86
Rough round.....	30.556	.292	.573	196.36
Nail heel seats.....	20.370	.127	.374	294.55
Trim heel seats.....	17.593	.073	.240	341.04
Round heel seats.....	20.833	.169	.314	288.00
Turn channels.....	14.815	.077	.312	404.99
Goodyear stitch.....	107.407	1.750	.978	55.86
Cement channels.....	18.619	.116	.376	323.99
Lay channels.....	25.000	.130	.312	240.00
Level.....	166.667	1.042	.375	36.00
Reduce shanks.....	16.667	.087	.313	359.99
Hammer shanks.....	19.444	.095	.293	308.58
Heel.....	20.370	.212	.624	294.55
Shave heels.....	17.593	.244	.832	341.04
Breast heels.....	37.500	.312	.499	160.00
Trim edges.....	17.296	1.784	.625	35.03
Cobble.....	49.870	.511	.615	120.31
Operate elevators.....	24.935	.139	.334	240.63
Sweep.....	24.935	.142	.342	240.62
Organization.....	124.675	1.861	.896	45.13
Total.....	1,513.712	13.632	.540	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923.
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 26.—Women's Goodyear welt, black kid oxford, five midget eyelets, perforated vamp and eyelet row, circular vamp with tip, 10/8 rubber heel with leather top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost on 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
FINISHING DEPARTMENT.				
Set edges.....	203.704	\$2.476	\$0.729	29.45
Scour heels, first time.....	44.000	.458	.625	136.36
Black heels.....	27.778	.212	.458	127.00
Burnish heels.....	55.556	.424	.458	108.00
Buff.....	41.667	.500	.720	144.00
Scour breasts, first time.....	13.889	.156	.674	432.00
Scour heels, second time.....	55.000	.458	.500	108.00
Scour breasts, second time.....	19.352	.107	.332	310.05
Scour rubber heels.....	22.222	.212	.572	270.00
Naumkeag shanks.....	41.667	.376	.541	144.00
Black shanks.....	41.667	.318	.458	144.00
Wheel shanks.....	55.556	.386	.417	108.00
Dust and bleach bottoms.....	27.778	.193	.417	216.00
Stain bottoms.....	55.556	.424	.458	108.00
Finish bottoms.....	77.778	.810	.625	77.14
Pull lasts.....	27.778	.159	.343	216.00
General work.....	24.935	.108	.260	240.63
Organization.....	24.935	.519	1.249	240.63
Total.....	860.818	8.296	.578	
TREESING AND PACKING DEPARTMENT.				
Feel tacks.....	17.778	.059	.199	337.50
Put in sock lining.....	25.926	.250	.579	261.43
Tree, hand.....	138.989	2.500	1.080	43.20
Repair.....	61.111	.318	.312	66.18
Dress.....	60.185	.251	.250	98.69
Lace.....	45.833	.229	.300	130.91
Stamp bottoms.....	27.778	.159	.343	216.00
Inspect.....	41.667	.296	.418	144.00
Stamp cartons.....	18.519	.106	.343	328.99
Pack.....	83.333	.434	.312	72.00
Nail boxes.....	13.889	.082	.354	432.00
Ship.....	49.870	.213	.256	120.31
Organization.....	49.870	.671	.807	120.31
Total.....	648.537	5.695	.527	
Grand total.....	7,204.907	67.985	.566	

Establishment No. 27.—Women's McKay, dull calf, circular vamp, oxford, five midget eyelets, perforated vamp and eyelet row with tip, white fairstitched sole, 10/8 leather heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost on 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Prepare jobs for cutters.....	240.000	\$1.216	\$0.304	25.00
Cut vamps and whole shoe, machine.....	207.407	3.396	.993	28.92
Cut linings, machine.....	71.296	.750	.691	84.16
Cut sock lining and doublers, machine.....	21.296	.222	.625	281.74
Dink heel pieces, hand.....	18.519	.180	.588	328.99
Skive.....	55.556	.482	.521	108.00
Mark uppers.....	7.407	.044	.356	810.04
Stamp linings.....	9.259	.061	.330	648.02
Perforate tips.....	20.833	.229	.600	288.00
Perforate vamps.....	38.889	.375	.579	154.29
Assemble.....	9.259	.058	.376	648.02
Sweep.....	40.000	.228	.342	156.00
Organization.....	120.000	.747	.374	50.00
Total.....	859.721	7.960	.557	
STITCHING DEPARTMENT.				
Tape linings.....	41.667	.208	.300	144.00
Stitch on heel pieces.....	64.815	.458	.424	92.57
Seam heel pieces.....	18.056	.146	.485	232.30
Stitch toe linings.....	62.500	.521	.500	96.00
Cement tops.....	22.222	.167	.451	270.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 27.—Women's McKay, dull calf, circular vamp, oxford, five midget eyelets, perforated
vamp and eyelet row with tip, white fairstitched sole, 10/8 leather heel with rubber top lift—Contd.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Fold tops.....	58.706	\$0.563	\$0.595	102.05
Seam heels.....	26.852	.396	.885	223.45
Stay heels.....	23.148	.229	.594	259.20
Line tongues.....	59.722	.500	.502	100.47
Cement and fold tips.....	41.667	.174	.251	144.00
Stitch tips.....	60.185	.542	.540	99.69
Stitch eyelet rows.....	64.815	• 500	.463	92.57
Cement eyelet stays.....	27.778	.271	.585	216.00
Stitch top.....	113.426	1.417	.750	52.90
Eyelet.....	26.852	.168	.375	223.45
Lace.....	13.889	.125	.540	432.00
Cement vamps.....	27.778	.25	.270	216.00
Fold vamps.....	57.870	.375	.389	108.68
Double vamps.....	18.519	.167	.541	323.99
Reinforce vamps.....	26.852	.208	.465	223.45
Vamp.....	134.259	1.017	.857	44.69
Close toes.....	43.056	.375	.523	139.35
Bar.....	61.111	.208	.204	98.18
Bag.....	11.574	.125	.648	518.40
Cripple work.....	80.000	.333	.250	75.00
Sweep.....	40.000	.228	.342	150.00
Organization.....	400.000	3.771	.566	15.00
Total.....	1,627.409	14.237	.525	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	55.556	.579	.625	108.00
Grade.....	27.778	.183	.395	216.00
Sort.....	27.778	.289	.624	216.00
Total.....	111.112	1.051	.668	
Insoles:				
Cut.....	68.520	.462	.417	90.20
Stamp and case.....	18.519	1.350	.437	323.99
Total.....	85.039	.597	.421	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Roll and skive, outsoles.....	4.630	.031	.402	1,295.88
Round outsoles.....	27.778	.236	.510	215.99
Channel.....	37.037	.315	.510	162.00
Turn channel.....	37.037	.231	.374	162.00
Mold.....	27.778	.212	.453	215.99
Feather edge.....	37.037	.309	.501	162.00
Wet up.....	4.630	.031	.402	1,295.88
Scour insoles.....	9.259	.056	.363	648.02
Round insoles.....	18.519	.154	.499	323.99
Case and black soles.....	27.778	.077	.166	215.99
Thin edges.....	29.630	.216	.437	202.50
Sweep.....	40.000	.228	.342	150.00
Organization.....	40.000	.556	.834	150.00
Total.....	341.113	2.652	.466	
Total, sole-leather department.....	1,233.146	9.900	.482	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 27.—Women's McKay, dull calf, circular vamp, oxford, five midget eyelets, perforated
vamp and eyelet row with tip, white fairstitched sole, 10/8 leather heel with rubber top lift—Contd.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Pick lasts.....	18.519	\$0.064	\$0.207	323.99
Tack insoles.....	32.870	.115	.210	182.54
Assemble for pull-over machine.....	75.926	.667	.527	79.02
Pull over, machine.....	111.111	1.100	.594	54.00
Side last, machine.....	108.333	.865	.479	55.38
Operate bed machine.....	161.111	1.175	.438	37.24
Pull tacks.....	39.815	.111	.167	150.70
Insert bottom fillers (felt piece).....	20.370	.057	.168	294.55
Lay soles.....	64.815	.619	.573	92.57
Cut strings and pull lasts.....	58.897	.461	.470	101.87
Inspect.....	44.444	.281	.379	135.00
Organization.....	100.000	1.458	.875	60.00
Total.....	836.211	6.973	.500	
BOTTOMING DEPARTMENT.				
Nail heel seats.....	13.889	.101	.436	432.00
Trim heel seats.....	32.870	.115	.210	182.54
McKay sew.....	87.963	.641	.437	68.21
Cement channels.....	22.222	.069	.186	270.00
Sort out and wet channels.....	28.794	.090	.188	209.03
Level.....	45.089	.361	.480	133.07
Case bases and spot rubber heels.....	36.111	.301	.500	166.15
Heel.....	55.556	.530	.572	108.00
Breast.....	26.852	.200	.447	223.45
Shave heels.....	29.630	.360	.729	202.50
Relast.....	43.519	.325	.448	137.87
Trim edges.....	164.815	1.488	.542	86.40
Sweep.....	40.000	.228	.342	150.00
Operate elevator.....	40.000	.229	.344	150.00
Organization.....	40.000	.722	1.083	150.00
Total.....	707.220	5.760	.489	
FINISHING DEPARTMENT.				
Scour heels, first time.....	40.741	.495	.729	147.27
Scour breasts.....	27.778	.207	.447	216.00
Scour heels, second time.....	40.741	.368	.542	147.27
Stain heels.....	27.778	.251	.542	216.00
Finish heels.....	50.926	.477	.562	117.82
Naumkeag.....	25.000	.260	.624	240.00
Set edges.....	78.704	.683	.521	76.24
Buff bottoms.....	33.333	.347	.625	180.00
Brush bottoms and heels.....	15.741	.083	.126	381.17
Brush edges.....	52.778	.110	.125	113.68
Black bottoms.....	16.667	.174	.626	359.99
Finish bottoms.....	62.037	.582	.563	96.72
Organization.....	40.000	.625	.938	150.00
Total.....	512.224	4.612	.540	
TREEING AND PACKING DEPARTMENT.				
Tree, hand.....	189.815	1.450	.458	31.61
Repair.....	61.111	.318	.312	98.18
Dress.....	60.185	.251	.250	99.69
Pull lasts.....	18.519	.154	.499	323.99
Burn threads.....	25.000	.078	.187	240.00
Put in sock linings.....	42.593	.177	.249	140.87
Sock linings, three-quarters.....	24.074	.100	.249	249.23
Lace.....	26.852	.084	.188	223.45
Stamp cartons.....	19.444	.074	.228	308.58
Pack.....	37.407	.239	.250	104.52
Nail boxes.....	13.889	.052	.354	432.00
Ship.....	80.000	.213	.160	75.00
Sweep.....	40.000	.228	.342	150.00
Organization.....	40.000	1.007	1.511	150.00
Total.....	698.889	4.455	.382	
Grand total.....	6,474.819	53.917	.500	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 29.—Women's McKay, mahogany oxford, imitation tip, Goodyear stitch, leather sole, leather counter, cork insole, leather heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Select upper stock.....	(¹)	(¹)		
Cut vamps and whole shoe, machine.....	182.292	\$2.375	\$0.782	32.91
Sort.....	19.271	.201	.626	311.35
Paint sizes.....	21.333	.059	.166	281.25
Count parts of uppers.....	7.812	.633	.253	768.05
Cut vamp linings, machine.....	4.687	.045	.576	1,280.14
Cut cloth doublers, machine.....	2.604	.025	.576	2,304.15
Cut tongues, machine.....	60.937	.233	.229	98.46
Cut leather linings, machine.....	54.687	.500	.549	109.72
Sweep and odd work.....	21.333	.059	.166	281.25
General work.....	42.667	.137	.193	140.62
Stamp sizes.....	10.417	.083	.478	575.98
Skive uppers.....	30.729	.250	.488	195.26
Skive tongues.....	11.198	.125	.670	535.81
Perforate quarters.....	39.062	.333	.511	153.60
Perforate vamps.....	52.604	.417	.476	114.06
Perforate tips, etc.....	58.333	.469	.482	102.86
Organization.....	42.667	.504	.709	140.62
Total.....	662.633	5.848	.530	
STITCHING DEPARTMENT.				
Check in work.....	6.771	.031	.275	886.13
Fancy stitch, quarters.....	57.292	.500	.524	104.73
Close quarters.....	20.833	.167	.481	288.00
Rub stitches.....	11.458	.083	.435	523.05
Stay quarters.....	24.479	.167	.409	245.11
Cement quarters.....	14.583	.083	.341	411.44
Press, machine.....	79.167	.583	.442	75.79
Stitch tops.....	153.646	1.000	.391	39.05
Evelet.....	31.250	.250	.480	192.00
Close linings.....	31.250	.208	.399	192.00
Stay linings.....	25.000	.167	.401	240.00
Make linings.....	56.250	.500	.533	106.67
Reinforce stays.....	33.854	.208	.369	177.23
Double.....	21.875	.125	.343	274.29
Stitch tips.....	45.312	.333	.441	132.42
Mark for imitation stitch.....	20.833	.167	.481	288.00
Fancy stitch.....	72.396	.583	.483	82.88
Vamp.....	160.417	1.667	.623	37.40
Line toes.....	41.667	.375	.540	144.00
Bar.....	33.854	.167	.296	177.23
Lace.....	31.250	.167	.321	192.00
Odd shoe work.....	42.667	.244	.343	140.62
General work.....	42.667	.196	.276	140.62
Organization.....	21.333	.444	1.249	281.25
Total.....	1,080.104	8.415	.467	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.581	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Case doublers.....	19.271	.157	.489	311.35
Round.....	28.263	.245	.520	212.29
Shank outsoles.....	10.417	.099	.570	575.98
Stamp soles.....	10.417	.054	.311	575.98
Paste tips.....	39.583	.283	.429	151.58
Channel.....	28.263	.319	.677	212.29
General work.....	42.667	.252	.354	140.62
Organization.....	21.333	.296	.833	281.25
Total.....	200.214	1.705	.511	
Total, sole-leather department.....	1,090.611	9.266	.510	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.⁴ Included with item for organization.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 29—Women's McKay, mahogany oxford, imitation tip, Goodyear stitch, leather sole, leather counter, cork insole, leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Match marks.....	21.333	\$0.163	\$0.458	281.25
Tack insoles.....	26.042	.208	.479	230.40
Paste linings.....	46.875	.167	.214	128.00
Paste counters.....	21.333	.148	.416	281.25
Paste linings and repair lasts.....	21.333	.080	.260	281.25
Assemble for pull-over machine.....	47.917	.750	.939	125.22
Pull over, machine.....	78.125	1.083	.832	76.80
Side last, machine.....	80.729	1.083	.805	74.32
Operate bed machines.....	148.437	2.500	1.012	40.42
Inspect.....	21.333	.119	.335	281.25
Cobble.....	64.000	.474	.444	93.75
Pull insole tacks.....	25.521	.167	.393	235.10
Pound.....	57.292	.583	.611	104.73
Put in shanks.....	28.125	.167	.356	213.33
Lay soles.....	54.687	.500	.549	109.72
Pull lasts.....	23.958	.208	.521	250.44
Odd shoe work.....	21.333	.170	.478	281.25
Operate elevators.....	21.333	.089	.250	281.25
Organization.....	42.667	.615	.865	140.62
Total.....	852.373	9.283	.653	
BOTTOMING DEPARTMENT.				
McKay stitch.....	76.562	.750	.588	78.37
Nail toes.....	19.271	.146	.455	311.35
Cement shoes.....	41.667	.250	.360	144.00
Level.....	31.250	.333	.639	192.00
Rough trim.....	31.250	.417	.801	192.00
Fair stitch.....	140.625	1.667	.711	42.67
Nail heel seats.....	18.229	.167	.550	329.15
Beat out.....	23.177	.250	.647	258.88
Heel, bases.....	54.687	.458	.503	109.72
Heel, rubber.....	42.708	.625	.378	140.49
Shave heels.....	45.312	.500	.662	132.42
Breast.....	25.521	.208	.489	235.10
Trim edges.....	95.312	1.250	.787	62.95
Inspect.....	26.562	.221	.499	225.89
Cobble.....	42.667	.341	.480	140.62
General work.....	42.667	.230	.323	140.62
Organization.....	21.333	.444	1.246	281.25
Total.....	778.800	8.257	.636	
FINISHING DEPARTMENT.				
Scour heels.....	68.229	.583	.513	87.94
Set edges.....	88.021	1.250	.852	68.17
Buff.....	35.937	.375	.626	166.96
Pack shoes.....	5.298	.042	.484	1,152.07
Black heels.....	15.625	.083	.319	384.00
Finish heels.....	40.104	.417	.624	149.61
Naumkeag.....	39.583	.417	.632	151.58
Dye soles.....	25.521	.167	.393	235.10
Stain bottoms.....	48.487	.437	.541	123.87
Finish bottoms.....	46.875	.333	.426	128.00
Stamp soles.....	11.458	.083	.435	523.65
Wheel soles.....	23.437	.167	.428	256.01
Polish bottoms.....	25.000	.125	.300	240.00
Polish tops.....	126.042	.417	.198	47.60
Organization.....	21.333	.341	.959	281.25
Total.....	620.810	5.237	.506	
TREEING AND PACKING DEPARTMENT.				
Put in sock lining.....	81.771	.542	.398	73.38
Iron tree, hand.....	286.979	2.083	.430	20.91
Lace.....	41.146	.167	.244	145.82
Brush.....	13.021	.054	.249	460.79
Inspect.....	11.458	.095	.497	523.65
Repair.....	40.625	.226	.334	147.69
Size.....	9.375	.039	.250	640.00
Pack.....	38.021	.211	.333	157.81
General work (ship).....	42.667	.333	.468	140.62
Organization.....	42.667	.537	.755	140.62
Total.....	607.730	4.237	.423	
Grand total.....	5,693.061	50.598	.533	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 32.—Women's McKay, oxford, black vici, one-strap, single sole, leather heel.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Sort leather	19.556	\$0.306	\$0.939	306.81
Pattern	19.556	.306	.939	306.81
Cut outsides, hand	381.944	6.250	.982	15.71
Cut trimmings, hand	215.278	1.750	.489	27.87
Cut toe linings, hand	55.389	.400	.433	108.32
Dink straps, hand	36.111	.250	.415	166.15
Cut sock linings, hand	57.694	.417	.434	104.00
Cut vamp linings, machine	16.667	.120	.432	360.00
Stamp	37.500	.375	.600	160.00
Mark	20.833	.167	.481	288.00
Skive	18.333	.153	.501	327.28
Perforate quarters	167.670	1.397	.500	35.78
Assemble	16.667	.174	.626	359.99
Organization	17.334	.451	1.561	346.14
Total	1,080.532	12.516	.695	
STITCHING DEPARTMENT.				
Floor help	92.592	.694	.450	64.80
Make linings	243.333	2.069	.500	24.16
Close	31.667	.264	.500	189.47
Stay	41.667	.264	.380	144.00
Tape quarters	62.500	.313	.300	96.00
Cement linings	27.778	.167	.361	216.00
Cement, general	20.550	.103	.301	291.97
Press	45.833	.356	.466	130.91
Fancy stitch	219.667	1.831	.500	27.31
Stitch and perforate vamps	115.278	1.167	.607	52.05
Reinforce	41.667	.208	.300	144.00
Binding	208.333	2.500	.720	28.80
Vamp	184.611	2.000	.650	32.50
Stitch pumps	361.111	4.969	.826	16.62
Sew buttons	27.778	.250	.540	216.00
Trim and button	63.889	.333	.313	93.91
Operate buttonhole machine	40.000	.333	.500	150.00
Trim buttonholes	20.833	.167	.481	288.00
Pack	30.556	.139	.273	196.36
Organization	67.794	1.000	.885	88.50
Total	1,952.437	19.127	.588	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.681	
Counters, leather ¹	158.915	1.314	.493	
Top pieces, leather ¹	55.330	.687	.636	
Box toes, leather ¹	113.788	1.033	.645	
Heels, leather, women's, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Floor help	19.201	.167	.522	312.48
Sort soles	15.562	.257	.991	355.55
Wet	8.333	.066	.403	720.03
Skive	8.333	.075	.540	720.03
Roll	8.333	.050	.360	720.03
Stamp and channel	33.333	.339	.010	180.00
Lift groove	10.000	.083	.498	600.00
Round	27.778	.250	.540	215.99
Flesh, all around	30.556	.217	.426	196.36
Shank out	22.222	.150	.405	270.00
Mold	19.444	.160	.494	308.53
Turn channels	25.000	.211	.506	240.00
Thin shank	27.778	.208	.449	215.99
Organization	19.556	.306	.939	306.81
Total	275.429	2.529	.551	
Total, sole-leather department	1,221.156	10.677	.525	

¹These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 32.—Women's McKay, oxford, black vici, one-strap, single sole, leather heel—Cont'd

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Num. of pairs worked on per hour.
LASTING DEPARTMENT.				
Floor help.....	35.842	\$0.389	\$0.651	167.40
Pick lasts.....	36.000	.300	.500	166.67
Assemble for pull-over machine.....	81.278	.917	.677	73.82
Full over, machine.....	87.500	1.389	.952	68.57
Side last, machine.....	131.944	2.000	.909	45.47
Operate bed machine.....	278.783	3.194	.667	21.62
Found.....	44.444	.500	.675	135.00
Tack shanks.....	58.333	.333	.348	102.86
Lay soles.....	113.889	1.072	.565	52.68
Full lasts.....	38.889	.411	.634	154.29
Organization.....	19.556	.306	.939	306.81
Total.....	926.458	10.811	.700	
BOTTOMING DEPARTMENT.				
McKay sew.....	87.083	.900	.620	68.90
Cement channels.....	31.944	.278	.522	187.83
Beat out.....	100.000	1.083	.650	60.00
Nail heel seats.....	20.833	.250	.720	288.00
Feed nailing machine.....	45.856	.347	.454	130.84
Heel.....	45.856	1.042	1.363	130.84
Stug.....	13.889	.250	1.080	432.00
Relast.....	36.111	.472	.78	166.15
Shave heels.....	93.066	1.750	1.128	64.48
Breast, "Lotus".....	45.833	.694	.909	130.91
Scallop.....	19.444	.167	.515	308.58
Trim edges.....	137.500	2.139	.933	43.64
Organization.....	9.778	.153	.939	613.62
Total.....	687.183	9.525	.832	
FINISHING DEPARTMENT.				
Scour breasts, first time.....	47.222	.417	.530	127.06
Scour breasts, second time.....	27.778	.333	.719	216.00
Set edges.....	111.111	1.575	.851	54.00
Scour heels.....	58.333	1.000	1.029	102.86
Cobble.....	41.667	.269	.360	144.00
Dye.....	26.389	.167	.390	227.37
Slick.....	45.833	.389	.609	130.91
Black heels.....	41.667	.139	.200	144.00
Finish heels.....	55.556	1.139	1.230	108.00
Buff.....	69.444	.667	.576	86.40
Naumkeag.....	48.611	.556	.686	123.43
Black bottoms.....	48.611	.306	.378	123.43
Roll bottoms.....	76.389	.833	.654	78.55
Pull lasts.....	27.778	.211	.456	216.00
Inspect.....	25.000	.104	.260	240.00
Clean uppers.....	152.778	.778	.306	39.27
Organization.....	9.778	.153	.939	613.62
Total.....	913.945	9.017	.592	
TREEING AND PACKING DEPARTMENT.				
Sock line.....	53.333	.417	.469	112.50
Tree, hand.....	296.333	3.556	.720	20.25
Repair tips.....	249.958	1.953	.469	24.00
Button.....	40.000	.250	.375	150.00
Pack.....	118.250	.788	.400	50.74
Nail and stencil.....	15.063	.174	.693	398.33
Ship.....	20.450	1.67	.469	293.40
Organization.....	19.556	.306	.939	305.81
Total.....	812.943	7.604	.561	
Grand total.....	7,594.654	79.277	.626	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 33—Men's, Goodyear welt, russia calf vamp and top, single sole, leather heel.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Stock-room work.....	83.333	\$1.180	\$0.850	72.00
Cut vamps and whole shoe, hand.....	1,000.000	14.167	.850	6.00
Sort.....	125.000	1.771	.850	48.00
Match marks.....	62.500	.391	.375	96.00
Mark vamps for tips.....	26.042	.250	.576	230.39
Skive.....	187.500	1.984	.635	32.00
Punch tips.....	41.667	.250	.360	144.00
Cut cloth linings, hand.....	41.667	.470	.677	144.00
Mark linings.....	62.500	.391	.375	96.00
Cut eyelet facings, hand.....	83.333	.408	.294	72.00
Assemble.....	62.500	.575	.360	96.00
Sweep.....	18.647	.108	.348	321.73
Organization.....	28.870	.588	1.222	207.88
Total.....	1,823.559	22.333	.735	
STITCHING DEPARTMENT.				
Sort work.....	8.333	.031	.223	720.03
Skive vamps, under tips.....	8.333	.089	.641	720.03
Paste toe box.....	12.500	.052	.250	480.00
Mark lining for heel and eyelet stay.....	15.625	.088	.338	384.00
Pick name tapes.....	4.167	.021	.302	1,439.89
Trim threads.....	13.542	.076	.337	443.07
Work eyelet row.....	37.600	.365	.584	160.00
Stitch tops.....	302.083	1.750	.348	19.86
Seam up tops.....	28.125	.313	.668	213.33
Rub seams.....	16.667	.135	.486	359.99
Cement.....	17.708	.177	.600	333.83
Fold.....	50.000	.729	.875	120.00
Stitch backstays.....	98.958	1.438	.872	60.63
Paste hook stays.....	22.917	.313	.819	261.81
Sort tops.....	9.375	.135	.864	640.00
Trim vamps.....	25.000	.250	.600	240.00
Stitch tips.....	35.417	.490	.830	169.41
Stitch tips, second row.....	34.375	.563	.983	174.55
Double vamps.....	31.250	.250	.480	191.94
Trim doubles.....	29.167	.250	.514	205.71
Seam vamps.....	50.000	.615	.738	120.00
Rub seams.....	20.833	.177	.510	288.00
Double tips.....	19.792	.250	.758	303.15
Line tongues (stitching).....	45.863	.604	.791	130.91
Trim tongues.....	33.333	.250	.480	180.00
Paste eyelet stays on linings.....	52.083	.365	.420	115.20
Stitch eyelet stays and tongue on linings.....	81.250	1.094	.808	73.85
Stitch heel stays on linings.....	56.250	.750	.800	106.67
Top face linings.....	41.667	.365	.526	143.99
Stitch name tapes on linings.....	53.125	.365	.412	112.94
Trim eyelet stays on linings.....	27.083	.135	.299	221.54
Turn bal.....	132.292	1.333	.605	45.35
Undertrim.....	128.125	1.333	.624	46.83
Eyelet.....	38.542	.729	1.135	155.67
Sort tops.....	12.500	.135	.648	480.00
Sort vamps.....	15.625	.146	.561	384.00
Vamp.....	375.000	5.054	.899	16.00
Lace shoe.....	20.833	.250	.720	288.00
Seam toe lining.....	23.958	.302	.756	250.44
Organization.....	54.757	1.090	1.194	109.58
Sweep.....	18.647	.108	.348	321.77
Operate elevators.....	11.283	.097	.516	531.77
Total.....	2,113.853	23.062	.655	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	31.250	.406	.780	192.00
Grade.....	12.500	.070	.336	480.00
Sort.....	26.042	.307	.707	230.40
Distribute.....	4.514	.021	.279	1,329.20
Case.....	26.042	.307	.707	230.40
Total.....	100.348	1.111	.664	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 55.—Men's, Goodyear welt, russia calf vamp and top, single sole, leather heel—Contd.

Department and operation.	Time cost of 100 pairs (minutes)	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Insoles:				
Cut.....	46.875	\$0.563	\$0.721	123.00
Grade.....	15.625	.088	.338	384.00
Sort.....	41.667	.354	.510	144.00
Case.....	10.417	.089	.513	575.98
Total.....	114.584	1.094	.573	
Counters, leather ¹	158.915	1.314	.496	
Top pieces:				
Cut.....	83.333	.810	.583	72.00
Sort and skive.....	41.667	.325	.468	144.00
Total.....	125.000	1.135	.545	
Box toes, leather ¹	113.788	1.033	.545	
Heels:				
Cut lifts.....	62.500	.553	.531	96.00
Grade lifts.....	26.042	.135	.311	230.40
Build heels.....	62.500	.430	.413	96.00
Press dry.....	50.000	.260	.312	120.00
Tack on rands.....	20.833	.216	.622	288.00
Compress.....	8.333	.065	.468	720.00
Sort.....	8.333	.065	.468	720.00
Case up.....	8.333	.063	.454	720.00
Organization.....	14.400	.175	.729	416.67
Total.....	261.274	1.962	.451	
Stock fitting:				
Stamp outsoles.....	13.542	.083	.368	443.07
Shank outsoles.....	15.625	.133	.511	384.00
Cement outsoles.....	13.542	.073	.323	443.07
Scour insoles.....	6.250	.031	.298	960.00
Stamp insoles.....	15.625	.098	.376	384.00
Round insoles.....	31.250	.267	.513	192.00
Channel insoles.....	33.333	.450	.810	180.00
Turn channels, insoles.....	27.083	.300	.665	221.54
Sweep.....	18.647	.108	.348	321.77
Organization.....	22.674	.433	1.146	264.62
Total.....	197.571	1.976	.600	
Total, sole-leather department.....	1,071.480	9.625	.539	
LASTING DEPARTMENT.				
Pick lasts.....	36.458	.327	.538	164.57
Paint lasts.....	15.625	.083	.319	384.00
Tack insoles.....	41.667	.427	.615	144.00
Assemble and side last, hand.....	614.583	5.042	.492	9.76
Pull over, machine.....	98.958	1.563	.948	60.68
Operate bed machine.....	427.083	4.879	.685	14.05
Crown.....	109.375	1.140	.625	54.86
Organization.....	39.829	.650	.979	160.66
Total.....	1,383.578	14.111	.612	
BOTTOMING DEPARTMENT.				
Staple.....	22.917	.300	.785	261.81
Pull tacks.....	46.875	.392	.502	128.00
Trim toes.....	15.625	.300	1.152	384.00
Goodyear welt.....	151.042	2.475	.983	89.72
Knock tacks.....	26.042	.433	.975	280.40
Trim butt welts and inseams.....	46.875	.652	.835	128.00
Beaf welts.....	26.042	.272	.627	230.40

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See p. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 33.—Men's, Goodyear welt, russia calf vamp and top, single sole, leather heel—Contd.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Tack shanks and butts.....	31.250	\$0.442	\$0.849	192.00
Fill bottoms.....	26.042	.272	.627	230.40
Cement welts.....	15.625	.131	.508	384.00
Lay soles.....	36.458	.542	.892	164.57
Nail heel seats.....	20.833	.263	.757	288.00
Rough round.....	62.500	1.200	1.152	96.00
Turn channels.....	15.625	.217	.833	384.00
Goodyear stitch.....	131.250	2.925	1.337	45.71
Cement channels.....	15.625	.208	.799	384.00
Turn down channels.....	20.833	.217	.625	288.00
Prick stitches.....	41.667	.544	.783	144.00
Trim heel seats.....	20.833	.188	.541	288.00
Level.....	41.667	.490	.706	144.00
Heel.....	62.500	1.267	1.216	96.00
Slug.....	62.500	.638	.612	96.00
Shave heels.....	46.875	.713	.913	128.00
Breast heels.....	41.667	.392	.564	144.00
Trim edges.....	177.083	3.075	1.042	33.88
Joint.....	26.042	.490	1.129	230.40
Crown.....	62.500	.521	.500	96.00
Sweep.....	18.647	.108	.348	321.77
Operate elevators.....	11.283	.097	.516	531.77
Organization.....	39.829	.650	.979	150.65
Total.....	1,364.552	20.404	.897	-----
FINISHING DEPARTMENT.				
Scour, rough.....	26.042	.450	1.037	230.40
Set edge.....	187.500	3.075	.984	32.00
Burnish stitches.....	41.667	.272	.392	144.00
Stain rands.....	31.250	.185	.355	192.00
Scour heel breasts.....	15.625	.180	.691	384.00
Scour heels.....	41.667	.450	.648	144.00
Smooth heels.....	31.250	.231	.540	192.00
Black heels.....	20.833	.150	.432	288.00
Scour bottoms.....	53.333	1.067	.768	72.00
Scour top pieces.....	31.250	.322	.753	192.00
Gum and stain.....	62.500	.942	.904	96.00
Stone heels.....	62.500	.788	.756	96.00
Faking and polishing.....	83.333	1.558	1.122	72.00
Pull lasts.....	31.250	.392	.753	192.00
Return lasts.....	15.625	.087	.334	384.00
Box lasts.....	31.250	.161	.300	192.00
Sweep.....	18.647	.108	.348	321.77
Organization.....	14.453	.276	1.146	415.14
Total.....	829.975	10.814	.782	-----
TREEING AND PACKING DEPARTMENT.				
Stamp.....	20.833	.208	.599	288.00
Line-in.....	26.042	.272	.627	230.40
Tree, hand.....	375.000	4.960	.792	16.00
Repair.....	156.250	1.219	.468	38.40
Clean and lace.....	20.833	.272	.783	288.00
Brush.....	26.042	.190	.438	230.40
Glid face.....	62.500	.401	.385	96.00
Mark cartons.....	46.875	.256	.328	128.00
Pack in cartons.....	156.250	1.083	.416	33.40
Take cartons from bench.....	15.625	.108	.415	384.00
Nail in boxes.....	41.667	.299	.418	144.00
Ship.....	46.875	.313	.401	128.00
Organization.....	28.802	.400	.833	208.31
Total.....	1,023.594	9.962	.584	-----
Grand total.....	9,610.591	110.311	.689	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 34.—Men's welt bal., russian calf, single sole, leather heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Stock-room work.....	67.200	\$6.468		89.28
Selecting dies for cutters.....	28.800	.378	\$0.788	208.38
Cut vamps and whole shoe, machine.....	500.000	6.563	.788	12.00
Case up shoes.....	31.260	.375	.720	192.00
Match marks.....	36.458	.333	.548	164.57
Cut linings, machine.....	20.833	.208	.599	288.00
Case up side linings.....	7.292	.125	1.029	822.82
Cut and case facings.....	36.458	.229	.377	164.57
Case up doublers.....	6.250	.125	1.200	960.00
Skive enamel side linings.....	25.521	.208	.489	285.10
Skive bottom of pointed stays, wide.....	4.167	.083	1.198	1,439.88
Skive pointed stays, narrow.....	10.417	.146	.841	575.98
Skive toes.....	8.333	.113	.814	720.03
Skive bal tops.....	29.688	.375	.758	202.10
Skive vamp throats.....	28.646	.229	.480	209.46
Skive bottom of bal tops.....	17.188	.208	.726	349.08
Skive bottom of bal tongues.....	3.125	.083	1.584	1,920.00
Skive sides of tongues.....	8.333	.177	1.274	720.03
Punch tips.....	8.333	.052	.374	720.03
Skive tips.....	7.813	.088	.676	767.95
Stamp linings.....	9.375	.065	.416	640.00
Floor work.....	230.400	2.169	.565	26.04
Sweep.....	9.600	.050	.313	625.02
Organization.....	19.200	.213	.666	312.50
Total.....	1,154.680	13.063	.679	
STITCHING DEPARTMENT.				
Stain vamps.....	46.354	.240	.311	129.44
Stitch extensions.....	45.438	.528	.654	123.87
Cement brace and side linings.....	53.646	.896	.443	111.84
Double tops, bal.....	26.042	.250	.576	230.40
Double vamps.....	51.042	.167	.196	117.55
Close vamps.....	25.531	.250	.585	235.10
Stay vamps.....	21.875	.296	.812	274.29
Tip two rows, edge.....	41.146	.417	.608	145.82
Tip third row through box.....	26.563	.375	.847	225.88
Close tops.....	27.083	.271	.600	221.44
Stitch eyelet rows with gauge.....	23.958	.375	.927	250.44
Cement for double for machine.....	11.458	.177	.927	523.65
Stitch facings and tongues.....	74.479	.708	.570	80.56
Stitch heel stays on linings.....	44.271	.438	.594	135.53
Stitch top bands.....	29.167	.229	.471	205.71
Trim linings.....	11.879	.146	.731	500.88
Fold.....	39.063	.443	.680	153.60
Cement hook-stays.....	29.688	.208	.420	202.10
Rub tops.....	8.333	.094	.677	720.03
Stitch pointed stays with straps.....	101.563	.667	.304	69.08
Sort tops and linings.....	19.792	.229	.694	303.15
Stitch tops.....	145.833	1.792	.737	41.14
Eyelet.....	26.042	.375	.864	230.40
Sort vamps.....	16.146	.188	.699	371.61
Close vamps, two rows.....	290.208	2.708	.580	21.41
Brace at heel.....	72.917	.375	.309	82.29
Trim tongues.....	8.333	.113	.814	720.03
Close toes.....	19.792	.188	.570	303.15
Bar.....	19.792	.188	.570	303.15
Lace.....	18.750	.208	.666	320.00
Stitch felt linings on tongues.....	34.896	.375	.645	171.94
Count and check out.....	4.688	.040	.512	1,279.86
Floor work.....	307.200	2.398	.468	19.53
Odd shoe work.....	165.600	.688	.391	56.81
Sweep.....	19.200	.098	.306	312.54
Organization.....	38.400	.437	.683	156.24
Total.....	1,870.258	17.075	.545	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 34.—Men's welt bal., russian calf, single sole, leather heel with rubber top lift—Contd.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost for 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	20.833	\$0.228	\$0.657	288.00
Sort.....	35.417	.387	.656	169.41
Grade.....	20.833	.104	.300	288.00
Stamp.....	7.292	.056	.461	822.82
Case.....	18.750	.117	.374	320.00
General work.....	15.600	.100	.385	384.61
Total.....	118.725	.992	.501	
Insoles:				
Cut.....	46.875	.326	.417	128.00
Sort.....	52.083	.521	.600	115.20
Grade.....	20.833	.104	.300	288.00
Case.....	10.417	.065	.374	575.98
General work.....	15.600	.100	.385	384.61
Total.....	145.808	1.116	.459	
Counters:				
Cut.....	46.875	.326	.417	128.00
Skive.....	10.417	.076	.438	575.98
Mold.....	34.375	.227	.396	174.55
Sort.....	8.333	.056	.403	720.03
Glue.....	36.468	.177	.291	164.57
General work.....	15.600	.100	.385	384.61
Total.....	152.058	.962	.380	
Box toes, leather¹.....	113.788	1.033	.545	
Heels:				
Cut heel lifts and make bases.....	93.750	.797	.510	64.00
Case heel bases.....	36.468	.229	.377	164.57
General work.....	15.600	.100	.385	384.61
Total.....	145.808	1.126	.463	
Stock fitting:				
Shank outsoles.....	33.333	.208	.374	180.00
Round insoles.....	26.042	.208	.479	230.40
Cut insole lips at toes and heels, and stamp.....	27.083	.194	.430	221.54
Channel.....	26.042	.284	.654	230.40
Cement channels.....	20.833	.104	.300	288.00
Crimp insoles.....	20.833	.188	.541	288.00
Cut canvas.....	10.417	.125	.720	575.98
Form canvas.....	10.417	.125	.720	575.98
Trim gems.....	20.833	.229	.660	288.00
Pound down butts.....	15.625	.083	.319	384.00
Inspect insoles.....	52.083	.260	.300	115.20
Case insoles.....	25.042	.163	.376	230.40
Match stock to uppers.....	12.500	.089	.427	430.00
Sweep.....	9.600	.045	.281	625.02
General work.....	19.200	.173	.541	312.54
Organization.....	38.400	.453	.708	156.24
Total.....	369.283	2.931	.476	
Total, sole-leather department.....	1,045.470	8.160	.468	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See p. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 34.—Men's welt bal., russian calf, single sole, leather heel with rubber top lift—Contd.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Put up lasts.....	20.833	\$0.141	\$0.406	288.00
Tack insoles.....	21.875	.358	.952	274.29
Trim insoles.....	17.708	.113	.353	338.83
Assemble for puller-over machine.....	109.375	1.417	.777	54.86
Pull over, machine.....	109.375	1.667	.915	54.86
Side last, machine.....	125.000	1.583	.760	48.00
Operate bed machines.....	302.083	3.042	.604	19.86
General work.....	9.600	.055	.344	625.02
Odd shoe work.....	9.600	.078	.458	625.02
Sweep.....	9.600	.049	.306	625.02
Cobble.....	19.200	.188	.588	312.54
Organization.....	48.000	.622	.778	125.00
Total.....	802.249	9.313	.697	
BOTTOMING DEPARTMENT.				
Trim toes.....	9.375	.206	1.318	640.00
Pull tacks.....	29.646	.375	.785	209.45
Goodyear welt.....	71.875	1.813	1.513	83.48
Trim seams and butt.....	32.292	.600	1.115	185.80
Found butts.....	33.854	.281	.498	177.23
Knock tacks.....	45.313	.528	.699	132.41
Beat welts.....	20.833	.300	.804	288.00
Stick shanks.....	17.708	.188	.637	338.83
Fill bottoms.....	22.396	.225	.603	267.90
Cement bottoms.....	13.542	.150	.665	443.07
Cement soles.....	6.771	.113	1.001	896.13
Lay soles.....	34.896	.486	.836	171.94
Nail heel seats.....	19.271	.300	.934	311.35
Rough round and channel.....	43.229	1.614	1.407	138.80
Goodyear stitch.....	123.438	2.375	1.154	48.61
Raise channels.....	11.458	.167	.874	523.65
Cement channels.....	8.854	.169	1.145	677.66
Lay channels.....	8.333	.188	1.354	720.03
Level.....	42.708	.450	.632	140.49
Trim heel seats.....	11.458	.208	1.089	523.65
Cement rubber heels.....	3.125	.016	.307	1,920.00
Cement rubber heel bases.....	3.125	.013	.250	1,920.00
Attach bases.....	26.042	.750	1.728	230.40
Attach rubber heels.....	31.771	.938	1.771	188.85
Trim heels, one-half rubber.....	50.000	.039	.707	120.00
Breast heels.....	33.333	.300	.540	180.00
Trim edges.....	106.667	2.625	.945	36.00
Joint, one side.....	41.667	.417	.630	144.00
Odd shoe work.....	9.600	.054	.338	625.02
Operate elevators.....	9.600	.077	.481	625.02
Sweep.....	19.200	.098	.306	312.54
General work and cobble.....	57.600	.572	.596	104.17
Organization.....	38.400	.437	.683	156.25
Total.....	1,096.380	17.072	.934	
FINISHING DEPARTMENT.				
Scour heel breasts.....	20.833	.167	.481	268.00
Scour heels, first time.....	50.000	.600	.720	120.00
Set edges.....	187.500	2.542	.813	82.00
Scour heels, second time.....	20.833	.206	.598	338.00
Black heels.....	16.667	.150	.540	359.99
Burnish heels.....	70.833	.625	.529	84.71
Inspect (out of room).....	41.667	.875	.540	128.00
Sand foreparts.....	46.875	.600	.708	128.00
Naumkeag and dust.....	28.125	.271	.578	212.33
Flawheel shanks.....	20.833	.180	.420	288.00
Stain, first time.....	29.167	.250	.514	205.71
Stain, second time.....	44.792	.260	.348	132.95
Polish buttons.....	34.375	.500	.873	174.55
Wheel breasts.....	15.625	.125	.450	384.00
Stamp shoes.....	9.375	.263	1.683	640.00
Pull lasts.....	42.708	.417	.586	147.49
Odd shoe work.....	2.400	.018	.450	2,100.00
Sweep.....	4.800	.035	.438	1,250.00
Operate elevator.....	9.600	.068	.425	625.02
General work.....	24.000	.175	.438	2,000.00
Organization.....	19.200	.215	.672	312.54
Total.....	740.206	8.008	.649	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 34.—Men's welt bal., russian calf, single sole, leather heel with rubber top lift—Concd.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREEING AND PACKING DEPARTMENT.				
Search for tacks.....	12.500	\$0.094	\$0.451	480.00
Cut tacks.....	20.833	.130	.374	288.00
Burn threads.....	7.292	.094	.773	822.82
Paste heel pads.....	15.625	.113	.434	384.00
Pair for trees.....	13.542	.113	.501	443.07
Tree, hand.....	156.250	1.917	.736	38.40
Dress russets.....	98.958	.639	.387	60.63
Apply coat of filler.....	31.250	.300	.576	192.00
Polish russets.....	62.500	.542	.520	96.00
Lace.....	21.875	.271	.743	274.29
Repair.....	78.125	.600	.461	76.80
Brush heels and edges, colored.....	28.125	.188	.401	213.33
Emboss top band.....	15.625	.081	.311	384.00
Inspect.....	31.250	.217	.417	192.00
Mark cartons.....	8.333	.052	.374	720.03
Pack shoes.....	28.042	.194	.447	230.40
Seal cases.....	10.417	.065	.374	575.98
Stencil cases.....	10.417	.080	.461	575.98
Odd shoe work.....	9.600	.080	.375	625.02
Operate elevators.....	9.600	.067	.419	625.02
Sweep.....	933	.005	.322	6,490.86
Repair.....	28.800	.198	.413	208.34
Ship.....	19.200	.150	.469	312.54
General work.....	28.800	.210	.438	208.34
Organization.....	28.800	.315	.656	208.34
Total.....	774.692	6.695	.519	-----
Grand total.....	7,492.937	79.386	.636	-----

Establishment No. 35.—Women's Goodyear welt, patent leather, whole quarter, lace oxford, single sole, leather heel.

CUTTING DEPARTMENT.				
Stock-room work.....	25.512	\$0.283	\$0.666	235.18
Cut vamps, tips, quarters, and tongues, hand.....	313.818	3.350	.641	19.12
Sort.....	89.292	.665	.447	67.20
Cut quarter linings (leather), hand.....	216.000	.900	.250	27.78
Cut vamp linings, cloth.....	18.280	.300	.985	328.23
Cut vamp doublers, cloth.....	23.326	.180	.463	287.22
Cut sock linings.....	41.472	.320	.463	144.63
Match marks and sizes.....	21.949	.220	.601	273.36
Cripple work.....	28.302	.250	.530	212.00
Mark vamps for tips.....	51.654	.190	.221	116.16
Mark quarter perforations.....	34.524	.200	.248	173.79
Perforate tips.....	14.421	.160	.606	416.06
Skive vamps.....	21.718	.150	.414	276.27
Skive quarters.....	28.519	.180	.379	210.39
Stencil case numbers.....	29.308	.290	.594	204.72
Sort and count.....	53.478	.500	.601	112.20
Cripple work (girls).....	12.756	.064	.301	470.37
Inspect.....	12.756	.079	.372	470.37
Floor work.....	25.512	.166	.390	235.18
Sweep.....	12.756	.053	.249	470.37
Organization.....	12.756	.276	1.298	470.37
Total.....	1,088.109	8.776	.484	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 35.—Women's Goodyear welt, patent leather, whole quarter, lace oxford, single sole,
leather heel—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT.				
Perforate vamps.....	29.490	\$0.250	\$0.509	203.46
Double vamps.....	26.491	.180	.408	226.49
Stitch tips.....	54.136	.300	.332	110.83
Close heel seams.....	30.151	.200	.398	199.00
Stay heel seams.....	26.530	.250	.565	226.16
Snip (quarters).....	18.448	.170	.553	325.29
Cement quarters.....	36.738	.150	.245	163.32
Fold quarters.....	131.112	.590	.270	45.76
Perforate quarters.....	68.974	.500	.509	101.74
Stitch perforated quarters.....	103.794	.840	.486	57.81
Close heel linings.....	33.486	.200	.358	179.18
Stay heel linings.....	62.502	.250	.240	96.00
Stitch quarters to toe linings.....	135.600	.540	.240	44.45
Close toe linings.....	61.460	.320	.312	97.62
Stitch tops.....	207.318	1.360	.394	28.94
Eyelet.....	22.873	.190	.498	262.32
Match vamps.....	66.667	.250	.226	90.00
Vamp.....	145.518	1.500	.618	41.23
Bar.....	21.193	.180	.510	263.11
Lace.....	40.002	.160	.240	149.99
Tie up.....	11.818	.110	.558	507.70
Cripple work.....	138.462	.750	.325	43.33
Floor work.....	102.048	.646	.380	58.80
Odd shoe work.....	102.048	.468	.275	58.80
Sweep.....	12.756	.077	.362	470.37
Machinists' work.....	12.756	.157	.738	470.37
Belt repairing.....	25.512	.159	.374	235.18
Inspect.....	12.756	.068	.320	470.37
Check out work.....	12.756	.049	.230	470.37
Organization.....	38.268	.665	1.043	156.79
Total.....	1,781.060	11.529	.388	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.581	
Counters, leather ¹	158.915	1.314	.496	
Top pieces, leather ¹	55.390	.587	.636	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Reduce shanks.....	20.424	.230	.676	293.77
Stamp and size.....	30.000	.140	.280	200.00
Cement and tie up.....	44.348	.170	.230	135.29
Channel.....	58.074	.370	.382	103.32
Grade and stamp sizes.....	12.857	.060	.280	466.67
Cut toes.....	10.715	.650	.280	559.96
Cement.....	30.000	.140	.280	200.00
Cut lips.....	21.429	.100	.280	279.99
Set lips.....	29.269	.200	.410	205.00
Lay, duck and form.....	36.432	.170	.280	164.69
Reinforce.....	36.432	.170	.280	164.69
Sort sizes and case.....	17.850	.140	.471	336.13
Inspect.....	12.856	.060	.280	466.71
General work.....	12.756	.079	.372	470.37
Organization.....	12.756	.197	.927	470.37
Round insoles.....	28.422	.180	.380	211.10
Total.....	414.620	2.456	.355	
Total, sole-leather department.....	1,360.347	10.604	.468	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See p. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 35.—Women's Goodyear welt, patent leather, whole quarter, lace oxford, single sole,
leather heel—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Put up soles.....	12.756	\$0.060	\$0.282	470.37
Match uppers.....	12.756	.100	.470	470.37
Put up lasts.....	20.323	.170	.502	295.29
Chalk heels.....	5.977	.050	.502	1,003.85
Tack insoles.....	34.358	.300	.524	174.63
Trim heel seats.....	32.197	.140	.261	186.35
Assemble for puller-over machine.....	68.592	.670	.586	87.48
Pull over, machine.....	71.964	.900	.750	83.38
Wet.....	44.106	.250	.340	136.04
Side last, machine.....	102.714	1.300	.759	58.42
Operate bed machine.....	223.938	2.520	.675	26.79
Iron.....	61.770	.350	.340	97.13
Put away lasts.....	14.346	.120	.502	418.24
Scour toes.....	56.604	.250	.265	106.00
Cripple work.....	34.884	.250	.430	172.00
Inspect toes.....	12.779	.164	.770	469.52
Cobble.....	180.000	1.330	.443	33.33
Inspect.....	180.000	.990	.330	33.33
Odd shoe work.....	60.000	.430	.430	100.00
Operate elevators.....	12.756	.074	.348	470.37
Organization.....	60.000	.926	.926	100.00
Total.....	1,302.820	11.344	.522	
BOTTOMING DEPARTMENT.				
Trim.....	41.826	.310	.445	143.45
Staple uppers.....	41.580	.290	.332	144.30
Pull side tacks.....	82.759	.390	.276	72.50
Goodyear welt.....	77.418	1.500	1.163	77.50
Pull insole tacks.....	35.836	.300	.502	167.43
Trim seams.....	39.619	.450	.681	151.44
Butt welts.....	34.247	.300	.526	175.20
Beat welts.....	24.789	.280	.557	242.04
Fill bottoms.....	61.740	.330	.321	97.18
Cement bottoms.....	18.324	.170	.557	327.44
Put in shanks.....	73.554	.390	.310	81.57
Lay soles.....	34.430	.490	.354	174.27
Rough round.....	42.961	.690	.950	139.66
Turn channels.....	29.430	.230	.469	203.87
Reduce shanks.....	24.387	.270	.664	246.03
Goodyear stitch.....	151.578	2.000	.792	39.58
Lay channels.....	15.427	.200	.727	888.93
Cement channels.....	42.858	.200	.280	140.00
Level.....	69.363	.690	.687	101.07
Wet channels.....	17.143	.100	.350	350.00
Break shanks and trim.....	41.651	.540	.778	144.06
Nail heel seats.....	17.845	.220	.740	336.23
Round heel seats.....	12.167	.150	.740	493.13
Trim edges.....	235.470	1.580	.403	25.48
Case counters.....	12.000	.070	.350	500.00
Case heels.....	20.572	.120	.350	291.66
Prick heels.....	21.954	.150	.410	273.30
Size.....	10.422	.120	.691	575.71
Stick nails.....	38.802	.250	.387	154.63
Heel.....	48.634	.540	.666	123.37
Slug heels.....	23.794	.230	.580	282.17
Shave heels.....	55.374	.450	.438	108.35
Breast heels.....	43.899	.310	.424	136.68
Gouge.....	19.025	.130	.410	315.37
Inspect.....	120.000	1.060	.530	50.00
Floor work.....	60.000	.300	.300	100.00
Odd shoe work.....	120.000	.660	.336	50.00
Operate elevators.....	12.756	.066	.310	470.37
Organization.....	60.000	1.111	1.111	100.00
Total.....	1,923.634	17.487	.545	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 35.—Women's Goodyear welt, patent leather, whole quarter, lace oxford, single sole,
leather heel—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
FINISHING DEPARTMENT.				
Set edges.....	237.540	\$1.580	\$0.399	25.26
Wheel edges.....	37.594	.250	.399	159.00
Scour heel breasts.....	21.177	.150	.425	282.33
Fill heels.....	16.098	.110	.410	272.72
Scour heels, first time.....	41.142	.410	.598	145.94
Scour heels, second time.....	18.061	.180	.598	332.21
Veneer heels.....	19.765	.140	.425	362.37
Black heels.....	30.000	.140	.280	200.00
Burnish heels.....	46.158	.500	.650	129.99
Cripple work.....	53.574	.250	.280	111.99
Scour bottoms.....	30.239	.430	.352	198.42
Naumkeag.....	23.028	.250	.651	260.55
Dust off.....	15.556	.070	.270	385.70
Repair channels.....	22.158	.120	.325	270.78
Black bottoms.....	23.014	.240	.514	214.18
Polish bottoms.....	39.678	.410	.620	151.22
Brush uppers.....	37.590	.360	.575	159.62
Wheel bottoms.....	25.946	.160	.370	231.25
Pull lasts.....	12.704	.130	.614	472.39
Cripple work.....	18.046	.100	.332	332.48
Inspect.....	12.756	.069	.419	470.37
Odd shoe work.....	38.288	.223	.350	156.79
Organization.....	12.756	.197	.927	470.37
Total.....	837.848	6.489	.465	
TRIMMING AND PACKING DEPARTMENT.				
Put in sock linings.....	35.378	.250	.424	169.09
Tree, hand.....	156.336	1.850	.710	36.38
Repair.....	333.336	2.090	.390	18.00
Black edges.....	113.940	.500	.263	52.06
Lace.....	31.085	.150	.290	193.33
Brush edges, heels, and bottoms.....	13.791	.140	.613	437.92
Inspect.....	79.638	.500	.377	75.34
Make boxes and label.....	45.455	.250	.330	132.00
Pack.....	32.699	.310	.569	183.55
Cripple work.....	63.923	.500	.470	94.00
Reclean shoes.....	12.756	.117	.559	470.37
Odd shoe work.....	25.512	.187	.440	235.18
Stencil cases.....	12.756	.096	.452	470.37
Nail cases.....	12.756	.064	.301	470.37
Shipping labor.....	12.756	.072	.339	470.37
Ship.....	12.756	.119	.566	470.37
Organization.....	12.756	.236	1.110	470.37
Total.....	1,007.384	7.241	.437	
Grand total.....	9,301.202	72.570	.475	

Establishment No. 39.—Women's McKay, patent leather, whole quarter, lace oxford, single sole, 8/8
leather heel.

CUTTING DEPARTMENT.				
Stock-room work.....	25.512	\$0.283	\$0.666	235.18
Cut vamps, tips, quarters, and tongues, hand.....	313.818	3.350	.641	19.12
Sort.....	89.292	.665	.447	67.20
Cut quarter linings and leather, hand.....	216.000	.900	.250	27.78
Cut vamp linings, cloth.....	18.280	.300	.985	328.23
Cut vamp doublers, cloth.....	23.331	.180	.463	257.17
Cut sock linings.....	41.469	.320	.463	144.69
Match marks and sizes.....	21.949	.220	.601	273.35
Cripple work.....	28.302	.250	.530	212.00
Mark vamps for tips.....	51.654	.190	.221	116.16
Mark quarter perforations.....	34.522	.200	.348	173.80

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 39.—Women's McKay, patent leather, whole quarter, lace oxford, single sole, 8/8
leather heel—Continued

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT—concluded.				
Perforate tips	14 421	\$0. 160	\$0. 666	416. 00
Skive vamps	21 718	. 150	. 414	276. 26
Skive quarters	28 519	. 180	. 379	210. 39
Stencil case numbers	29 308	. 290	. 594	204. 72
Sort and count	53 476	. 500	. 561	112. 20
Cripple work (girls)	12 756	. 064	. 301	470. 37
Inspect	12 756	. 079	. 372	470. 37
Floor work	25 512	. 166	. 390	235. 18
Sweep	12 756	. 053	. 249	470. 37
Organization	12 756	. 278	1. 298	470. 37
Total	1, 088. 107	8. 776	. 484	
STITCHING DEPARTMENT.				
Perforate vamps	20 487	. 250	. 509	203. 48
Double vamps	26 499	. 180	. 408	226. 50
Stitch tips	54 135	. 300	. 332	110. 83
Close heel seams	30 151	. 200	. 398	199. 00
Stay heel seams	26 530	. 250	. 565	226. 15
Snip (quarters)	18 445	. 170	. 553	325. 30
Cement quarters	36 735	. 150	. 245	163. 33
Fold quarters	131 111	. 590	. 270	45. 76
Perforate quarters	58 976	. 500	. 509	101. 74
Stitch perforated quarters	103 789	. 840	. 486	57. 81
Close heel linings	33 482	. 200	. 359	179. 20
Stay heel linings	62 500	. 250	. 240	96. 00
Stitch quarters to toe linings	135 000	. 540	. 240	44. 45
Close toe linings	61 460	. 320	. 312	97. 62
Stitch tops	207 317	1. 300	. 394	28. 94
Eyelet	22 873	. 190	. 498	262. 32
Match vamps	66 667	. 250	. 225	90. 00
Vamp	145 513	1. 500	. 618	41. 23
Bar	21 193	. 180	. 510	283. 11
Lace	40 000	. 160	. 240	150. 00
Tie up	11 817	. 110	. 559	507. 74
Cripple work	138 462	. 750	. 325	43. 33
Floor work	102 048	. 646	. 380	58. 80
Odd shoe work	102 048	. 468	. 275	58. 80
Sweep	12 756	. 077	. 362	470. 37
Machinists' work	12 756	. 157	. 738	470. 37
Belt repairing	25 512	. 159	. 374	235. 18
Inspect	12 756	. 068	. 320	470. 37
Check out work	12 756	. 049	. 231	470. 37
Organization	38 268	. 665	1. 043	156. 79
Total	1, 781. 033	11. 529	. 388	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84 111	. 892	. 637	
Insoles:				
Die out	13 211	. 110	. 500	454. 16
Sort and case	95 623	. 750	. 471	62. 75
Total	108. 834	. 860	. 474	
Counters, leather ¹	158 915	1. 314	. 496	
Top pieces ¹	55 330	. 587	. 636	
Box toes, leather ¹	113 788	1. 033	. 645	
Heels, leather, 8/8 ¹	423 179	3. 253	. 461	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Continued.

Establishment No. 39.—Women's McKay, patent leather, whole quarter, lace oxford, single sole, 8/8
leather heel—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Stock fitting:				
Wet outsoles.....	10.026	\$0.050	\$0.299	598.44
Round outsoles.....	16.093	.130	.485	372.83
Channel.....	22.979	.180	.470	261.11
Mold.....	14.167	.060	.339	423.32
Wet channels.....	5.106	.040	.470	1,175.06
Turn channels.....	11.489	.090	.470	522.24
Black.....	12.857	.060	.280	466.67
Feather edge.....	8.658	.060	.416	693.00
Flesh.....	12.987	.090	.416	462.00
Cement and press.....	38.530	.180	.280	155.72
Slash.....	6.486	.040	.370	925.06
Mold.....	12.396	.070	.339	484.03
Stamp sizes and tie up.....	30.000	.140	.280	300.00
Cripple work.....	20.000	.100	.300	470.37
Inspect.....	12.756	.060	.282	470.37
General work.....	12.756	.079	.372	470.37
Organization.....	12.756	.197	.927	470.37
Total.....	260.042	1.646	.380	
Total, sole-leather department.....	1,204.199	9.585	.478	
LASTING DEPARTMENT.				
Put up soles.....	12.756	.060	.282	470.37
Match uppers.....	12.756	.100	.470	470.37
Put up lasts.....	17.388	.170	.587	345.06
Tack insoles.....	19.351	.300	.910	310.06
Assemble for pull-over, machine.....	57.289	.670	.702	104.73
Pull over, machine.....	56.727	.740	.783	106.77
Side last, machine.....	125.020	1.800	.624	47.99
Operate bed machines.....	142.095	2.220	.937	42.22
Pound.....	30.564	.420	.825	196.31
Pull insole tacks.....	15.939	.180	.678	376.43
Pull heel tacks and cut strings.....	15.593	.150	.377	384.78
Tack shanks.....	24.256	.220	.544	247.36
Iron.....	37.037	.250	.405	162.00
Tack outsoles.....	37.936	.500	.791	158.16
Pull lasts.....	25.370	.169	.378	236.50
Nail toes.....	29.412	.250	.510	204.00
Put away lasts.....	12.274	.120	.587	488.84
Scour toes.....	46.875	.250	.320	128.00
Cripple work.....	35.154	.250	.427	170.68
Inspect toes.....	12.756	.164	.771	470.37
Cobble.....	32.400	.200	.370	185.20
Floor work.....	32.400	.262	.485	185.20
Odd shoe work.....	16.200	.127	.470	370.37
Operate elevators.....	12.756	.074	.348	470.37
Organization.....	48.600	.575	.710	123.46
Total.....	908.904	9.712	.641	
BOTTOMING DEPARTMENT.				
Wet outsoles.....	7.659	.060	.470	783.39
McKay sew.....	68.966	.770	.670	87.00
Nail heel seats.....	20.962	.170	.487	236.23
Cement channels.....	31.945	.170	.319	187.82
Level sizes.....	28.250	.140	.320	223.57
Wet leather.....	5.944	.050	.505	1,009.42
Level.....	42.972	.590	.517	139.63
Relast.....	49.237	.360	.439	121.86
Put away followers.....	23.478	.090	.230	255.56
Trim edges.....	76.396	.910	.715	78.54
Brush edges.....	30.000	.140	.280	200.00
Case counters.....	12.000	.070	.350	500.00
Case heels.....	20.571	.120	.350	291.67
Prick heels.....	21.951	.150	.410	273.34

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

NEW ENGLAND DISTRICT—Concluded.

Establishment No. 39.—Women's McKay, patent leather, whole quarter, lace oxford, single sole, 8/8
leather heel—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Sort for heelers.....	26.250	\$0.140	\$0.320	228.57
Stick nails.....	64.007	.500	.469	93.74
Heel.....	70.128	.860	.736	85.56
Slug heels.....	175.862	.170	.580	34.12
Shave heels.....	63.959	.410	.456	111.20
Breast heels.....	23.529	.200	.510	255.00
Inspect.....	32.400	.373	.691	185.19
Cobble.....	16.200	.111	.411	370.37
Odd shoe work.....	16.200	.105	.389	370.37
Operate elevators.....	12.756	.066	.510	470.37
Organization.....	32.400	.550	.550	185.18
Total.....	962.022	7.275	.454	
FINISHING DEPARTMENT.				
Set edges.....	117.947	1.540	.783	50.87
Wheel edges.....	30.000	.140	.280	200.00
Scour heel breasts.....	23.904	.110	.276	251.00
Fill heels.....	16.098	.110	.410	372.72
Scour heels, first time.....	58.389	.580	.596	102.76
Scour heels, second time.....	25.168	.250	.596	238.40
Veneer heels.....	19.765	.140	.425	303.56
Pad heels.....	33.143	.290	.525	181.03
Black heels.....	30.000	.140	.280	200.00
Burnish heels.....	46.154	.500	.650	130.00
Cripple work.....	53.571	.250	.280	112.00
Scour bottoms.....	30.239	.430	.853	198.42
Naumkeag.....	23.027	.250	.651	260.56
Dust off.....	15.555	.070	.270	385.73
Repair channels.....	22.154	.120	.325	270.83
Black bottoms.....	28.016	.240	.514	214.16
Polish bottoms.....	39.677	.410	.620	151.22
Brush uppers.....	37.585	.360	.575	159.64
Wheel bottoms.....	25.946	.160	.370	231.25
Pull lasts.....	12.704	.130	.614	472.29
Cripple work.....	18.045	.100	.333	332.50
Inspect.....	12.756	.089	.419	470.37
Odd shoe work.....	38.268	.223	.360	156.79
Organization.....	12.756	.197	.927	470.37
Total.....	770.867	6.829	.532	
TREEING AND PACKING DEPARTMENT.				
Put in sock linings.....	35.377	.250	.424	169.60
Tree, hand.....	156.338	1.850	.710	38.38
Repair.....	333.333	2.000	.300	18.00
Black edges.....	113.938	.500	.263	52.66
Lace.....	31.034	.150	.290	198.33
Brush edges, heels and bottoms.....	13.701	.140	.613	437.92
Inspect.....	79.639	.500	.377	75.34
Make boxes and labels.....	45.455	.250	.330	132.00
Pack.....	32.689	.310	.569	183.55
Cripple work.....	63.830	.500	.470	94.00
Reclean shoes.....	12.756	.117	.550	470.37
Odd shoe work.....	25.512	.187	.440	235.18
Stencil cases.....	12.756	.096	.452	470.37
Nail cases.....	12.756	.064	.301	470.37
Shipping labor.....	12.756	.072	.339	470.37
Ship.....	12.756	.119	.560	470.37
Organization.....	12.756	.236	1.110	470.37
Total.....	1,007.382	7.341	.437	
Grand total.....	7,722.514	61.047	.474	

58 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT.

Establishment No. 6.—Women's Goodyear welt, black glazed kid, five-eye oxford, perforated outside tip, lace stay, and top of quarter, single sole, 8/8 leather heel base with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Sort stock	30.000	\$0.370	\$0.740	200.00
Cut outsides, hand	480.000	7.000	.875	12.50
Cut trimmings, hand	240.000	2.600	.650	25.00
Cut vamp linings, hand	30.000	.400	.800	200.00
Cut toe linings, hand	50.000	.550	.660	120.00
Perforate quarters, vamps, and tips	180.000	2.130	.710	33.33
Stamp quarter linings	40.000	.270	.405	150.00
Stamp outsides	35.000	.270	.465	171.43
Skive	70.000	.920	.789	85.71
Cut sock linings, yokes, etc	25.000	.200	.480	240.00
Assemble work for fitting room	40.000	.200	.300	180.00
Organization and general work	120.000	1.500	.750	50.00
Total	1,340.000	16.410	.735	
STITCHING DEPARTMENT.				
Open up work	20.000	.125	.375	300.00
Paste vamp linings	25.000	.250	.600	240.00
Make linings	195.000	1.950	.600	30.77
Close tops and stay back seams	120.000	.910	.455	50.00
Stitch and stay back vamp line	90.000	.710	.473	66.67
Fold quarters, vamps, tips	300.000	2.900	.590	20.00
Fancy stitch collar and lace stay on quarters	270.000	3.150	.700	22.22
Sort and case	75.000	.500	.400	80.00
Support stays	80.000	.500	.375	75.00
Stitch edges (linings and quarters together)	180.000	2.500	.833	33.33
Eyelet	35.000	.400	.636	171.43
Vamp	340.000	4.550	.803	17.65
Stitch long line toe seam	150.000	1.500	.600	40.00
Bar and lace	93.000	.510	.329	64.52
Inspect and trim	280.000	1.500	.450	30.00
Organization and general work	490.000	3.060	.549	15.00
Total	2,573.000	25.515	.595	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.581	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Sort stock	40.000	.500	.750	150.00
Round outsoles	30.000	.250	.500	200.00
Round insoles	25.000	.200	.450	240.00
Channel insoles	40.000	.450	.675	150.00
Stitch insoles	45.000	.220	.293	133.33
Buck gem, machine	40.000	.180	.270	150.00
Reinforce insoles	40.000	.190	.285	159.00
Form in toe of insole	35.000	.170	.291	171.43
Stamp work	30.000	.170	.340	266.00
Shank outsoles	40.000	.300	.450	150.00
Lay up cases	35.000	.180	.309	171.43
Organization and general work	80.000	.830	.623	75.00
Total	480.000	3.640	.455	
Total, sole-leather department	1,370.397	11.201	.490	
LASTING DEPARTMENT.				
Get out lasts	20.000	.150	.450	300.00
Tack insoles	25.000	.200	.450	240.00
Assemble for pull-over machine and side last, hand	480.000	7.500	.938	12.50
Full over, machine	120.000	1.850	.925	50.00
Operate bed machine	180.000	3.700	1.233	83.33
Organization and general work	80.000	1.000	.750	75.00
Total	905.000	14.400	.955	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 6.—Women's Goodyear welt, black glazed kid, five-eye oxford, perforated outside tip, lace stay, and top of quarter, single sole, 8/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT.				
Trim uppers.....	30.000	\$0.330	\$0.600	200.00
Staple uppers.....	30.000	.300	.600	200.00
Pull tacks.....	30.000	.370	.740	200.00
Goodyear welt.....	120.000	2.250	1.125	50.00
Pull bottom tacks.....	30.000	.370	.740	200.00
Trim inseams.....	60.000	.600	.600	100.00
Beat out welts.....	50.000	.500	.600	120.00
Put in shanks.....	45.000	.250	.333	133.33
Fill bottoms.....	45.000	.300	.400	133.33
Cement soles.....	35.000	.150	.257	171.43
Cement bottoms.....	35.000	.150	.257	171.43
Lay soles.....	60.000	.750	.750	100.00
Rough round.....	55.000	1.250	1.364	109.09
Turn up channels.....	35.000	.200	.343	171.43
Goodyear stitch.....	130.000	2.400	1.108	46.15
Cement channels.....	30.000	.160	.320	200.00
Lay leaf.....	30.000	.200	.400	200.00
Pound shanks.....	40.000	.400	.600	150.00
Level.....	70.000	.886	.754	85.71
Sort work (after leveling).....	25.000	.350	.940	240.00
Heel.....	60.000	1.150	1.150	100.00
Nail seats.....	30.000	.250	.600	200.00
Rough round heel seats.....	30.000	.200	.400	200.00
Slug.....	35.000	.350	.600	171.43
Trim heels.....	50.000	1.000	1.200	120.00
Breast heels.....	40.000	.400	.600	150.00
Trim edges.....	160.000	2.750	1.031	37.50
Joint heels.....	30.000	.500	1.000	200.00
Organization and general work.....	40.000	1.100	1.650	150.00
Total.....	1,460.000	19.860	.816	
FINISHING DEPARTMENT.				
Scour heel breasts.....	50.000	.500	.600	120.00
Scour heels.....	100.000	1.800	1.080	60.00
Set edges.....	210.000	3.500	1.000	28.57
Ink heels.....	20.000	.360	1.080	300.00
Roll heels.....	30.000	.420	.840	200.00
Buff bottoms.....	60.000	.600	.600	100.00
Naumkeag.....	65.000	.900	.831	92.31
Ink bottoms.....	45.000	.400	.533	133.33
Finish bottoms.....	75.000	1.500	1.200	80.00
Wheel seats.....	25.000	.250	.600	240.00
Burnish heels.....	45.000	.750	1.000	133.33
Wheel.....	25.000	.150	.360	240.00
Clean.....	40.000	.200	.300	150.00
Pull lasts.....	35.000	.400	.686	171.43
Put away lasts.....	20.000	.150	.450	300.00
Organization and general work.....	220.000	2.430	.663	27.27
Total.....	1,065.000	14.310	.806	
TREEING AND PACKING DEPARTMENT.				
Sock linings.....	50.000	.350	.420	120.00
Clean and iron by hand.....	180.000	1.500	.500	33.33
Dress.....	50.000	.400	.480	120.00
Cobble.....	120.000	.850	.425	50.00
Lace.....	60.000	.300	.300	100.00
Inspect.....	75.000	.750	.600	80.00
Pack.....	60.000	.400	.400	100.00
Stamp cartons.....	20.000	.170	.510	300.00
Ship.....	30.000	.500	1.000	200.00
Organization and general work.....	135.000	.950	.422	44.44
Total.....	780.000	6.170	.475	
Grand total.....	9,493.397	107.866	.682	

60 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 7.—Women's Goodyear welt, tan calf, lace oxford, with tip, leather sole, 8/8 leather heel base with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Cut vamps and whole shoe, hand.....	720.000	\$6.000	\$0.500	8.33
Cut linings, hand.....	72.000	.600	.500	83.33
Cut trimmings, hand.....	150.000	1.125	.450	40.00
Skive uppers.....	65.000	.550	.508	92.31
Mark for perforations.....	60.000	.225	.225	100.00
Perforate tips.....	60.000	.300	.300	100.00
Perforate vamps and foxings.....	210.000	.788	.225	28.57
General work.....	60.000	.300	.300	100.00
Organization.....	120.000	1.000	.500	50.00
Total.....	1,517.000	10.888	.439	
STITCHING DEPARTMENT.				
Join.....	70.000	.400	.343	85.71
Make linings.....	105.000	.525	.300	57.14
Rub seams.....	25.000	.108	.259	240.00
Stay seams.....	50.000	.215	.258	120.00
Cement.....	30.000	.200	.400	200.00
Fold.....	60.000	.500	.500	100.00
Close tops.....	60.000	1.400	.500	100.00
Pinking vamps and foxings.....	285.000	1.440	.303	21.05
Backstay.....	60.000	.300	.300	100.00
Stitch tops.....	40.000	.565	.377	66.67
Eyelet.....	40.000	.220	.330	150.00
Bar.....	90.000	.358	.225	66.67
Vamp.....	270.000	1.000	.356	22.22
Toe up.....	90.000	.450	.300	66.67
Lace.....	45.000	.248	.331	133.33
Sort and tie up.....	60.000	.225	.225	100.00
General work.....	80.000	.500	.375	75.00
Organization.....	80.000	1.570	1.178	75.00
Total.....	1,590.000	9.904	.373	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Strip leather.....	15.000	.125	.500	400.00
Cut.....	30.000	.213	.426	200.00
Skive and grade.....	10.000	.073	.438	600.00
Sort.....	10.000	.083	.498	600.00
Case.....	5.000	.025	.300	1,200.00
Total.....	70.000	.519	.445	
Insoles:				
Strip leather.....	15.000	.125	.500	400.00
Cut.....	15.000	.075	.300	400.00
Sort.....	10.000	.050	.300	600.00
Case.....	5.000	.025	.300	1,200.00
Total.....	45.000	.275	.367	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Get out outsoles.....	10.000	.083	.498	600.00
Shank outsoles.....	25.000	.125	.300	240.00
Cement outsoles.....	25.000	.125	.300	240.00
Temper outsoles.....	10.000	.050	.300	600.00
Channel insoles.....	30.000	.238	.476	200.00
Clip insoles.....	10.000	.042	.252	600.00
Stamp insoles.....	10.000	.042	.252	600.00
Cement insoles.....	15.000	.063	.252	400.00
Form soles.....	25.000	.104	.250	240.00
Reinforce soles.....	150.000	.625	.250	40.00
Tie up insoles.....	15.000	.063	.252	400.00
Organization.....	80.000	.667	.560	75.00
Total.....	405.009	2.227	.330	
Total, sole-leather department.....	1,215.882	8.621	.425	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1922,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No 7.—Women's Goodyear welt, tan calf, lace oxford, with tip, leather sole, 8/8 leather
heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Get up lasts.....	15.000	\$0.063	\$0.252	400.00
Tack on insoles.....	20.000	.083	.249	300.00
Get out counters.....	5.000	.021	.252	1,200.00
Assemble for pull-over machine.....	120.000	.750	.375	50.00
Pull over, machine.....	120.000	1.250	.625	50.00
Side last, machine.....	120.000	1.250	.625	50.00
Operate bed machine.....	120.000	1.250	.625	50.00
Organization.....	40.000	.333	.500	150.00
Total.....	560.000	5.000	.536	
BOTTOMING DEPARTMENT.				
Staple.....	30.000	.333	.666	200.00
Pull tacks.....	30.000	.333	.666	200.00
Trim uppers.....	30.000	.333	.666	200.00
Put on covers.....	30.000	.250	.500	200.00
Inseam (Goodyear welt).....	120.000	1.000	.500	50.00
Pull insole tacks.....	60.000	.250	.250	100.00
Trim inseams.....	60.000	.250	.250	100.00
Beat welts.....	60.000	.225	.225	100.00
Tack in shanks.....	60.000	.225	.225	100.00
Fill bottoms.....	60.000	.250	.250	100.00
Lay soles.....	60.000	.250	.250	100.00
Tack soles.....	30.000	.225	.450	200.00
Cement soles.....	15.000	.063	.252	400.00
Rough round.....	80.000	.600	.450	75.00
Rough edges.....	80.000	.750	.563	75.00
Open channels.....	80.000	.290	.218	75.00
Goodyear stitch.....	190.000	1.650	.521	31.58
Cement channels.....	30.000	.125	.250	200.00
Lay channels.....	30.000	.215	.430	200.00
Level.....	95.000	.743	.489	63.16
Nail heel seats.....	50.000	.300	.360	120.00
Trim heel seats.....	30.000	.150	.300	200.00
Help heeler.....	120.000	.600	.300	50.00
Heel.....	120.000	.650	.325	50.00
Trim heels.....	60.000	.567	.567	100.00
Breast heels.....	30.000	.283	.566	200.00
Align heels.....	30.000	.200	.400	200.00
Trim edges.....	150.000	1.500	.600	40.00
Make points.....	60.000	.400	.400	100.00
Organization.....	40.000	.333	.500	150.00
Total.....	1,920.000	13.343	.418	
FINISHING DEPARTMENT.				
Scour breasts.....	60.000	.400	.400	100.00
Scour heels.....	120.000	.850	.425	50.00
Ink and set edges.....	240.000	1.900	.475	25.00
Ink heels.....	60.000	.400	.400	100.00
Brush edges.....	60.000	.325	.325	100.00
Burnish heels.....	60.000	.325	.325	100.00
Buff.....	120.000	.800	.400	50.00
Naumkeag.....	40.000	.267	.401	150.00
Finish.....	80.000	.533	.400	75.00
Pull lasts.....	100.000	.500	.300	60.00
Organization.....	40.000	.333	.500	150.00
Total.....	980.000	6.633	.406	
TREEING AND PACKING DEPARTMENT.				
Stamp soles.....	17.000	.085	.300	352.94
Sort.....	20.000	.100	.300	300.00
Sock linings.....	80.000	.333	.250	75.00
Tree, hand.....	180.000	2.500	.833	33.33
Dress.....	80.000	.333	.250	75.00
Crayon patent leathers.....	400.000	1.723	.259	15.00
Buff tips.....	300.000	1.667	.333	20.00

62 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 7.—Women's Goodyear welt, tan calf, lace oxford, with tip, leather sole, 8/8 leather heel base with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREESING AND PACKING DEPARTMENT—concluded.				
Repair patent leathers.....	600.000	\$3.000	\$0.300	10.00
Patent leather flowers.....	60.000	.300	.300	100.00
Lace.....	50.000	.188	.226	120.00
Brush.....	45.000	.225	.300	133.33
Stamp sock linings.....	20.000	.100	.300	300.00
Pound uppers.....	25.000	.093	.223	240.00
Stamp cartons.....	10.000	.050	.300	600.00
Crown.....	300.000	1.375	.275	20.00
Peck.....	75.000	.385	.308	80.00
Ship.....	120.000	.593	.297	50.00
General work (shipping).....	120.000	.727	.364	50.00
Organization.....	75.000	.420	.336	80.00
Total.....	2,577.000	14.199	.331	-----
Grand total.....	10,359.882	68.588	.397	-----

Establishment No. 11.—Women's Goodyear welt, whole quarter, bal. oxford, mahogany side, solid leather insole and outsole, 8/8 leather heel base with 3/8 rubber top lift.

CUTTING DEPARTMENT.				
Stock-room work.....	72.000	\$0.590	\$0.492	83.33
Selecting patterns for cutters.....	72.000	.310	.258	83.33
Cut vamps, quarters, tips, and tongues, hand.....	400.000	4.050	.608	15.00
Sort.....	72.000	.720	.600	83.33
Stamp size on outsides.....	14.000	.083	.356	428.57
Cut leather quarter linings, hand.....	140.000	.960	.411	42.86
Cut cloth vamp linings, hand.....	32.000	.300	.563	187.50
Cut cloth vamp doubler, hand.....	16.000	.150	.563	375.00
Stamp size on quarter linings.....	7.000	.038	.326	857.14
Stamp size on vamp linings.....	15.000	.083	.332	400.00
Stamp stock No. on toe linings.....	8.000	.045	.338	750.00
Skiva vamps.....	23.000	.150	.391	260.87
Skiva toes.....	13.000	.090	.415	481.54
Skiva tips.....	12.000	.083	.415	500.00
Skiva tops and front of quarters.....	34.000	.225	.397	176.47
Skiva shank of quarters.....	46.000	.300	.391	130.43
Skiva back seam of quarters.....	20.000	.135	.405	300.00
Skiva edges and bottom of tongues.....	16.000	.120	.450	375.00
Perforate circular vamps.....	75.000	.390	.312	90.00
Perforate regular tips.....	75.000	.390	.312	90.00
Perforate front of quarters.....	41.000	.225	.329	146.34
Assemble.....	36.000	.225	.375	166.67
Dink trimmings.....	108.000	.375	.208	55.56
Cut cripples.....	36.000	.375	.625	166.67
Operate elevators.....	36.000	.160	.267	166.67
Sweep.....	72.000	.320	.267	83.33
Organization.....	36.000	.740	1.233	166.67
Total.....	1,527.000	11.632	.457	-----
STITCHING DEPARTMENT.				
Close back seam of quarters.....	28.000	.130	.386	214.29
Close back seam of leather quarter linings.....	29.000	.195	.403	206.90
Rub back seam of quarters.....	24.000	.105	.263	250.00
Rub back seam of leather quarter linings.....	24.000	.105	.263	250.00
Stitch toe linings to quarter linings.....	108.000	.660	.367	55.56
Stitch hold fast to quarter linings.....	100.000	.600	.360	60.00
Stitch tongue to toe linings.....	65.000	.390	.360	92.31
Stay back seam of quarters.....	32.000	.195	.366	187.50
Cement vamp doubler to vamps.....	48.000	.195	.244	125.00
Cement top and front of quarters.....	48.000	.195	.244	125.00
Back up work.....	36.000	.110	.183	166.67
Cement cloth eyelet stays to lining.....	48.000	.195	.244	125.00
Fold top and front of quarters.....	115.000	.600	.313	52.17
Stitch tips to vamps.....	68.000	.380	.372	103.45
Stitch perforated eyelet rows.....	70.000	.420	.360	85.71
Stitch tops.....	178.000	1.200	.405	83.71

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 11.—Women's Goodyear welt, whole quarter, bal. oxford, mahogany side, solid leather insole and outsole, 8/8 leather heel base with 3/8 rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Extra for putting in yokes.....	17 000	\$0.120	\$0.424	352.94
Trim quarters.....	72 000	.300	.250	83.33
Stain quarters.....	30 000	.135	.270	200.00
Set eyelets.....	52 000	.360	.415	115.38
Stitch tongue linings to tongues.....	70 000	.480	.411	85.71
Vamp.....	262 000	2.100	.481	22.90
Tack (barring).....	38 000	.180	.284	157.89
Lace.....	38 000	.180	.284	157.89
Pack and inspect.....	36 000	.165	.275	166.67
General instructor.....	288 000	2.640	.550	20.83
Work on damaged parts.....	108 000	.435	.242	55.56
Sweep.....	36 000	.115	.192	166.67
Organization.....	36 000	.650	1.083	166.67
Total.....	2,094.000	13.565	.389	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.581	
Counters, leather ¹	158.915	1.214	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, women's, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Wet up insoles.....	12.000	.053	.265	500.00
Round insoles.....	18.000	.150	.500	333.33
Stamp size on insoles.....	12.000	.053	.265	500.00
Channel insoles.....	35.000	.330	.506	171.43
Flash shank of insoles.....	8.000	.030	.225	750.00
Turn up lip on insoles.....	40.000	.225	.338	150.00
Recase insoles.....	6.000	.088	.380	1000.00
Wet up, skive, and tag outsoles.....	10.000	.075	.450	600.00
Stamp size on outsoles.....	12.000	.053	.265	500.00
Skive shank of outsole.....	11.500	.090	.470	521.74
Split, cement, and stick outsoles.....	27.000	.210	.467	222.22
Cement outsoles for sole layer.....	26.000	.150	.346	230.77
Recase outsoles.....	6.000	.038	.380	1,000.00
Sort.....	36.000	.345	.575	166.67
Case up heels.....	36.000	.185	.308	166.67
General help.....	36.000	.313	.522	166.67
Tie up insoles.....	36.000	.150	.250	166.67
Sweep.....	36.000	.160	.267	166.67
Organization.....	36.000	.540	.900	166.67
Total.....	439.500	3.183	.435	
Total, sole-leather department.....	1,329.897	10.749	.485	
LASTING DEPARTMENT.				
Supervise last bind.....	36.000	.120	.200	166.67
Get up and dump lasts.....	25.000	.210	.504	240.00
Paint toe and heel of last.....	19.000	.075	.237	815.79
Tack insoles.....	44.000	.315	.430	136.36
Trim heel seats of insoles.....	14.000	.090	.386	428.57
Get up counters and box toes.....	13.000	.075	.346	461.54
Assemble for pull-over machine.....	120.000	.900	.450	60.00
Pull over, machine.....	106.000	1.080	.611	56.60
Side last.....	106.000	1.080	.611	56.60
Last heel and toe.....	200.000	2.040	.612	30.00
Inspect.....	72.000	.625	.521	83.33
Odd shoe work.....	36.000	.100	.167	166.67
Sweep.....	18.000	.080	.267	333.33
Organization.....	36.000	.630	1.050	166.67
Total.....	845.000	7.420	.527	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

64 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 11.—Women's Goodyear welt, whole quarter, bal. oxford, mahogany side, solid leather insole and outsole, 8/8 leather heel base with 3/8 rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT.				
Trim uppers.....	33. 000	\$0. 195	\$0. 355	181. 82
Staple uppers.....	55. 000	. 300	. 327	109. 09
Full tacks.....	95. 000	. 540	. 341	63. 16
Goodyear welt.....	135. 800	1. 380	. 613	44. 44
Full insole tacks.....	43. 000	. 165	. 230	139. 53
Trim inseams.....	54. 000	. 390	. 433	111. 11
Butt and tack welts.....	69. 000	. 420	. 365	86. 96
Beat out welts.....	47. 000	. 270	. 345	127. 66
Put in shanks.....	35. 000	. 150	. 257	171. 43
Fill bottoms.....	45. 000	. 270	. 360	133. 33
Cement bottoms.....	30. 000	. 135	. 270	200. 00
Lay soles.....	54. 000	. 390	. 433	111. 11
Rough round.....	58. 000	. 600	. 621	103. 45
Turn up channels.....	32. 000	. 165	. 309	187. 50
Trim out shanks of soles.....	32. 000	. 195	. 368	187. 50
Goodyear stitch.....	161. 000	1. 650	. 615	37. 27
Found shank of sole to uppers.....	30. 000	. 210	. 420	200. 00
Cement channels.....	35. 000	. 165	. 253	171. 43
Lay channels.....	45. 000	. 240	. 320	133. 33
Level.....	71. 000	. 540	. 456	84. 51
Loose nail.....	41. 000	. 240	. 351	146. 34
Rough round heel seats.....	26. 000	. 150	. 348	230. 77
Heel base for rubber top.....	40. 000	. 540	. 810	150. 00
Heel rubber top, machine.....	42. 000	. 600	. 837	142. 86
Shave heels.....	36. 000	. 330	. 550	166. 67
Breast heels.....	30. 000	. 240	. 480	200. 00
Trim edges.....	160. 000	1. 620	. 608	37. 50
Make joints.....	51. 000	. 390	. 459	117. 65
Put on heel filler.....	19. 000	. 090	. 224	318. 79
Cobble.....	36. 000	. 270	. 450	166. 67
Odd shoe work.....	36. 000	. 180	. 300	166. 67
Inspect.....	36. 000	. 310	. 517	166. 67
General help.....	72. 000	. 280	. 242	83. 33
Sweep.....	18. 000	. 080	. 267	333. 33
Organization.....	72. 000	1. 110	. 925	83. 33
Total.....	1,874. 000	14. 810	. 474	
FINISHING DEPARTMENT.				
Scour heels.....	65. 000	. 540	. 498	92. 31
Scour breasts.....	38. 000	. 195	. 308	157. 89
Set edges.....	162. 000	1. 650	. 611	37. 04
Rescour heels.....	24. 000	. 210	. 525	250. 00
Scour edge of rubber heels.....	46. 000	. 270	. 352	130. 43
Stain heel edges.....	18. 000	. 150	. 500	333. 33
Burnish heels.....	72. 000	. 690	. 500	83. 33
Buff bottoms.....	92. 000	. 780	. 509	65. 22
Naumkeag foreparts and shanks.....	72. 000	. 600	. 500	83. 33
Bleach bottoms.....	25. 000	. 135	. 324	240. 00
Paint foreparts and shanks.....	140. 000	. 720	. 309	42. 86
Burnish and roll bottoms.....	46. 000	. 390	. 509	130. 43
Cleaning rubber heels.....	65. 000	. 270	. 249	92. 31
Pull lasts.....	52. 000	. 300	. 415	115. 38
Stamp monograms on bottoms.....	20. 000	. 105	. 315	300. 00
Stamp shanks.....	36. 000	. 180	. 300	166. 67
General help.....	36. 000	. 100	. 267	166. 67
Sweep.....	18. 000	. 080	. 267	333. 33
Organization.....	36. 000	. 540	. 900	166. 67
Total.....	1,063. 000	7. 935	. 448	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 11.—Women's Goodyear welt, whole quarter, bal. oxford, mahogany side, solid leather insole and outsole, 3/8 leather heel base with 3/8 rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREEING AND PACKING DEPARTMENT.				
Inspect for insole tacks.....	25.000	\$0.165	\$0.396	240.00
Put in heel piece.....	22.000	.120	.327	272.73
Brush around edge of sole stitches.....	34.000	.180	.318	176.47
Size out for trees, etc.....	12.000	.053	.265	500.00
Clean edges.....	42.000	.360	.514	142.86
Tree, machine.....	220.000	1.830	.499	27.27
Brush to a bright finish.....	40.000	.270	.405	150.00
Brush to a bright finish, second time.....	54.000	.360	.400	111.11
Brush heels, edges, and bottoms.....	34.000	.225	.397	176.47
Dress uppers.....	58.000	.300	.310	103.45
Put on second coat of filler.....	40.000	.210	.315	150.00
Lace.....	50.000	.225	.270	120.00
Label cartons.....	28.000	.120	.277	220.77
Pack.....	40.000	.210	.315	150.00
Inspect.....	72.000	.600	.500	83.33
Seal and stencil.....	36.000	.225	.375	166.67
Odd shoe work.....	36.000	.140	.233	166.67
Odd jobs.....	36.000	.110	.183	166.67
Operate elevators.....	36.000	.150	.250	166.67
Repair.....	360.000	2.880	.480	16.67
Ship.....	36.000	.440	.733	166.67
Organization.....	36.000	.580	.967	166.67
Total.....	1,345.000	9.753	.435	-----
Grand total.....	10,077.897	75.864	.452	-----

Establishment No. 12.—Women's McKay, whole quarter, bal. oxford, mahogany side, 8-iron oak sole, natural finish, 3/8 leather heel base with 3/8 rubber top lift.

CUTTING DEPARTMENT				
Stock-room work.....	32.000	\$0.265	\$0.497	187.50
Selecting patterns for cutters.....	32.000	.133	.249	157.50
Cut vamps, quarters, tips, and tongues, hand.....	337.000	3.540	.630	17.30
Sort.....	48.000	.470	.588	125.00
Stamp sizes on outsides.....	13.000	.083	.383	461.54
Cut leather quarter linings, hand.....	150.000	.900	.360	40.00
Cut cloth toe linings, hand.....	30.000	.270	.540	200.00
Cut cloth vamp doublers, hand.....	15.000	.135	.540	400.00
Stamp size on leather quarter linings.....	5.000	.080	.360	1,200.00
Stamp size on cloth toe linings.....	12.000	.075	.375	500.00
Stamp stock No. on toe linings.....	6.000	.088	.380	1,000.00
Skive raw vamps.....	22.000	.135	.368	272.73
Skive toes of cut off vamps.....	13.000	.083	.383	461.54
Skive tips.....	10.000	.060	.360	600.00
Skive top and front of quarters.....	35.000	.210	.360	171.43
Skive shank of quarters.....	25.000	.150	.360	240.00
Skive back seam of quarters.....	22.000	.135	.368	272.73
Skive edge and bottom of tongues.....	10.000	.060	.360	600.00
Perforate circular vamps.....	60.000	.360	.360	100.00
Perforate regular tips.....	13.000	.083	.383	461.54
Perforate front of quarters.....	35.000	.210	.360	171.43
Back up work.....	16.000	.065	.244	375.00
Dink trimmings.....	64.000	.275	.258	93.75
Cut cripples.....	24.000	.250	.625	250.00
Operate elevators.....	16.000	.080	.300	375.00
Sweep.....	32.000	.140	.263	187.50
Organization.....	16.000	.240	.900	375.00
Total.....	1,093.000	8.475	.465	-----

66 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 12.—Women's McKay, whole quarter, bal. oxford, mahogany side, 6-iron oak sole, natural finish, 3/8 leather heel base with 3/8 rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT.				
Close back seam of quarters.....	26.000	\$0.185	\$0.381	290.77
Close back seam of leather quarter linings.....	24.000	.150	.375	250.00
Rub back seam of quarters.....	28.000	.115	.245	214.29
Rub back seam of leather quarter linings.....	26.000	.105	.242	280.77
Stitch toe lining to quarter linings.....	100.000	.600	.360	60.00
Stitch hold-fast to quarter linings.....	72.000	.435	.362	53.33
Stitch tongue to toe linings.....	55.000	.330	.360	160.00
Stitch back seam of quarters.....	30.000	.180	.360	260.00
Cement vamp doubler to vamps.....	37.000	.150	.243	162.16
Cement top and front of quarters.....	41.000	.185	.241	146.24
Cement cloth eyelet stay to linings.....	37.000	.150	.243	162.16
Fold top and front of quarters.....	90.000	.540	.360	66.67
Stitch tip to vamps.....	50.000	.300	.360	130.00
Stitch perforated eyelet rows.....	75.000	.375	.300	90.00
Stitch tops.....	162.000	1.080	.400	37.04
Extra for putting in yokes.....	18.000	.120	.400	333.33
Trim quarters.....	33.000	.135	.245	181.82
Stain quarters.....	37.000	.150	.243	162.16
Set eyelets.....	59.000	.390	.297	191.99
Stitch tongue linings to tongues.....	30.000	.180	.360	200.00
Vamp.....	224.000	1.680	.450	26.79
Tack (barring).....	45.000	.180	.240	183.33
Lace.....	33.000	.135	.245	181.82
Pack and inspect.....	36.000	.143	.238	166.67
Selecting quality.....	16.000	.140	.525	375.00
General instructor.....	96.000	1.050	.656	62.50
Work on damaged parts.....	64.000	.310	.291	93.75
Sweep.....	16.000	.655	.206	375.00
Organization.....	16.000	.280	.375	375.00
Total.....	1,576.000	9.768	.372	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.060	.581	
Counters, leather ¹	168.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, 3/8 ¹	423.179	3.253	.461	
Stock fitting:				
Wet up, skive, and roll outsoles.....	20.000	.120	.360	300.00
Stamp size on outsoles.....	9.000	.038	.253	666.67
Round outsoles.....	20.000	.165	.495	300.00
Channel.....	22.000	.185	.582	272.73
Feather edge.....	18.000	.135	.450	333.33
Turn up channels on outsoles.....	24.000	.120	.300	250.00
Mold outsoles.....	12.000	.090	.450	500.00
Black or tan soles.....	15.000	.080	.240	400.00
Put antisneak on outsoles.....	19.000	.075	.227	315.79
Round insoles.....	16.000	.135	.506	375.00
Dip insoles.....	12.000	.053	.265	500.00
Inspect.....	16.000	.110	.413	375.00
Odd shoe work.....	16.000	.065	.244	375.00
Sort.....	52.000	.300	.563	187.50
Dink.....	16.000	.115	.431	375.00
Get up outsole stock.....	16.000	.110	.413	375.00
Sweep.....	16.000	.055	.206	375.00
General porter work.....	16.000	.065	.244	375.00
Organization.....	16.000	.230	.363	375.00
Total.....	331.000	2.235	.405	
Total, sole-leather department.....	1,221.397	8.797	.481	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 12.—Women's McKay, whole quarter, bal. oxford, mahogany side, 8-iron oak sole,
natural finish, 3/8 leather heel base with 3/8 rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Hang uppers, case counters, etc.....	27.000	\$0.225	\$0.500	222.22
Stock-room work.....	16.000	.055	.206	375.00
Tack insoles to last.....	33.000	.225	.469	181.82
Assemble, includes wetting tips.....	80.000	.600	.450	75.00
Cement counters.....	10.000	.075	.450	600.00
Wet sides of vamp.....	17.000	.075	.265	352.94
Pull over, machine.....	71.000	.750	.634	84.51
Last cap and plain toe (no box).....	180.000	1.860	.620	33.33
Tack in shanks and pull insole tacks.....	60.000	.300	.300	100.00
Pound toes.....	72.000	.540	.459	83.33
Lay soles.....	136.000	1.620	.450	44.12
Pull lasts.....	39.000	.263	.405	153.85
Floor work.....	16.000	.140	.525	375.00
Inspect.....	48.000	.340	.425	125.00
Iron toes.....	32.000	.140	.263	187.50
Odd shoe work.....	16.000	.080	.300	375.00
Utility work.....	16.000	.070	.263	375.00
Sweep.....	16.000	.065	.244	375.00
Organization.....	16.000	.235	.681	375.00
Total.....	901.000	7.058	.470	
BOTTOMING DEPARTMENT.				
Nail heel seats.....	27.000	.165	.367	222.22
McKay sew.....	57.000	.600	.632	105.26
Size out and cement channels.....	30.000	.150	.300	200.00
Lay channels.....	27.000	.165	.367	222.22
Fudge edges.....	25.000	.150	.360	240.00
Level.....	60.000	.450	.450	100.00
Heel, leather base.....	40.000	.540	.810	150.00
Heel, rubber top lift.....	40.000	.540	.810	150.00
Shave heels.....	37.000	.330	.635	162.16
Breast.....	25.000	.210	.604	240.00
Wipe off second last.....	15.000	.075	.300	400.00
Relast, includes getting out relast.....	45.000	.300	.400	133.33
Trim edges.....	140.000	1.470	.630	42.86
Joint.....	40.000	.300	.450	150.00
Inspect.....	24.000	.150	.375	250.00
Odd shoe work.....	16.000	.065	.244	375.00
Sweep.....	16.000	.080	.300	375.00
Organization.....	32.000	.440	.825	187.50
Total.....	696.000	6.180	.533	
FINISHING DEPARTMENT.				
Scour heels.....	27.000	.225	.500	222.22
Put on filler after scouring.....	16.000	.068	.255	375.00
Scour breasts.....	36.000	.180	.300	166.67
Rescour heels.....	27.000	.225	.500	222.22
Brush rubber dust from edges of soles.....	17.000	.083	.293	352.94
Set edges once (includes doping edges).....	94.000	.990	.632	63.83
Change shoes from partition to pin rack.....	15.000	.060	.240	400.00
Black or stain heel edges.....	20.000	.120	.360	300.00
Burnish heels.....	58.000	.480	.497	103.45
Inspect case numbers.....	15.000	.060	.240	400.00
Prick heels.....	16.000	.080	.300	375.00
Buff bottoms.....	47.000	.390	.498	127.66
Buff shanks.....	29.000	.240	.497	206.90
Bleach bottoms.....	30.000	.120	.240	200.00
Clean uppers.....	42.000	.255	.364	142.86
Stain.....	25.000	.210	.504	240.00
Polish mahogany bottoms.....	58.000	.480	.497	103.45
Roll bottoms.....	43.000	.360	.502	139.53
Pull lasts.....	31.000	.210	.406	193.55
Odd shoe work.....	32.000	.120	.225	187.50
Inspect.....	32.000	.250	.469	187.50
Sweep.....	16.000	.080	.300	375.00
Finish.....	16.000	.205	.769	375.00
Total.....	742.000	5.491	.444	

68 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 12.—Women's McKay, whole quarter, bal. oxford, mahogany side, 8-iron oak sole, natural finish, 3/8 leather heel base with 3/8 rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREEING AND PACKING DEPARTMENT.				
Stamp monograms.....	21. 000	\$0. 105	\$0. 300	235. 71
Put in sock linings.....	84. 000	. 420	. 300	71. 43
Sort for treers.....	13. 000	. 053	. 245	461. 54
Tree, machine.....	144. 000	1. 200	. 500	41. 67
Dress.....	33. 000	. 165	. 300	181. 82
Apply polish.....	60. 000	. 300	. 300	100. 00
Brush to a bright finish.....	36. 000	. 180	. 300	166. 67
Brush heels, edges, and bottoms.....	42. 000	. 210	. 300	142. 86
Trim threads.....	45. 000	. 180	. 240	133. 33
Lace.....	53. 000	. 210	. 238	113. 21
Stamp labels.....	11. 000	. 045	. 245	545. 45
Label.....	24. 000	. 120	. 300	250. 00
Pack.....	54. 000	. 270	. 300	111. 11
Inspect.....	96. 000	. 610	. 381	62. 50
Odd shoe work.....	16. 000	. 065	. 244	375. 00
General work.....	16. 000	. 065	. 244	375. 00
Operate elevators.....	16. 000	. 080	. 300	375. 00
Seal for shipping.....	16. 000	. 080	. 300	375. 00
Ship.....	16. 000	. 175	. 656	375. 00
Organization.....	16. 000	. 250	. 938	375. 00
Total.....	812. 000	4. 783	. 353	-----
Grand total.....	7, 041. 397	51. 552	. 439	-----

Establishment No. 16.—Women's McKay, whole quarter, lace oxford, five eyelets, glazed kid, broad vamp, plain toe, tan forepart, black shank, leather sole, 3/8 heel.

CUTTING DEPARTMENT.				
Sort and select leather.....	25. 000	\$0. 390	\$0. 936	240. 00
Put up jobs in stock room.....	25. 000	. 300	. 720	240. 00
Cut vamps and whole shoe, hand.....	468. 000	7. 250	. 929	12. 82
Cut top linings, hand.....	54. 000	. 650	. 722	111. 11
Cut top trimmings, hand.....	132. 000	1. 380	. 627	45. 45
Stamp.....	68. 000	. 450	. 397	88. 24
Skive.....	83. 000	. 830	. 600	72. 29
Perforate.....	84. 000	. 700	. 500	71. 43
Odd shoe work.....	25. 000	. 130	. 312	240. 00
Operate elevators.....	25. 000	. 090	. 216	240. 00
Organization.....	25. 000	. 860	2. 084	240. 00
Total.....	1, 014. 000	13. 030	. 771	-----
STITCHING DEPARTMENT.				
Make linings.....	156. 000	1. 100	. 423	88. 46
Close (first).....	35. 000	. 220	. 377	171. 43
Stay.....	36. 000	. 250	. 417	166. 67
Cement.....	18. 000	. 100	. 333	333. 33
Fold.....	228. 000	1. 900	. 500	26. 32
Back.....	80. 000	. 400	. 300	75. 00
Line vamps.....	44. 000	. 200	. 273	136. 36
Ink.....	35. 000	. 200	. 343	171. 43
Insert lace or button stay.....	34. 000	. 220	. 388	176. 47
Paste yokes.....	21. 000	. 120	. 343	285. 71
Match.....	21. 000	. 120	. 343	285. 71
Stitch edges.....	162. 000	1. 500	. 556	37. 04
Trim.....	96. 000	. 550	. 344	62. 50
Eyelet.....	44. 000	. 400	. 545	136. 36
Vamp.....	300. 000	3. 650	. 730	20. 00
Seam toes.....	72. 000	. 500	. 417	83. 33
Lace.....	25. 000	. 160	. 384	240. 00
Bar.....	32. 000	. 210	. 394	187. 50
Sort and tie.....	21. 000	. 120	. 343	285. 71
Line tongues.....	70. 000	. 400	. 343	85. 71
Stitch neverslips.....	134. 000	. 850	. 381	44. 78
Stitch tips.....	75. 000	. 700	. 560	80. 00
Inspect.....	42. 000	. 250	. 357	142. 86
Cobble.....	25. 000	. 160	. 384	240. 00
Odd shoe work.....	25. 000	. 330	. 792	240. 00
Sweep.....	12. 500	. 090	. 432	480. 00
Operate elevators.....	25. 000	. 090	. 216	240. 00
Organization.....	25. 000	. 500	1. 200	240. 00
Total.....	1, 893. 500	15. 290	. 484	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 16.—Women's McKay, whole quarter, lace oxford, five eyelets, glazed kid, broad, vamp, plain toe, tan forepart, black shank, leather sole, 8/8 heel—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	\$0.892	\$0.637	-----
Insoles, leather ¹	110.404	1.069	.581	-----
Counters, leather ¹	153.915	1.314	.496	-----
Top pieces, leather ¹	55.336	.587	.636	-----
Box toes, leather ¹	113.788	1.033	.545	-----
Heels, leather 8/8 ¹	423.179	3.253	.461	-----
Stock fitting:				
Round outsoles.....	16.000	.200	.750	375.00
Round insoles.....	21.000	.260	.743	285.71
Tack heel pieces (insole).....	18.000	.100	.333	333.33
Case outsoles.....	12.000	.130	.650	500.00
Case insoles.....	12.000	.130	.650	500.00
Trim seats.....	6.000	.040	.400	1,000.00
Channel.....	15.000	.210	.340	400.00
Split.....	13.000	.090	.415	461.54
Bevel.....	25.000	.300	.720	240.00
Mold.....	21.000	.180	.514	285.71
Turn up.....	23.000	.160	.417	260.87
Cement.....	22.000	.120	.327	272.73
Fill.....	12.000	.075	.375	500.00
Lay welt.....	41.000	.500	.732	146.34
Fair stitch.....	43.000	.600	.837	139.53
Assemble.....	11.000	.120	.655	545.45
Crown.....	5.000	.055	.660	1,200.00
Stamp.....	15.000	.080	.320	400.00
Cut off.....	12.000	.100	.500	600.00
Extend soles.....	70.000	.509	.380	75.95
Sweep.....	4.167	.030	.432	1,439.88
Operate elevators.....	25.000	.090	.216	240.00
Organization.....	25.000	.500	1.200	240.00
Total.....	476.167	4.570	.576	-----
Total, sole-leather department.....	1,421.894	12.718	.537	-----
LASTING DEPARTMENT.				
Put away and get out stock.....	20.000	.090	.270	300.00
Put away and get out uppers.....	20.000	.090	.270	300.00
Assemble for pull-over machine.....	178.000	1.900	.640	33.71
Pull over, machine.....	118.000	1.850	.941	50.35
Side last, machine.....	131.000	2.050	.939	45.80
Operate bed machine.....	256.000	4.000	.938	23.44
Pick up work.....	19.000	.080	.253	315.79
Dry.....	30.000	.090	.180	200.00
Trim uppers.....	20.000	.170	.510	300.00
Pull tacks.....	21.000	.160	.457	285.71
Shank.....	36.000	.350	.583	166.67
Tack toes.....	66.000	1.050	.955	90.91
Nail toes.....	28.000	.450	.964	214.29
Charge work.....	19.000	.080	.253	315.79
Open up shoes.....	18.000	.080	.267	333.33
Pull lasts.....	21.000	.250	.714	285.71
Sort lasts.....	18.000	.120	.400	333.33
Organization.....	12.500	.340	1.632	240.00
Total.....	1,031.500	13.200	.768	-----
BOTTOMING DEPARTMENT.				
Nail seats.....	20.000	.270	.623	230.77
McKay sew.....	95.000	1.500	.947	63.16
Cement.....	35.000	.300	.614	171.43
Wet soles.....	39.000	.300	.462	153.85
Level.....	78.000	.950	.781	76.92
Heel.....	122.000	1.940	.954	49.15
Piece heels.....	17.000	.090	.313	352.94

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

70 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 16.—Women's McKay, whole quarter, lace oxford, five eyelets, glazed kid, broad vamp, plain toe, tan forepart, black shank, leather sole, 8/8 heel—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Slug.....	29.000	\$0.200	\$0.414	206.90
Sock linings.....	87.000	.550	.379	68.97
Lace.....	44.000	.250	.341	136.36
Second last and get out lasts.....	92.000	.900	.687	65.22
Trim heels.....	89.000	1.400	.944	67.42
Breast heels.....	142.000	.900	.380	42.25
Trim edges.....	173.000	2.400	.832	34.68
Cobble.....	25.000	.260	.624	240.00
Odd shoe work.....	25.000	.140	.336	240.00
Sweep.....	25.000	.170	.408	240.00
Operate elevators.....	25.000	.090	.216	240.00
Organization.....	12.500	.340	1.632	240.00
Total.....	1,180.500	12.950	.658	
FINISHING DEPARTMENT.				
Scour breasts.....	42.000	.270	.386	142.86
First wheel.....	45.000	.220	.292	153.33
Dope heels.....	16.000	.100	.375	375.00
LXV scour.....	131.000	1.600	.733	45.80
Top heel scallop.....	20.000	.140	.420	300.00
Set edges.....	162.000	2.550	.945	37.04
Second wheel.....	27.000	.190	.422	222.22
Ink heels.....	31.000	.180	.348	193.55
Band bottoms.....	55.000	.680	.633	109.09
Buff.....	41.000	.430	.629	146.34
Scour breasts LXV.....	34.000	.300	.529	176.47
Brush bottoms.....	42.000	.370	.529	142.86
Ink heels.....	25.000	.190	.432	240.00
Burnish heels.....	42.000	.370	.528	142.86
Finish bottoms.....	60.000	.630	.630	100.00
Wax bottoms.....	49.000	.380	.465	122.45
Clean stitches.....	31.000	.200	.387	193.55
Rub edges.....	24.000	.170	.425	250.00
Refinish heels.....	35.000	.250	.429	171.43
Wheel seats.....	32.000	.280	.525	137.50
Pull lasts.....	28.000	.290	.429	214.29
Sort out lasts.....	26.000	.150	.346	230.77
Stamp bottoms.....	19.000	.120	.379	315.79
Sweep.....	25.000	.090	.216	240.00
Operate elevators.....	25.000	.090	.216	240.00
Organization.....	25.000	1.020	2.448	240.00
Total.....	1,092.000	11.060	.608	
TREEING AND PACKING DEPARTMENT.				
Emboss.....	19.000	.130	.411	315.79
Lace.....	44.000	.250	.341	136.36
Iron and tree, hand.....	143.000	1.000	.420	41.96
Dress shoes.....	126.000	.800	.381	47.62
Inspect.....	45.000	.460	.613	133.33
Brush bottoms.....	29.000	.220	.455	206.90
Mark cartons.....	20.000	.150	.450	300.00
Pack.....	35.000	.260	.446	171.43
Odd shoe work.....	25.000	.150	.360	240.00
Sweep.....	25.000	.180	.432	240.00
Operate elevators.....	25.000	.090	.216	240.00
Organization.....	25.000	.430	1.032	240.00
Total.....	561.000	4.120	.441	
Grand total.....	8,194.394	82.368	.608	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 28.—Men's Goodyear welt, russica side, blucher, single sole, leather heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number pairs of worked on per hour
CUTTING DEPARTMENT.				
Cut uppers, machine.....	300.000	\$3.367	\$0.673	20.00
Punch tips.....	7.767	.983	.641	772.50
Skive vamps.....	20.890	.900	.577	288.46
Skive tips.....	6.933	.675	.649	865.43
Crimp.....	16.667	.141	.508	359.99
Mark.....	16.667	.175	.630	359.99
Cut linings, machine.....	10.417	.125	.720	675.98
Case tongues.....	5.550	.050	.541	1,081.08
Cut facings, hand.....	75.900	.808	.646	80.00
Case linings.....	11.100	.075	.405	540.54
Cut backers.....	4.800	.041	.513	1,250.00
Case backers.....	4.167	.033	.475	1,439.88
Case stays.....	4.167	.025	.360	1,439.88
Stitch tongues.....	25.000	.333	.799	1,240.80
Skive outside stays.....	2.767	.033	.716	2,168.41
Stamp linings.....	10.417	.063	.363	675.98
Case tongues.....	5.550	.041	.443	1,081.08
Split facings.....	4.867	.053	.653	1,232.79
Split tongues.....	2.467	.038	.658	1,730.60
Split outside stays.....	2.467	.038	.658	1,730.60
Organization and general work.....	436.164	3.333	.459	137.56
Total.....	975.734	9.130	.561	
STITCHING DEPARTMENT.				
Make linings.....	116.667	1.166	.600	51.43
Stitch top facings.....	16.667	.158	.569	359.99
Trim top facings.....	8.333	.116	.835	720.03
Stitch tips.....	66.400	.350	.316	90.36
Stitch box toes.....	86.200	.266	.185	69.61
Make vamps (attach vamp linings and tongues to vamps).....	65.267	.566	.520	91.93
Stitch eyelet rows.....	66.490	.337	.304	90.25
Close tops.....	28.800	.200	.417	208.33
Rub tops.....	8.570	.083	.581	700.12
Stitch backstays.....	150.000	.866	.846	40.00
Cement fronts.....	20.833	.133	.883	288.00
Fold.....	83.000	.667	.482	72.29
Hook.....	28.800	.200	.417	208.33
Match linings.....	4.900	.050	.612	1,224.49
Stitch tops.....	187.500	1.667	.533	32.00
Eyelet.....	23.000	.200	.522	260.87
Vamp.....	125.600	1.585	.761	48.00
Lace.....	41.667	.167	.240	144.00
Trim.....	29.167	.200	.411	205.71
Crown.....	16.667	.116	.418	359.99
Organization and general work.....	187.956	1.667	.535	32.08
Total.....	1,360.974	10.760	.474	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	32.000	.400	.750	187.50
Grade.....	10.417	.075	.432	575.98
Sort.....	10.900	.083	.498	600.00
Pack.....	6.000	.040	.400	1,000.00
Case.....	6.000	.045	.459	1,000.00
Organization and general work.....	31.662	.300	.569	169.50
Total.....	98.079	.943	.589	
Insoles:				
Cut.....	30.000	.400	.800	200.00
Grade.....	10.667	.080	.450	562.48
Sort.....	10.000	.075	.450	600.00
Pack.....	6.000	.045	.450	1,000.00
Case.....	11.333	.110	.582	529.43
Organization and general work.....	15.831	.150	.569	879.00
Total.....	83.831	.860	.616	

72 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 28.—Men's Goodyear welt, russia side, blucher, single sole, leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Counters:				
Cut.....	45.800	\$0.400	\$0.524	131.00
Mold.....	30.000	.245	.490	200.00
Crown.....	2.500	.035	.840	2,400.00
Dip.....	7.000	.050	.429	857.14
Sort.....	8.000	.055	.413	750.00
Case.....	3.000	.020	.400	2,000.00
Wax.....	7.000	.050	.429	857.14
Organization and general work.....	42.970	.300	.419	139.63
Total.....	146.270	1.155	.474	
Box toes, leather¹.....	113.788	1.033	.545	
Heels:				
Cut lifts.....	30.000	.400	.800	200.00
Sort lifts.....	5.000	.050	.600	1,200.00
Build.....	244.500	2.000	.491	24.54
Skive.....	10.000	.060	.360	600.00
Dress.....	12.000	.100	.500	500.00
Compress.....	6.000	.068	.580	1,000.00
Pack.....	1.500	.010	.400	4,000.00
Organization and general work.....	83.679	.587	.421	71.70
Total.....	392.679	3.265	.499	
Stock fitting:				
Mold.....	10.000	.082	.498	600.00
Channel.....	24.000	.283	.708	250.00
Turn lips.....	12.500	.120	.576	480.00
Organization and general work.....	147.003	1.327	.542	40.82
Total.....	193.503	1.813	.562	
Total, sole-leather department.....	1,026.150	9.069	.530	
LASTING DEPARTMENT.				
Case lasts.....	10.550	.100	.569	568.72
Tack insoles.....	16.767	.116	.415	357.85
Case counters.....	6.667	.083	.747	899.96
Grease lasts.....	6.667	.063	.567	899.96
Trim insoles.....	7.083	.083	.703	847.10
Assemble for pull-over machine.....	63.000	.625	.595	95.24
Pull over, machine.....	83.000	1.058	.765	72.29
Side last, machine.....	83.000	.958	.693	72.29
Operate bed machine.....	200.000	2.583	.775	30.00
Organization and general work.....	116.934	1.083	.566	51.31
Total.....	593.608	6.752	.682	
POTTOMING DEPARTMENT.				
Trim toes.....	11.117	.133	.718	539.71
Staple.....	35.700	.250	.420	168.07
Pull last tacks.....	83.000	.616	.445	72.29
Goodyear welt.....	71.383	1.100	.925	84.05
Buff welts.....	20.000	.167	.501	300.00
Trim inseams.....	20.833	.283	.815	288.00
Pull bottom tacks.....	25.000	.167	.401	240.00
Beat welts.....	23.783	.175	.441	252.28
Tack joints.....	23.783	.167	.421	252.28
Stick shanks.....	16.767	.116	.415	357.85
Fill bottoms.....	20.000	.158	.474	300.00
Cement welts.....	10.000	.116	.696	600.00
Lay soles.....	25.000	.275	.660	240.00
Nail heel seats.....	16.767	.233	.534	357.85
Rough round.....	50.000	.692	.580	120.00
Goodyear stitch.....	83.600	1.567	1.133	72.29
Level.....	35.700	.308	.618	168.07
Heel.....	41.667	.500	.720	144.00
Trim heel seats.....	13.853	.125	.540	432.18
Trim heels.....	27.783	.300	.648	215.96
Cut strings.....	8.333	.067	.482	720.03
Trim edges.....	142.767	2.017	.848	42.03
Organization and general work.....	221.688	2.000	.541	27.07
Total.....	1,027.954	11.532	.673	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 28.—Men's Goodyear welt, russia side, blucher, single sole, leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
FINISHING DEPARTMENT.				
Scour heels, first time	41.667	\$0.467	\$0.672	144.00
Scour heel breasts	20.000	.167	.501	300.00
Paste heels	8.333	.100	.720	720.03
Scour heels, second time	38.333	.337	.527	156.52
Set edges	74.000	.770	.624	81.08
Ink heels	16.667	.125	.450	359.99
Burnish heels	41.667	.375	.540	144.00
Bleach	20.833	.133	.383	288.00
Clean bottoms	25.000	.125	.300	240.00
Polish foreparts	49.300	.433	.527	121.70
Wheel breasts	10.550	.093	.529	568.72
Pull lasts	20.833	.200	.576	288.00
Organization and general work	74.334	.583	.471	80.72
Total	441.517	3.908	.531	
TREEING AND PACKING DEPARTMENT.				
Cut tacks	20.833	.208	.599	288.00
Line heels	20.833	.175	.504	288.00
Stamp	20.833	.146	.420	288.00
Stripe	20.833	.167	.481	288.00
Tree, machine	142.700	1.733	.729	42.05
Dress	71.383	.533	.448	84.05
Repair	71.383	.583	.490	84.05
Polish	25.000	.250	.600	240.00
Brush	80.000	.750	.563	75.00
Lace	16.667	.116	.418	359.99
Stamp cartons	6.950	.063	.544	863.31
Pack	25.000	.233	.559	240.00
Organization and general work	116.310	1.000	.516	51.59
Total	638.725	5.957	.560	
Grand total	6,064.722	57.108	.565	

Establishment No. 36.—Misses' tan calf, 3/4 fox, pony cut, lace tip, tan calf upper, leather sole, 8/8 leather heel with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Cut uppers, machine	222.220	\$4.583	\$1.240	27.00
Cut top facings, machine	68.580	.500	.437	87.49
Cut lace facings, machine	171.420	1.250	.438	35.00
Cut linings, machine	88.000	.917	.625	68.18
Cut vamp linings, machine	40.000	.167	.251	150.00
Stamp linings	22.220	.125	.338	270.03
Mark quarters	22.220	.333	.899	270.03
Skive toes	16.670	.139	.500	359.93
Skive vamps	41.670	.361	.520	143.99
Skive tips	16.670	.139	.500	359.93
Skive tops	27.780	.250	.540	215.98
Perforate and stitch quarters	55.560	.722	.780	107.99
Perforate foxings	62.500	.861	.827	96.00
Perforate vamps	62.500	.667	.640	96.00
Perforate tips and medallions	13.890	.139	.600	431.97
Organization	115.200	1.900	.990	52.08
Total	1,047.100	13.053	.748	
STITCHING DEPARTMENT.				
Close linings	27.780	.417	.901	215.98
Make linings	83.330	1.139	.820	72.00
Fold quarters	55.560	.555	.599	107.99
Fold tips	22.220	.222	.599	270.03
Close uppers	166.670	.889	.320	36.00
Stay uppers	83.330	.500	.360	72.00
Trim for top closing	260.000	1.083	.260	23.08
Ink tips	13.890	.097	.419	431.97
Ink edges, foxings	13.890	.125	.546	431.97

74 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 36.—Misses' tan calf, 3/4 fox, pony cut, lace tip, tan calf upper, leather sole, 8/8 leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Ink edges, vamps	27.760	\$0.250	\$0.540	215.98
Ink edges, quarters	23.140	.298	.539	259.29
Line vamps	27.790	.306	.661	215.98
Crease tips	33.330	.111	.200	180.62
Stitch tips	69.440	.528	.456	86.41
Size out vamps	13.890	.111	.479	431.97
Stitch backstraps	111.110	.917	.495	54.00
Stitch tops	166.670	1.528	.550	36.60
Eyelet	41.679	.917	1.320	143.99
Vamp	298.330	2.750	.792	28.80
Trim for packing	222.840	1.083	.292	26.23
Line tongues	125.000	.833	.400	48.60
Close toes	83.330	.694	.500	72.60
Bar	27.780	.278	.600	215.98
Assemble and pack	41.670	1.000	1.440	143.99
Organization	57.590	.800	.833	104.18
Total	2,008.020	17.341	.518	-----
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut	41.670	.420	.605	143.99
Sort	8.330	.098	.670	720.29
Mark sizes	33.330	.151	.272	180.62
Total	83.330	.664	.478	-----
Inner soles, leather ¹	110.404	1.069	.581	-----
Counters, leather ¹	158.915	1.814	.496	-----
Box toes, leather ¹	113.788	1.083	.545	-----
Heels, leather 8/8 ¹	423.179	3.253	.461	-----
Stock fitting:				
Buff scratches	33.330	.370	.666	180.62
Temper	13.890	.154	.665	431.97
Round	33.330	.336	.605	180.62
Channel	41.670	.362	.521	143.99
Place tops	33.330	.243	.487	180.62
Trim tops	27.760	.203	.438	215.98
Mold soles	27.780	.203	.438	215.98
Open channels	27.780	.212	.458	215.98
Fair stitch	50.000	.521	.625	120.00
Round insoles	19.440	.196	.605	308.64
Organization	57.600	.900	.938	104.17
Total	365.930	3.700	.607	-----
Total, sole-leather department	1,255.546	11.083	.527	-----
LASTING DEPARTMENT.				
Get out lasts	24.000	.250	.625	250.00
Assemble for pull-over machine	83.330	1.139	.820	72.00
Pull over, machine	69.440	1.333	1.152	86.41
Last, C. H. M. machine	125.000	2.000	.960	48.60
Found	47.220	.555	.705	127.06
Pull tacks and strings	64.000	.667	.628	88.75
Put in shanks	35.560	.111	.187	168.73
Lay soles	69.480	.833	.720	86.39
Put lasts	64.000	.667	.625	88.75
Wet bottoms	11.110	.111	.599	540.00
Organization	57.590	.800	.833	104.18
Total	650.700	8.466	.781	-----

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No 36.—Misses' tan calf, 3/4 fox, pony cut, lace tip, tan calf upper, leather sole, 3/8 leather heel with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT.				
McKay sew.....	55.560	\$0.917	\$0.990	107.99
Cement channels.....	27.780	.194	.419	215.96
Lay channels.....	13.890	.139	.600	431.97
Nail heel seats.....	19.440	.194	.599	306.64
Level.....	55.560	.222	.240	107.99
Wheel.....	27.780	.222	.479	215.96
Nail leather heel bases.....	41.670	.583	.839	143.99
Nail rubber top pieces.....	41.670	.583	.839	143.99
Put in lasts.....	126.780	1.167	.552	47.33
Shave heels.....	41.670	.583	.839	143.99
Breast heels.....	27.780	.389	.840	215.98
Trim edges.....	111.110	1.389	.750	54.06
General work.....	11.110	.167	.902	540.06
Organization.....	28.800	.500	1.042	206.33
Total.....	630.600	7.249	.690	
FINISHING DEPARTMENT.				
Scour, first time.....	47.200	.667	.847	127.06
Set edges.....	69.450	1.306	1.128	86.39
Ink heel seats.....	13.890	.139	.600	431.97
Brush edges.....	68.560	.533	.291	87.51
Ink heels.....	19.440	.194	.599	308.65
Burnish heels.....	55.560	.472	.510	107.99
Shank out.....	33.330	.306	.551	180.02
Buff bottoms.....	41.670	.583	.839	143.99
Stain bottoms.....	101.810	1.167	.688	58.96
Wax bottoms.....	90.000	.917	.688	75.00
Stripe bottoms.....	112.940	.667	.354	53.13
Brush uppers.....	87.280	.667	.458	68.74
Pull lasts.....	32.720	.250	.458	183.38
Organization.....	28.800	.500	1.042	206.33
Total.....	792.670	8.163	.618	
TREEING AND PACKING DEPARTMENT.				
Stamp bottoms.....	93.330	.583	.375	64.29
Sock linings.....	165.140	.917	.333	36.33
Pad heels.....	90.080	.500	.333	66.61
Iron.....	168.000	1.750	.625	35.71
Clean.....	80.000	.833	.625	75.00
Size out.....	48.000	.250	.312	124.99
Dress.....	224.000	1.167	.313	26.79
Lace.....	96.000	.500	.313	62.50
Crown.....	84.000	.583	.416	71.43
Stamp cartons.....	96.000	.500	.313	62.50
Pack.....	84.690	.500	.354	70.85
Ship.....	57.600	.520	.542	104.17
Organization.....	57.600	.840	.375	104.17
Total.....	1,344.440	9.443	.421	
Grand total.....	7,729.076	74.753	.580	

Establishment No. 40.—Women's Goodyear welt, patent leather oxford, leather heel.

CUTTING DEPARTMENT.				
Give out jobs.....	87.273	\$1.174	\$0.807	68.75
Stock man.....	62.500	.543	.521	96.00
Cut outsides, hand.....	591.250	8.500	.960	11.29
Cut tongues.....	33.333	.150	.270	180.00
Cut back straps.....	33.333	.150	.270	180.00
Cut linings, canvas.....	55.556	.847	.375	108.00
Cut linings, leather.....	106.667	1.667	.600	36.00
Cut drill toe linings.....	83.333	.396	.285	72.00
Cut sock linings.....	50.000	.594	.713	120.00
Skive.....	187.500	1.583	.506	31.97
Mark uppers.....	83.333	.333	.240	72.00
Stamp linings.....	52.083	.458	.628	115.20
Stamp name, sock lining.....	50.000	.375	.450	120.00
Sock lining (gold stamper).....	58.333	.466	.479	102.85
Cripple work.....	21.818	.265	.729	275.00
Organization.....	65.455	1.023	.938	91.67
Total.....	1,621.767	18.024	.667	

76 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 40.—Women's Goodyear welt, patent leather oxford, leather heel—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT.				
Close.....	52.083	\$0.333	\$0.384	115.20
Close linings.....	45.833	.333	.436	130.91
Rub down.....	18.750	.051	.162	320.00
Mark quarters.....	41.667	.271	.390	144.00
Rub seams.....	25.000	.167	.401	240.00
Nick vamps.....	52.083	.271	.312	115.20
Cement vamps.....	104.167	.271	.156	57.60
Bead vamps.....	141.667	1.375	.582	42.35
Perforate tips.....	47.917	.417	.522	125.22
Paste tips.....	52.083	.464	.535	115.20
Stitch tips.....	87.500	.792	.543	68.57
Cement.....	85.417	.500	.351	71.24
Bead.....	191.667	1.375	.430	3.30
Paste stays.....	83.333	.354	.255	7.00
Trim stays.....	43.750	.146	.200	137.14
Paste ends.....	29.167	.188	.387	205.71
Make linings.....	218.750	2.208	.606	27.43
Lay on linings.....	52.083	.604	.696	115.20
Fancy stitch and backstrap.....	416.667	3.271	.471	14.40
Stitch tops.....	343.750	2.229	.389	17.45
Eyelet.....	62.500	.521	.500	96.00
Prepare for vamps.....	104.167	.646	.372	57.60
Half lining.....	93.750	.625	.400	64.00
Stitch vamp linings.....	100.000	.558	.335	60.00
Tack.....	135.417	.479	.212	44.31
Line inner toes.....	83.333	.396	.285	72.00
Crease center and welts.....	68.750	.323	.282	87.27
Size out.....	72.917	.313	.258	82.28
Vamp.....	395.833	3.750	.589	15.16
Line tongues.....	83.333	.583	.420	72.00
Stitch tongues.....	145.833	.958	.394	41.14
Trim.....	395.833	1.946	.295	15.16
Lace.....	31.250	.130	.250	191.87
Crown.....	62.500	.434	.417	96.00
Cripple work.....	21.818	.167	.459	275.00
Organization.....	65.455	.663	.608	91.67
Total.....	4,056.023	28.112	.416	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.581	
Counters, leather ¹	158.915	1.314	.496	
Top pieces, leather ¹	55.330	.587	.636	
Box toes, leather ¹	113.788	1.033	.545	
Heels:				
Cut lifts.....	100.000	.868	.521	60.00
Paste.....	88.889	.401	.271	67.50
Nail.....	88.889	.710	.479	67.50
Stock.....	88.889	.586	.396	67.50
Gouge wedge press.....	142.592	1.436	.604	42.08
Total.....	509.259	4.001	.471	
Stock fitting:				
Select soles.....	38.887	.378	.583	154.29
Welt and roll.....	44.444	.401	.542	135.00
Round insoles.....	33.333	.313	.563	180.00
Welt split heel roll.....	166.667	1.506	.542	36.00
Bevel and nick.....	27.777	.164	.354	216.00
Round shave.....	83.333	.723	.521	72.00
Split leather edge.....	44.444	.463	.625	135.00
Channel.....	55.556	.579	.625	108.00
Fit insoles and assemble.....	55.556	.521	.563	108.00
Organization.....	21.818	.322	.386	275.00
Total.....	571.816	5.369	.563	
Total, sole-leather department.....	1,603.623	14.265	.534	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. (See pp. 132-140.)

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 40.—Women's Goodyear welt, patent leather oxford, leather heel—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Pick lasts.....	52.083	\$0.244	\$0.281	115.20
Last, hand.....	1,354.167	15.000	.665	4.43
Operate bed machine.....	375.000	4.000	.640	16.00
General work.....	109.911	.970	.534	55.00
Organization.....	21.818	.303	.833	275.00
Total.....	1,912.159	20.517	.644	-----
BOTTOMING DEPARTMENT.				
Trim toes.....	31.250	.375	.720	192.00
Pull tacks.....	83.333	.708	.510	72.00
Goodyear welt.....	160.417	3.750	1.403	37.40
Trim in seams.....	197.917	1.500	.455	30.31
Beat welts.....	45.833	.375	.491	130.91
Fill bottoms.....	166.667	1.500	.546	26.00
Fill toes.....	23.333	.250	.643	257.15
Lay soles.....	162.858	.950	.350	36.84
Press welts.....	25.000	.104	.250	240.00
Rough round.....	145.833	1.594	.656	41.14
Nail seats.....	83.333	.792	.570	72.00
Wet and beat seats.....	100.000	.750	.450	60.00
Wet and beat shanks.....	100.000	.917	.550	60.00
Tack joints.....	20.000	.250	.750	300.00
Open channels.....	54.167	.350	.388	110.77
Wet up.....	27.083	.113	.250	221.54
Goodyear stitch.....	281.250	3.125	.667	21.33
Level.....	204.167	3.208	.943	29.39
Heel, leather.....	133.333	2.000	.900	45.00
Trim heels.....	96.667	1.625	.864	62.07
Breast heels.....	200.000	2.000	.600	30.00
Trim edges.....	200.000	2.500	.750	30.00
Trim welts.....	31.250	.417	.801	191.87
Joint.....	150.000	.917	.367	40.00
General work.....	43.636	.167	.230	137.50
Organization.....	65.455	.947	.868	91.66
Total.....	2,832.782	31.184	.660	-----
FINISHING DEPARTMENT.				
Set edges.....	333.333	3.750	.675	18.00
Scour breasts and heels.....	200.000	2.000	.600	30.00
Burnish heels.....	114.583	1.125	.589	52.36
Wheel edges, first time.....	125.000	1.250	.600	48.00
Buff bottoms.....	157.292	1.750	.668	36.15
Wheel seats.....	95.000	.917	.579	63.16
Finish shoes.....	489.583	4.781	.586	12.26
Wheel edges, second time.....	116.667	1.250	.643	51.43
Pull lasts.....	43.333	.500	.692	138.46
General work.....	21.818	.182	.501	275.00
Organization.....	32.727	.398	.730	183.33
Total.....	1,729.336	17.903	.621	-----
TREEING AND PACKING DEPARTMENT.				
Sock linings.....	93.750	.423	.271	64.00
Tree, hand.....	360.000	3.000	.500	16.67
Repair patent leather.....	183.333	1.591	.521	32.73
Pair up shoes.....	41.667	.145	.208	144.00
Cut ends.....	62.500	.217	.208	96.00
Stamp soles.....	25.000	.122	.292	240.00
Stamp sock linings.....	41.667	.260	.375	144.00
Clean (whole shoe).....	333.333	2.292	.413	18.00
Lace.....	58.333	.223	.229	102.86
Examine.....	83.333	.694	.500	72.00
Stamp boxes.....	27.083	.160	.354	221.54
Pack.....	31.250	.184	.354	191.87
Ship.....	87.273	.723	.497	68.75
Organization.....	54.545	.568	.625	110.00
Total.....	1,483.067	10.602	.429	-----
Grand total.....	15,238.757	140.607	.554	-----

78 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 41.—Women's Goodyear welt, black kid oxford, one strap, two buttons, leather sole,
8/8 leather heel base with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Pick out leather, outsides	10.000	\$0.125	\$0.750	600.00
Make test cards and count leather	8.000	.100	.750	750.00
Translate leather	13.000	.184	.757	461.54
Pick out leather trimmings	20.000	.250	.750	300.00
Cut outsides, hand	495.000	8.000	.970	12.12
Cut linings, hand	30.000	.550	1.100	200.00
Cut reinforcements, hand	32.000	.850	1.219	157.50
Cut trimmings	362.000	3.630	.601	16.57
Cut heel anchors, die machine	40.000	.300	.450	150.00
Cut reinforcing, die machine	44.000	.400	.545	136.36
Cut throat pieces	24.000	.154	.385	250.00
Inspect outsides	74.000	.925	.750	81.08
Mark for imitation stitching	190.000	1.047	.831	107.14
Die openings in strap	56.000	.550	.589	31.59
Stamp outsides	20.000	.220	.690	300.00
Stamp reinforcements	24.000	.180	.450	250.00
Assemble	2.000	.016	.480	3,000.00
Stamp toe linings	20.000	.130	.390	300.00
Stamp quarter linings	20.000	.200	.600	300.00
Skive quarters	20.000	.200	.600	300.00
Organization	278.454	1.680	.362	21.55
Total	1,782.454	19.471	.655	
STITCHING DEPARTMENT.				
Seam linings	80.000	.690	.518	75.00
Vamp linings (sew toe lining)	106.000	.950	.538	56.60
Sew in heel anchor	300.000	1.850	.370	20.00
Sew in labels	70.000	.470	.403	85.71
Rub seams	50.000	.300	.360	120.00
Paste vamp doublers	34.000	.200	.353	176.47
Paste button reinforcements	50.000	.320	.384	120.00
Paste throat pieces	28.000	.240	.554	230.77
Paste quarter doublers	60.000	.460	.460	100.00
Trim quarter doublers	42.000	.294	.420	142.86
Trim vamp doublers	30.000	.210	.420	200.00
Assemble	4.000	.025	.375	1500.00
Close back seams	38.000	.250	.395	157.89
Rub back seams	20.000	.150	.450	300.00
Reinforce back seams	50.000	.200	.240	120.00
Fold overlaps	86.000	.500	.349	69.77
Stitch imitation foxings	261.000	2.750	.630	22.91
Stitch "V" stitch on vamps	90.000	.850	.507	66.67
Vamp	120.822	1.470	.730	49.66
Paste paper for bindings	80.000	.480	.360	75.00
Stitch on bindings	560.000	3.400	.364	10.71
Cement bindings	180.000	.950	.317	33.33
Fold bindings	488.000	3.450	.424	12.30
Size cut	41.820	.230	.330	143.47
Pump stitch	440.000	3.500	.477	13.64
Make buttonholes	60.000	.400	.400	100.00
Sew on buttons	40.000	.250	.375	150.00
Stitch openings	100.000	1.390	.834	60.00
Tack straps	24.325	.150	.370	246.66
Case and trim	50.000	.650	.780	120.00
Inspection	3.000	.062	.465	750.00
Organization and general work	1,620.492	6.590	.243	3.69
Total	5,211.365	33.681	.388	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.531	
Counters, leather ¹	153.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.545	
Heels, leather, 8/8 ¹	423.179	3.253	.461	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Continued.

Establishment No. 41.—Women's Goodyear welt, black kid oxford, one strap, two buttons, leather sole,
8/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Stock fitting:				
Sort outsoles.....	8.000	\$0.097	\$0.728	750.00
Round outsoles.....	24.000	.340	.850	250.00
Split outsoles.....	20.000	.200	.600	300.00
Bevel foreparts.....	16.000	.149	.559	375.00
Shank soles.....	24.000	.223	.558	250.00
Mold soles.....	20.000	.186	.558	300.00
Stamp soles.....	10.000	.045	.270	600.00
Round insoles.....	40.000	.425	.638	150.00
Channel insoles.....	40.000	.360	.540	150.00
Turn up channels.....	30.000	.204	.408	200.00
Cement channels.....	20.000	.090	.270	300.00
Lay canvas.....	26.000	.172	.397	230.77
Trim canvas.....	30.000	.198	.396	200.00
Form toes.....	18.000	.167	.557	333.33
Shellac toes.....	20.000	.090	.270	300.00
Put in rivets.....	24.000	.230	.575	250.00
Tack heel pieces.....	14.000	.073	.313	428.57
Stamp.....	12.000	.054	.270	500.00
Mark for heel pieces.....	14.000	.077	.330	428.57
Crown insoles.....	30.000	.288	.576	200.00
Get out counters and case.....	14.000	.098	.420	428.57
Get out heels and cut top lifts.....	18.000	.261	.570	333.33
Organization and general work.....	86.300	.758	.527	69.52
Total.....	558.300	4.785	.514	-----
Total, sole-leather department.....	1,448.697	12.346	.511	-----
LASTING DEPARTMENT.				
Receive and check uppers.....	2.000	.013	.390	3,000.00
Handle soles.....	6.000	.038	.380	1,000.00
Cement soles.....	18.000	.140	.467	333.33
Get out lasts.....	30.000	.260	.520	200.00
Clean lasts.....	22.000	.120	.327	272.73
Wax toes.....	20.000	.128	.378	300.00
Tack insoles.....	35.240	.370	.690	170.26
Trim insoles.....	30.000	.270	.540	200.00
Pound leaf.....	16.000	.200	.750	375.00
Inspect.....	30.000	.414	.828	200.00
Assemble parts.....	10.000	.063	.378	600.00
Assemble for pull-over machine.....	242.000	1.200	.297	24.79
Pull over, machine.....	80.000	1.830	1.373	75.00
Draft (inspect).....	100.000	1.830	1.098	60.00
Side last machine.....	76.000	1.830	1.445	78.95
Operate bed machine.....	240.000	3.660	.915	25.00
Inspect.....	60.000	.620	.620	100.00
Heat and shape toes.....	40.000	.450	.675	150.00
Organization and general work.....	358.170	2.340	.392	16.75
Total.....	1,415.410	15,774	.669	-----
BOTTOMING DEPARTMENT.				
Staple uppers.....	40.000	.300	.450	150.00
Pull side tacks.....	80.000	.400	.300	75.00
Trim uppers.....	55.000	.300	.327	109.09
Goodyear welt.....	120.000	2.230	1.115	50.00
Pull bottom tacks.....	40.000	.220	.330	150.00
Trim inseams.....	60.000	.550	.550	100.00
Butt and tack joints.....	60.000	.400	.400	100.00
Beat welts.....	60.000	.600	.600	100.00
Put in shanks.....	60.000	.400	.400	100.00
Fill bottoms.....	60.000	.400	.400	100.00
Cement bottoms.....	20.000	.150	.450	300.00
Lay soles.....	56.000	.500	.537	107.14
Rough round.....	69.000	1.230	1.070	86.96
Open channels and reduce shanks.....	70.000	.370	.317	85.71
Goodyear stitch.....	158.000	2.370	.900	37.97
Rand and break shanks.....	72.000	.750	.625	83.33
Cement channel and lay leaf.....	60.000	.400	.400	100.00

80 TIME AND LABOR COSTS—CENTRAL ATLANTIC DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

CENTRAL ATLANTIC DISTRICT—Concluded.

Establishment No. 41.—Women's Goodyear welt, black kid oxford, one strap, two buttons, leather sole, 8/8 leather heel base with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Nail and trim seats	60.000	\$0.420	\$0.420	100.00
Level	160.000	1.850	.684	37.50
Inspect	18.000	.117	.390	333.33
Size out for heeling	14.000	.150	.643	428.57
Heel	80.000	1.240	.930	75.00
Load heeler	80.000	.806	.230	75.00
Slug	24.000	.250	.625	250.00
Trim heels	60.000	.990	.990	100.00
Braost	49.320	.600	.730	121.65
Trim edges	170.000	2.720	.960	85.29
Joint	38.000	.500	.789	157.89
Organization and general work	414.890	2.600	.376	14.46
Total	2,308.210	23.313	.606	
FINISHING DEPARTMENT.				
Scour heels, first time	44.000	.500	.682	136.36
Scour breasts	15.000	.290	1.160	400.00
Glue heels	20.000	.150	.450	300.00
Pound heel seats	38.000	.270	.426	157.89
Scour heels, second time	44.000	.500	.682	136.36
Brush off dust	12.000	.150	.750	500.00
Set and wheel edges	180.000	3.950	1.317	33.33
Ink heels, first time	28.000	.180	.386	214.29
Clean stitches	24.000	.200	.500	250.00
Roll heels	44.000	.350	.477	136.36
Sand bottoms	46.000	.700	.913	130.43
Cuff shanks	42.000	.550	.786	142.86
Line up shanks	38.000	.400	.632	157.89
Line up heel breasts	20.000	.250	.750	300.00
Brush off dust	12.000	.150	.750	500.00
Bleach bottoms	20.000	.230	.699	363.00
Ink heels, second time	32.000	.250	.469	187.50
Dye and ink bottoms	50.000	.460	.552	120.00
Stain bottoms	40.000	.500	.750	150.00
Iron bottoms	40.000	.400	.600	150.00
Roll bottoms	60.000	.850	.850	100.00
Cut shanks	16.000	.200	.750	375.00
Wheel and stripe	84.000	1.000	.714	71.43
Wax bottoms	30.000	.150	.300	200.00
Polish bottoms	40.000	.200	.300	150.00
Bead heels	24.000	.180	.450	250.00
Burnish heels	74.000	1.000	.811	81.08
Clean	60.000	.450	.450	100.00
Pull lasts	70.000	.500	.429	85.71
Inspect	30.000	.280	.560	206.00
Stamp soles	30.000	.170	.340	200.00
Organization	90.340	.670	.445	66.42
Total	1,467.340	16.080	.658	
TREEING AND PACKING DEPARTMENT.				
Cut throats (surplus leather of quarter lining)	240.000	1.750	.438	25.00
Inspect	40.000	.180	.270	150.00
Sock linings	130.000	.550	.254	46.15
Clean and iron, hand	64.660	1.250	1.160	92.79
Ink tops	100.000	.450	.270	60.00
Dress	60.000	.300	.300	100.00
Inspect and trim threads	60.000	.300	.300	100.00
Button	20.000	.180	.540	300.00
Rub edges	32.000	.200	.375	187.50
Brush bottoms	19.000	.100	.316	315.79
Repair	40.000	.280	.420	150.00
Label cartons	31.000	.170	.329	193.55
Stamp cartons	33.000	.200	.364	181.82
Pack	80.000	.450	.338	75.00
Organization and general work	347.370	1.430	.247	17.27
Total	1,297.030	7.790	.360	
Grand total	14,930.502	128.455	.516	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT.

Establishment No. 2.—Men's Goodyear welt, plump tan elk blucher, single sole, 4/8 leather heel base with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Handle material.....	118.800	\$1.070	\$0.540	50.51
Selecting patterns for cutters.....	20.000	.080	.240	300.00
Give out work to cutters.....	20.000	.075	.225	300.00
Cut uppers, machine.....	270.000	3.310	.735	22.22
Make shoes.....	35.000	.320	.549	171.43
Cut toe pieces, machine.....	25.000	.360	.864	240.00
Lay out shoes to ticket.....	15.000	.125	.500	400.00
Tie up shoes.....	15.000	.110	.440	400.00
Mark tips.....	1.000	.003	.180	6,000.00
Stamp shoes, case number, etc.....	30.000	.275	.550	200.00
Stamp box toes, case number, etc.....	10.000	.080	.480	600.00
Skive top and front of quarters.....	65.000	.250	.231	92.31
Bevel quarters wide (top and front).....	32.000	.125	.234	187.50
Bevel back and bottom of quarters.....	55.000	.330	.360	109.09
Bevel tips.....	15.500	.080	.310	387.10
Bevel toes of vamps.....	21.500	.125	.349	279.07
Bevel throat of vamps.....	28.500	.165	.347	210.53
Bevel box toes.....	25.000	.125	.300	240.00
Split tongues.....	8.000	.110	.825	750.00
Split backstays.....	10.000	.070	.420	600.00
Skive backstays.....	30.000	.140	.280	200.00
Bevel bottom of tongues.....	20.000	.070	.210	300.00
Perforate tips.....	15.000	.110	.440	400.00
Crimp vamps.....	35.000	.275	.471	171.43
Count and check shoes.....	75.000	.345	.378	80.00
Cut trimmings, machine.....	60.000	.370	.370	100.00
Lay out trimmings to ticket.....	15.000	.140	.560	400.00
Tie up trimmings.....	15.000	.065	.380	400.00
Cut linings, machine.....	30.000	.170	.340	200.00
Lay out linings.....	10.000	.100	.600	600.00
Mark linings, pricking machine.....	10.000	.125	.750	600.00
Stamp linings, case number, etc.....	10.000	.110	.600	600.00
Check linings.....	5.000	.020	.240	1,200.00
Cut deadheads.....	40.000	.300	.450	150.00
Carry deadheads.....	40.000	.150	.225	150.00
Rush.....	20.000	.075	.225	300.00
Sweep.....	22.862	.133	.349	262.44
Organization.....	60.000	.090	.990	100.00
Total.....	1,333.162	10.906	.491	
STITCHING DEPARTMENT.				
Handle material.....	59.400	.530	.535	101.01
Line vamps.....	40.000	.210	.315	150.00
Make vamps and tips.....	10.000	.055	.330	600.00
Size vamps for tipplers.....	27.000	.110	.244	222.22
Stitch tips, first row.....	100.000	.690	.414	60.00
Place box toes.....	35.000	.275	.471	171.43
Stitch tips, second row.....	80.000	.480	.360	75.00
Trim toe pieces.....	30.000	.125	.250	200.00
Singe tips.....	10.000	.055	.330	600.00
Singe vamps.....	10.000	.080	.480	600.00
Size vamps for vampers.....	15.000	.110	.440	400.00
Close quarters.....	70.500	.370	.315	85.11
Rub down back of quarters.....	20.000	.150	.450	300.00
Mark panels.....	30.000	.140	.280	200.00
Reinforce quarters.....	65.000	.220	.203	92.31
Stitch panels.....	400.000	2.300	.345	15.00
Blind stays.....	25.000	.220	.528	240.00
Cement backstays.....	43.000	.190	.285	139.53
Fold backstays, hand.....	60.000	.250	.250	100.00
Cement top and front of quarters.....	25.000	.190	.456	240.00
Fold top and front of quarters.....	180.000	1.240	.413	33.33
Backstay.....	120.000	.895	.448	60.00
Trim quarters.....	40.000	.180	.270	150.00
Size quarters.....	35.000	.140	.240	171.43
Sew on lining side stays.....	83.000	.620	.448	72.29
Sew on lining backstays.....	70.000	.550	.471	85.71
Stitch top bands.....	34.000	.275	.485	176.47
Trim back of linings.....	20.000	.125	.375	300.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1922,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 2—Men's Goodyear welt, plump tan elk blucher, single sole, 4/8 leather heel base with
rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Trim top of linings.....	30.000	\$0.120	\$0.240	200.00
Size linings.....	10.000	.040	.240	600.00
Line tongues.....	90.000	.550	.367	66.67
Stitch tops.....	368.000	2.110	.344	16.30
Eyelet.....	39.000	.210	.323	153.85
Inspect work.....	15.000	.055	.220	400.00
Stitch tongues, first row.....	50.000	.410	.492	120.00
Seam toes.....	45.000	.190	.253	133.33
Trim shoes.....	19.000	.070	.221	315.79
Match vamps and quarters.....	5.000	.020	.240	1,200.00
Size quarters for vampers.....	25.000	.100	.240	240.00
Stitch tongues, second row.....	78.000	.320	.246	76.92
Vamp.....	360.000	3.310	.552	16.67
Tack.....	70.000	.250	.214	85.71
Lace ("Ensign").....	36.000	.250	.417	166.67
Crown.....	36.000	.150	.250	166.67
Check out work.....	80.000	.480	.360	75.00
Rush.....	80.000	.480	.360	75.00
Deadheads.....	80.000	.430	.323	75.60
Get out backstays.....	20.000	.130	.390	300.00
Templet linings.....	20.000	.100	.300	300.00
Fitting room supplies.....	80.000	.210	.158	75.00
Repair linings.....	20.000	.100	.300	300.00
Organization.....	140.000	1.440	.617	42.86
Sweep.....	22.862	.133	.349	262.44
Operate elevators.....	22.862	.133	.349	262.44
Total.....	3,578.624	22.566	.378	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Truck and weigh leather.....	20.000	.400	1.200	300.00
Cut.....	60.000	.880	.880	100.00
Grade, sort, and rack.....	7.000	.050	.429	857.14
Tie up and count.....	7.000	.030	.257	857.14
Total.....	94.000	1.360	.868	
Insoles:				
Roll and split leather.....	20.000	.340	1.020	300.00
Cut.....	50.000	.660	.792	120.00
Grade, sort, and rack.....	4.000	.040	.600	1,500.00
Lay out insoles to ticket.....	5.000	.070	.840	1,200.00
Total.....	79.000	1.110	.843	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.068	.545	
Heels, leather ¹	230.247	2.147	.559	
Stock fitting:				
Get heels out of stock.....	13.000	.140	.646	461.54
Shank outsoles.....	16.000	.210	.788	375.00
Emboss outsoles.....	9.000	.040	.267	666.67
Round insoles.....	11.000	.275	1.500	545.45
Channel insoles.....	35.000	.620	1.063	171.43
Cement insoles.....	25.000	.190	.456	240.00
Turn up insole channels.....	31.000	.250	.484	193.55
Cut canvas on insoles.....	15.000	.165	.660	400.00
Crease canvas on insoles.....	15.000	.190	.760	400.00
Reinforce insoles.....	19.000	.210	.663	315.79
Cut down heels on insole.....	10.000	.080	.480	600.00
Emboss insoles.....	10.000	.055	.330	600.00
Inspect, size, and tie up insoles.....	40.000	.340	.510	150.00
Bale scrap leather.....	20.000	.140	.420	300.00
Sweep.....	22.862	.133	.349	262.44
Organization.....	80.000	1.270	.953	75.00
Total.....	371.862	4.306	.695	
Total, sole-leather department.....	1,047.812	11.272	.645	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 2.—Men's Goodyear welt, pump tan elk blucher, single sole, 4/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Get out lasts.....	30.000	\$0.345	\$0.690	200.00
Get out uppers and counters.....	12.000	.075	.375	500.00
Tack on insoles.....	38.000	.260	.411	157.89
Chalk lasts.....	10.000	.040	.240	600.00
Trim insole seats.....	20.000	.110	.330	300.00
Inspect insoles.....	20.000	.110	.330	300.00
Put away lasts.....	30.000	.270	.540	200.00
Put away and get out bottom stock.....	20.000	.100	.300	300.00
Assemble for pull-over machine.....	115.000	1.450	.756	52.17
Pull over, machine.....	128.700	1.930	.900	46.62
Side last, machine.....	180.000	2.410	.803	33.33
Operate bed machine.....	270.000	4.130	.918	22.22
Crown.....	55.000	.630	.687	109.09
Deadhead and rush.....	30.000	.170	.340	200.00
Cobble.....	30.000	.310	.620	200.00
Operate elevators.....	22.862	.133	.349	262.44
Sweep.....	22.862	.133	.349	262.44
Organization.....	50.000	.670	.804	126.00
Total.....	1,084.424	13.276	.735	-----
BOTTOMING DEPARTMENT.				
Trim toes.....	26.400	.220	.500	227.27
Staple uppers.....	26.400	.220	.500	227.27
Pull side tacks.....	38.300	.385	.603	156.66
Goodyear welt.....	70.000	1.585	1.359	85.71
Raise anchor tacks.....	15.000	.070	.280	400.00
Pull insole tacks.....	30.000	.235	.470	200.00
Trim inseams.....	45.000	.760	1.013	133.33
Beat welts.....	25.000	.320	.768	240.00
Joint.....	30.000	.290	.580	200.00
Shank.....	39.600	.165	.250	151.52
Fill bottoms.....	30.000	.210	.420	260.00
Cement outsoles.....	50.400	.210	.250	119.05
Cement bottoms.....	15.000	.060	.240	400.00
Lay soles.....	35.000	.550	.943	171.43
Rough round.....	70.000	1.170	1.003	85.71
Goodyear stitch.....	125.000	2.135	1.025	48.00
Cobble.....	30.000	.310	.620	200.00
Groove welts.....	15.000	.150	.600	400.00
Deadhead and wet up stock.....	30.000	.190	.380	200.00
Inspect.....	30.000	.150	.300	200.00
Feather foreparts.....	14.000	.100	.429	428.57
Nail seats.....	20.000	.275	.825	300.00
Trim seats.....	17.000	.090	.318	352.94
Level.....	68.000	.620	.547	88.24
Sort for heeler.....	30.000	.170	.340	200.00
Gloss stitches.....	25.000	.100	.240	240.00
Heel, leather bases.....	35.000	.780	1.337	171.43
Feed bases.....	35.000	.345	.591	171.43
Sand and cement leather bases.....	26.000	.140	.323	230.77
Get out and cement rubber heels.....	31.000	.160	.310	193.55
Spot rubber heels.....	31.000	.550	1.065	193.55
Heel, rubber heels.....	28.000	.190	.407	214.29
Feed rubber heels.....	28.000	.120	.257	214.29
Feather connections.....	25.000	.125	.300	240.00
Breast.....	36.000	.370	.617	166.67
Trim heels.....	37.000	.620	1.005	162.16
Trim edges.....	160.000	2.690	1.009	37.50
Cobble and inspect.....	18.000	.110	.367	333.33
Sweep.....	22.862	.133	.349	262.44
Operate elevators.....	22.862	.133	.349	262.44
Organization.....	120.000	1.540	.770	50.00
Total.....	1,605.824	18.746	.700	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 2.—Men's Goodyear welt, plump tan elk blucher, single sole, 4/8 leather heel base with
rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
FINISHING DEPARTMENT.				
Repair and straighten heels.....	28.000	\$0.275	\$0.589	214.29
Scour heels, first time.....	26.000	.440	1.015	230.77
Sand breasts.....	27.000	.300	.667	222.22
Beat seats.....	26.000	.345	.796	230.77
Scour heels, second time.....	36.000	.370	.617	166.67
Dope heels.....	23.600	.210	.548	260.87
Set edges.....	141.000	2.690	1.145	42.55
Inspect.....	23.000	.125	.328	260.87
Change shoes on rack.....	14.000	.060	.257	428.57
Inspect.....	10.000	.055	.330	600.00
Scour heels, third time.....	17.000	.290	1.024	352.94
Ink heels.....	28.000	.220	.471	214.29
Align breasts.....	16.800	.140	.500	357.14
Stain bottoms.....	36.000	.480	.800	166.67
Finish bottoms.....	20.000	.300	.900	300.00
Clean bottoms.....	20.000	.080	.240	300.00
Burnish heels.....	50.000	.690	.828	120.00
Cut strings.....	17.000	.070	.247	352.94
Pull lasts.....	23.000	.275	.717	260.87
Stamp bottoms.....	15.000	.070	.280	400.00
Sweep.....	22.862	.133	.349	262.44
Operate elevators.....	22.862	.133	.349	262.44
Organization.....	20.000	.460	1.380	300.00
Total.....	662.524	8.211	.744	
TREEING AND PACKING DEPARTMENT.				
Cut tacks.....	82.800	.345	.250	72.46
Pad heels.....	52.800	.220	.250	113.64
Burn threads.....	18.000	.100	.333	333.33
Tree, hand.....	195.000	1.340	.412	30.77
Emboss top facings.....	17.000	.080	.282	352.94
Iron tongues.....	35.000	.165	.283	171.43
Polish uppers.....	50.000	.235	.282	120.00
Brush heels.....	15.000	.080	.320	400.00
Press top facings.....	20.000	.210	.630	300.00
Repair.....	40.000	.410	.615	150.00
Clean linings.....	30.000	.120	.240	200.00
Rag edges.....	15.000	.190	.760	400.00
Mark cartons.....	20.000	.100	.300	300.00
Lace.....	25.000	.190	.456	240.00
Pack.....	70.000	.550	.471	85.71
Running errands.....	20.000	.100	.300	300.00
Pushing racks.....	20.000	.100	.300	300.00
Ship.....	266.640	2.000	.450	22.50
Sweep.....	22.862	.133	.349	262.44
Operate elevators.....	22.862	.133	.349	262.44
Organization.....	40.000	.620	.930	150.00
Total.....	1,077.964	7.421	.413	
Grand total.....	10,390.334	92.398	.534	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1922,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 8.—Men's Goodyear welt cordovan, russia calf blucher, 9/16 iron leather sole, 4/8 leather heel base with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Stock-room work.....	132.000	\$1.260	\$0.573	45.45
Cut shoes, machine.....	400.000	6.380	.957	15.00
Skive tops.....	95.000	.740	.463	62.50
Skive vamps.....	27.000	.180	.400	222.22
Skive tips.....	10.000	.150	.900	600.00
Skive backstays.....	30.000	.210	.420	200.00
Skive vamp toes.....	15.000	.190	.760	400.00
Punch tips.....	34.000	.150	.265	176.47
Cut linings, machine.....	43.000	.600	.837	139.53
Cut vamps, doubler.....	22.000	.350	.955	272.73
Cut quarters, doubler.....	63.000	.300	.286	95.24
Stamp linings.....	40.000	.300	.450	150.00
Cut backstays, hand.....	24.000	.250	.625	250.00
Cut side stays, hand.....	100.000	.820	.492	60.00
Cut heel stays, hand.....	24.000	.250	.625	250.00
Cut facings, hand.....	60.000	.750	.750	100.00
Skive heels stay.....	30.000	.210	.420	200.00
Skive tongues.....	20.000	.150	.450	300.00
Skive side stays.....	60.000	.420	.420	100.00
Skive side-stay ends.....	35.000	.300	.514	171.43
Skive facings.....	35.000	.290	.497	171.43
Skive facing ends.....	30.000	.190	.380	200.00
Mark tops.....	62.000	.600	.681	96.77
Cement and join side stays.....	60.000	.700	.700	100.00
Selecting patterns for cutters.....	22.000	.110	.900	272.73
Sort (vamps, etc.).....	117.000	2.930	1.603	51.28
Back.....	131.000	.660	.302	45.80
Assemble.....	66.000	.390	.355	90.91
Sweep.....	22.000	.186	.607	272.73
Organization.....	110.000	1.430	.780	54.55
Total.....	1,920.000	21.446	.670	
STITCHING DEPARTMENT.				
Stock-room work.....	22.000	.210	.573	272.73
Close tops.....	41.000	.310	.454	146.34
Close lining to backstay.....	41.000	.700	1.024	146.34
Close pieced top facing.....	25.000	.350	.540	240.00
Rub tops.....	27.000	.240	.535	222.22
Paste eyelet stays.....	50.000	.300	.360	120.00
Paste side linings.....	50.000	.450	.540	120.00
Cement tops.....	20.000	.200	.600	300.00
Fold tops.....	63.000	1.170	.846	72.29
Stitch arch supports.....	40.000	.450	.675	150.00
Stitch eyelet rows.....	188.000	2.000	.638	31.91
Stitch side stays.....	83.000	.720	.820	72.29
Stitch facings.....	72.000	.750	.625	63.33
Stitch tongue linings.....	47.000	.530	.677	127.66
Stitch backstays.....	167.000	2.089	.747	35.93
Stitch box and tips.....	93.000	1.520	.981	64.52
Stitch edges, linings, and tops.....	188.000	2.480	.791	31.91
Stitch tongues.....	72.000	.600	.500	63.33
Hook.....	35.000	.250	.429	171.43
Eyelet.....	31.000	.480	.929	168.55
Trim blucher throats.....	40.000	.230	.345	150.00
Trim vamp linings.....	15.000	.110	.440	400.00
Ink edges.....	63.000	.500	.476	95.24
Size and match tops and linings.....	25.000	.440	1.056	240.00
Size and match tops and vamps.....	24.000	.330	.825	260.00
Vamp.....	250.000	4.100	.964	24.00
Lace.....	30.000	.360	.720	200.00
Sort.....	17.000	.200	.706	352.94
Repair.....	44.000	.546	.745	136.36
Inspect tips.....	32.000	.190	.356	187.60
Inspect shoes.....	80.000	.500	.375	75.00
Floor help.....	132.000	1.310	.695	45.45
Sweep.....	22.000	.186	.607	272.73
Organization.....	44.000	.580	1.200	136.36
Total.....	2,193.000	25.672	.702	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 8.—Men's Goodyear welt cordovan, russia calf blucher, 9½ iron leather sole, 4/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Weigh leather.....	22.000	\$0.150	\$0.409	272.73
Cut.....	57.000	.680	.718	195.26
Grade.....	14.000	.120	.514	428.57
Sert.....	40.800	.470	.705	150.90
Case.....	26.000	.400	.923	239.77
Total.....	159.000	1.820	.687	
Insoles:				
Cut.....	57.000	.620	.663	105.26
Grade.....	14.000	.120	.514	428.57
Sert.....	40.000	.420	.630	156.00
Case.....	13.000	.110	.508	461.54
Total.....	124.000	1.270	.615	
Counters, leather ¹	158.915	1.314	.498	
Box toes, leather ¹	113.738	1.033	.545	
Heels, leather ¹	230.247	2.147	.569	
Stock fitting:				
Round insoles.....	15.000	.190	.760	400.00
Stamp insoles.....	13.000	.100	.462	461.54
Channel insoles.....	26.000	.400	.923	239.77
Cement economy insoles.....	13.000	.166	.738	461.54
Cut and crease canvas.....	26.000	.220	.508	239.77
Buff insoles.....	13.000	.120	.554	461.54
Turn up insoles.....	26.000	.230	.531	239.77
Reinforce insoles.....	36.000	.220	.367	166.67
Inspect insoles.....	30.000	.250	.500	200.00
Case and tie.....	13.000	.150	.692	461.54
Check and label.....	13.000	.140	.646	461.54
Reduce shanks.....	13.000	.140	.646	461.54
Cement and tie outsoles.....	19.000	.150	.474	315.79
Stamp outsoles.....	22.000	.140	.382	272.73
Trim scrap.....	22.000	.170	.464	272.73
Bag stock.....	22.000	.150	.409	272.73
Operate elevators.....	22.000	.115	.314	272.73
Sweep.....	22.000	.186	.507	272.73
Sand heel bases.....	13.000	.110	.508	461.54
Spot heels.....	19.000	.150	.474	315.79
Sand breasts.....	13.000	.170	.785	461.54
Case and count heels.....	44.000	.400	.545	136.36
Organization.....	88.000	1.290	.880	68.18
Total.....	543.000	5.351	.591	
Total, sole-leather department.....	1,328.950	12.935	.584	
LASTING DEPARTMENT.				
Pick lasts.....	40.000	.500	.750	150.00
Tack insoles.....	20.000	.250	.750	300.00
Assemble for pull-over machine.....	64.000	1.120	1.050	95.75
Pull over, machine.....	80.000	1.600	1.200	75.00
Draft sides.....	60.000	.800	.800	100.00
Side last, machine.....	74.000	1.600	1.297	81.06
Operate bed machine.....	192.000	3.500	1.604	31.25
Inspect.....	60.000	.730	.730	196.60
Floor work.....	52.000	.200	.375	187.50
Sweep.....	22.000	.185	.507	272.73
Organization.....	32.000	.490	.900	187.50
Total.....	676.000	10.966	.973	
BOTTOMING DEPARTMENT.				
Trim toes.....	16.000	.150	.563	375.00
Staple.....	40.000	.300	.450	150.00
Full tacks.....	40.000	.450	.675	150.00
Goodyear welt.....	74.000	1.600	1.297	81.06
Trim in-seams.....	27.000	.400	.889	222.22
Butt welts.....	24.000	.400	1.000	250.00

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 8.—Men's Goodyear welt cordovan, russia calf blucher, 9½ iron leather sole, 4/8 leather heel base with rubber top lift.—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Butt tacks.....	27.000	\$0.300	\$0.667	222.22
Pull insole tacks.....	20.000	.250	.750	300.00
Beat welts.....	27.000	.250	.556	222.22
Stick shanks.....	20.000	.200	.600	300.00
Fill bottoms.....	27.000	.280	.622	222.22
Cement welts.....	20.000	.200	.699	300.00
Wet soles.....	16.000	.200	.750	375.00
Lay soles.....	27.000	.400	.889	222.22
Nail seats.....	27.000	.250	.556	222.22
Rough round.....	64.000	1.250	1.172	93.75
Trim seats.....	27.000	.190	.422	222.22
Open channels.....	20.000	.200	.600	300.00
Goodyear stitch.....	137.000	2.250	.986	43.80
Cement channels.....	20.000	.180	.540	300.00
Close channels.....	20.000	.250	.750	300.00
Separate stitches.....	60.000	.700	.700	100.00
Level.....	45.000	.450	.563	125.00
Pick heels.....	20.000	.200	.600	300.00
Heel.....	40.000	.750	1.125	150.00
Feed heels.....	40.000	.300	.450	150.00
Trim heels.....	40.000	.750	1.125	150.00
Fill heels.....	24.000	.200	.500	250.00
Trim edges.....	137.000	2.500	1.095	43.80
Joint.....	27.000	.450	1.000	222.22
Cobble.....	32.000	.580	1.088	187.50
Sweep.....	22.000	.186	.507	272.73
Organization.....	64.000	.980	.919	93.75
Total.....	1,274.000	17.996	.848	
FINISHING DEPARTMENT.				
Scour breasts.....	20.000	.250	.750	300.00
Scour heels.....	45.000	.650	.813	125.00
Set edges, first time.....	80.000	1.350	1.013	75.00
Stain edges, first time.....	32.000	.300	.563	187.50
Size heels.....	20.000	.170	.510	300.00
Set edges, second time.....	53.000	.650	.736	113.21
Smooth heels.....	24.000	.250	.625	250.00
Stain heels.....	20.000	.200	.600	300.00
Burnish heels.....	45.000	.600	.750	125.00
Sand bottoms.....	74.000	.850	.689	81.08
Gum bottoms.....	32.000	.300	.563	187.50
Roll bottoms.....	80.000	.700	.625	75.00
Clean uppers.....	40.000	.350	.525	150.00
Pull lasts.....	32.000	.400	.750	187.50
Floor work.....	32.000	.200	.375	187.50
Operate elevators.....	22.000	.115	.314	272.73
Sweep.....	22.000	.186	.507	272.73
Organization.....	32.000	.450	.844	187.50
Total.....	711.000	7.971	.673	
TREEING AND PACKING DEPARTMENT.				
Feel tacks.....	40.000	.240	.360	150.00
Stamp bottoms.....	32.000	.300	.563	187.50
Sock linings.....	32.000	.250	.469	187.50
Emboss.....	27.000	.130	.289	222.22
Iron or tree, hand.....	96.000	1.500	.938	62.50
Repair.....	96.000	.900	.563	62.50
Dress.....	120.000	1.050	.525	50.00
Brush.....	53.000	.450	.509	113.21
Lace.....	40.000	.250	.375	150.00
Inspect.....	60.000	.730	.730	100.00
Mark cartons.....	40.000	.220	.330	150.00
Pack.....	27.000	.220	.489	222.22
Ship.....	66.000	.760	.691	90.91
Sweep.....	22.000	.186	.507	272.73
Organization.....	32.000	.500	.938	187.50
Total.....	783.000	7.686	.589	
Grand total.....	8,885.950	104.672	.707	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 14.—Women's McKay, black satin, one-strap oxford, wood heel with leather top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Cut uppers, hand.....	360.000	\$5.000	\$0.834	16.67
Cut linings, leather, hand.....	240.000	2.250	.563	25.00
Cut toe linings, hand.....	45.000	.450	.600	133.33
Stamp uppers.....	60.000	.450	.450	100.00
Stamp linings.....	45.000	.270	.360	133.33
Skive uppers.....	90.000	.680	.453	66.67
Organization.....	240.000	4.200	1.050	25.00
Total.....	1,080.000	13.300	.739	-----
STITCHING DEPARTMENT.				
Close linings.....	60.000	.460	.460	100.00
Stay linings.....	30.000	.230	.460	200.00
Sew in drill.....	60.000	.450	.450	100.00
Lap seams.....	60.000	.450	.450	100.00
Sew in nonslips.....	100.000	.750	.450	60.00
Close covers.....	30.000	.230	.460	200.00
Stitch vamp linings.....	30.000	.180	.360	200.00
Press seams.....	30.000	.250	.500	200.00
Close uppers.....	45.000	.310	.413	133.33
Stay uppers.....	45.000	.310	.413	133.33
Cement quarters.....	30.000	.230	.460	200.00
Cement linings.....	30.000	.180	.360	200.00
Cement vamps.....	30.000	.180	.360	200.00
Fold quarters.....	65.000	.590	.545	92.31
Fold vamps.....	65.000	.590	.545	92.31
Work buttonholes.....	60.000	.450	.450	100.00
Sew on buttons.....	45.000	.350	.467	133.33
Fit.....	180.000	1.500	.500	33.33
Vamp.....	360.000	3.000	.500	16.67
Stitch tops.....	240.000	2.000	.500	25.00
Stitch French binding.....	330.000	2.750	.500	18.18
Fold French binding, machine.....	240.000	2.000	.500	25.00
Reinforce buttons and buttonholes.....	75.000	.640	.512	80.00
Sort and tie up.....	60.000	.540	.540	100.00
Organization.....	120.000	1.800	.900	50.00
Total.....	2,420.000	20.420	.506	-----
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	-----
Insoles, leather ¹	110.404	1.069	.581	-----
Counters, leather ¹	158.915	1.314	.496	-----
Top pieces, leather ¹	55.330	.587	.636	-----
Box toes, leather ¹	113.738	1.033	.545	-----
Stock fitting:				
Round soles.....	30.000	.250	.500	200.00
Channel soles.....	35.000	.320	.566	171.43
Stamp soles.....	15.000	.140	.560	400.00
Shank.....	40.000	.359	.525	150.00
General all-round work.....	180.000	3.730	1.260	33.33
Organization.....	120.000	2.000	1.000	50.00
Total.....	420.000	6.850	.979	-----
Total, sole-leather department.....	942.548	11.745	.748	-----

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 14.—Women's McKay, black satin, one-strap oxford, wood heel with leather top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Assemble for pullers-over, machine.....	60.000	\$1.200	\$1.200	100.00
Pull over, machine.....	90.000	1.800	1.200	66.67
Side last, machine.....	90.000	1.750	1.167	66.67
Operate bed machine.....	150.000	2.750	1.100	40.00
Tack insoles.....	30.000	.350	.700	200.00
Pull lasts.....	30.000	.350	.700	200.00
Get out lasts.....	25.000	.250	.600	240.00
Put away lasts.....	15.000	.150	.600	400.00
Bring up stock.....	20.000	.200	.600	300.00
Pound toes.....	50.000	.500	.600	120.00
Pull tacks.....	25.000	.250	.600	240.00
Fill shanks.....	50.000	.550	.660	120.00
Tack outsoles.....	120.000	1.250	.625	50.00
Cover.....	140.000	1.500	.643	
Organization.....	60.000	1.000	1.000	100.00
Total.....	955.000	13.850	.870	
BOTTOMING DEPARTMENT.				
McKay sew.....	60.000	.810	.810	100.00
Nail seats.....	30.000	.230	.460	200.00
Wet up.....	15.000	.140	.560	400.00
Wet.....	15.000	.180	.720	400.00
Sort for leveler.....	15.000	.140	.560	400.00
Cement channels.....	30.000	.360	.720	200.00
Turn up leaf.....	15.000	.240	.960	400.00
Turn down leaf.....	15.000	.230	.920	400.00
Wet for leveler.....	15.000	.180	.720	400.00
Level.....	60.000	.900	.900	100.00
Relast.....	90.000	1.250	.833	66.67
Trim edges.....	60.000	1.250	1.250	100.00
Trim edge of top lifts.....	60.000	1.000	1.000	100.00
Trim shanks.....	60.000	1.000	1.000	100.00
Cover wood heels.....	420.000	4.500	.643	14.29
Fit seats for wood heels.....	120.000	1.800	.900	50.00
Tack wood heels.....	105.000	1.350	.771	57.14
Glue and nail wood heels.....	120.000	1.800	.900	50.00
Trim and sand.....	60.000	.900	.900	100.00
Organization.....	180.000	3.000	1.000	33.33
Total.....	1,545.000	21.260	.826	
FINISHING DEPARTMENT.				
Finish heels.....	450.000	7.650	1.020	13.33
Set edges.....	120.000	1.620	.810	50.00
Set edges of top lift.....	60.000	.900	.900	100.00
Sand bottoms.....	110.000	1.610	.878	54.55
Finish bottoms.....	120.000	1.630	.815	50.00
Trim and beat shanks.....	120.000	2.000	1.000	50.00
Cut off covers.....	90.000	1.130	.753	66.67
Wheel bottoms and pull lasts.....	45.000	.590	.787	133.33
Organization.....	60.000	.900	.900	100.00
Total.....	1,175.000	18.030	.921	
TREEING AND PACKING DEPARTMENT.				
Tree, hand.....	230.000	2.250	.587	26.09
Sock linings and cleaning linings.....	100.000	.910	.546	60.00
Ink edges.....	60.000	.900	.900	100.00
Brush bottoms.....	60.000	.450	.450	100.00
Button.....	30.000	.230	.460	200.00
Reeds.....	30.000	.230	.460	200.00
Dress.....	45.000	.330	.440	133.33
Pack and mark cartons.....	60.000	.450	.450	100.00
Inspect.....	120.000	1.000	.500	50.00
Ship.....	120.000	1.200	.600	50.00
Organization.....	60.000	.900	.900	100.00
Total.....	915.000	8.850	.580	
Grand total.....	9,032.548	107.455	.714	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 17.—Women's McKay, one strap, patent leather oxford with gray kid inlay, single sole,
cork insole, 4/8 leather heel base with rubber top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Stock clerk.....	27.778	\$0.382	\$0.825	216.00
Stock clerk's helper.....	12.444	.078	.376	482.16
Selecting patterns for cutters.....	12.664	.106	.502	473.78
Cut vamps and whole shoes, hand.....	458.333	7.639	1.000	13.09
Stamp uppers.....	41.667	.281	.465	144.00
Trace for fancy stitch.....	125.000	.972	.467	48.00
Give out fancy stitch tracings.....	12.198	.063	.408	491.88
Give out skiving.....	11.990	.083	.415	500.42
Skive uppers.....	55.556	.486	.525	108.00
Sort.....	55.556	.764	.825	108.00
Die out rubber backing.....	11.737	.069	.353	511.20
Die out fancy cut-outs.....	111.111	.694	.375	54.00
Strip (iron rubber backing).....	250.000	1.389	.333	24.00
Assemble uppers.....	125.000	.833	.400	48.00
Cutting cripples.....	11.813	.156	.827	530.36
Sort stock for trimmings.....	12.713	.175	.826	471.95
Cut doublers, hand.....	13.889	.172	.748	432.00
Cut linings, hand.....	19.444	.347	1.071	308.58
Case linings.....	8.333	.057	.410	720.03
Cut trimmings, hand.....	305.556	1.917	.376	19.64
Sort trimmings.....	41.667	.206	.297	144.00
Sort sock linings.....	12.714	.053	.250	471.92
Stamp linings.....	36.111	.222	.369	166.15
Assemble trimmings.....	12.712	.080	.378	471.99
Cut back shoe trimmings.....	13.200	.110	.500	454.55
Organization.....	50.856	1.204	1.420	117.98
Total.....	1,849.542	18.558	.602	
STITCHING DEPARTMENT.				
Assemble.....	8.333	.042	.302	720.03
Close linings.....	27.778	.181	.391	216.00
Rub down lining seams.....	13.889	.069	.296	432.00
Stitch nonslips.....	69.444	.625	.540	86.40
Lap linings.....	97.222	.833	.514	61.71
Stitch toe pieces.....	41.667	.522	.752	144.00
Close quarters.....	16.667	.250	.900	359.99
Stay quarters.....	41.667	.278	.490	144.00
Reinforce for buttons and buttonholes.....	19.444	.175	.540	308.58
Cement tongue underlays.....	66.667	.556	.500	90.00
Stitch tongues, fancy.....	166.667	1.389	.500	36.00
Trim underlays.....	33.333	.181	.326	180.00
Stitch tongue collars.....	25.000	.167	.401	240.00
Cement bottom of tongue collars.....	30.556	.278	.546	196.36
Fold bottom of tongue collars.....	86.111	.556	.337	69.68
Doubler, vamp.....	25.000	.167	.401	240.00
Mate vamps.....	8.333	.056	.403	720.03
Mating for vamps.....	13.889	.083	.359	432.00
Vamp.....	263.889	4.861	1.105	22.74
Bind.....	111.111	1.944	1.050	54.00
Give out inlay work.....	5.556	.056	.605	1,079.91
Lay in linings for inseamers.....	13.889	.139	.600	432.00
Stitch pumps.....	175.000	2.583	.836	34.29
Stitch buckram in lining.....	69.444	.694	.600	86.40
Make buttonholes.....	27.778	.250	.540	216.00
Trim linings.....	47.222	.164	.208	127.06
Sew buttons.....	13.889	.167	.721	432.00
Trim and button.....	41.667	.294	.423	144.00
Clean shoes.....	25.428	.089	.210	235.96
Inspect.....	33.333	.400	.720	180.00
Mend.....	25.428	.150	.354	235.96
Back shoe work.....	50.856	.292	.345	117.98
Floor work.....	63.570	.248	.229	94.38
Folder teacher.....	12.714	.097	.458	471.92
Organization.....	127.282	1.163	.548	47.14
Total.....	1,899.723	19.994	.631	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 17.—Women's McKay, one strap, patent leather oxford with gray kid inlay, single sole,
cork insole, 4/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	39.000	\$0.519	\$0.798	153.85
Grade.....	14.170	.100	.423	423.43
Sort.....	44.620	.502	.675	134.47
Rack.....	7.240	.051	.423	823.73
Case.....	14.580	.156	.642	411.52
General work.....	15.750	.170	.648	380.95
Total.....	135.360	1.498	.664	-----
Insoles:				
Cut.....	38.880	.413	.637	154.32
Grade.....	10.500	.038	.217	571.43
Sort.....	58.770	.472	.482	162.09
Rack.....	2.620	.023	.527	2,290.06
Case.....	14.580	.123	.506	411.52
General work.....	12.350	.061	.296	485.83
Total.....	137.700	1.130	.492	-----
Counters:				
Cut.....	43.232	.474	.658	138.79
Sort.....	10.500	.133	.700	571.43
Skive.....	8.070	.078	.580	743.49
Mold.....	18.750	.175	.560	320.00
Sort.....	11.660	.108	.556	514.58
Pack.....	2.540	.015	.354	2,362.20
Fit stock.....	15.440	.124	.482	388.60
General work.....	49.490	.337	.409	121.24
Total.....	159.682	1.444	.543	-----
Box toes, leather¹.....	113.788	1.033	.545	-----
Heels:				
Cut heel lifts, sort, etc.....	240.000	2.000	.500	25.00
Build heels.....	45.600	.340	.420	123.46
Tack rands.....	21.000	.200	.571	285.71
Total.....	306.600	2.540	.492	-----
Stock fitting:				
Assemble stock.....	13.889	.132	.570	432.00
Temper stock.....	16.667	.133	.479	359.99
Sand outsoles.....	13.889	.139	.600	432.00
Stamp outsoles.....	5.833	.056	.576	1,028.63
Round outsoles.....	13.889	.144	.622	432.00
Channel outsoles.....	15.681	.222	.840	382.63
Flesh outsoles.....	22.222	.175	.473	270.00
Shank out (mock turn).....	19.444	.175	.540	308.58
Mold outsoles.....	15.278	.106	.416	392.72
Turn channels.....	16.667	.153	.551	359.99
Ink fudge edge of soles.....	11.111	.106	.572	540.01
Round insoles.....	15.278	.189	.742	392.72
Score and dip insoles.....	8.333	.061	.439	720.00
Feather edge insoles.....	16.667	.167	.601	359.99
Put on heel pieces.....	16.667	.156	.562	359.99
Crown and assemble.....	13.889	.110	.475	432.00
General work, insoles.....	15.440	.124	.482	388.60
Organization.....	25.428	.333	.786	235.96
Total.....	276.272	2.681	.582	-----
Total, sole-leather department.....	1,132.402	10.326	.547	-----

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 17.—Women's McKay, one strap, patent leather oxford with gray kid inlay, single sole, cork insole, 4/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT.				
Assemble uppers and lasts.....	13.889	\$0.116	\$0.501	432.00
Sort lasts.....	19.444	.222	.685	308.58
Assemble insoles, counters, and box toes.....	13.889	.083	.359	432.00
Give out work.....	12.714	.121	.571	471.92
Assemble for pull-over machine.....	227.778	2.278	.600	26.34
Pull over, machine.....	100.000	1.389	.833	60.00
Side last, machine.....	130.556	1.667	.766	45.96
Operate bed machine.....	241.667	3.139	.779	24.83
Knock tacks.....	13.889	.139	.600	432.00
Pound up.....	33.333	.347	.625	180.00
Tack shanks.....	27.778	.194	.419	216.00
Fill bottoms.....	13.889	.097	.419	432.00
Tack soles.....	83.333	.694	.500	72.00
Pull lasts.....	41.667	.347	.500	144.00
Pull paper covers.....	13.889	.065	.281	432.00
Crown.....	30.556	.208	.408	196.36
Back shoe work.....	12.714	.108	.510	471.92
Floor work.....	12.714	.068	.321	471.92
Cobble.....	12.714	.132	.623	471.92
Organization.....	25.428	.375	.885	235.96
Total.....	1,081.841	11.789	.654	-----
BOTTOMING DEPARTMENT.				
Wet up for McKay sewers.....	12.714	.073	.345	471.92
Cement heel and rubber tips.....	41.667	.208	.300	144.00
Cement heel bases.....	12.714	.062	.293	471.92
Nail heel seats.....	19.444	.176	.543	308.58
McKay sew.....	69.444	.972	.840	86.40
Break soles.....	11.111	.139	.751	540.01
Sort.....	8.333	.078	.562	720.00
Cement.....	13.889	.167	.721	432.00
Wet up.....	11.111	.067	.362	540.01
Level.....	55.556	.556	.600	108.00
Heel.....	36.111	.522	.867	166.15
Feed heels.....	36.111	.181	.301	166.15
Crown and cement rubber heels.....	11.111	.074	.400	540.01
Cobble.....	12.714	.086	.406	471.92
Set up lasts.....	22.222	.122	.329	270.00
Relast.....	55.556	.433	.468	108.00
Trim heels.....	50.000	.417	.600	120.00
Breast heels.....	22.222	.294	.794	270.00
Joint.....	33.333	.347	.625	180.00
Trim edges.....	144.444	1.833	.761	41.54
Organization.....	25.428	.386	.911	235.96
Total.....	705.235	7.193	.612	-----
FINISHING DEPARTMENT.				
Scour breasts.....	19.444	.244	.753	308.58
Scour heels, first time.....	33.333	.278	.500	180.00
Fill holes in heels.....	12.714	.082	.387	471.92
Dope heels.....	41.667	.361	.520	144.00
Ink edges.....	13.889	.208	.899	432.00
Set edges.....	125.000	1.667	.800	48.00
Brush edges.....	13.889	.181	.782	432.00
Cobble.....	12.714	.386	1.822	471.92
Scour heels, second and third times.....	30.456	.347	.681	196.36
Enamel heels, first time.....	22.222	.194	.524	270.00
Scour heels, fourth time.....	25.000	.167	.401	240.00
Sand bottoms.....	55.556	.625	.675	108.00
Brush dust.....	11.111	.069	.373	540.01
Enamel heels, second time.....	22.222	.250	.675	270.00
Stain bottoms.....	50.000	.486	.583	120.00
Brush bottoms.....	11.111	.083	.448	540.01
Polish bottoms.....	30.556	.347	.681	196.36
Burnish heels.....	27.778	.383	.827	216.00
Pull lasts.....	11.111	.156	.842	540.01

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment, No. 17.—Women's McKay, one strap, patent leather oxford with gray kid inlay, single sole, cork insole, 4/8 leather heel base with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
FINISHING DEPARTMENT—concluded.				
Throw lasts to bins.....	12.714	\$0.053	\$0.250	471.92
Stamp bottoms.....	11.111	.097	.524	540.01
Ink and enamel heels.....	12.714	.106	.600	471.92
Push racks.....	12.714	.072	.340	471.92
Back shoe work.....	12.714	.053	.250	471.92
Organization.....	12.714	.188	.887	471.92
Total.....	644.554	7.083	.659	
TREEING AND PACKING DEPARTMENT.				
Trim out uppers.....	50.000	.208	.250	120.00
Inspect packs.....	16.667	.053	.209	359.99
Sort.....	8.333	.083	.598	720.03
Ink upper edges.....	105.556	.417	.237	56.84
Take out papers.....	22.222	.194	.524	270.00
Sock linings.....	69.444	.261	.226	86.49
Tree, hand.....	156.944	3.194	1.221	38.23
Iron out.....	116.667	1.237	.636	51.43
Emboss sock linings.....	50.000	.269	.323	120.00
Button shoes.....	13.000	.139	.642	461.54
Polish buttons.....	8.333	.039	.281	720.03
Sand tips.....	27.778	.135	.292	216.00
Repair patent leather.....	525.000	3.561	.407	11.43
Polish with fingers.....	83.333	.568	.409	72.00
Mark cartons.....	8.333	.054	.389	720.03
Move boxes and cartons.....	12.714	.087	.411	471.92
Pack.....	113.889	.776	.409	52.63
Seal cases.....	5.556	.046	.497	1,079.91
Stencil cases.....	5.556	.053	.572	1,079.91
Ship.....	12.714	.096	.453	471.92
Organization.....	12.714	.188	.887	471.92
Total.....	1,424.753	11.663	.406	
Grand total.....	8,738.050	86.606	.595	

Establishment No. 19.—Men's McKay, brown side leather bal., oak leather sole with slip sole, leather heel base with rubber top lift.

CUTTING DEPARTMENT				
Sort leather and tickets.....	31.000	\$0.335	\$0.648	193.55
Cut vamps and whole shoes, machine.....	498.000	6.439	.825	12.82
Selecting dies for cutters.....	10.000	.106	.636	600.00
Set up.....	31.000	.294	.569	193.55
Skive top of quarters.....	22.000	.203	.554	272.73
Skive base of quarters.....	38.000	.321	.507	157.89
Skive toe of vamps.....	10.000	.101	.606	600.00
Skive heel of vamps.....	10.000	.122	.732	600.00
Skive tips all around.....	18.000	.159	.530	333.33
Perforate tips.....	16.000	.106	.398	375.00
Perforate vamps.....	84.000	.552	.394	71.43
Skive tongues and side stays.....	21.000	.221	.631	285.71
Set up side stays.....	18.000	.141	.470	333.33
Cut linings, etc., machine.....	10.000	.109	.654	600.00
Set up linings.....	13.000	.064	.295	461.54
Utility work.....	57.000	.491	.517	105.26
Pick up work.....	20.000	.201	.603	300.00
Stamp linings.....	11.000	.086	.469	545.45
Organization.....	10.375	.182	1.053	578.31
Total.....	898.375	10.233	.683	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 19.—Men's McKay, brown side leather bal., oak leather sole with slip sole, leather heel
base with rubber top lift.—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT.				
Stay sides.....	79.000	\$0.503	\$0.382	75.98
Close linings.....	41.000	.294	.430	146.34
Cord.....	41.000	.276	.404	146.34
Back tips.....	19.000	.221	.698	315.79
Back tongues.....	69.000	.460	.400	86.96
Close uppers.....	29.000	.215	.445	206.90
Rub seams.....	10.000	.074	.444	600.00
Backstay.....	54.000	.515	.572	111.11
Inseam.....	37.000	.343	.556	162.16
Head.....	26.000	.283	.538	230.77
Stitch tops.....	117.000	.858	.440	51.28
Eyelet.....	42.000	.267	.367	142.86
Ink.....	38.000	.194	.291	157.89
Stitch tips.....	44.000	.343	.468	136.38
Close vamps.....	65.000	.215	.198	92.31
Rub vamp seams.....	13.000	.073	.337	461.54
Vamp.....	182.000	2.207	.723	32.97
Seam toes.....	79.000	.521	.396	75.95
Tack.....	35.000	.276	.460	166.67
Lace ("Ensign").....	22.000	.220	.600	272.73
Utility work.....	70.000	.460	.394	85.71
Organization.....	10.375	.182	1.053	578.31
Total.....	1,123.375	8.930	.477	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Get up sole leather.....	10.000	.080	.480	600.00
Cut.....	36.000	.467	.778	166.67
Grade.....	25.000	.206	.494	240.00
Sort.....	10.000	.098	.588	600.00
Put stock in bins.....	10.000	.089	.534	600.00
Assemble.....	15.000	.086	.344	400.00
Total.....	106.000	1.026	.581	
Insoles:				
Cut.....	80.000	.491	.589	120.00
Sort.....	10.000	.098	.588	600.00
Put stock in bins.....	10.000	.089	.534	600.00
Assemble.....	15.000	.086	.344	400.00
Total.....	85.000	.764	.539	
Slip soles:				
Sort scraps.....	5.000	.046	.552	1,200.00
Cut.....	52.000	.469	.941	115.38
Grade.....	21.000	.185	.529	285.71
Stick.....	21.000	.147	.420	285.71
Roll.....	10.000	.076	.456	600.00
Scarf and put in bins.....	20.000	.185	.553	300.00
Total.....	129.000	1.108	.515	
Counters, leather ¹	158.915	1.314	.496	
Box toes:				
Sort scraps.....	5.000	.046	.552	1,200.00
Cut.....	5.000	.068	.816	1,200.00
Skive.....	5.000	.052	.624	1,200.00
Total.....	15.000	.166	.664	
Heels: ¹	230.247	2.147	.559	
Stock fitting:				
Utility.....	40.000	.334	.501	150.00
Skive shank rands.....	6.000	.032	.320	1,000.00
Stick slip soles.....	21.000	.147	.420	285.71
Scarf shank rands.....	20.000	.134	.402	300.00

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 19.—Men's McKay, brown side leather bal., oak leather sole with slip sole, leather heel
base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Stock fitting—Concluded.				
Channel.....	16.000	\$0.276	\$1.035	375.00
Cement outsoles.....	18.000	.074	.247	333.33
Tack shank rands.....	28.000	.307	.653	214.29
Mold soles.....	16.000	.153	.574	375.00
Temper.....	5.000	.038	.456	1,200.00
Cement slip soles.....	21.000	.079	.226	285.71
Round taps.....	10.000	.135	.810	600.00
Gauge toes.....	13.000	.091	.420	461.54
Open channels.....	12.000	.184	.920	500.00
Fudge.....	19.000	.221	.698	315.79
Black soles.....	13.000	.079	.365	461.54
Assemble slip soles.....	9.000	.091	.607	666.67
Operate elevators.....	10.000	.060	.360	600.00
Organization.....	20.750	.364	1.053	289.16
Total.....	297.750	2.799	.564	
Total, sole-leather department.....	1,021.912	9.324	.547	
LASTING DEPARTMENT.				
Assemble for pull-over machine.....	100.000	.773	.464	60.00
Pull over, machine.....	100.000	1.123	.677	60.00
C. H. M. lasting machine.....	200.000	2.256	.677	30.00
Pound toes.....	77.000	.773	.602	77.92
Put in shanks.....	23.000	.153	.399	260.87
Tack on soles.....	67.000	.650	.582	89.55
Pull last welt and cut stock.....	100.000	.552	.331	60.00
Inspect.....	10.000	.050	.300	600.00
Utility work.....	10.000	.214	1.284	600.00
Wet up and miscellaneous.....	10.000	.069	.414	600.00
Organization.....	10.375	.182	1.053	578.31
Total.....	707.375	6.800	.577	
BOTTOMING DEPARTMENT.				
McKay sew.....	63.000	.919	.875	95.24
Nail heel seats.....	19.000	.233	.736	315.79
Sort styles and sizes.....	10.000	.117	.702	600.00
Sock linings.....	75.000	.426	.349	80.00
Cement.....	20.000	.178	.534	600.00
Temper soles and utility work.....	10.000	.069	.414	600.00
Level.....	55.000	.613	.689	109.09
Fudge.....	25.000	.226	.542	240.00
Heel.....	37.000	.460	.746	162.16
Feed rubber heels.....	37.000	.245	.397	162.16
Trim heels.....	37.000	.441	.715	162.16
Utility work.....	20.000	.214	.642	300.00
Breast heels.....	34.000	.258	.455	178.47
Trim edges.....	148.000	1.625	.659	40.54
Organization.....	10.375	.182	1.053	578.31
Total.....	600.375	6.209	.621	
FINISHING DEPARTMENT.				
Scour heels.....	50.000	.491	.589	120.00
Set edges.....	112.000	1.349	.722	53.57
Slick heels.....	34.000	.331	.584	176.47
Sand bottoms.....	48.000	.502	.623	125.00
Naumkeag.....	43.000	.380	.530	139.53
Paint.....	47.000	.454	.580	127.06
Finish heels.....	49.000	.490	.600	122.45
Finish bottoms.....	42.000	.417	.596	142.96
Clean shoes.....	28.000	.306	.656	214.29
Stamp.....	19.000	.147	.464	315.79
Utility work.....	60.000	.396	.475	120.00
Sort and pair.....	12.000	.080	.400	600.00
Operate elevators.....	10.000	.061	.366	600.00
Organization.....	10.375	.182	1.053	578.31
Total.....	554.375	5.586	.606	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 19.—Men's McKay, brown side leather bal., oak leather sole with slip sole, leather heel
base with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes):	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREERING AND PACKING DEPARTMENT.				
Paste heel pads	53.000	\$0.355	\$0.402	113.21
Distribute	19.600	.053	.318	600.00
Tree, machine	112.060	1.472	.789	53.57
Cobble (after treering)	30.000	.132	.264	200.00
Polish	55.000	.276	.301	109.09
Brush bottoms	34.000	.245	.432	176.47
Make cartons	21.000	.147	.420	285.71
Make lids	19.000	.125	.395	315.79
Clean, dry rag	34.000	.245	.432	176.47
Lace	50.000	.196	.285	120.00
Stamp cartons	10.000	.083	.498	600.00
Pack in cartons	40.000	.294	.441	150.00
Cover cartons	20.000	.080	.240	300.00
Odd shoe and floor work	10.000	.073	.438	600.00
Utility work	20.000	.092	.276	300.00
Pack cases	18.000	.105	.350	333.33
Scale cases and load	18.000	.105	.350	333.33
Make cases	18.000	.074	.247	333.33
Organization	10.375	.182	1.053	578.31
Total	582.375	4.334	.447	-----
Grand total	5,911.341	51.416	.522	-----

Establishment No. 25.—Women's Goodyear welt, black kid, circular vamp, whole quarter, lace oxford
with tip, 8/8 leather heel base with rubber top lift.

CUTTING DEPARTMENT.				
Department and operation.	Time cost of 100 pairs (minutes):	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
Check in leather	2.778	\$0.050	\$1.080	2,159.83
Sort leather	34.722	.434	.750	172.80
Count footage	1.389	.008	.346	4,319.65
Deliver stock to cutting room	2.778	.022	.475	2,159.83
Give out work	2.778	.042	.907	2,159.83
Cut shoes, hand	416.667	5.667	.816	14.40
Sort upper parts	83.333	.521	.375	72.00
Stamp sizes	41.667	.250	.360	144.00
Trace	41.667	.208	.300	144.00
Skive top and front of quarters	33.333	.278	.500	180.00
Skive vamps	18.056	.181	.601	332.30
Skive tips	13.889	.069	.298	482.00
Skive toes	11.111	.069	.373	540.01
Skive bottom of quarters	19.444	.139	.429	308.58
Perforate quarters	33.333	.278	.500	180.00
Perforate vamps	38.889	.354	.546	154.29
Perforate tips	22.222	.167	.451	270.00
Give out work to lining cutters	8.333	.126	.907	720.03
Cut linings, hand	66.667	.417	.375	90.00
Stamp linings	22.222	.250	.675	270.00
Give out work to trimming cutters	27.778	.289	.624	216.00
Cut trimmings, machine	133.333	1.028	.463	45.00
Sort trimmings	8.333	.048	.346	720.03
Assemble trimmings	2.778	.016	.346	2,159.83
Assemble	5.556	.068	.734	1,079.91
Cobble	29.922	.374	.750	200.52
Back shoe work	14.961	.086	.345	401.04
Organization	118.688	1.985	1.003	50.55
Total	1,256.627	13.424	.641	-----
STITCHING DEPARTMENT.				
Checking in	8.333	.041	.205	720.03
Close back seams	19.444	.264	.815	308.58
Rub linings	11.111	.083	.448	540.01
Stitch heel stays	69.444	.833	.720	86.40
Stitch toe linings	69.444	.410	.354	86.40
Tape linings	33.333	.403	.725	180.00
Tape quarters	19.444	.222	.685	308.58
Reinforce quarters	41.667	.403	.580	144.00
Stitch vamp linings	25.000	.153	.367	240.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 23.—Women's Goodyear welt, black kid, circular vamp, whole quarter, lace oxford
with tip, 8/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Close quarters.....	16.667	\$0.181	\$0.652	359.99
Paste pieces.....	27.778	.181	.391	216.00
Stay.....	19.444	.229	.707	308.58
Cement quarters.....	25.000	.153	.367	240.00
Cement tips.....	8.333	.069	.497	720.03
Fold front of quarters.....	30.556	.273	.646	196.36
Fold top of quarters.....	36.111	.333	.553	166.15
Fold vamps.....	61.111	.663	.553	98.18
Fold tips.....	27.778	.111	.240	216.00
Stitch lace stays.....	50.000	.514	.617	120.00
Stitch tips.....	52.778	.319	.363	113.68
Bind tongues.....	27.778	.222	.480	216.00
Lay in.....	8.333	.111	.799	720.03
Crease vamps.....	13.889	.083	.359	432.00
Stitch tops.....	91.667	1.014	.664	65.45
Eyelet.....	27.778	.333	.719	216.00
Nick and ink.....	19.444	.201	.620	308.58
Vamp.....	119.444	2.215	1.113	50.23
Paste toes.....	11.111	.111	.599	540.01
Seam toes and stitch in tongues.....	38.889	.403	.622	154.29
Clean.....	13.889	.139	.690	432.00
Trim.....	72.222	.417	.346	83.08
Bar.....	19.444	.174	.537	308.58
Lace, 1 spindle.....	8.333	.139	1.001	720.00
Lace, 3 spindle.....	13.889	.111	.480	432.00
Inspect.....	100.000	.417	.250	60.00
Pack.....	8.333	.104	.749	720.03
Back shoe work.....	74.805	.418	.335	80.21
Supplies.....	14.961	.078	.313	401.04
Organization.....	104.727	1.112	.637	57.29
Total.....	1,441.712	13.545	.564	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	12.500	.158	.758	490.00
Grade.....	4.500	.032	.427	1,333.33
Sort.....	4.750	.065	.621	1,263.16
Rack.....	3.000	.026	.520	2,000.00
Case.....	2.000	.026	.750	3,000.00
Total.....	26.750	.307	.689	
Insoles:				
Cut.....	18.000	.203	.677	333.33
Grade.....	4.000	.022	.330	1,500.00
Sort.....	6.500	.081	.748	923.08
Rack.....	11.500	.096	.501	521.74
Case.....	1.500	.015	.600	4,000.00
Total.....	41.500	.417	.603	
Counters:				
Cut.....	19.000	.204	.644	315.79
Sort flats.....	4.000	.047	.705	1,500.00
Grade.....	4.000	.022	.330	1,500.00
Skive.....	2.700	.018	.400	2,222.22
Shave ends.....	1.500	.010	.400	4,000.00
Wet rollers.....	7.500	.005	.400	8,000.00
Wax rollers.....	1.000	.009	.540	6,000.00
Mold.....	7.000	.070	.600	857.14
Inspect.....	3.500	.021	.360	1,714.29
Case.....	1.500	.007	.280	4,000.00
Tie up.....	1.333	.012	.540	4,501.12
Total.....	146.283	.434	.503	
Box toes, leather ¹	113.788	1.033	.545	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 55.—Women's Goodyear welt, black kid, circular vamp, whole quarter, lace oxford
with tip, 8/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Heels:				
Cut grain lifts.....	55.000	\$0.444	\$0.435	109.14
Sort grain lifts.....	6.000	.029	.290	1,000.00
Serve lifts.....	1.500	.011	.440	4,000.00
Serve paste.....	500	.002	.240	12,000.00
Build, "Grower".....	20.000	.216	.648	300.00
Press, jack.....	2.000	.014	.420	3,000.00
Inspect, wet.....	6.250	.029	.278	900.00
Form rands.....	7.250	.062	.513	827.54
Butt.....	1.500	.014	.560	4,000.00
Dry.....	2.500	.065	.900	12,000.00
Compress.....	2.750	.026	.567	2,181.82
Inspect, dry.....	5.000	.027	.324	1,200.00
Case.....	1.667	.017	.612	3,599.29
Tack rands.....	7.000	.062	.531	857.16
Total.....	116.917	.958	.492	
Stock fitting:				
Insoles—				
Truck.....	5.556	.035	.378	1,079.91
Give out work.....	1.389	.007	.302	4,319.63
Round.....	13.889	.194	.838	432.00
Lip, cut and score.....	5.556	.035	.378	1,079.91
Nip toes.....	4.167	.026	.374	1,439.85
Channel.....	33.333	.450	.810	180.00
Cut outside channels.....	5.556	.025	.270	1,079.91
Cement channels.....	11.200	.097	.590	535.71
Set channels.....	33.333	.278	.500	180.00
Dip heel seats.....	5.556	.025	.270	1,079.91
Put on canvas and crease.....	33.333	.222	.400	180.00
Gum.....	16.667	.220	.792	359.99
Crown.....	8.333	.049	.353	720.03
Case up in boxes.....	11.111	.081	.487	540.01
Turn back channels.....	13.889	.063	.272	432.00
Form toes.....	8.333	.038	.274	720.03
Place in tempering room.....	4.167	.019	.274	1,439.83
Case rubber top lifts.....	1.750	.027	.926	3,423.57
Outsoles—				
Truck.....	5.556	.035	.378	1,079.91
Stamp sizes.....	5.556	.031	.335	1,079.91
Even, machine.....	6.944	.058	.501	864.06
Round.....	13.889	.116	.501	432.00
Reduce shanks.....	13.889	.178	.769	432.00
Feather edging.....	13.889	.150	.648	432.00
Case up.....	5.556	.025	.270	1,079.91
Load on truck.....	2.778	.013	.281	2,169.83
Deliver to bottoming room.....	11.111	.050	.270	540.01
Back shoe work.....	14.961	.104	.417	401.04
Organization.....	14.961	.221	.886	401.04
Total.....	326.208	2.872	.528	
Total, sole-leather department.....	671.446	6.021	.538	
LASTING DEPARTMENT.				
Assemble lasts, counters, soles, and uppers.....	89.766	.452	.302	68.84
Case lasts.....	11.111	.054	.292	540.01
Get out counters and insoles.....	2.778	.014	.302	2,169.83
Assemble for pull-over machine.....	166.667	2.389	.800	36.00
Pull over, machine.....	111.111	1.694	.915	54.00
Side last, machine.....	113.889	1.639	.863	52.68
Operate bed machine.....	244.444	3.194	.784	24.55
Check out.....	6.944	.066	.570	864.06
Organization.....	29.922	.390	.782	200.52
Total.....	776.632	9.892	.764	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 23.—Women's Goodyear welt, black kid, circular vamp, whole quarter, lace oxford
with tip, 8/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT.				
Pull back tacks.....	9.722	\$0.041	\$0.253	617.16
Trim toes.....	13.889	.208	.899	432.00
Staple.....	30.556	.250	.491	196.36
Raise tacks.....	25.000	.333	.799	246.00
Goodyear welt.....	5.556	.025	.270	1,079.91
Wet shoes for welter.....	13.889	.063	.272	432.00
Inseam.....	66.667	1.667	1.500	90.00
Trim inseams.....	38.889	.405	.625	154.29
Beat welts.....	27.778	.278	.600	216.00
Buff off.....	36.111	.389	.646	194.30
Knock out insole tacks.....	23.611	.208	.529	264.12
Tack in shanks.....	16.667	.194	.698	369.99
Fill bottoms.....	20.833	.250	.720	238.00
Cement bottoms.....	11.111	.111	.599	540.01
Sort shoes.....	11.111	.090	.436	540.01
Wet soles, first time.....	8.333	.048	.346	720.03
Roll soles.....	2.778	.016	.346	2,159.83
Mold soles.....	8.333	.049	.353	720.03
Cement soles.....	41.667	.139	.200	143.99
Wet soles, second time.....	1.389	.007	.302	4,319.65
Lay soles.....	31.944	.472	.887	187.33
Rough round.....	47.222	1.000	1.271	127.06
Turn up channels and skive shanks.....	34.722	.340	.588	172.89
Goodyear stitch.....	111.111	2.083	1.125	54.00
Roll shanks.....	19.444	.222	.685	306.58
Cement channels.....	13.889	.139	.600	432.00
Lay channels.....	47.222	.167	.212	127.06
Fudge, first time.....	27.778	.174	.376	216.00
Level.....	47.222	.417	.530	127.06
Sort.....	11.111	.046	.248	540.01
Nail seats.....	16.667	.208	.749	359.99
Trim seats.....	13.889	.083	.359	432.00
Get out heels.....	2.778	.012	.259	2,159.83
Heel, No. 1 base.....	41.667	.667	.960	144.00
Heel, No. 2 rubber.....	50.000	.694	.833	120.00
Trim heels.....	27.778	.694	1.499	216.00
Breast heels.....	19.444	.306	.944	308.58
Trim edges.....	130.556	2.479	1.139	45.96
Joint.....	36.111	.514	.854	196.15
Cobble.....	14.961	.156	.626	401.04
Back shoe work.....	29.922	.146	.293	200.52
Organization.....	29.922	.520	1.043	200.52
Total.....	1,219.250	16.310	.803	
FINISHING DEPARTMENT.				
Scour breast.....	18.056	.222	.738	332.30
Scour heels, first time.....	44.444	.556	.751	135.00
Dope heels.....	5.556	.029	.312	1,079.91
Set edges.....	155.556	2.479	.956	38.57
Fudge, second time.....	16.667	.194	.698	359.99
Change racks.....	8.333	.035	.252	720.03
Scour heels, second time.....	11.111	.174	.940	540.01
Ink heels.....	15.278	.069	.271	392.72
Sand bottoms.....	77.778	.778	.600	77.14
Brush dust off bottoms.....	9.722	.069	.420	617.16
Mark shanks.....	20.833	.278	.801	238.00
Stain forepart.....	25.000	.306	.734	240.00
Ink shanks and breast of heels.....	44.444	.278	.375	135.00
Burnish shanks and breasts.....	33.333	.389	.700	180.00
Burnish heels.....	55.556	.424	.458	108.00
Wax forepart.....	22.222	.201	.543	270.00
Brush stitches.....	27.778	.159	.343	216.00
Polish, final.....	16.667	.188	.677	359.99
Full lasts.....	20.833	.215	.619	238.00
Stamp bottoms.....	22.222	.063	.251	270.00
Clean rubber top piece.....	18.056	.088	.292	332.30
Wheel shanks.....	30.111	.251	.417	196.15
Organization.....	44.986	.690	.882	133.68
Total.....	790.439	8.135	.650	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 23.—Women's Goodyear welt, black kid, circular vamp, whole quarter, lace oxford
with tip, 3/8 leather heel base with rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREEING AND PACKING DEPARTMENT.				
Bring racks to room.....	2 778	\$0.012	\$0.259	2,159.83
Cut tacks.....	23.611	.111	.282	254.12
Sort shoes.....	8.333	.090	.643	720.03
Sock linings.....	13.889	.139	.600	432.00
Tree, machine.....	97.222	.944	.583	61.72
Push racks.....	2 778	.013	.281	2,159.83
Repair.....	26.389	.124	.282	227.37
Dress.....	97.222	.404	.249	61.71
Brush.....	13.889	.058	.251	432.00
Lace.....	25.000	.206	.499	240.00
Inspect.....	41.667	.217	.312	144.00
Trim.....	25.000	.104	.256	240.00
Label boxes.....	19.444	.081	.250	306.58
Pack.....	23.611	.194	.498	254.12
Stencil cases.....	5.556	.033	.356	1,079.91
Check out.....	2 778	.012	.259	2,159.83
Back shoe work.....	44.883	.218	.291	133.68
Utility.....	14.961	.120	.481	401.04
Seal cases.....	5.556	.026	.281	1,079.91
Load on truck.....	1.359	.007	.302	4,319.65
Load on wagon.....	1.359	.007	.302	4,319.65
Utility work.....	14.961	.088	.353	401.04
Ship.....	14.961	.062	.249	401.04
Organization.....	44.883	.610	.815	133.68
Total.....	572.150	3.882	.407	-----
Grand total.....	6,688.256	71.209	.639	-----

Establishment No. 24.—Women's McKay, black kid, lace oxford, circular vamp, whole quarter, imitation per-
forated tip, perforated vamp and lace row, blind eyelets, single sole, 13/8 heel with rubber top lift.

CUTTING DEPARTMENT.				
Stock-room work.....	17.747	\$0.126	\$0.426	338.09
Selecting dies for cutters.....	17.747	.052	.176	338.09
Cut vamps and whole shoes, machine.....	263.889	1.794	.408	22.74
Skive circular vamps.....	16.667	.153	.551	359.99
Skive quarters.....	22.222	.167	.451	270.00
Sort vamps and quarters.....	47.222	.417	.530	127.06
Sort tongues.....	13.889	.047	.203	432.00
Assemble leather parts.....	15.833	.081	.307	378.96
Cut vamp doublings.....	2 778	.017	.367	2,159.83
Cut eyelet reinforcements.....	5.556	.033	.356	1,079.91
Cut doubling for quarters.....	5.556	.033	.356	1,079.91
Cut sheep quarter linings, machine.....	83.333	.458	.330	72.00
Cut tongue linings.....	2 778	.017	.367	2,159.83
Cut vamp linings.....	5.556	.033	.356	1,079.91
Cut backstay reinforcement.....	15.833	.056	.212	378.96
Case linings and doublings.....	19.444	.083	.256	308.58
Stamp linings.....	22.222	.111	.300	270.00
Cut sock linings.....	5.556	.033	.356	1,079.91
Cut bottom filler.....	5.556	.033	.356	1,079.91
Perforate imitation tip.....	27.778	.146	.315	216.00
Perforate vamps.....	41.667	.222	.320	144.00
Back shoe work.....	17.747	.094	.318	338.09
Organization.....	35.494	.465	.786	169.04
Total.....	712.070	4.671	.394	-----
STITCHING DEPARTMENT.				
Close quarter linings.....	16.667	.097	.349	359.99
Stitch toe lining to quarter linings.....	55.556	.389	.420	108.00
Doubling quarters.....	55.556	.222	.240	108.00
Paste on eyelet reinforcement.....	44.444	.167	.225	135.00
Trace for lace row.....	47.222	.139	.177	127.06
Close quarters.....	33.333	.125	.225	180.00
Stay quarters.....	50.000	.194	.233	120.00
Perforate lace row.....	22.222	.208	.562	270.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 24—Women's McKay, black kid, lace oxford, circular vamp, whole quarter, imitation perforated tip, perforated vamp and lace row, blind eyelets, single sole, 13/8 heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Stitch lace row (plus).....	66.667	\$0.250	\$0.225	90.00
Cement quarters for fold.....	16.667	.083	.299	359.99
Fold quarters.....	166.667	.556	.200	36.00
Lay in linings.....	22.222	.097	.262	270.00
Stitch tops.....	166.667	.667	.240	36.00
Eyelet.....	55.556	.250	.270	108.00
Double vamps.....	16.667	.125	.450	359.99
Cement vamps for fold.....	16.667	.063	.227	359.99
Fold circular vamps.....	33.333	.194	.349	180.00
Stitch imitation tips.....	44.444	.160	.216	135.00
Match and trim for vampers.....	25.000	.083	.199	240.00
Vamp.....	138.889	1.444	.624	43.20
Bind tongues.....	55.556	.183	.198	108.00
Seam toes.....	83.333	.368	.265	72.00
Bar.....	41.667	.183	.264	144.00
Lace.....	36.111	.139	.231	166.15
Inspect.....	41.667	.139	.200	144.00
Trim.....	41.667	.139	.230	144.00
Pack.....	16.667	.111	.400	359.99
Cripple work.....	35.494	.149	.252	169.04
Floor work (girl).....	17.747	.094	.318	338.09
Sweep.....	17.747	.110	.372	338.09
Machinist's work.....	35.494	.340	.575	169.04
Organization.....	35.494	.521	.881	169.04
Total.....	1,553.090	7.189	.309	-----
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	12.500	.158	.758	480.00
Grade.....	4.500	.032	.427	1,333.33
Sort.....	4.750	.065	.821	1,263.16
Rack.....	3.000	.026	.520	2,000.00
Case.....	2.000	.026	.780	3,000.00
Total.....	26.750	.307	.689	-----
Insoles:				
Cut.....	18.000	.203	.677	333.33
Grade.....	4.000	.022	.390	1,500.00
Sort.....	6.500	.681	.748	923.08
Rack.....	11.500	.096	.501	521.74
Case.....	1.500	.015	.600	4,000.00
Total.....	41.500	.417	.603	-----
Counters:				
Cut.....	19.000	.204	.644	315.79
Sort flats.....	4.000	.047	.705	1,500.00
Grade.....	4.000	.022	.330	1,500.00
Skive.....	2.700	.018	.400	2,222.22
Shave ends.....	1.500	.010	.400	4,000.00
Wet roll.....	1.750	.005	.400	8,000.00
Wax roll.....	1.000	.009	.540	6,000.00
Mold.....	7.000	.070	.600	857.14
Inspect.....	3.500	.021	.360	1,714.29
Case.....	1.500	.007	.280	4,000.00
Tie up.....	1.333	.012	.540	4,501.12
Total.....	46.283	.425	.551	-----
Box toes, leather ¹	113.788	1.033	.545	-----
Heels:				
Cut flexible lifts.....	61.000	.592	.582	98.36
Cut grain lifts.....	4.900	.041	.506	1,225.00
Cut wedges.....	21.300	.178	.500	281.00
Sort flexibles.....	8.000	.046	.345	750.00
Sort grain lifts.....	.500	.002	.240	12,000.00

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 24.—Women's McKay, black kid, lace oxford, circular vamp, whole quarter, imitation perforated tip, perforated vamp and lace row, blind eyelets, single sole, 13/8 heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Heels—Continued.				
Serve lifts.....	1.500	\$0.011	\$0.440	4,000.00
Serve paste.....	.500	.002	.240	12,000.00
Build "Grover".....	19.600	.196	.600	300.12
Press jack.....	20.000	.014	.420	300.00
Inspect, wet.....	6.250	.029	.278	960.00
Compress, first time.....	2.750	.027	.589	2,181.82
Dry house.....	.500	.005	.600	12,000.00
Compress, second time.....	2.500	.026	.621	2,400.00
Inspect, dry.....	5.250	.027	.309	1,142.86
Casers.....	1.700	.017	.600	3,520.00
Total.....	156.310	1.213	.466	
Stock fitting:				
Temper soles.....	19.444	.097	.299	308.58
Roll soles.....	13.889	.083	.359	432.00
Round outsoles.....	25.000	.150	.360	246.00
Round insoles.....	19.444	.120	.370	308.58
Channel outsoles.....	12.500	.083	.398	480.00
Mold insoles.....	4.167	.042	.665	1,439.88
Mold outsoles.....	5.556	.058	.623	1,079.91
Open channels.....	13.889	.083	.359	432.00
Feather edge forepart.....	11.111	.056	.302	540.00
Feather edge shanks.....	15.278	.111	.436	392.72
Ink outsoles.....	13.889	.089	.298	432.00
Sweep.....	17.747	.084	.284	338.09
Case rubber top lifts.....	5.400	.027	.309	1,111.11
Organization.....	17.747	.197	.666	338.00
Total.....	195.061	1.260	.388	
Total, sole-leather department.....	579.692	4.655	.482	
LASTING DEPARTMENT.				
Match up work and chalk lasts.....	22.222	.069	.186	270.00
Case lasts.....	22.222	.104	.281	270.00
Tack insoles.....	27.778	.146	.315	216.00
Assemble for puller-over machine.....	69.444	.444	.384	86.40
Full over, machine.....	61.111	.583	.572	96.18
Side last.....	61.111	.722	.798	98.18
Operate bed machine.....	166.667	1.722	.620	36.00
Grind toes.....	22.222	.132	.356	270.00
Full insole tacks.....	16.667	.104	.374	359.99
Tack in shanks.....	30.556	.153	.300	196.36
Tack in bottom filler.....	27.778	.083	.179	216.00
Tack soles.....	44.444	.417	.563	135.00
Full out back tacks.....	12.500	.069	.331	480.00
Full lasts.....	25.000	.194	.466	240.00
Fill bottoms.....	16.667	.056	.302	359.99
Back shoe work.....	22.222	.069	.196	270.00
Cobble.....	17.747	.131	.443	338.09
Cripple.....	17.747	.078	.294	338.09
Organization.....	35.494	.423	.715	169.04
Total.....	719.599	5.699	.475	
BOTTOMING DEPARTMENT.				
Wet for McKay sewer.....	8.333	.083	.598	720.00
McKay sew.....	38.889	.472	.728	154.29
Nail seats.....	16.667	.111	.400	359.99
Cement channels.....	12.500	.125	.600	480.00
Sort for leveler.....	8.333	.083	.598	720.00
Wet for leveler.....	11.111	.083	.448	540.01
Level.....	31.944	.347	.652	187.83
Lay out heels.....	8.333	.042	.302	720.00
Heel bases.....	18.056	.250	.331	332.30
Feed bases.....	18.056	.139	.462	332.30
Cement base and rubber.....	8.333	.083	.598	720.00
Put on rubber heels.....	18.056	.194	.695	332.30

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 24.—Women's McKay, black kid, lace oxford, circular vamp, whole quarter, imitation perforated tip, perforated vamp and lace row, blind eyelets, single sole, 13/8 heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Feed rubber heels.....	18.066	\$0.139	\$0.462	332.30
Inspect.....	22.222	.118	.319	270.00
Trim heels.....	26.389	.278	.632	227.37
Breast heels.....	26.389	.194	.441	227.37
Fill heels.....	16.667	.111	.400	359.99
Case lasts.....	6.944	.083	.717	864.06
Last, second time.....	25.000	.222	.583	240.00
Trim edges.....	69.444	.694	.609	86.40
Back shoes and cover racks with paper.....	17.747	.057	.193	338.09
Sweep.....	17.747	.105	.355	338.09
Organization.....	35.494	.451	.762	169.04
Total.....	490.710	4.464	.557	
FINISHING DEPARTMENT.				
Set edges.....	116.667	.917	.475	43.56
Brush edges after setting.....	16.667	.132	.475	359.99
Put away second lasts.....	11.111	.069	.373	540.01
Scour breasts.....	11.806	.083	.422	508.22
Scour heels.....	27.778	.264	.570	216.00
Size heels.....	8.333	.069	.497	720.03
Scour heels third time.....	16.667	.125	.450	359.99
Sand bottoms.....	41.667	.486	.700	144.00
Dust bottoms.....	5.556	.056	.605	1,079.91
Cut shanks.....	6.944	.063	.544	864.06
Bleach forepart.....	12.500	.069	.331	480.00
Stain forepart.....	37.500	.444	.710	160.00
Ink shanks.....	27.778	.167	.361	216.00
Ink heels.....	16.667	.097	.349	359.99
Burnish shanks, tops and breasts.....	25.000	.278	.667	240.00
Pollah forepart.....	22.222	.167	.451	270.06
Burnish heels.....	30.556	.194	.381	196.36
Wheel bottoms.....	22.222	.118	.319	270.09
Fill in heels.....	16.667	.078	.281	359.99
Wheel seat.....	11.111	.067	.524	540.01
Pull second lasts.....	12.500	.097	.466	480.00
Stamp bottoms.....	11.111	.090	.486	540.01
Roll wax.....	9.723	.069	.428	617.16
Roll rubber heels.....	16.667	.111	.400	359.99
Buff shanks.....	13.889	.086	.242	432.00
Sweep.....	17.747	.084	.284	338.09
Organization.....	35.494	.395	.668	169.04
Total.....	602.549	4.875	.485	
TREEING AND PACKING DEPARTMENT.				
Push racks.....	19.444	.063	.194	308.58
Brush stitches.....	44.444	.153	.207	135.00
Sort for trees.....	11.111	.090	.486	540.01
Sock-linings.....	27.778	.174	.376	216.00
Tree.....	144.444	.833	.346	41.54
Dress.....	66.667	.340	.306	90.00
Lace.....	27.778	.139	.390	216.00
Brush.....	22.222	.167	.451	270.06
Size for packers.....	8.333	.056	.403	720.03
Label cartons.....	11.111	.097	.524	540.01
Pack.....	22.222	.167	.451	270.00
Stencil cases.....	19.444	.125	.386	308.58
Cartons and racks.....	38.889	.133	.205	154.29
Back shoe work.....	35.494	.121	.205	169.04
Inspect.....	88.735	.336	.227	67.62
General work.....	17.747	.059	.199	338.09
Ship.....	35.494	.222	.375	169.04
Organization.....	35.494	.363	.614	169.04
Total.....	676.851	3.638	.322	
Grand total.....	5,324.561	35.991	.466	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 25.—Men's McKay, box side, wax top, straight foxed, capped laced blucher, half
double sole, leather heel.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost. of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Put up jobs for cutters	14.089	\$0.141	\$0.600	425.86
Truck in stock room	7.045	.039	.332	851.67
Selecting dies for cutters	21.134	.070	.199	283.90
Cut vamps, tips, and foxings, machine	202.000	2.013	.598	29.70
Cut tongues, machine	23.000	.229	.597	260.87
Cut quarters, machine	168.333	.917	.347	37.89
Cut vamp linings and quarter linings	5.000	.063	.756	1,200.00
Cut vamp doublers, machine	4.583	.052	.681	1,309.19
Cut eyelet stays, hand	2.500	.031	.744	2,400.00
Sort vamps, tips, foxings, tongues, and quarters	43.750	.569	.767	137.14
Tie and case up linings	10.000	.052	.312	600.00
Tie and case up doublers	5.000	.025	.300	1,200.00
Skive vamps	17.500	.125	.429	342.86
Skive tips	10.000	.052	.312	600.00
Skive quarters	23.333	.198	.509	257.15
Skive foxings	25.833	.167	.388	232.26
Skive tongues	3.750	.038	.608	1,600.00
Crimp vamps	8.333	.104	.749	720.03
Crimp linings	6.667	.031	.279	899.96
Perforate tips	6.667	.063	.567	899.96
Tie and case up for fitting room and put on stickers	15.000	.111	.444	400.00
Stamp linings	9.042	.052	.345	663.57
Cut stays	101.250	.642	.380	59.26
Skive stays	20.833	.142	.409	288.00
Split stays	32.083	.158	.295	187.01
Paste stays	34.583	.221	.383	173.50
Case and inspect	14.583	.071	.292	411.44
General work	30.417	.240	.473	197.26
Assemble	14.167	.083	.352	423.52
Cut linings, hand	6.667	.063	.567	899.96
Cut oripples	13.333	.167	.752	450.01
Double light quarters	14.167	.063	.297	423.52
Sweep	3.696	.050	.345	690.05
General work	7.045	.037	.315	851.67
Machinist's work	7.045	.063	.537	851.67
Organization	21.134	.282	.801	283.90
Total	1,006.895	7.665	.457	
STITCHING DEPARTMENT.				
Unload trucks	7.500	.042	.336	800.00
Mark quarters	22.917	.094	.246	261.31
Close quarters	27.917	.115	.247	214.92
Close foxings	12.917	.094	.437	464.50
Rub quarter seams	17.917	.073	.244	334.88
Rub foxing seams	11.250	.042	.224	533.33
Stay quarters and foxings	20.167	.208	.428	205.71
Stitch foxings	75.000	.500	.400	80.00
Stay web heels	25.000	.167	.401	240.00
Stay sides	75.000	.333	.266	80.00
Match quarters and linings	7.083	.036	.305	947.10
Lay in quarters and linings	13.333	.073	.329	450.01
Inseam	34.167	.271	.476	175.61
Bead	38.750	.188	.291	154.84
Top stitch	125.000	.864	.410	48.00
Trim side stays	18.333	.094	.308	327.28
Eyelet	18.750	.146	.467	320.00
Hook	20.417	.135	.397	293.87
Double vamps	25.000	.104	.250	240.00
Stitch tips	56.250	.271	.289	106.67
Stitch tongues	64.167	.281	.263	93.51
Case box toes	6.667	.042	.378	593.96
Stitch box toes	25.833	.188	.437	232.26
Match quarters and vamps	7.083	.047	.398	847.10
Vamp	141.667	1.063	.450	42.35
Trim, final	30.000	.177	.354	200.00
Lace	15.000	.115	.460	400.00
Pack	20.417	.104	.306	293.87
Push boxes	6.250	.028	.269	960.00
Hang up uppers and send to lasting room	13.750	.063	.275	436.36
Inspect	13.333	.063	.294	450.01
Back shoe work	56.358	.230	.245	106.46
Repairing belts	7.045	.032	.273	851.67

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 25.—Men's McKay, box side, wax top, straight foxed, capped laced blucher, half
double sole, leather heel—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost. of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Sweep.....	8.695	\$0.050	\$0.345	690.05
Machinist's work.....	28.179	.237	.605	212.92
Organization.....	42.268	.412	.685	141.95
Total	1,148.380	6.972	.364	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	12.500	.158	.758	480.00
Grade.....	4.600	.035	.457	1,305.00
Sort.....	4.750	.065	.821	1,283.16
Rack.....	3.000	.028	.520	2,000.00
Case.....	3.600	.046	.767	1,666.70
Total	23.450	.330	.696	
Insoles:				
Cut.....	18.000	.203	.677	833.33
Grade.....	4.800	.030	.375	1,250.00
Sort.....	6.500	.081	.748	923.08
Rack.....	11.500	.096	.601	521.74
Case.....	1.750	.017	.582	3,428.57
Total	42.550	.427	.602	
Slip soles:				
Cut.....	11.160	.139	.747	537.60
Sort.....	9.253	.108	.700	648.00
Case.....	8.900	.083	.593	674.00
Total	29.318	.335	.686	
Top pieces:				
Cut.....	12.700	.135	.638	472.44
Compress.....	5.403	.054	.600	1,111.11
Skive.....	2.700	.018	.400	2,222.22
Sort.....	9.800	.115	.704	612.24
Case.....	1.500	.007	.280	4,000.00
Total	32.100	.329	.615	
Counters:				
Cut.....	19.000	.204	.644	815.79
Flat sort.....	4.000	.047	.705	1,500.00
Grade.....	4.000	.022	.330	1,500.00
Skive.....	2.700	.018	.400	2,222.22
End shave.....	1.500	.010	.400	4,000.00
Wet roll.....	.750	.005	.400	8,000.00
Wax roll.....	1.000	.009	.540	6,000.00
Mold.....	7.000	.070	.600	857.14
Inspect.....	3.500	.021	.360	1,714.29
Case.....	1.500	.007	.280	4,000.00
Tie up.....	1.333	.012	.540	4,501.12
Total	46.283	.425	.551	
Box toes, leather¹	113.788	1.033	.545	
Licels:				
Cut piece lifts.....	52.600	.605	.690	114.07
Sort piece lifts.....	6.500	.030	.277	923.08
Serve piece lifts.....	1.200	.011	.550	5,000.00
Paste.....	.250	.002	.480	24,000.00
Build logs.....	25.250	.150	.356	237.62
Serve logs.....	.250	.003	.720	24,000.00
Slice logs.....	1.503	.017	.680	4,000.00
Form rands.....	7.250	.062	.513	827.64
Butt.....	2.000	.014	.420	3,000.00
Compress.....	2.500	.026	.624	2,400.00
Inspect, dry.....	5.250	.027	.309	1,142.86
Case.....	2.000	.019	.570	3,000.00
Tack rands.....	5.700	.048	.505	1,052.60
Tack tops.....	3.500	.036	.617	1,714.29
Total	115.750	1.050	.544	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 25.—Men's McKay, box side, wax top, straight foxed, capped laced blucher, half
double sole, leather heel.—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Stock fitting:				
Unpack and recase outsoles	5.417	\$0.042	\$0.465	1,107.62
Strike slips	6.250	.063	.605	960.00
Bust slips	6.250	.052	.499	960.00
Stamp case number, sort grades, and watch temper.	8.333	.083	.454	720.03
Roll outsoles	11.667	.094	.483	514.27
Round outsoles	19.583	.219	.671	306.39
Round insoles	13.333	.125	.663	450.01
Channel outsoles	16.667	.167	.601	359.99
Flat press outsoles	9.583	.073	.457	626.11
Dry outsoles	9.583	.063	.394	626.11
Assemble outsoles, slips, and midsoles, cement out- soles for slips, stick slips, and put in press	19.167	.188	.589	313.04
Press and put in reel	17.917	.146	.499	334.88
Trim slips	19.583	.135	.414	306.39
Gauge toes	8.333	.083	.598	720.03
Tack wood shanks	14.167	.104	.440	423.52
Wet outsoles for molders	6.250	.083	.669	685.71
Mold insoles	6.250	.083	.797	960.00
Turn lips	12.083	.125	.621	496.57
Dip insoles	6.667	.042	.378	899.96
Rack and unrack soles	6.250	.063	.605	960.00
Mold outsoles	8.750	.115	.789	685.71
Check and send up stock	6.667	.056	.504	899.96
Back shoe work	7.083	.042	.356	847.10
Sweep	8.695	.050	.345	690.05
Organization	14.089	.170	.724	425.86
Total	271.117	2.446	.541	
Total, sole-leather department	679.356	6.375	.563	
LASTING DEPARTMENT.				
Assemble lasts	19.583	.208	.637	306.39
Tack insoles	29.167	.167	.344	205.71
Assemble for pull-over machine	61.250	.417	.408	97.96
Chalk lasts	10.417	.073	.420	575.98
Pull over, machine	67.917	.625	.552	88.34
Side last, machine	96.667	.750	.466	62.07
Operate bed machine	208.333	2.000	.576	28.80
Pull insole tacks	25.000	.125	.300	240.00
Pull back tacks	10.417	.082	.300	575.98
Pound	64.167	.521	.487	93.51
Put up stock	12.083	.083	.412	496.57
Lay soles	60.000	.500	.500	100.00
Full lasts	39.583	.292	.443	151.58
Crown	40.000	.302	.453	150.00
Push racks	9.167	.058	.380	654.52
Cobble	21.134	.166	.471	283.90
Back shoe work	14.089	.067	.285	425.86
Machinist's work	7.045	.059	.502	851.67
Sweep	8.695	.050	.345	690.05
Organization	14.089	.211	.899	425.86
Total	818.803	6.726	.493	
BOTTOMING DEPARTMENT.				
Wet insole grooves	13.333	.063	.284	450.01
McKay sew	74.583	.635	.511	30.45
Nail seats	17.083	.104	.305	351.23
Cement channels	28.333	.104	.220	211.77
Wet soles	16.417	.063	.303	575.98
Lay channels	21.667	.125	.840	276.92
Fudge first time	23.750	.125	.316	252.63
Sort for leveler	12.917	.063	.293	404.50
Level	26.250	.229	.523	228.57
Dye taps	15.833	.083	.315	378.96
Serve heels	10.000	.073	.438	600.00
Feed heels	30.417	.156	.308	197.26
Heel	30.417	.271	.535	197.26
Trim heels	26.667	.256	.583	225.00
Breast heels	25.833	.167	.388	232.26
Cobble	7.045	.059	.502	851.67

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 25.—Men's McKay, box side, wax top, straight foxed, capped laced blucher, half double sole, leather heel—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Trim edges.....	93.750	\$0.917	\$0.587	64.00
Back shoe work.....	7.045	.039	.332	851.67
Machinist's work.....	7.045	.059	.562	851.67
Inspect.....	21.667	.208	.576	276.92
Sweep.....	8.695	.050	.345	690.05
Operate elevators.....	8.454	.056	.397	709.72
Organization.....	14.089	.200	.852	425.86
Total.....	535.290	4.099	.459	
FINISHING DEPARTMENT.				
Ink edges.....	13.750	.094	.410	436.36
Set edges.....	40.833	.313	.460	146.94
Scour heels.....	41.667	.365	.626	144.06
Ink heels.....	20.833	.104	.300	283.00
Buff.....	58.750	.521	.532	102.13
Clean uppers.....	24.167	.229	.569	248.27
Ink bottoms.....	30.000	.167	.334	209.00
Stamp bottoms and heels.....	13.750	.083	.362	436.36
Burnish bottoms.....	39.167	.458	.702	153.19
Burnish heels.....	34.833	.292	.507	173.59
Wheel.....	14.167	.094	.398	423.52
Organization.....	11.074	.104	.563	541.81
Total.....	342.741	2.824	.494	
TREEING AND PACKING DEPARTMENT.				
Sort.....	7.917	.063	.477	757.86
Tree, machine.....	62.500	1.083	1.040	96.00
Clean linings.....	22.500	.104	.277	266.67
Dress.....	44.167	.292	.397	135.85
Brush, final.....	34.583	.229	.397	173.50
Case sock linings.....	9.583	.052	.326	626.11
Sock linings.....	36.667	.188	.308	163.63
Lace.....	24.167	.146	.362	248.27
Sort and mate tips.....	12.917	.104	.483	464.50
Label cartons.....	22.500	.125	.333	266.67
Stencil containers.....	7.083	.055	.466	847.10
Pack.....	22.917	.146	.382	261.81
Get out cases for packers.....	14.167	.083	.352	423.52
Push racks.....	6.667	.042	.378	899.96
Supplies.....	21.134	.159	.451	283.90
Inspect.....	49.313	.348	.423	121.67
Sweep.....	8.694	.051	.352	690.13
Seal cases.....	13.333	.097	.437	450.01
Handle cases.....	21.134	.137	.389	283.90
Ship.....	7.045	.070	.596	851.67
Organization.....	10.060	.103	.614	596.42
Total.....	459.048	3.677	.481	
Grand total.....	4,990.513	38.338	.461	

Establishment No. 50.—Men's Goodyear welt, russia calf bal., leather sole and heel.

CUTTING DEPARTMENT.				
Cut vamps and whole shoes, hand.....	750.000	\$11.500	\$0.920	8.00
Cut trimmings, machine.....	83.333	.723	.521	72.00
Sort.....	76.800	1.200	.938	78.13
Stamp uppers.....	41.667	.246	.354	144.00
Cut linings, machine.....	41.667	.542	.780	144.00
Stamp linings.....	33.333	.277	.499	180.00
Cut doublers, hand.....	25.000	.326	.782	240.00
Skive.....	166.667	1.505	.542	36.00
Set tips.....	16.667	.116	.418	359.99
Inspect.....	125.000	1.953	.937	48.00
Cut back shoes.....	19.200	.300	.938	312.50
Assemble.....	25.000	.174	.418	240.00
Organization.....	38.400	.883	1.302	156.25
Total.....	1,442.734	19.695	.819	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 30.—Men's Goodyear welt, russia calf bal., leather sole and heel—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost 1100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT.				
Sort linings for closer.....	25.000	\$0.168	\$0.403	240.00
Stitch backstay on lining.....	72.000	.750	.625	83.33
Paste lining sidestays.....	50.000	.500	.600	120.00
Line tongues.....	60.667	.750	.675	90.00
Stitch lining side stays and hold tongue.....	91.667	.917	.600	65.45
Stitch top band.....	66.667	.361	.325	90.00
Trim lining under top band.....	33.333	.271	.488	180.00
Ink vamps.....	48.000	.333	.416	125.00
Trim toe pieces.....	25.000	.146	.350	240.00
Paste box toes.....	33.333	.312	.562	180.00
Paste toe pieces.....	16.667	.127	.457	359.99
Fold tips.....	40.000	.375	.563	150.00
Stitch tips.....	50.000	.425	.510	120.00
Paste doublers.....	50.000	.312	.374	120.00
Nick tops.....	33.333	.167	.301	180.00
Cement quarters.....	27.000	.187	.416	222.22
Fold quarters.....	153.533	1.333	.521	39.07
Mark eyelet row.....	41.067	.292	.420	144.00
Stitch eyelet row.....	233.333	1.417	.364	25.71
Ink quarters.....	38.420	.333	.520	156.19
Close quarters.....	58.333	.437	.449	102.86
Stay quarters.....	50.000	.396	.475	120.00
Rub quarters.....	26.000	.271	.625	230.77
Match quarters and linings.....	25.000	.187	.449	240.00
Stitch edges.....	166.667	2.250	.310	36.00
Eyelet.....	69.583	.604	.621	86.23
Lace.....	50.000	.354	.425	120.00
Seam toes.....	50.000	.396	.475	120.00
Cut apart for toe seamer.....	16.667	.104	.374	359.99
Trim tape.....	25.000	.104	.250	240.00
Mark vamp stitch.....	91.667	1.039	.680	65.45
Stitch blind row on vamps.....	175.000	2.127	.729	34.29
Match vamps and quarters.....	16.667	.127	.457	359.99
Size vamps and quarters for vampers.....	58.333	.292	.300	102.86
Vamp.....	264.000	3.667	.584	22.73
Bar.....	33.333	.312	.562	180.00
Trim ends.....	41.667	.230	.360	144.00
Stitch backstays.....	2'3.333	1.646	.423	25.71
Inspect.....	.30	.347	.833	240.00
Sort and tie up for lasters.....	.70	.217	.521	240.00
Check out.....	.67	.092	.331	359.99
Floor work.....	14.300	1.133	.590	52.06
Organization.....	38.400	.900	1.406	156.25
Total.....	2,867.187	26,728	.559	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	21.120	.264	.750	284.09
Skive.....	22.153	.200	.542	270.84
Sort.....	64.000	.800	.750	93.75
Case.....	19.200	.240	.750	312.50
Total.....	126.473	1.504	.714	
Insoles:				
Cut.....	80.000	1.000	.750	75.00
Skive.....	28.800	.240	.500	208.33
Sort.....	40.320	.504	.750	148.81
Case.....	16.941	.200	.708	354.17
Total.....	166.061	1.944	.702	
Counters, leather¹	158.915	1.314	.496	
Top pieces:				
Cut and sort.....	19.748	.240	.729	
Box toes:				
Cut and fit.....	60.988	.720	.708	

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1922,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 30.—Men's Goodyear welt, russia calf bal., leather sole and heel—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Heels:				
Fit stock.....	22.000	\$0.140	\$0.382	272.73
Cut lifts.....	90.000	.900	.600	66.67
Sort lifts.....	15.000	.150	.600	400.00
Skive lifts.....	15.000	.160	.640	400.00
Build heels.....	60.000	.500	.500	100.00
Paste heels.....	25.000	.200	.480	240.00
Sand heels.....	20.000	.180	.540	300.00
Compress heels.....	15.000	.200	.800	400.00
Gauge lifts.....	20.000	.150	.450	300.00
Total.....	282.000	2.580	.549	
Stock fitting:				
Round insoles.....	41.471	.504	.729	144.68
Turn insoles.....	42.240	.440	.625	142.05
Size insoles and cut lips.....	24.000	.200	.500	250.00
Channel insoles.....	54.568	.720	.792	109.95
Dip insoles.....	18.719	.130	.417	320.53
Cement outsoles.....	21.599	.240	.667	277.79
Shank out outsoles.....	26.182	.200	.458	229.17
General work.....	36.288	.567	.938	165.34
Organization.....	19.200	.433	1.353	312.50
Total.....	284.267	3.434	.725	
Total, sole-leather department.....	1,098.452	11.736	.641	
LASTING DEPARTMENT				
Assemble and put away lasts.....	76.800	.533	.416	78.13
Chalk lasts.....	19.200	.100	.313	312.50
Lay insoles and counters on racks.....	19.200	.120	.375	312.50
Tack insoles.....	33.333	.405	.729	180.00
Trim insoles.....	16.667	.127	.457	359.99
Assemble for pull-over machine.....	208.333	2.333	.672	28.89
Pull over, machine.....	125.000	2.167	1.040	48.00
Side last, hand.....	250.000	4.500	1.080	24.00
Operate bed machine.....	425.000	6.500	.918	14.12
Crown.....	76.800	1.133	.885	78.13
Back shoe work.....	19.200	.120	.375	312.50
Organization.....	38.400	.700	1.094	156.25
Total.....	1,307.933	18.738	.860	
BOTTOMING DEPARTMENT.				
Trim toes.....	16.667	.145	.522	359.99
Staple.....	25.000	.280	.672	240.00
Pull tacks.....	48.000	.500	.625	125.00
Pull wire.....	18.250	.190	1.375	328.77
Goodyear welt.....	93.833	2.150	.645	63.94
Pull insole tacks.....	24.000	.250	.625	250.00
Trim welts.....	40.417	.590	.876	148.45
Butt welts.....	41.167	.600	.875	145.75
Beat welts.....	27.417	.400	.875	218.84
Place shanks.....	29.750	.310	.625	201.68
Fill bottoms.....	29.500	.430	.875	203.39
Cement bottoms.....	16.333	.170	.624	367.35
Welt up soles.....	8.333	.052	.374	720.00
Lay soles.....	33.000	.550	1.000	181.82
Tack soles.....	9.750	.061	.375	615.38
Rough round.....	53.250	1.220	1.375	112.67
Open channels.....	24.000	.250	.625	250.00
Goodyear stitch.....	173.333	3.250	1.125	34.62
Cement channels.....	8.583	.104	.727	699.06
Lay channels.....	10.500	.127	.726	571.43
Shape soles.....	16.667	.174	.626	359.99
Nail heel seats.....	16.667	.330	1.188	359.99
Trim heel seats.....	12.500	.152	.730	480.00
Level.....	50.000	.750	.900	120.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 80.—Men's Goodyear welt, russia calf bal., leather sole and heel—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Sort (after leveling).....	4.250	\$0.052	\$0.734	1,411.77
Heel.....	50.000	1.250	1.500	120.00
Trim heels.....	58.333	1.550	1.594	102.86
Trim edges.....	241.667	3.600	894	24.83
Join.....	39.083	.570	.875	153.52
Crown.....	38.400	.467	.730	156.25
Cobble.....	76.800	.920	.719	78.13
Organization.....	19.200	.400	1.250	312.30
Total.....	1,354.650	21.845	.968	-----
FINISHING DEPARTMENT.				
Scour breasts.....	41.667	.362	.521	144.00
Scour heels.....	58.333	.660	.679	102.86
Set edges.....	196.350	3.270	1.000	80.57
Mannekeag.....	41.667	.900	1.152	144.00
Smooth heels.....	34.250	.500	.876	175.18
Lat heels.....	25.000	.122	.292	240.00
Burnish heels.....	85.750	1.250	.375	69.88
Sand bottoms.....	48.000	.700	.875	125.00
Roll bottoms.....	50.750	.740	.375	118.23
Polish bottoms.....	50.000	.450	.540	120.00
Brush edges.....	33.333	.231	.416	180.00
Polish edges.....	16.667	.139	.500	359.99
Glue heels.....	16.667	.092	.331	359.99
Corner heels.....	41.667	.333	.480	144.00
Bead seats.....	33.333	.266	.479	180.00
Stripe heel seats.....	16.667	.093	.335	359.99
Stain bottoms.....	125.000	1.519	.729	48.00
Stripe bottoms.....	15.250	.185	.723	263.44
Bleach.....	25.000	.208	.499	240.00
Pull lasts.....	25.000	.500	1.200	240.00
Separate stitches.....	58.333	.900	.928	102.86
Stamp.....	25.000	.191	.458	240.00
Sort.....	25.000	.122	.293	240.00
Crown.....	66.667	.694	.625	90.00
Organization.....	38.400	.933	1.458	156.25
Total.....	1,193.651	15.260	.767	-----
TREEING AND PACKING DEPARTMENT.				
Feel for tacks.....	12.500	.069	.331	480.00
Sock lining.....	25.000	.130	.312	240.00
Tree, hand.....	411.417	5.000	.729	14.53
Repair.....	50.000	.608	.730	120.00
Dress.....	66.667	.694	.625	90.00
Clean stitches.....	16.667	.081	.292	359.99
Lace and clean linings.....	33.333	.185	.333	180.00
Brush.....	25.000	.130	.312	240.00
Rag edges and heels.....	16.667	.092	.331	359.99
Iron top bands.....	33.333	.174	.313	180.00
Emboss.....	25.000	.156	.374	240.00
Check and size out.....	33.333	.174	.313	180.00
Inspect.....	41.667	.506	.729	144.00
Mark cartons.....	8.333	.052	.374	720.03
Pack.....	25.000	.217	.521	240.00
Crown.....	38.400	.433	.677	156.25
Ship.....	41.667	.750	1.080	144.00
Organization.....	57.600	1.667	1.737	104.17
Total.....	961.584	11.118	.694	-----
Grand total.....	10,226.191	126.120	.734	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 31.—Women's McKay, black satin, one-strap oxford, single sole, wood heel with leather top lift.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT.				
Prepare jobs for cutters.....	144.000	\$1.925	\$0.802	41.67
Cut vamps and whole shoes, hand.....	450.000	8.375	1.116	13.33
Cut cloth linings, hand.....	60.000	1.000	1.000	100.00
Cut leather linings, hand.....	240.000	2.500	.625	25.00
Cut sock linings.....	75.000	1.000	.800	80.00
Mark linings.....	216.000	1.275	.354	27.78
Mark sizes.....	432.000	2.475	.344	13.89
Sort and size out parts.....	144.000	.800	.333	41.67
Block cut.....	72.000	.375	.312	83.33
Cobble (cut back shoes).....	144.000	2.203	.918	41.67
Organization.....	72.000	1.250	1.042	83.33
Total.....	2,049.000	23.178	.679	-----
STITCHING DEPARTMENT.				
Check in and out.....	72.000	.400	.333	83.33
Ink edges.....	72.000	.400	.333	83.33
Count and match linings.....	72.000	.400	.333	83.33
Paste stays.....	72.000	.400	.333	83.33
Edge.....	30.600	.250	.500	200.00
Close quarters.....	100.000	.600	.360	60.00
Close collars.....	67.476	.500	.445	88.92
Rub quarters.....	34.288	.250	.438	175.00
Rub collars.....	34.288	.250	.438	175.00
Cement quarters.....	270.000	2.500	.566	22.22
Cement vamp line.....	73.350	.600	.491	81.80
Cement back stays.....	61.125	.500	.491	96.16
Sew on bindings.....	315.000	4.500	.857	19.05
Stretch bindings.....	91.258	1.000	.658	65.75
Paste on stays.....	33.490	.250	.448	179.16
Line vamps.....	56.657	.600	.635	105.90
Lay in.....	54.000	.400	.444	111.11
Coat seams.....	120.000	1.000	.500	50.00
Sew on anchors.....	130.000	1.500	.692	46.15
Fold quarters.....	335.000	4.250	.761	17.91
Fold vamp line.....	205.711	2.500	.729	29.17
Stitch edges.....	320.000	4.000	.750	18.75
Trim.....	60.000	.500	.500	100.00
Make linings.....	276.000	2.025	.440	21.74
Paste.....	135.000	.500	.222	44.44
Make buttonholes.....	68.874	1.100	.958	87.12
Sew on buttons.....	60.000	.900	.900	100.00
Case out.....	300.000	3.000	.600	20.00
Vamp.....	391.000	4.000	.614	15.35
General table work.....	60.000	.333	.333	100.00
Reinforce buttonholes.....	144.000	.850	.354	41.67
Mark for fancy stitching.....	144.000	.850	.354	41.67
Inspect cut-outs.....	144.000	.850	.354	41.67
Button and trim.....	72.000	.400	.333	83.33
Trim threads and linings.....	72.000	.400	.333	83.33
Organization.....	288.000	3.550	.739	20.83
Total.....	4,834.513	41.641	.517	-----
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	-----
Insoles, leather ¹	110.404	1.069	.581	-----
Counters, leather ¹	158.915	1.314	.496	-----
Top pieces, leather ¹	55.330	.587	.636	-----
Box toes, leather ¹	113.788	1.033	.545	-----
Stock fitting:				
Put on racks.....	5.000	.078	.936	1,200.00
Sand.....	14.000	.094	.403	428.57
Wet.....	10.000	.156	.936	600.00
Case up.....	15.000	.234	.936	400.00
Skive.....	15.000	.234	.936	400.00
Round.....	26.000	.188	.434	230.77

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 31.—Women's McKay, black satin, one-strap oxford, single sole, wood heel with leather top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Stock fitting—Concluded.				
Mark.....	10.00	\$0.073	\$0.438	600.00
Channel.....	40.00	.625	.938	150.00
Shank out.....	40.00	.306	.459	150.00
Put on tape.....	30.00	.146	.292	200.00
Turn lips.....	40.00	.278	.417	150.00
Tie up.....	20.00	.139	.417	300.00
Put in racks.....	5.00	.021	.292	1,200.00
Case up, mark, and pound.....	15.00	.146	.554	400.00
Put on nonsqueak.....	30.00	.146	.292	200.00
Put in shanks.....	30.00	.146	.292	200.00
Tie up and put on racks.....	10.00	.042	.252	600.00
Organization.....	72.00	1.125	.937	83.33
Total.....	427.000	4.177	.587	
Total, sole-leather department.....	949.548	9.072	.573	
LASTING DEPARTMENT.				
Pick lasts.....	60.00	.729	.729	100.00
Tack insoles.....	60.00	.800	.800	100.00
Assemble for pull-over machine.....	180.00	1.800	.600	33.33
Pull over, machine.....	100.00	1.800	1.080	60.00
Draft counters.....	100.00	1.350	.810	60.00
Side last, hand.....	90.00	1.800	1.200	66.67
Operate bed machine.....	240.00	4.005	1.001	25.00
Pound.....	100.00	1.350	.810	60.00
Iron buttons.....	60.00	.800	.800	100.00
Pull insole tacks.....	60.00	.650	.650	100.00
Tack shanks.....	120.00	.916	.458	50.00
Fill bottoms.....	60.00	.375	.375	100.00
Organization.....	36.00	.625	1.042	166.67
Total.....	1,266.000	17.000	.806	
BOTTOMING DEPARTMENT.⁴				
Lay soles.....	120.00	1.800	.900	50.00
Pull lasts and turn channels.....	75.00	1.080	.864	80.00
McKay sew.....	120.00	2.000	1.000	50.00
Cement channels.....	90.00	.625	.417	66.67
Level (Atlas).....	90.00	1.000	.667	66.67
Lay channels.....	75.00	1.000	.800	80.00
Last, second time.....	90.00	1.575	1.050	66.67
Level, second time.....	90.00	.800	.533	66.67
Trim edges.....	240.00	3.699	.925	25.00
Sweep.....	72.00	.500	.417	83.33
Organization.....	36.00	.625	1.042	166.67
Total.....	1,098.000	14.704	.804	
FINISHING DEPARTMENT.				
Set edges, first time.....	180.00	2.250	.750	33.33
Set edges, second time.....	90.00	1.406	.937	66.67
Button shoes.....	75.00	.521	.417	80.00
Sand bottoms.....	90.00	.900	.600	66.67
Naumkeag.....	150.00	1.823	.729	40.00
Stain bottoms.....	120.00	1.458	.729	50.00
Bleach.....	60.00	.938	.938	100.00
After finish.....	75.00	.651	.521	80.00
Clean and brush edges.....	150.00	1.350	.540	40.00
Polish.....	60.00	.625	.625	100.00
Pull lasts.....	17.00	.333	1.175	352.94
Nail wood heels.....	75.00	.750	.600	80.00
Pound toes.....	75.00	.911	.729	80.00
Put lasts away.....	60.00	.375	.375	100.00
Sort shoes on elevator.....	60.00	.437	.437	100.00
Cover heels.....	540.00	5.630	.625	11.11
Skive and sand breasts.....	150.00	1.250	.500	40.00
Set top pieces.....	90.00	.718	.479	66.67
Fit heels.....	300.00	5.000	1.000	20.00

⁴ Wood heels used; covered, etc., in the finishing department.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 31.—Women's McKay, black satin, one-strap oxford, single sole, wood heel with leather top lift—Concluded

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
FINISHING DEPARTMENT—concluded.				
Clamp heels.....	216.000	\$3.750	\$1.071	28.57
Cement and sand breasts.....	480.000	7.250	.906	12.50
Sew covers.....	75.000	.625	.500	80.00
Inspect heels.....	105.000	1.035	.591	57.14
Clean and inspect.....	72.000	.400	.333	83.33
Organization.....	144.000	2.750	1.146	41.67
Total.....	3,503.000	43.136	.739	-----
TREEING AND PACKING DEPARTMENT.				
Trim throats.....	90.000	.850	.567	66.67
Sock linings.....	103.000	2.000	1.165	58.25
Tree and iron, hand.....	288.000	2.500	.521	20.83
Button or lace.....	60.000	.340	.340	100.00
Brush bottoms.....	60.000	.420	.420	100.00
Mark boxes.....	30.000	.190	.380	200.00
Pack.....	120.000	.790	.395	50.00
Stick.....	60.000	.270	.270	100.00
Iron and line.....	60.000	.250	.250	100.00
Inspect.....	120.000	.920	.460	50.00
Ink.....	90.000	.510	.340	66.67
Singe.....	90.000	.560	.373	66.67
Organization.....	72.000	1.125	.937	83.33
Total.....	1,243.000	10.725	.518	-----
Grand total.....	14,943.061	159.456	.640	-----

Establishment No. 33.—Men's Goodyear welt, mahogany kid, seamless vamp, cap toe, bal. (high), 9-iron single sole, 3 1/8 leather heel with 3 1/8 rubber top lift.

CUTTING DEPARTMENT.				
Put up jobs.....	10.800	\$0.076	\$0.422	555.55
Selecting dies for cutters.....	21.600	.073	.203	277.78
Supplies.....	2.700	.021	.467	2,222.22
Cut vamps, tips, quarters, and tongues, machine.....	402.000	4.680	.699	14.93
Sort complete.....	39.000	.490	.754	153.85
Cut linings, machine.....	42.000	.320	.457	142.86
Case tongues and backstays.....	20.000	.100	.300	300.00
Match mark.....	42.000	.160	.229	142.86
Cut eyelet stays, hand.....	222.000	.940	.254	27.03
Skive complete.....	160.000	.810	.304	37.50
Sort and tie up.....	16.200	.050	.185	370.37
Back shoe work.....	10.800	.060	.333	555.55
Sweep.....	6.171	.034	.331	972.29
Machinist's work.....	5.400	.054	.600	1,111.11
Organization.....	32.400	.433	.802	185.19
Total.....	1,033.071	8.301	.482	-----
STITCHING DEPARTMENT.				
Unpack uppers.....	15.000	.070	.280	400.00
Supplies.....	2.700	.021	.467	2,222.22
Stitch web heel stays.....	30.000	.160	.320	200.00
Stitch eyelet stays to lining.....	90.000	.480	.320	66.67
Stitch top facing to lining.....	32.000	.130	.244	187.50
Trim eyelet stays.....	20.000	.060	.180	300.00
Stitch tongue lining.....	48.000	.180	.225	125.00
Trace quarters.....	48.000	.180	.225	125.00
Stitch quarters, side row.....	30.000	.120	.240	200.00
Rub quarter seams.....	10.000	.050	.300	600.00
Back strap.....	120.000	.380	.190	50.00
Cement quarters and backstays.....	30.000	.100	.200	200.00
Fold quarters and backstays.....	110.000	.600	.327	54.55
Paste eyelet and hook stays.....	40.000	.190	.285	150.00
Hook.....	25.000	.180	.432	240.00
Lay linings to quarters.....	40.000	.100	.150	150.00
Top stitch.....	200.000	1.120	.336	30.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 28.—Men's Goodyear welt, mahogany kid, seamless vamp, cap toe, bal. (high), 9-iron
single sole, 3 1/8 leather heel with 3 1/8 rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT—concluded.				
Eyelet.....	48.000	\$0.230	\$0.288	125.00
Cement vamps and tips.....	36.000	.150	.250	186.67
Fold vamps and tips.....	80.000	.390	.398	75.00
Double vamps.....	80.000	.360	.270	75.00
Close vamps.....	27.000	.130	.289	222.22
Stay vamps.....	27.000	.150	.933	222.22
Stitch tips.....	50.000	.220	.264	120.00
Vamps.....	260.000	1.800	.415	23.08
Seam toes and vamp linings.....	30.000	.130	.260	200.00
Bar vamps.....	30.000	.130	.260	200.00
Lace.....	22.000	.110	.300	272.73
Inspect.....	30.000	.190	.380	200.00
Stitch, box toes.....	25.000	.130	.312	240.00
Sweep.....	6.171	.034	.331	972.30
Back shoe work.....	16.200	.060	.222	370.37
Machinist's work.....	10.800	.125	.694	555.55
Organization.....	27.000	.304	.676	222.22
Total.....	1,695.871	8.764	.310	-----
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	12.500	.158	.758	480.00
Grade.....	4.600	.035	.457	1,305.00
Sort.....	4.750	.065	.821	1,263.16
Rack.....	3.000	.026	.520	2,000.00
Case.....	3.600	.046	.767	1,666.70
Total.....	28.450	.330	.696	-----
Insoles:				
Cut.....	18.000	.203	.677	333.33
Grade.....	4.800	.030	.375	1,250.00
Sort.....	6.500	.081	.748	923.08
Rack.....	11.500	.096	.501	521.74
Case.....	1.750	.017	.582	3,428.57
Total.....	42.550	.427	.602	-----
Counters:				
Cut.....	19.000	.204	.644	315.79
Flat sort.....	4.000	.047	.705	1,500.00
Grade.....	4.000	.022	.330	1,500.00
Rkive.....	2.700	.018	.400	2,222.22
Shave ends.....	1.500	.010	.400	4,000.00
Roll, wet.....	.750	.005	.400	8,000.00
Roll, wax.....	1.000	.009	.540	6,000.00
Mold.....	7.000	.070	.690	857.14
Inspect.....	3.500	.021	.360	1,714.20
Case.....	1.500	.007	.280	4,000.00
Tie up.....	1.333	.012	.540	4,501.12
Total.....	46.283	.425	.551	-----
Box toes, leather ¹	113.788	1.033	.545	-----
Heels:				
Cut grain lifts.....	27.970	.233	.500	214.50
Sort grain lifts.....	3.250	.016	.295	1,846.15
Grade.....	6.000	.035	.350	1,000.00
Serve lifts.....	1.500	.011	.440	4,000.00
Serve paste.....	.500	.002	.240	12,000.00
Build logs.....	3.000	.029	.580	2,000.00
Form rands.....	7.000	.062	.631	857.14
Butt.....	2.000	.014	.420	3,000.00
Compress.....	3.000	.026	.520	2,000.00
Inspect, dry.....	5.000	.027	.324	1,200.00
Case.....	2.000	.019	.570	3,000.00
Tack rands.....	5.700	.048	.505	1,052.60
Total.....	66.920	.522	.468	-----

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 38.—Men's Goodyear welt, mahogany kid, seamless vamp, cap toe, bal. (high), 9-iron
single sole, 3/8 leather heel with 3/8 rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Stock fitting:				
Assemble insoles.....	5.000	\$0.040	\$0.480	1,200.00
Round insoles.....	11.000	.090	.491	545.46
Stamp insoles.....	7.000	.060	.514	857.16
Channel insoles.....	25.000	.240	.576	240.00
Snip channels.....	10.000	.050	.300	600.00
Cement insoles.....	13.000	.080	.269	461.54
Lip set insoles.....	16.000	.120	.450	375.00
Canvas insoles.....	27.000	.200	.444	222.22
Reinforce insoles.....	15.000	.120	.480	400.00
Case and tie insoles.....	9.000	.070	.467	666.67
Stamp outsoles.....	6.000	.050	.500	1,000.00
Reduce shanks, outsoles.....	10.000	.080	.480	900.00
Split heels.....	7.000	.060	.514	857.16
Temper outsoles.....	8.000	.070	.525	750.00
Mold outsoles.....	9.000	.080	.533	686.67
Cement outsoles.....	8.000	.070	.525	750.00
Case outsoles.....	5.000	.040	.480	1,200.00
Sweep.....	6.171	.034	.381	972.30
Organization.....	5.400	.071	.789	1,111.11
Case rubber top pieces.....	5.400	.033	.367	1,111.11
Total.....	207.971	1.658	.478	
Total, sole-leather department.....	505.962	4.395	.521	
LASTING DEPARTMENT.				
Assemble lasts.....	27.000	.260	.578	222.22
Tack insoles.....	22.000	.180	.491	272.73
Chalk lasts.....	10.000	.080	.480	600.00
Assemble for pull-over machine.....	90.000	.660	.440	66.67
Pull over, machine.....	98.000	1.080	.661	61.22
Side last, machine.....	94.000	.960	.613	63.83
Operate bed machine.....	300.000	2.960	.592	20.00
Crown.....	16.000	.140	.525	375.00
Sweep.....	6.171	.034	.381	972.30
Organization.....	21.600	.288	.800	277.78
Total.....	684.771	6.642	.582	
BOTTOMING DEPARTMENT.				
Trim toes.....	16.000	.150	.563	375.00
Staple.....	18.000	.160	.533	333.33
Set tacks.....	34.000	.280	.494	176.47
Wet insoles.....	12.000	.080	.490	600.00
Goodyear welt.....	60.000	.840	.840	100.00
Pull bottom tacks.....	18.000	.160	.533	333.33
Trim inseams.....	31.000	.300	.581	193.55
Butt welts.....	43.000	.320	.447	139.54
Beat welts.....	18.000	.180	.600	333.33
Stick shanks.....	12.000	.110	.550	600.00
Fill bottoms.....	22.000	.180	.491	272.73
Cement welts.....	12.000	.100	.500	600.00
Match outsoles and shoes.....	10.000	.080	.480	600.00
Lay soles.....	24.000	.280	.700	250.00
Rough round.....	48.000	.660	.825	125.00
Turn up channels.....	16.000	.120	.450	375.00
Goodyear stitch.....	120.000	1.480	.740	50.00
Cement channels.....	24.000	.200	.500	250.00
Turn down channels.....	16.000	.120	.450	375.00
Nail heel seats.....	20.000	.150	.450	300.00
Trim heel seats.....	16.000	.130	.488	375.00
Level.....	20.000	.180	.540	360.00
Match heels to shoes.....	10.000	.080	.480	600.00
Heel.....	45.000	.540	.720	133.33
Set nails.....	45.000	.300	.267	133.33
Trim heels.....	27.000	.280	.622	222.22
Breast.....	29.000	.190	.393	206.90
Trim edges.....	80.000	.080	.735	75.00
Joint.....	29.000	.240	.497	206.90
Machinist's work.....	10.800	.134	.744	555.55

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 38.—Men's Goodyear welt, mahogany kid, seamless vamp, cap toe, bal. (high), 9-iron
single sole, 3 $\frac{3}{8}$ leather heel with 3 $\frac{3}{8}$ rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Back shoe work.....	5.400	\$0.020	\$0.222	1,111.11
Inspect and cobble.....	5.400	.035	.389	1,111.11
Wind bobbins.....	10.800	.037	.206	555.55
Sweep.....	6.171	.034	.331	972.29
Operate elevators.....	5.400	.039	.433	1,111.11
Organization.....	16.200	.225	.833	370.37
Total.....	935.171	9.294	.596	
FINISHING DEPARTMENT.				
Scour breasts.....	17.000	.110	.388	352.94
Scour heels, first time.....	48.000	.400	.500	125.00
Set edges.....	80.000	.980	.735	75.00
Brush edges.....	20.000	.120	.360	300.00
Scour heels, second time.....	22.000	.160	.436	272.73
Ink heels.....	14.000	.090	.396	428.57
Sand bottoms.....	45.000	.460	.613	133.33
Brush bottoms.....	10.000	.080	.480	600.00
Bleach bottoms.....	28.000	.280	.557	214.29
Gum bottoms.....	36.000	.300	.500	166.67
Burnish heels.....	40.000	.300	.450	150.00
Polish bottoms.....	38.000	.340	.537	157.90
Wheel bottoms.....	10.000	.080	.480	600.00
Cut strings.....	16.000	.100	.375	375.00
Pull lasts.....	40.000	.240	.360	150.00
Stamp bottoms.....	12.000	.090	.450	600.00
Back shoe work.....	10.800	.040	.222	555.55
Sweep.....	6.171	.034	.331	972.29
Operate elevators.....	5.400	.039	.433	1,111.11
Organization.....	16.200	.209	.774	370.37
Total.....	514.571	4.432	.517	
TREEING AND PACKING DEPARTMENT.				
Inspect for and cut tacks.....	24.000	.120	.300	250.00
Emboss top facing.....	16.000	.080	.300	375.00
Tree, machine.....	184.000	2.000	.652	32.61
Sock linings.....	22.000	.140	.382	272.73
Repair.....	68.000	.500	.441	88.24
Dress.....	72.000	.500	.417	83.33
Brush edges.....	32.000	.260	.488	187.50
Lace.....	28.000	.140	.300	214.29
Pack.....	45.000	.300	.400	133.33
Inspect.....	32.400	.250	.463	185.19
Back shoe work.....	5.400	.018	.200	1,111.11
Handle freight.....	21.600	.133	.369	277.78
Ship.....	10.800	.092	.511	555.55
Sweep.....	6.171	.034	.331	972.29
Organization.....	10.800	.175	.972	555.55
Total.....	578.171	4.742	.492	
Grand total.....	5,947.588	46.570	.470	

Establishment No. 44.—Women's Goodyear welt, brown kid, five eyelet, lace oxford, circular vamp, plain,
tip, single sole, 4/8 leather heel base with 4/8 rubber top lift.

CUTTING DEPARTMENT.				
Selecting patterns for cutters.....	40.563	\$0.254	\$0.376	147.92
Sort and put up jobs.....	55.556	.787	.850	108.00
Cut vamps and whole shoes, hand.....	473.340	7.889	1.000	12.68
Match marks.....	50.926	.248	.292	117.82
Sort vamps, etc.....	375.000	5.156	.825	16.00
Mark vamps, etc.....	18.519	.122	.395	323.99
Skive uppers.....	101.852	.622	.366	58.91
Skive toes.....	13.889	.068	.292	432.00
Cement tips.....	13.889	.074	.318	432.00
Fold tips.....	23.148	.123	.318	259.20
Perforate tips.....	23.148	.123	.318	259.20

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 44.—Women's Goodyear welt, brown kid, five eyelet, lace oxford, circular vamp, plain tip, single sole, 4/8 leather heel base with 4/8 rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
CUTTING DEPARTMENT—concluded.				
Cut rubber backs.....	50.926	\$0.371	\$0.438	117.82
Cut blind eyelets.....	4.630	.034	.438	1,295.90
Iron.....	222.222	.926	.250	27.00
Cut doublers.....	9.259	.142	.918	648.02
Cut linings, hand.....	33.333	.569	1.025	180.00
Cut tongue linings, hand.....	27.778	.475	1.025	216.60
Stamp linings.....	27.778	.116	.250	216.00
Cut trimmings, hand.....	200.000	1.167	.350	30.00
Sort trimmings.....	13.889	.068	.292	432.00
Stamp trimmings.....	21.296	.096	.271	281.74
Assemble.....	10.185	.064	.374	589.10
Floor work.....	81.126	.535	.396	73.96
Sweep.....	40.563	.254	.376	147.92
Organization.....	81.126	1.162	.859	73.96
Total.....	2,013.941	21.445	.639	
STITCHING DEPARTMENT.				
Assemble.....	9.259	.047	.305	648.02
Close.....	31.481	.278	.529	190.59
Stay.....	41.070	.278	.400	143.99
Bind tongues.....	41.067	.278	.400	142.00
Make linings.....	138.889	1.153	.496	43.20
Sew on blind-eye stays.....	164.815	.944	.344	86.40
Cement quarters.....	19.932	.161	.500	310.37
Cement vamps.....	18.519	.139	.450	323.99
Fold, hand.....	81.481	.694	.511	73.64
Fold vamps.....	92.593	.472	.306	64.80
Double vamps.....	32.407	.278	.514	185.15
Stitch tips.....	61.111	.417	.409	98.18
Crease vamps.....	42.593	.869	.520	140.87
Rub seams.....	40.560	.203	.300	147.93
Trim linings.....	16.667	.075	.271	359.99
Lay in for top stitchers.....	27.778	.126	.271	216.00
Top stitch.....	166.667	1.250	.450	86.00
Eyelet.....	46.266	.889	.504	129.60
Trim threads.....	41.067	.278	.400	144.00
Vamp.....	179.166	2.389	.800	83.49
Seam toes.....	55.556	.417	.450	108.00
Bar.....	27.778	.175	.378	216.00
Lace.....	27.778	.175	.378	216.00
Clean.....	27.778	.116	.250	216.00
Inspect.....	55.556	.381	.411	108.00
Pack.....	27.778	.130	.281	216.00
Floor work.....	40.563	.211	.312	147.92
Odd shoe work.....	40.563	.211	.312	147.92
Sweep.....	40.563	.254	.376	147.92
Machinist's work.....	81.126	.915	.677	73.96
Organization.....	162.252	1.408	.521	36.98
Total.....	1,881.909	14.610	.466	
SOLE-LEATHER DEPARTMENT.				
Outsoles:				
Cut.....	39.000	.519	.798	153.85
Grade.....	14.170	.100	.423	423.43
Sort.....	44.620	.502	.675	134.47
Rack.....	7.240	.051	.423	828.73
Case.....	14.580	.156	.642	411.52
General work.....	15.750	.170	.648	380.95
Total.....	135.360	1.498	.664	
Insoles:				
Cut.....	38.880	.413	.637	154.32
Grade.....	10.500	.038	.217	671.43
Sort.....	58.770	.472	.482	102.09
Rack.....	2.620	.023	.527	2,290.08
Case.....	14.580	.123	.506	411.52
General work.....	12.350	.061	.296	485.83
Total.....	137.700	1.130	.492	

118 TIME AND LABOR COSTS—MID-WESTERN DISTRICT.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1922, BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 44.—Women's Goodyear welt, brown kid, five eyelet, lace oxford, circular vamp, plain tip, single sole, 4/8 leather heel base with 4/8 rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Heels:				
Cut, sort, etc., heel lifts.....	240.000	\$2.000	\$0.500	25.00
Build heels.....	48.600	.340	.420	123.46
Tack ranges.....	21.000	.200	.371	285.71
Total.....	309.600	2.540	.492	
Counters:				
Cut.....	43.232	.474	.658	138.79
Sort.....	10.500	.133	.780	571.43
Skive.....	8.070	.078	.539	743.49
Mold.....	18.750	.175	.560	320.00
Sort malded.....	11.690	.103	.556	514.58
Pack.....	2.540	.015	.354	2,362.20
Fit stock.....	15.440	.124	.482	388.69
General work.....	49.490	.337	.409	121.24
Total.....	159.682	1.444	.543	
Box toes, leather ¹	113.788	1.033	.545	
Stock fitting:				
Round insoles.....	92.592	1.019	.660	64.80
Stamp insoles.....	6.726	.064	.570	892.06
Nip and wet insoles.....	11.606	.097	.500	514.32
Channel insoles.....	30.111	.528	.377	166.15
Cement insoles.....	13.369	.111	.499	432.00
Stick tips.....	20.370	.194	.373	294.55
Cut and crease canvas.....	31.431	.306	.582	190.30
Reinforce.....	23.222	.308	.532	279.00
Stitch insoles.....	17.533	.250	.353	341.05
Roll and dip heels.....	18.519	.096	.312	323.90
Seats on insoles.....	13.389	.082	.354	432.00
Crown insoles.....	6.726	.064	.570	892.06
Stamp outsoles.....	16.978	.153	.540	353.40
Shank out.....	24.074	.200	.498	249.23
Assemble.....	40.563	.254	.378	147.62
Organization.....	40.563	.423	.626	147.92
Total.....	413.962	5.024	.728	
Total, sole-leather department.....	1,270.692	12.669	.598	
LASTING DEPARTMENT.				
Tack insoles.....	23.148	.278	.720	259.20
Assemble for pull-over machine.....	148.148	2.222	.900	40.80
Pull over, machine.....	106.481	1.667	.999	56.35
Side last, machine.....	97.222	1.528	.943	61.71
Operate bed machine.....	250.000	2.917	.760	24.00
Inspect.....	41.667	.474	.682	144.00
Odd shoe work.....	40.563	.169	.250	147.92
General work.....	81.126	.528	.391	73.96
Organization.....	40.563	.704	1.041	147.92
Total.....	828.918	10.486	.759	
BOTTOMING DEPARTMENT.				
Staple.....	24.074	.278	.692	249.23
Pull tacks.....	44.440	.444	.600	135.01
Trim toes.....	31.481	.347	.662	290.59
Goodyear welt.....	93.340	1.667	1.290	71.99
Trim in seams.....	52.780	.528	.600	113.68
Beat welts.....	47.220	.472	.600	127.07
Knock tacks.....	26.852	.222	.496	223.45
Tack welts at seats.....	48.148	.472	.588	124.62
Put in shanks.....	65.741	.384	.350	91.27
Fill bottoms.....	20.630	.278	.563	202.50
Cement bottoms.....	20.370	.306	.900	394.55
Lay soles.....	39.315	.611	.921	150.70
Round.....	55.558	1.028	1.110	107.99
Open channels.....	28.704	.278	.381	209.03

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 44.—Women's Goodyear welt, brown kid, five eyelet, lace oxford, circular vamp, plain tip, single sole, 4/8 leather heel base with 4/8 rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Goodyear stitch.....	114.815	\$2.361	\$1.234	52.26
Feather out.....	28.704	.533	.697	209.03
Rub down shanks.....	13.889	.194	.840	432.00
Cement channels.....	27.778	.278	.600	216.00
Lay channels.....	27.778	.278	.600	216.00
Level.....	69.444	.611	.528	86.40
Inspect.....	41.667	.347	.500	144.00
Nail seats.....	25.000	.226	.542	240.00
Trim heel seats.....	13.889	.167	.720	432.00
Stick heel nails.....	17.593	.222	.758	341.05
Put in heels.....	20.370	.208	.614	294.55
Heel.....	46.296	.736	.954	129.60
Cement heels and tops.....	33.333	.191	.344	180.00
Nail top pieces.....	55.556	.936	1.011	107.99
Trim heels.....	27.778	.694	1.500	216.00
Breast.....	27.778	.556	1.200	216.00
Trim edges.....	158.333	2.556	.968	37.90
Joint.....	58.333	.694	.714	102.36
General work.....	81.126	.528	.391	73.96
Sweep.....	40.563	.254	.376	147.92
Organization.....	40.563	.704	1.041	147.92
Total.....	1,568.737	20.389	.780	
FINISHING DEPARTMENT.				
Scour heels, first time.....	24.074	.389	.969	249.23
Scour breasts.....	33.333	.444	.800	180.00
Set seats.....	30.556	.347	.682	196.36
Set edges.....	177.778	2.500	.844	33.75
Inspect.....	30.556	.255	.500	196.36
Size heels.....	11.111	.111	.600	540.01
Scour heels, second time.....	30.556	.528	1.036	196.36
Dye heels.....	19.444	.208	.643	308.88
Band bottoms.....	53.704	.694	.776	111.72
Buff.....	27.778	.417	.900	216.00
Cut strings.....	5.556	.289	.312	1,079.91
Bleach bottoms.....	58.333	.534	.343	102.86
Line heel breasts.....	25.926	.148	.843	231.43
Stain bottoms.....	62.037	.778	.752	96.72
Stripe.....	24.074	.222	.554	249.23
Burnish heels.....	34.259	.594	.689	175.14
Polish bottoms.....	22.148	.347	.900	276.20
Clean edges.....	18.519	.172	.556	322.99
Wheel bottoms.....	37.037	.506	.819	162.00
Roll up wax on heels.....	14.815	.168	.682	405.00
Cut tacks.....	19.444	.171	.529	308.58
Full lasts.....	13.889	.116	.500	432.00
Full papers.....	25.000	.113	.270	240.00
Stamp bottoms.....	20.370	.085	.250	294.55
Brush heels and edges.....	13.889	.058	.250	432.00
Odd shoe work.....	40.563	.225	.833	147.92
Sweep.....	40.563	.254	.376	147.92
Organization.....	81.126	.986	.729	73.96
Total.....	997.438	11.258	.677	
TREEING AND PACKING DEPARTMENT.				
Sort shoes.....	25.926	.108	.250	231.43
Sock lining.....	27.778	.164	.354	216.00
Emboss.....	13.889	.093	.400	432.00
Clean rubber tops.....	21.296	.089	.250	281.74
Ink edges.....	87.037	.363	.250	68.94
Tree, hand.....	263.289	2.944	.669	22.74
Stain.....	64.815	.510	.481	92.57
Dress.....	60.185	.519	.518	99.69
Ink heel seats.....	41.667	.195	.281	144.00
Repair.....	138.889	.894	.386	43.20
Lace.....	37.037	.211	.341	162.00
Clean stitches.....	125.000	.564	.271	48.00
Inspect.....	60.185	.418	.417	96.69
Brush heels.....	22.148	.133	.344	259.20
Mark boxes.....	13.889	.079	.341	432.00

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 44.—Women's Goodyear welt, brown kid, five eyelet, lace oxford, circular vamp, plain
tip, single sole, 4/8 leather heel base with 4/8 rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
TREERING AND PACKING DEPARTMENT—concluded.				
Pack.....	32.407	\$0.169	\$0.313	185.15
Odd shoe work.....	40.563	.254	.376	147.92
Sweep.....	40.563	.254	.376	147.92
Operate elevators.....	81.126	.507	.375	73.96
Ship.....	202.815	1.634	.483	29.58
Organization.....	40.563	.493	.729	147.92
Total.....	1,442.667	11.054	.485
Grand total.....	10,003.702	100.799	.605

Establishment No. 45.—Women's Goodyear welt, whole quarter oxford, single sole, 8/8 leather heel with
rubber top lift.

CUTTING DEPARTMENT.				
Cut outsides, hand.....	500.000	\$7.500	\$0.900	12.00
Selecting dies for cutters.....	27.273	.131	.288	220.00
Sort.....	200.000	2.496	.749	30.00
Cut heel pieces.....	20.000	.204	.612	300.00
Cut vamp linings, hand.....	30.000	.252	.504	200.00
Cut tongue linings, hand.....	30.000	.204	.408	200.00
Cut quarter linings, hand.....	105.000	1.500	.857	57.14
Cut heel pads.....	60.000	.540	.540	100.00
Stamp.....	50.000	.240	.288	120.00
Mark.....	25.000	.192	.461	240.00
Skive.....	70.000	.672	.643	95.71
Perforate tips.....	30.000	.240	.480	200.00
Stay quarters.....	40.000	.268	.402	150.00
Fold tips.....	25.000	.120	.288	240.00
Floor work.....	109.091	.830	.457	55.00
Sweep.....	13.637	.077	.339	439.98
Organization.....	81.818	1.591	1.167	73.33
Total.....	1,416.819	17.057	.722
STITCHING DEPARTMENT.				
Open work.....	11.000	.072	.393	545.46
Count out parts.....	21.000	.156	.446	285.72
Stay quarters.....	40.000	.268	.402	150.00
Fold tips.....	25.000	.120	.288	240.00
Cement vamps.....	50.000	.240	.288	120.00
Sew across back.....	60.000	.420	.420	100.00
Stitch tips.....	66.000	.660	.600	90.91
Paste vamp linings.....	50.000	.180	.216	120.00
Fold vamps.....	50.000	.420	.504	120.00
Close quarters.....	30.000	.216	.432	200.00
Stay quarters.....	35.000	.240	.411	171.43
Cement quarters and foxings.....	35.000	.264	.453	171.43
Fold quarters.....	60.000	.600	.600	100.00
Tape.....	60.000	.420	.420	100.00
Stitch lace stay.....	38.000	.360	.568	157.89
Close linings.....	30.000	.216	.432	200.00
Make linings.....	60.000	.480	.480	100.00
Line tongues.....	30.000	.300	.600	200.00
Top stitch.....	200.000	1.440	.432	30.00
Eyelet.....	46.000	.360	.470	130.43
Sort for top stitchers.....	16.000	.120	.450	375.00
Sew across bottom of tongue.....	30.000	.180	.360	200.00
Sort for vamps and ink.....	34.000	.264	.466	176.47
Vamp.....	200.000	2.160	.648	30.00
Sew in tongues.....	85.000	.600	.424	70.59
Tack.....	30.000	.300	.600	200.00
Lace.....	28.000	.264	.566	214.29
Pack.....	15.000	.132	.528	400.00
Odd shoe work.....	436.364	1.863	.256	13.75
Floor work.....	272.727	1.830	.337	22.00
Sweep.....	13.637	.077	.339	439.98
Organization.....	109.091	1.545	.850	55.00
Total.....	2,266.819	16.467	.436

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 45.—Women's Goodyear welt, whole quarter oxford, single sole, 8/8 leather heel with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	\$0.892	\$0.637	-----
Insoles, leather ¹	110.404	1.069	.581	-----
Counters, leather ¹	158.915	1.314	.496	-----
Box toes, leather ¹	113.788	1.033	.545	-----
Heels, leather, 8/8 ¹	423.179	3.253	.461	-----
Stock fitting:				
Wet and split outsole.....	10.000	.120	.720	600.00
Separate and tie.....	10.000	.120	.720	600.00
Assemble welt insoles.....	20.000	.228	.684	300.00
Round insoles.....	25.000	.288	.691	240.00
Stamp insole sizes.....	10.000	.132	.792	600.00
Channel insoles.....	45.000	.540	.720	133.33
Scour insoles.....	10.000	.108	.648	600.00
Wet insoles and turn lips.....	45.000	.324	.432	133.33
Sort and tie insoles.....	20.000	.228	.684	300.00
Match outsoles and insoles.....	10.000	.132	.792	600.00
Floor work.....	136.364	.578	.264	44.00
Sweep.....	13.637	.082	.361	439.98
Organization.....	27.273	.364	.801	220.00
Total.....	382.274	3.304	.519	-----
Total, sole-leather department.....	1,272.671	10.865	.512	-----
LASTING DEPARTMENT.				
Prepare for laster.....	45.000	.480	.640	133.33
Tack insoles and oil lasts.....	45.000	.420	.560	133.33
Assemble.....	130.000	1.560	.720	46.15
Pull over, machine.....	130.000	1.860	.858	46.15
Side last, machine.....	130.000	1.860	.858	46.15
Operate bed machine.....	260.000	3.720	.869	23.08
Odd shoe work.....	27.273	.207	.455	220.00
Sweep.....	13.637	.077	.339	439.98
General work.....	27.273	.237	.521	220.00
Organization.....	54.545	.773	.850	110.00
Total.....	862.728	11.194	.779	-----
BOTTOMING DEPARTMENT.				
Trim uppers.....	30.000	.300	.600	200.00
Staple uppers.....	30.000	.276	.582	200.00
Pull inseam tacks.....	35.000	.384	.658	171.43
Wet, groove, and inseam (Goodyear).....	120.000	1.800	.900	50.00
Pull insole tacks.....	30.000	.204	.408	200.00
Trim inseams.....	35.000	.600	1.029	171.43
Make and tack joints.....	30.000	.492	.984	200.00
Beat, sort, and lay shanks.....	45.000	.480	.640	133.33
Tack shanks and fill bottoms.....	45.000	.480	.640	133.33
Cement bottoms.....	15.000	.180	.720	400.00
Cement soles.....	20.000	.216	.648	300.00
Mold soles and tack seats.....	60.000	.732	.732	100.00
Lay and tack.....	60.000	1.008	1.008	100.00
Rough round and channel.....	60.000	.360	.720	200.00
Turn channels.....	30.000	.420	.840	200.00
Reduce shanks.....	120.000	1.800	.900	50.00
Goodyear stitch.....	45.000	.396	.528	133.33
Cement and lay channels.....	66.000	.780	.709	90.91
Level.....	38.000	.396	.625	157.89
Pull lasts.....	30.000	.276	.552	200.00
Nail seats.....	15.000	.144	.576	400.00
Round seats.....	45.000	.480	.640	133.33
Break shanks.....	20.000	.180	.540	300.00
Mold shanks.....	45.000	.480	.640	133.33
Staple and beat toes.....	109.091	.341	.188	55.00
Feed heels.....	75.000	.864	.691	80.00
Heel.....	15.000	.120	.480	400.00
Cement top lifts.....	75.000	.816	.653	80.00
Chalk lasts and second lasting.....	75.000	.864	.691	80.00
Trim heels.....	75.000	.864	.691	80.00

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 45.—Women's Goodyear welt, whole quarter oxford, single sole, 8/8 leather heel with
rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
BOTTOMING DEPARTMENT—concluded.				
Breast.....	45.000	\$0.420	\$0.560	133.33
Sand top lifts and breasts.....	30.000	.240	.480	200.00
Feather.....	25.000	.276	.662	240.80
Trim edges.....	150.000	2.100	840	40.00
Organization.....	27.273	.409	.900	220.00
Total.....	1,665.364	19.314	.696	
FINISHING DEPARTMENT.				
Scour heels.....	50.000	.540	.648	120.00
Set edges and fudge, first and second times.....	210.000	2.530	.737	28.57
Ink edges.....	40.000	.276	.414	150.00
Emery heels.....	40.000	.396	.594	150.00
Prime, first time.....	30.000	.240	.480	200.00
Slick heels.....	40.000	.360	.540	150.00
Bevel heel edges.....	20.000	.144	.432	300.00
Ink heels and heel seats.....	55.000	.420	.458	109.09
Huff bottom.....	30.000	.480	.960	200.00
Naumkeag.....	30.000	.480	.960	200.00
Ink bottoms and shanks.....	40.000	.300	.450	150.00
Finish heels.....	60.000	.660	.660	300.00
Finish bottoms and shanks.....	60.000	.660	.660	100.00
Clean brush.....	45.000	.456	.608	133.33
Brush yarn.....	35.000	.300	.514	171.43
Stamp bottoms.....	20.000	.144	.432	300.00
Odd shoe work.....	27.273	.201	.442	220.00
Sweep.....	13.637	.077	.339	439.98
Organization.....	54.545	.745	.820	110.00
Total.....	900.455	9.459	.630	
TREEING AND PACKING DEPARTMENT.				
Sort.....	25.000	.180	.432	240.00
Emboss.....	30.000	.180	.360	200.00
Sock lining.....	30.000	.180	.360	200.00
Clean and tree, hand.....	240.000	2.400	.600	25.00
Inspect, clip and reverse.....	30.000	1.500	.300	200.00
Repair uppers.....	60.000	.600	.600	100.00
Dress single and double.....	40.000	.324	.486	150.00
Lace.....	40.000	.240	.360	150.00
Brush heel edges and bottoms.....	30.000	.192	.384	200.00
Pack and stamp.....	45.000	.456	.608	133.33
Sweep.....	13.637	.077	.339	439.98
Ship.....	54.545	.500	.550	110.00
Operate elevators.....	54.545	.409	.450	110.00
General work.....	300.000	1.406	.281	20.00
Organization.....	54.545	.591	.650	110.00
Total.....	1,047.272	9.235	.529	
Grand total.....	9,432.128	93.591	.595	

Establishment No. 46.—Women's McKay, whole quarter oxford, single sole, 8/8 leather heel base with
rubber top lift.

CUTTING DEPARTMENT.				
Selecting dies for cutters.....	381.818	\$0.914	\$0.144	15.71
Cut outsides, hand.....	600.000	6.840	.684	10.00
Sort outsides, stamp, mark, sort, assemble linings and trimmings.....	190.000	2.280	.720	31.68
Skive uppers.....	75.000	.792	.634	80.00
Mark quarters.....	30.000	.216	.432	200.00
Perforate tips, etc.....	30.000	.240	.480	200.00
Mark for tips.....	30.000	.240	.480	200.00
Cut linings, hand.....	240.000	2.484	.621	25.00
Stamp outsides.....	50.000	.312	.374	120.00
Floor work.....	545.454	2.106	.232	11.00
Sweep.....	16.038	.091	.340	374.16
Organization.....	163.636	2.000	.733	36.67
Total.....	2,351.944	16.279	.415	

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Continued.

MID-WESTERN DISTRICT—Continued.

Establishment No. 46.—Women's McKay, whole quarter oxford, single sole, 8/8 leather heel base with rubber top lift—Continued.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
STITCHING DEPARTMENT.				
Cement uppers.....	60.000	\$0.384	\$0.384	100.00
Paste stays and quarters.....	45.000	.192	.256	133.33
Fold vamps, machine.....	50.000	.360	.432	120.00
Fold quarters, machine.....	60.000	.480	.480	100.00
Fold tips, machine.....	25.000	.180	.432	240.00
Paste vamp linings.....	50.000	.144	.173	120.00
Close quarters.....	30.000	.216	.482	200.00
Stay quarters.....	30.000	.216	.432	200.00
Stitch lace stays.....	75.003	.540	.432	80.00
Stitch tips.....	70.000	.600	.514	85.71
Close linings.....	30.000	.180	.360	200.00
Make linings, etc.....	65.000	.600	.554	92.31
Top stitch.....	210.000	1.200	.343	28.57
Eyelet.....	50.000	.300	.360	120.00
Tack backs.....	60.000	.360	.360	100.00
Sort for vampers.....	30.000	.216	.432	200.00
Vamp.....	210.000	1.920	.549	28.57
Seam toes.....	60.000	.600	.600	100.00
Tape tongues.....	30.000	.120	.240	200.00
Tack fronts.....	30.000	.216	.432	200.00
Lace.....	28.000	.216	.463	214.29
Pack and inspect.....	60.000	.300	.300	100.00
Odd shoe work.....	54.545	.236	.260	110.00
Floor work.....	218.182	1.035	.285	27.50
Sweep.....	9.636	.055	.342	622.67
Machinist's work.....	54.545	.600	.060	110.00
Organization.....	163.636	1.945	.713	36.67
Total.....	1,858.547	13.411	.433	
SOLE-LEATHER DEPARTMENT.				
Outsoles, leather ¹	84.111	.892	.637	
Insoles, leather ¹	110.404	1.069	.681	
Counters, leather ¹	158.915	1.314	.496	
Box toes, leather ¹	113.788	1.033	.645	
Heels, leather, 8/8 ¹	423.179	3.253	.461	
Stock fitting:				
Wet, round, split, and assemble.....	45.000	.400	.533	133.33
Round and tie insoles.....	20.000	.200	.600	300.00
Mark sizes, insoles and outsoles.....	21.600	.190	.600	277.80
Channel outsoles.....	45.000	.360	.480	133.33
Lay welts and cement soles.....	60.000	.490	.676	120.00
Reduce shanks.....	21.600	.180	.600	277.80
Mold outsoles.....	11.520	.096	.600	520.83
Turn outsole channels.....	25.920	.216	.600	231.48
Fairstitch outsoles, black and brown fudge.....	50.000	.420	.604	120.00
Ink and tie outsoles, flesh outsoles.....	30.000	.240	.480	200.00
Sweep.....	16.038	.091	.340	374.16
General work.....	54.545	.449	.494	110.00
Organization.....	54.545	.509	.660	110.00
Total.....	445.786	3.821	.514	
Total, sole-leather department.....	1,346.163	11.382	.607	
LASTING DEPARTMENT.				
Get up lasts, match uppers and tongues.....	45.000	.360	.480	133.33
Tack insoles on lasts and chalk lasts.....	45.000	.240	.320	133.33
Assemble.....	130.000	.900	.415	46.15
Pull over and box toes, machine.....	130.000	1.320	.609	46.15
Side last, machine.....	130.000	1.320	.609	46.15
Operate bed machine.....	260.000	2.400	.554	23.08
Grind toes.....	60.000	.240	.240	100.00
Pull tacks.....	45.000	.180	.240	133.33
Fill shanks and bottoms.....	45.000	.360	.480	133.33
Tack outsoles and toes.....	175.000	1.080	.370	34.29

¹ These are purchased. The average shown here was drawn from details obtained from several representative establishments. See pp. 132-140.

TIME AND LABOR COSTS IN THE MANUFACTURE OF 100 PAIRS OF SHOES IN 1923,
BY DISTRICT, DEPARTMENT, AND OPERATION—Concluded.

MID-WESTERN DISTRICT—Concluded.

Establishment No. 46.—Women's McKay, whole quarter oxford, single sole, 8/8 leather heel base with
rubber top lift—Concluded.

Department and operation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
LASTING DEPARTMENT—concluded.				
Pull lasts.....	38.000	\$0.264	\$0.417	157.89
Odd shoe work.....	54.545	.316	.348	110.00
Sweep.....	9.638	.055	.342	622.66
Organization.....	54.545	.727	.800	110.00
Total.....	1,221.726	9.762	.479	
BOTTOMING DEPARTMENT.				
McKay sew and wet up.....	75.000	.720	.576	80.00
Nail seats.....	30.000	.180	.360	200.00
Cement channels.....	35.000	.144	.247	171.43
Lay channels.....	35.000	.156	.267	171.43
Sort and level.....	70.000	.480	.411	85.71
Place heels and flex.....	28.800	.192	.400	208.33
Get up, rub heels and cement.....	45.000	.600	.800	133.33
Trim heels.....	50.000	.660	.792	120.00
Breast.....	40.000	.264	.396	150.00
Last, second time.....	45.000	.396	.528	133.33
Lace.....	15.000	.144	.576	400.00
Feed heeler.....	109.091	.315	.173	55.00
Heel.....	75.000	.984	.787	80.00
Feather.....	20.000	.240	.720	300.00
Trim edges.....	135.000	1.380	.613	44.44
Sweep.....	12.836	.073	.341	476.44
Organization.....	54.545	.564	.620	110.00
Total.....	875.272	7.492	.514	
FINISHING DEPARTMENT.				
Scour and knife breasts.....	40.000	.312	.468	150.00
Scour heels.....	45.000	.420	.560	133.33
Set edges.....	165.000	1.680	.611	36.36
Fridge or wheel.....	25.000	.360	.864	240.00
Sand bottoms.....	30.000	.396	.792	290.00
Naumkeag.....	39.000	.396	.792	200.00
Emery heels.....	25.000	.360	.864	240.00
Edge heels, emery and ink breasts.....	50.000	.516	.619	120.00
Finish heels.....	45.000	.516	.688	133.33
Finish bottoms.....	40.000	.540	.810	150.00
Clean uppers.....	25.000	.360	.864	240.00
Brush yarn.....	30.000	.216	.432	200.00
Pull and sort lasts.....	30.000	.264	.528	200.00
Slick heels.....	40.000	.240	.360	150.00
Sweep.....	12.836	.073	.341	467.44
Organization.....	54.545	.564	.620	110.00
Total.....	687.381	7.213	.630	
TREEING AND PACKING DEPARTMENT.				
Sort.....	25.000	.144	.346	240.00
Sock lining.....	51.432	.300	.350	116.66
Repair patent leather.....	88.620	.591	.400	67.79
Iron and clean, hand.....	225.000	1.620	.432	26.67
Brush yarn.....	32.000	.240	.450	187.50
Inspect.....	40.000	.480	.720	150.00
Dress.....	86.400	.576	.400	69.45
Lace.....	30.857	.180	.350	194.45
Pack.....	40.000	.300	.450	150.00
Odd shoe work.....	23.745	.119	.301	252.69
Ship.....	109.091	1.000	.550	55.00
Sweep.....	12.836	.073	.341	467.44
Organization.....	54.545	.465	.501	110.00
Total.....	819.526	6.079	.445	
Grand total.....	9,150.559	71.618	.470	

SELECTED OPERATIONS AND DEPARTMENTS, BY ESTABLISHMENTS.

The first of the following tables presents, by establishments, time and labor costs for work at each of 17 selected operations for each kind of shoe (men's and women's), for each process (welt and McKay), and for high shoes and low shoes.

The second table presents time and labor costs for each department and for the establishment as a whole, covering all operations in all departments.

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TIME AND LABOR COSTS IN MANUFACTURING 100 PAIRS OF SHOES, 1923.

Establishment No.	Cut vamp and whole shoe, hand.		Cut vamp and whole shoe, machine.		Stitch tips.		Eyelet.		Vamp.	
	Time cost (minutes)	Labor cost.	Time cost (minutes)	Labor cost.	Time cost (minutes)	Labor cost.	Time cost (minutes)	Labor cost.	Time cost (minutes)	Labor cost.

MEN'S GOODYEAR WELT HIGH SHOES.

1			325.000	\$4.460	44.000	\$0.292	28.000	\$0.282	323.000	\$2.910
2			270.000	3.310	90.000	.585	39.000	.210	360.000	3.310
3			490.208	6.483	46.875	.441	26.042	.281	285.625	2.948
4	812.500	\$9.350			41.670	.496	33.330	.544	291.670	3.674
8			400.000	6.380	93.000	1.520	31.000	.480	250.000	4.100
9			273.333	4.267	43.333	.417	43.333	.333	328.333	3.417
28			300.000	3.367	66.400	.350	23.000	.200	125.000	1.585
30	750.000	11.500			50.000	.425	69.583	.604	264.000	3.667
33	1,000.000	14.167			69.792	1.053	38.542	.729	375.000	5.054
34			500.000	6.563	41.146	.417	26.042	.375	280.208	2.708
38			402.000	4.680	50.000	.220	48.000	.230	260.000	1.800

MEN'S GOODYEAR WELT LOW SHOES.

10	604.167	\$8.542			62.500	\$0.563	33.333	\$0.310	250.000	\$3.131
21			584.848	\$7.895	80.303	.974	29.545	.394	244.556	3.261

MEN'S MCKAY HIGH SHOES.

15			325.000	\$4.460	44.000	\$0.292	28.000	\$0.282	323.000	\$2.910
19			468.000	6.439	44.000	.343	42.000	.257	182.000	2.207
25			202.000	2.013	56.250	.271	18.750	.146	141.667	1.063

WOMEN'S GOODYEAR WELT LOW SHOES.

5	400.000	\$8.200			95.000	\$1.000	30.000	\$0.333	180.000	\$2.750
6	450.000	7.000					35.000	.400	340.000	4.550
7	720.000	6.000			58.000		40.000	.220	270.000	1.600
11	400.000	4.050			52.000	.360	52.000	.360	262.000	2.100
23	416.667	5.667			52.778	.319	27.778	.333	119.444	2.215
26			319.444	\$8.500	60.185	.542	26.852	.168	154.259	1.917
35	313.818	3.350			54.136	.300	22.873	.190	145.513	1.500
40	531.250	8.500			87.500	.792	62.500	.521	385.853	3.750
41	495.000	8.000							120.822	1.470
44	473.340	7.889			61.111	.417	46.296	.389	179.166	2.389
45	500.000	7.500								

WOMEN'S GOODYEAR WELT HIGH SHOES.

18	776.669	\$14.670			57.000	\$0.770	81.000	\$0.810	370.286	\$4.320
22	600.000	10.500			60.000	.660	36.000	.500	540.000	5.310

WOMEN'S MCKAY LOW SHOES.

12	337.000	\$3.540			50.000	\$0.300	59.000	\$0.390	224.000	\$1.680
14	360.000	5.000							360.000	3.000
16	468.000	7.250			75.000	.700	44.000	.400	300.000	3.650
17	458.333	7.639			41.667	.522			263.889	4.861
20	416.667	7.500							194.444	3.956
24			263.889	\$1.794			55.556	.250	138.889	1.444
27			207.407	3.398	60.185	.542	26.852	.168	134.259	1.917
29			182.292	2.375	45.312	.333	31.250	.250	160.417	1.667
31	450.000	8.375							391.000	4.000
32	381.944	6.250							184.611	2.000
36			222.220	4.583	69.440	.528	41.670	.917	208.330	2.750
39	313.818	3.350			54.135	.300	22.873	.190	145.513	1.600
46	600.000	6.840			70.000	.600	50.000	.300	210.000	1.920

WOMEN'S MCKAY HIGH SHOES.

13	467.000	\$7.780			100.000	\$0.835	60.000	\$0.560	190.000	\$2.750
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BY SELECTED OPERATIONS, KIND OF SHOE, AND ESTABLISHMENT.

Round outsole and insole.		Channel outsole and insole.		Pull-over, machine.		Operate bed machine.		Establishment No.
Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	

MEN'S GOODYEAR WELT HIGH SHOES.

11.650	\$0.115	34.260	\$0.323	116.000	\$1.210	240.000	\$2.500	1
11.000	.275	35.090	.620	128.790	1.930	270.000	4.130	2
16.667	.143	19.792	.450	125.000	1.587	383.333	4.820	3
20.000	.262	33.330	.450	104.170	1.723	375.000	4.877	4
15.000	.190	26.000	.400	80.000	1.600	192.000	3.500	8
12.500	.167	25.090	.375	108.333	1.500	265.000	3.750	9
-----	-----	24.000	.283	83.000	1.058	300.000	2.583	28
41.471	.504	54.568	.720	125.000	2.167	425.000	6.500	30
31.250	.267	33.333	.450	98.958	1.563	427.083	4.879	33
26.042	.208	26.042	.284	109.375	1.667	302.083	3.042	34
11.000	.090	25.000	.240	98.000	1.080	300.000	2.960	38

MEN'S GOODYEAR WELT LOW SHOES.

33.333	\$0.342	37.500	\$0.450	116.667	\$1.563	387.500	\$4.225	10
-----	-----	34.948	.450	87.879	1.725	243.939	4.875	21

MEN'S MCKAY HIGH SHOES.

18.550	\$0.157	18.800	\$0.146	92.000	\$0.959	195.000	\$2.000	15
-----	-----	16.000	.276	100.000	1.128	-----	-----	19
16.458	.172	18.667	.167	87.917	.625	208.333	2.000	25

WOMEN'S GOODYEAR WELT LOW SHOES.

-----	-----	40.000	\$0.669	90.000	\$1.583	180.000	\$3.583	5
27.500	\$0.225	40.000	.450	120.000	1.850	180.000	3.700	6
-----	-----	30.000	.238	120.000	1.250	120.000	1.250	7
18.000	.150	35.000	.330	108.000	1.080	200.000	2.040	11
13.889	.155	33.333	.450	111.111	1.694	244.444	3.194	23
27.778	.231	32.407	.366	111.111	1.350	111.111	2.167	26
28.422	.180	58.074	.370	71.964	.900	223.938	2.520	35
33.333	.313	55.556	.579	-----	-----	375.000	4.000	40
32.000	.383	40.000	.360	80.000	1.830	240.000	3.660	41
92.592	1.019	36.111	.528	106.481	1.667	260.000	2.917	44
25.000	.288	-----	-----	130.000	1.860	260.000	3.720	45

WOMEN'S GOODYEAR WELT HIGH SHOES.

23.000	\$0.295	45.000	\$0.880	¹ 860.000	¹ \$10.890	270.000	\$3.870	18
25.000	.300	45.000	.670	² 540.000	² 10.800	165.000	3.880	22

WOMEN'S MCKAY LOW SHOES.

18.000	\$0.150	22.000	\$0.195	71.000	\$0.750	180.000	\$1.860	12
30.000	.250	35.000	.330	90.000	1.800	150.000	2.750	14
18.500	.230	18.000	.210	118.000	1.850	256.000	4.000	16
14.594	.167	15.681	.222	100.000	1.389	241.667	3.139	17
19.444	.300	25.000	.419	100.000	1.500	-----	-----	20
22.222	.135	12.500	.083	61.111	.583	166.667	1.722	24
23.149	.195	37.087	.315	111.111	1.100	161.111	1.175	27
-----	-----	28.268	.319	78.125	1.083	148.437	2.500	29
26.000	.188	40.000	.625	100.000	1.800	240.000	4.005	31
27.778	.250	³ 33.333	³ .339	87.500	1.389	278.783	3.194	32
26.385	.266	41.670	.362	69.440	1.333	-----	-----	33
16.093	.130	22.979	.180	56.727	.740	142.095	2.220	39
20.000	.200	45.000	.360	130.000	1.320	260.000	2.400	46

WOMEN'S MCKAY HIGH SHOES.

-----	-----	-----	-----	¹ 290.000	¹ \$4.500	-----	-----	13
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¹Hand work.

²Includes side lasting.

³Includes stamping¹

TIME AND LABOR COSTS IN MANUFACTURING 100 PAIRS OF SHOES, 1923, BY

Establishment No.	Welt, Goodyear.		Rough, round.		Stitch, Goodyear.		Sew, McKay.	
	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.

MEN'S GOODYEAR WELT HIGH SHOES.

1	87.000	\$1.182	60.000	\$0.688	172.500	\$1.915	-----	-----
2	70.000	1.585	70.000	1.170	125.000	2.135	-----	-----
3	133.333	2.250	46.354	1.125	97.396	2.550	-----	-----
4	125.000	2.475	58.390	1.200	166.670	2.925	-----	-----
8	74.000	1.600	64.000	1.250	137.080	2.250	-----	-----
9	106.667	2.083	54.167	1.083	126.667	2.292	-----	-----
28	71.383	1.100	50.000	.692	83.000	1.567	-----	-----
30	93.833	2.150	53.250	1.220	173.303	3.250	-----	-----
33	151.042	2.475	62.500	1.200	131.250	2.925	-----	-----
34	71.875	1.813	43.229	1.014	123.438	2.375	-----	-----
38	60.000	.840	48.000	.660	120.000	1.480	-----	-----

MEN'S GOODYEAR WELT LOW SHOES.

10	125.000	\$2.475	83.333	\$1.200	208.333	\$2.925	-----	-----
21	98.485	2.250	75.758	1.125	159.091	2.625	-----	-----

MEN'S MCKAY HIGH SHOES.

15	-----	-----	-----	-----	-----	-----	64.200	\$0.667
19	-----	-----	-----	-----	-----	-----	63.000	.919
25	-----	-----	-----	-----	-----	-----	74.583	.685

WOMEN'S GOODYEAR WELT LOW SHOES.

5	90.000	\$2.708	35.000	\$1.200	135.000	\$3.000	-----	-----
6	120.000	2.250	55.000	1.250	130.000	2.400	-----	-----
7	120.000	1.000	80.000	.600	190.000	1.650	-----	-----
11	135.000	1.880	58.000	.600	161.000	1.650	-----	-----
23	68.667	1.667	47.222	1.000	111.111	2.083	-----	-----
26	179.111	2.000	30.556	.292	107.407	1.750	-----	-----
35	77.418	1.500	42.961	.680	151.578	2.000	-----	-----
40	160.417	3.750	145.833	1.594	281.250	3.125	-----	-----
41	120.000	2.230	69.000	1.230	158.000	2.370	-----	-----
44	83.340	1.667	55.556	1.028	114.815	2.361	-----	-----
45	120.000	1.800	60.000	1.008	120.000	1.800	-----	-----

WOMEN'S GOODYEAR WELT HIGH SHOES.

18	136.000	\$2.920	78.000	\$1.300	148.000	\$3.240	-----	-----
22	120.000	2.700	45.000	1.200	135.000	3.300	-----	-----

WOMEN'S MCKAY LOW SHOES.

12	-----	-----	-----	-----	-----	-----	57.000	\$0.600
14	-----	-----	-----	-----	-----	-----	60.000	.810
16	-----	-----	-----	-----	-----	-----	95.000	1.500
17	-----	-----	-----	-----	-----	-----	69.444	.972
20	-----	-----	-----	-----	-----	-----	100.000	2.000
24	-----	-----	-----	-----	-----	-----	38.889	.472
27	-----	-----	-----	-----	-----	-----	87.968	.641
29	-----	-----	31.250	\$0.417	140.625	\$1.667	76.562	.750
31	-----	-----	-----	-----	-----	-----	120.000	2.000
32	-----	-----	-----	-----	-----	-----	87.083	.900
36	-----	-----	-----	-----	-----	-----	55.560	.917
39	-----	-----	-----	-----	-----	-----	68.966	.770
46	-----	-----	-----	-----	-----	-----	75.000	.720

WOMEN'S MCKAY HIGH SHOES.

13	-----	-----	-----	-----	-----	-----	120.000	\$1.250
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SELECTED OPERATIONS, KIND OF SHOES, AND ESTABLISHMENT—Concluded.

Trim or shave heels.		Trim edges.		Set edges.		Tree.		Estab-lish-ment. No.
Time cost (minutes)	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	
MEN'S GOODYEAR WELT HIGH SHOES.								
34.200	\$0.386	115.000	\$1.500	123.500	\$1.386	178.000	\$1.540	1
37.000	.620	160.000	2.690	141.000	2.690	195.000	1.340	2
30.208	.900	135.417	3.075	223.958	3.075	298.958	3.114	3
33.230	.733	133.330	3.075	187.500	3.075	395.830	5.000	4
40.000	.750	137.000	2.500	133.000	2.000	96.000	4.500	5
41.667	.750	130.000	2.625	129.167	1.683	218.333	2.500	8
27.783	.300	142.767	2.017	74.000	.770	142.700	1.733	20
58.333	1.550	241.667	3.600	196.250	3.270	411.417	5.000	30
46.875	.713	177.083	3.075	187.500	3.075	375.000	4.950	33
50.000	.639	166.667	2.625	187.500	2.642	186.250	1.917	34
27.000	.280	80.000	.980	80.000	.980	184.000	2.000	38
MEN'S GOODYEAR WELT LOW SHOES.								
62.500	\$0.900	166.667	\$3.075	166.667	\$3.075	562.500	\$5.830	10
46.970	.909	163.636	3.075	168.182	3.075	636.364	6.205	21
MEN'S McKAY HIGH SHOES.								
30.000	\$0.313	100.000	\$1.000	68.000	\$0.709	\$178.000	\$1.540	15
37.000	.441	148.000	1.625	112.000	1.349	112.000	1.472	19
26.667	.250	93.750	.917	40.833	.313	62.500	1.083	25
WOMEN'S GOODYEAR WELT LOW SHOES.								
25.000	\$0.875	150.000	\$3.000	140.000	\$2.750	270.000	\$4.020	5
50.000	1.000	160.000	2.750	210.000	3.500	180.000	1.500	6
60.000	.567	150.000	1.500	240.000	1.900	180.000	2.500	7
36.000	.330	160.000	1.620	162.000	1.650	220.000	1.830	11
27.778	.694	130.556	2.479	155.556	2.479	97.222	.944	23
17.593	.244	171.296	1.784	203.704	2.476	138.889	2.500	26
55.374	.450	235.470	1.580	237.540	1.580	156.336	1.850	35
90.667	1.625	200.000	2.500	333.333	3.750	360.000	3.000	40
60.000	.990	170.000	2.720	180.000	3.950	64.660	1.250	41
27.778	.694	158.333	2.556	177.778	2.500	263.889	2.944	44
75.000	.864	150.000	2.100	210.000	2.580	240.000	2.400	45
WOMEN'S GOODYEAR WELT HIGH SHOES.								
63.000	\$1.530	170.000	\$4.090	235.000	\$4.030	303.750	\$4.050	18
45.000	.830	345.000	3.630	120.000	2.790	-----	-----	22
WOMEN'S McKAY LOW SHOES.								
37.000	\$0.330	140.000	\$1.470	94.000	\$0.990	144.000	\$1.200	12
-----	-----	60.000	1.250	120.000	1.620	230.000	2.250	14
89.000	1.400	173.000	2.400	162.000	2.550	143.000	1.600	16
50.000	.417	144.444	1.833	125.000	1.667	156.944	3.194	17
41.667	1.028	136.111	2.333	150.000	2.625	333.333	7.000	20
26.389	.278	69.444	.694	116.667	.917	144.444	1.833	24
29.630	.360	164.815	1.488	78.704	.683	189.815	1.450	27
45.312	.500	95.312	1.250	88.021	1.250	286.979	2.083	29
-----	-----	240.000	3.699	270.000	3.656	288.000	2.500	31
93.056	1.750	137.500	2.139	111.111	1.575	296.333	3.556	32
41.670	.583	111.110	1.389	69.450	1.306	168.000	1.750	36
53.959	.410	76.396	.910	117.947	1.640	156.338	1.850	39
50.000	.660	135.000	1.380	165.000	1.680	225.000	1.620	46
WOMEN'S McKAY HIGH SHOES.								
42.000	\$0.630	74.000	\$1.050	60.000	\$1.050	58.000	\$0.900	13

¹ Ironing.

² Machine operation.

³ Includes wheeling.

TIME AND LABOR COSTS IN MANUFACTURING 100 PAIRS OF SHOES.

Es- tab- lish- ment No.	Cutting department.		Stitching department.		Sole-leather depart- ment.		Lasting department.	
	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.

MEN'S GOODYEAR WELT HIGH SHOES.

1	\$86.490	\$8.503	1,554.936	\$10.638	810.290	\$6.928	679.420	\$6.562
2	1,833.162	10.906	2,578.624	22.566	1,047.812	11.272	1,084.424	13.276
3	919.125	10.891	2,011.833	17.080	910.992	8.740	1,143.740	12.932
4	1,744.334	18.212	1,806.463	18.224	936.851	8.328	1,001.339	13.094
8	1,920.060	31.446	2,193.060	25.672	1,328.950	12.935	676.060	10.966
9	877.681	10.599	1,743.712	16.305	1,054.576	9.481	841.546	11.397
20	975.734	9.130	1,360.974	10.760	1,026.150	8.069	593.668	6.752
25	1,442.734	19.695	2,867.187	26.728	1,068.453	11.736	1,037.933	18.738
33	1,823.539	22.333	2,113.853	23.062	1,071.480	9.625	1,383.578	14.111
34	1,154.680	12.063	1,879.268	17.075	1,045.470	8.160	802.249	9.313
35	1,033.071	8.301	1,695.871	8.764	505.962	4.395	684.771	6.642

MEN'S GOODYEAR WELT LOW SHOES.

10	1,533.334	\$16.897	1,779.163	\$15.751	1,139.373	\$10.770	1,258.334	\$14.848
21	952.727	11.478	1,904.117	18.236	853.377	8.060	854.243	12.995

MEN'S MCKAY HIGH SHOES.

15	896.490	\$8.503	1,554.936	\$10.638	894.653	\$7.741	692.270	\$6.483
19	896.375	19.233	1,123.375	8.930	1,021.912	9.324	707.375	6.800
25	1,006.895	7.665	1,148.380	6.972	679.356	6.375	818.803	6.726

WOMEN'S GOODYEAR WELT LOW SHOES.

5	960.000	\$13.583	1,865.090	\$17.147	1,145.397	\$10.775	578.590	\$11.472
6	1,340.000	16.410	2,573.090	25.515	1,370.397	11.201	905.090	14.400
7	1,517.000	10.888	1,590.000	9.904	1,215.832	8.621	560.000	5.000
11	1,527.000	11.632	2,094.000	13.565	1,329.897	10.749	845.000	7.420
23	1,256.627	13.424	1,441.712	13.545	671.446	6.021	776.632	7.892
26	846.109	10.483	1,527.536	12.794	1,231.943	9.785	576.232	7.300
35	1,088.109	8.776	1,781.060	11.529	1,360.347	10.604	1,302.820	11.344
40	1,621.767	18.024	4,056.023	28.112	1,608.623	14.265	1,912.159	20.517
41	1,752.450	19.471	5,211.365	33.631	1,443.697	12.346	1,415.410	15.774
44	2,013.941	21.445	1,581.969	14.610	1,270.092	12.669	828.918	10.486
45	1,416.819	17.057	2,266.819	16.467	1,272.671	10.365	862.728	11.194

WOMEN'S GOODYEAR WELT HIGH SHOES.

18	1,273.416	\$21.112	2,467.494	\$22.779	1,438.313	\$18.589	1,190.858	\$15.621
22	1,071.282	16.685	1,900.641	21.101	1,288.368	12.485	782.641	16.137

WOMEN'S MCKAY LOW SHOES.

12	1,093.000	\$8.475	1,376.090	\$9.768	1,221.397	\$9.797	901.000	\$7.058
14	1,680.000	13.300	2,420.090	20.420	942.548	11.745	955.000	12.850
16	1,014.000	13.030	1,393.590	15.290	1,421.894	12.718	1,031.500	13.200
17	1,849.542	18.558	1,899.723	19.994	1,132.462	10.326	1,681.841	11.789
20	922.223	13.544	1,763.889	21.535	1,173.036	11.327	1,006.113	12.715
24	712.070	4.671	1,553.090	7.989	579.692	4.655	719.599	5.699
27	859.721	7.980	1,627.499	14.237	1,233.146	9.900	836.211	6.973
29	662.623	5.848	1,080.104	8.415	1,090.611	9.266	852.373	9.283
31	2,049.000	23.178	4,334.513	41.641	949.548	9.072	1,266.000	17.000
32	1,680.532	12.516	1,952.437	19.127	1,221.156	10.677	926.458	10.811
36	1,047.100	13.063	2,008.020	17.341	1,255.546	11.033	650.700	8.466
39	1,668.107	8.776	1,781.033	11.529	1,204.199	9.585	908.904	9.712
46	2,351.944	16.279	1,858.547	13.411	1,346.163	11.382	1,221.726	9.762

WOMEN'S MCKAY HIGH SHOES.

13	665.280	\$10.359	1,096.590	\$10.917	990.397	\$9.271	482.500	\$7.503
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1923, BY DEPARTMENTS, KIND OF SHOE, AND ESTABLISHMENT.

Rotting department.		Finishing department.		Packing department.		Total, all operations.		Estab- lish- ment No.
Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	Time cost (minutes).	Labor cost.	

MEN'S GOODYEAR WELT HIGH SHOES.

1,332.250	\$12.306	610.370	\$5.611	528.073	\$4.076	6,411.739	\$54.624	1
1,605.824	18.746	662.524	8.211	1,077.964	7.421	10,390.334	92.398	2
1,212.772	16.673	663.019	9.007	855.250	7.198	7,716.740	84.476	3
1,371.950	19.141	546.500	7.216	1,162.280	10.917	8,571.648	95.138	4
1,274.000	17.996	711.000	7.971	783.000	7.686	8,585.950	104.672	5
1,068.630	13.154	575.293	7.576	727.798	7.018	6,589.191	80.639	9
1,027.954	11.532	441.517	3.908	633.725	5.967	6,064.722	57.108	28
1,454.650	21.845	1,193.651	15.260	961.584	11.118	10,226.191	125.120	30
1,364.552	20.404	829.975	10.814	1,023.594	9.962	9,610.591	110.311	33
1,696.381	17.072	740.208	8.008	774.692	6.695	7,492.937	79.386	34
935.171	9.294	514.571	4.432	578.171	4.742	5,947.588	46.570	38

MEN'S GOODYEAR WELT LOW SHOES.

1,982.500	\$24.558	945.834	\$12.334	1,537.500	\$12.814	10,156.038	\$107.972	19
1,370.019	20.206	742.676	9.573	1,267.575	10.787	7,846.726	90.375	21

MEN'S MCKAY HIGH SHOES.

494.770	\$4.312	462.070	\$3.942	538.070	\$4.126	5,533.259	\$45.745	15
600.375	6.209	554.375	5.586	582.375	4.334	5,911.341	51.416	19
535.290	4.099	342.741	2.824	459.043	3.677	4,990.513	38.338	25

WOMEN'S GOODYEAR WELT LOW SHOES.

1,041.500	\$20.845	650.000	\$11.800	691.000	\$8.004	6,731.397	\$93.626	5
1,460.000	19.860	1,065.000	14.310	780.000	6.170	9,493.367	107.866	6
1,920.000	13.343	980.000	6.633	2,577.000	14.199	10,359.882	68.588	7
1,374.000	14.810	1,063.000	7.935	1,345.000	9.753	10,077.897	75.864	11
1,219.250	16.310	750.439	8.135	572-150	3.882	6,688.256	71.209	23
1,513.712	13.632	860.818	8.296	648.537	5.695	7,204.907	67.985	26
1,923.634	17.487	837.848	6.489	1,007.384	7.341	9,301.202	73.570	35
2,832.782	31.134	1,729.336	17.903	1,483.067	10.602	15,238.757	140.607	40
2,308.210	23.313	1,467.340	16.080	1,297.030	7.790	14,930.502	128.455	41
1,568.737	20.389	997.438	11.258	1,442.667	11.654	10,003.702	100.799	44
1,665.364	19.314	900.455	9.459	1,047.272	9.235	9,432.128	93.591	45

WOMEN'S GOODYEAR WELT HIGH SHOES.

1,692.697	\$26.303	1,157.234	\$16.591	966.297	\$10.330	10,206.309	\$126.825	18
1,478.564	22.107	848.923	11.446	1,034.205	8.643	8,404.624	108.606	22

WOMEN'S MCKAY LOW SHOES.

696.000	\$6.130	742.000	\$5.491	812.000	\$4.783	7,041.397	\$51.552	12
1,545.000	21.269	1,175.000	18.030	915.000	8.850	9,032.548	107.455	14
1,180.500	12.950	1,092.000	11.060	561.000	4.120	8,194.394	82.368	16
705.235	7.193	644.554	7.023	1,424.753	11.663	8,518.350	86.976	17
656.112	11.897	794.444	13.446	1,343.333	17.616	7,659.150	101.580	20
460.710	4.464	602.549	4.875	676.351	3.638	5,324.561	35.991	24
707.220	5.760	512.224	4.612	698.889	4.455	6,474.819	53.917	27
778.800	8.257	620.816	5.237	607.730	4.287	5,693.061	50.593	29
1,098.000	14.704	3,503.000	43.136	1,243.000	10.725	14,943.061	159.456	31
687.183	9.525	913.945	9.017	812.943	7.604	7,594.654	79.277	32
630.660	7.249	792.670	8.168	1,844.440	9.443	7,729.076	74.753	36
962.022	7.275	770.867	6.829	1,007.382	7.341	7,722.514	61.047	39
875.272	7.492	687.381	7.213	819.526	6.079	9,150.559	71.618	46

WOMEN'S MCKAY HIGH SHOES.

558.875	\$7.077	422.875	\$5.969	417.250	\$4.577	4,633.647	\$55.673	13
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PARTS PURCHASED, BY ESTABLISHMENT AND OPERATION.

As has already been stated, many establishments purchase certain parts, such as outsoles, insoles, counters, heels, etc. It was therefore necessary, in order to be able to report as nearly as possible total cost figures for each establishment purchasing parts, to obtain cost figures for the parts so purchased from establishments specializing in the production of the parts. From the cost figures covering such parts, averages were computed and used in arriving at the total cost figures for each establishment which purchased parts. The detailed figures used in arriving at the averages were furnished by the establishments from which the parts were purchased.

TIME AND LABOR COSTS IN THE MANUFACTURE OF PARTS PURCHASED FOR 100 PAIRS OF SHOES IN 1923, BY ESTABLISHMENT AND OPERATION.

OUTSOLES, MEN'S.

Establishment and operation.	Time cost (minutes).	Labor Cost.	Hourly earnings.	Number of pairs worked on per hour.
Establishment No. 47:				
Strip.....	5.625	\$0.057	\$0.606	1,066.67
Cut.....	9.000	.106	.707	666.67
Catch.....	9.000	.045	.303	666.67
Grade.....	13.500	.068	.308	444.45
Sort.....	30.000	.343	.687	200.00
Tie.....	10.000	.047	.293	600.00
Rack.....	10.000	.061	.364	600.00
Bag.....	3.000	.025	.536	2,000.00
Case.....	3.000	.025	.536	2,000.00
Organization.....	5.400	.091	1.010	1,111.11
Total.....	98.525	.868	.529	
Establishment No. 48:				
Strip.....	10.667	.111	.624	562.48
Cuf.....	10.667	.133	.748	562.48
Catch.....	10.667	.037	.208	562.48
Sort and grade.....	32.000	.378	.709	187.50
Case and rack.....	8.000	.056	.420	750.00
Bag.....	5.818	.040	.413	1,031.28
Organization.....	4.267	.067	.942	1,406.14
Total.....	82.066	.822	.601	
Establishment No. 49:				
Strip.....	8.372	.085	.609	716.67
Cut.....	8.372	.101	.724	716.67
Catch.....	8.372	.081	.222	716.67
Sort and grade.....	30.000	.343	.686	200.00
Case and rack.....	8.250	.044	.320	727.27
Bag.....	2.092	.014	.402	2,868.07
Organization.....	7.788	.111	.855	770.42
Total.....	73.246	.729	.597	
Establishment No. 50:				
Strip, stock.....	13.295	.136	.616	451.30
Cut.....	13.295	.164	.738	451.30
Catch.....	13.295	.055	.246	451.30
Grade.....	17.727	.085	.287	338.47
Sort and rack.....	40.140	.467	.697	149.48
Case.....	2.727	.017	.370	2,200.23
Bag.....	1.818	.011	.370	3,300.33
Organization.....	14.625	.227	.930	410.26
Total.....	116.922	1.162	.596	
Establishment No. 51:				
Cut.....	46.154	.615	.800	130.00
Grade.....	16.457	.086	.314	364.59
Sort.....	24.000	.296	.740	250.00
Case.....	5.236	.044	.504	1,145.91
Bag.....	17.455	.109	.375	343.74
Ship.....	5.236	.064	.733	1,145.91
Organization.....	10.473	.191	1.094	572.90
Total.....	125.011	1.405	.674	

TIME AND LABOR COSTS IN THE MANUFACTURE OF PARTS PURCHASED FOR 100 PAIRS OF SHOES IN 1923, BY ESTABLISHMENT AND OPERATION—Continued.

OUTSOLES, MEN'S—Concluded.

Establishment and operation.	Time cost (minutes).	Labor cost.	Hourly earnings.	Number of pairs worked on per hour.
Establishment No. 52:				
Cut.....	59.791	\$0.779	\$0.781	100.35
Grade, machine.....	14.871	.085	.344	403.47
Sort.....	18.551	.232	.750	323.43
Case.....	10.732	.067	.375	559.06
Bag.....	7.972	.061	.458	752.64
Ship, etc.....	7.200	.058	.479	833.33
Organization.....	7.200	.100	.893	833.33
Total.....	126.317	1.332	.656	
Establishment No. 53:				
Strip.....	4.348	.036	.500	1,379.95
Cut.....	9.795	.103	.630	612.56
Catch.....	9.795	.033	.200	612.56
Sort.....	29.851	.313	.630	201.00
Case.....	2.913	.014	.280	2,059.73
Tie up.....	9.600	.045	.280	625.00
Bag.....	.174	.001	.493	34,482.76
Instruct.....	1.942	.023	.701	3,089.60
General work.....	1.942	.021	.649	3,089.60
Organization.....	2.913	.039	.799	2,059.73
Total.....	73.273	.628	.514	
Establishment No. 54:				
Stock, handle.....	2.700	.032	.711	2,222.22
Strip.....	6.171	.071	.689	972.29
Cut.....	13.500	.210	.933	444.44
Catch.....	13.500	.055	.244	444.44
Sort.....	34.884	.517	.889	172.00
Case—				
Spread.....	2.060	.014	.423	3,006.09
Count.....	1.000	.007	.420	6,000.00
Tie up.....	3.096	.022	.422	1,938.60
Bag.....	2.381	.020	.512	2,519.95
Ship.....	2.700	.040	.889	2,222.22
Organization.....	6.750	.099	.876	888.89
Total.....	88.682	1.087	.735	
Average, all establishments.....	98.525	.868	.529	

OUTSOLES, WOMEN'S.

Establishment No. 48:				
Strip.....	10.667	\$0.111	\$0.624	562.48
Cut.....	10.667	.133	.748	562.48
Catch.....	10.667	.037	.208	562.48
Sort and grade.....	32.000	.378	.709	187.50
Case and rack.....	8.000	.056	.420	750.00
Bag.....	5.818	.040	.413	1,081.28
Organization.....	4.287	.067	.942	1,406.14
Total.....	82.086	.822	.601	
Establishment No. 49:				
Strip.....	8.372	.085	.609	716.67
Cut.....	8.372	.101	.724	716.67
Catch.....	8.372	.031	.222	716.67
Sort and grade.....	30.000	.343	.686	200.00
Case and rack.....	8.250	.044	.320	727.27
Bag.....	2.092	.014	.402	2,968.07
Organization.....	7.788	.111	.855	770.42
Total.....	73.246	.729	.597	

TIME AND LABOR COSTS IN THE MANUFACTURE OF PARTS PURCHASED FOR 100 PAIRS OF SHOES IN 1923, BY ESTABLISHMENT AND OPERATION—Continued.

OUTSOLES, WOMEN'S—Concluded.

Establishment and operation.	Time cost (minutes).	Labor cost.	Hourly earnings.	Number of pairs worked on per hour.
Establishment No. 53:				
Strip.....	4.348	\$0.086	\$0.500	1,379.95
Cut.....	9.795	.105	.630	612.56
Catch.....	9.795	.063	.200	612.56
Sort.....	28.302	.297	.630	212.00
Case.....	2.913	.014	.280	2,069.73
Tie up.....	9,660	.045	.280	625.00
Bag.....	.174	.001	.483	24,482.76
Instruct.....	1.942	.023	.701	3,089.60
General work.....	1.942	.021	.649	3,089.60
Organization.....	2.913	.039	.799	2,059.73
Total.....	71.724	.612	.512	-----
Establishment No. 54:				
Handle stock.....	2.700	.052	.711	2,222.22
Strip.....	6.171	.071	.659	972.29
Cut.....	8.308	.129	.993	722.20
Catch.....	8.308	.034	.244	722.20
Sort.....	31.250	.463	.889	192.00
Cases—				
Spread.....	1.800	.013	.423	2,383.33
Count.....	6.656	.065	.421	9,146.35
Tie up.....	2.254	.016	.423	2,661.94
Bag.....	1.667	.014	.511	3,599.29
Ship.....	2.700	.040	.869	2,222.22
Organization.....	6.750	.099	.878	888.89
Total.....	72.564	.916	.757	-----
Establishment No. 55:				
Strip.....	10.499	\$0.133	\$0.760	571.49
Cut.....	9.287	.124	.809	646.07
Catch.....	9.287	.037	.240	646.07
Sort and grade.....	36.384	.461	.760	165.00
Pack and bunch.....	21.819	.102	.280	274.99
Case.....	3.674	.020	.320	1,633.10
Bag.....	1.225	.007	.318	4,897.96
Sort.....				
Butts.....	1.668	.013	.468	3,597.12
Off-all.....	1.668	.012	.432	3,597.12
End pieces.....	1.668	.049	.360	3,597.12
General work.....	1.668	.010	.360	3,597.12
Ship.....	3.336	.082	.576	1,788.57
Organization.....	6.671	.104	.935	899.42
Total.....	108.834	1.065	.587	-----
Establishment No. 56:				
Receive stock.....	3.000	.035	.700	2,990.00
Strip.....	3.000	.040	.800	2,400.00
Cut.....	10.000	.155	.930	600.00
Catch.....	10.000	.044	.289	660.00
Grade.....	20.000	.222	.686	306.00
Sort.....	20.000	.236	.833	300.00
Weigh.....	3.000	.033	.689	2,000.00
Case.....	2.000	.022	.660	3,000.00
Bag.....	3.000	.033	.690	2,000.00
Others, sort pieces.....	10.000	.103	.618	600.00
Floormen.....	10.000	.092	.862	660.00
Foremen.....	20.000	.326	.973	300.00
Total.....	114.000	1.401	.737	-----
Establishment No. 57:				
Strip.....	7.773	.069	.533	771.94
Cut.....	8.682	.121	.896	691.10
Catch.....	8.682	.030	.207	691.10
Sort, grade, and rack.....	31.855	.412	.775	188.18
Case.....	2.696	.018	.401	2,225.44
Bag.....	1.667	.011	.396	3,599.93
Spread and tie up sizes.....	3.947	.027	.410	1,519.98
Organization.....	.990	.013	.788	6,061.22
Total.....	66.322	.701	.634	-----
Average, all establishments.....	84.111	.892	.637	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF PARTS PURCHASED FOR 100 PAIRS OF SHOES IN 1923, BY ESTABLISHMENT AND OPERATION—Continued.

INSOLES, LEATHER.

Establishment and operation.	Time cost (minutes).	Labor cost.	Hourly earnings.	Number of pairs worked on per hour.
Establishment No. 53:				
Cut.....	33.124	\$0.287	\$0.520	181.14
Grade and skive.....	9.677	.059	.310	620.03
Sort and rack.....	19.293	.177	.550	310.99
Case.....	3.871	.035	.550	1,580.00
Tie up.....	9.446	.035	.220	622.02
Bag.....	.174	.001	.414	34,482.76
Instruct.....	9.749	.097	.600	616.02
Organization.....	3.896	.049	.750	1,540.04
Total.....	89.421	.731	.490	-----
Establishment No. 58:				
Cut.....	22.625	.292	.774	265.19
Grade.....	18.100	.110	.365	331.49
Sort.....	15.083	.156	.619	397.80
Rack.....	5.430	.027	.298	1,104.97
Case.....	7.757	.047	.364	773.50
Ship.....	2.715	.625	.552	2,209.95
General work.....	5.439	.049	.442	1,104.97
Organization.....	2.715	.059	1.105	2,209.95
Total.....	79.865	.747	.561	-----
Establishment No. 59:				
Sort stock.....	20.000	.200	.600	300.00
Cut.....	43.000	.450	.623	139.54
Sort.....	26.000	.270	.623	230.77
Case.....	3.500	.630	.514	1,714.29
General work.....	9.600	.050	.313	625.00
Organization.....	6.400	.142	1.331	937.50
Total.....	108.500	1.142	.632	-----
Establishment No. 60:				
Select sole stock.....	5.280	.044	.500	1,136.36
Cut.....	49.600	.620	.750	120.97
Skive.....	15.200	.095	.375	394.74
Sort, grade, and rack.....	36.000	.408	.680	166.67
Bag.....	5.520	.046	.500	1,086.95
Organization.....	5.242	.091	1.042	1,144.60
Total.....	116.842	1.304	.670	-----
Establishment No. 61:				
Sort stock.....	3.340	.028	.433	1,562.50
Roll.....	3.013	.022	.433	1,991.38
Cut.....	57.692	.691	.719	104.00
Grade.....	7.975	.054	.406	752.35
Sort and case.....	37.242	.420	.677	161.11
Bag.....	1.667	.013	.457	3,600.00
Utility.....	7.689	.056	.433	781.25
Organization.....	7.689	.093	.729	781.25
Total.....	126.789	1.377	.652	-----
Establishment No. 62:				
Cut.....	53.098	.425	.480	113.00
Skive.....	15.000	.090	.360	400.00
Sort.....	40.000	.333	.500	150.00
Inspect.....	10.000	.087	.520	600.00
Case.....	10.000	.070	.420	600.00
Ship.....	6.460	.037	.346	928.99
Organization.....	6.460	.073	.680	928.99
Total.....	141.018	1.115	.474	-----
Average, all establishments.....	110.404	1.069	.581	-----

TIME AND LABOR COSTS IN THE MANUFACTURE OF PARTS PURCHASED FOR 100 PAIRS OF SHOES IN 1923, BY ESTABLISHMENT AND OPERATION—Continued.

COUNTERS, LEATHER.

Establishment and operation.	Time cost (minutes).	Labor cost.	Hourly earnings.	Number of pairs worked on per hour.
Establishment No. 53:				
Cut.....	33.124	\$0.287	\$0.520	181.14
Grade (4).....	10.000	.040	.240	600.00
Skive (8).....	11.605	.091	.470	517.02
Shave ends.....	11.605	.068	.350	517.02
Roll, wax.....	5.556	.022	.243	1,079.91
Mold.....	21.176	.180	.510	283.34
Sort molded.....	7.200	.038	.320	833.33
Inspect.....	5.182	.052	.600	1,157.86
Pack.....	7.200	.024	.200	833.33
Instruct (2).....	2.898	.029	.600	2,070.40
Organization (3).....	4.348	.046	.633	1,379.95
Total.....	119.894	.877	.439	
Establishment No. 59:				
Cut.....	25.000	.260	.624	240.00
Sort, flat.....	15.000	.115	.460	400.00
Skive.....	8.000	.061	.458	750.00
Shave ends.....	8.000	.050	.375	750.00
Roll, wet.....	8.000	.041	.308	750.00
Roll, wax.....	8.000	.041	.308	750.00
Mold.....	24.600	.210	.525	250.00
Sort molded.....	24.000	.210	.525	250.00
General work.....	16.000	.083	.311	875.00
Organization.....	16.000	.231	.866	375.00
Total.....	152.000	1.302	.514	
Establishment No. 60:				
Cut.....	48.000	.480	.600	125.00
Sort and grade, flat.....	13.080	.109	.500	458.72
Skive.....	10.471	.100	.573	573.01
Shave ends.....	9.529	.091	.573	629.66
Roll, wet.....	8.640	.086	.250	694.44
Roll, wax.....	13.077	.068	.312	458.82
Mold.....	28.791	.250	.521	208.40
Inspect, mold, sort, and pack.....	8.407	.073	.521	713.69
Glue, spread, and pick.....	16.919	.097	.344	354.63
Paste.....	71.956	.325	.271	83.38
Organization.....	4.160	.052	.750	1,442.31
Total.....	233.090	1.681	.433	
Establishment No. 62:				
Cut.....	53.100	.425	.480	112.99
Sort, flat.....	20.000	.160	.480	300.00
Split.....	8.571	.051	.357	700.03
Skive.....	7.895	.058	.441	759.97
Shave ends.....	8.571	.054	.378	700.03
Roll, wet.....	4.000	.020	.300	1,500.00
Roll, wax.....	10.000	.057	.342	600.00
Mold.....	18.750	.169	.541	320.00
Sort molded.....	15.000	.115	.460	400.00
Pack.....	8.571	.049	.343	700.03
Bend.....	9.740	.055	.339	6,106.20
Inspect.....	4.828	.040	.497	1,242.75
Ship.....	4.828	.028	.348	1,242.75
General work.....	9.656	.058	.360	621.38
Organization.....	4.828	.052	.646	1,242.75
Total.....	188.338	1.391	.443	
Establishment No. 63:				
Cut.....	45.000	.500	.667	133.33
Sort, flat.....	13.500	.150	.667	444.45
Grade.....	10.800	.056	.311	555.56
Skive.....	13.500	.145	.644	444.45
Shave ends.....	9.000	.070	.467	666.67
Roll, wet.....	5.400	.024	.267	1,111.11
Roll, wax.....	5.400	.036	.400	1,111.11
Mold.....	18.000	.193	.643	333.33
Inspect.....	5.400	.030	.333	1,111.11
Pack.....	2.160	.010	.278	2,777.78
General work.....	9.000	.053	.353	666.67
Ship.....	9.000	.117	.790	666.67
Organization.....	27.000	.243	.540	222.22
Total.....	173.160	1.725	.598	

TIME AND LABOR COSTS IN THE MANUFACTURE OF PARTS PURCHASED FOR 100 PAIRS OF SHOES IN 1923, BY ESTABLISHMENT AND OPERATION—Continued.

COUNTERS, LEATHER—Concluded.

Establishment and operation.	Time cost (minutes).	Labor cost.	Hourly earnings.	Number of pairs worked on per hour.
Establishment No. 64:				
Cut.....	30.968	\$0.416	\$0.807	193.75
Grade, machine.....	24.000	.127	.318	250.00
Skive.....	9.600	.109	.682	625.00
Shave ends.....	9.600	.073	.454	625.00
Inspect and pack in barrels.....	9.600	.120	.750	625.00
Organization.....	3.300	.063	1.136	1,818.18
Total.....	87.008	.908	.626	
Average, all establishments.....	158.915	1.314	.496	

HEELS (LEATHER), MEN'S, 4/3.

Establishment No. 61:				
Cut lifts.....	26.642	\$0.259	\$0.583	225.21
Sort lifts.....	42.857	.253	.354	140.00
Gouge lifts.....	5.280	.033	.375	1,136.36
Build and press.....	61.579	.390	.380	97.44
Dry.....	11.269	.090	.479	532.44
Compress.....	24.256	.190	.470	247.36
Inspect, sort, case, and count.....	21.267	.155	.438	282.26
Utility.....	4.935	.036	.437	1,215.07
Ship.....	4.835	.047	.583	1,240.96
Organization.....	4.896	.068	.833	1,225.50
Total.....	207.809	1.521	.439	
Establishment No. 65:				
Cut lifts.....	121.404	1.125	.556	49.42
Cut wedges.....	71.973	.667	.556	83.36
Build heels.....	68.000	.550	.500	90.91
Gouge.....	2.000	.015	.450	3,000.00
Press and dry room.....	6.000	.044	.440	1,000.00
Compress and count.....	7.500	.063	.504	800.00
Organization.....	6.000	.078	.780	1,000.00
Total.....	280.882	2.542	.543	
Establishment No. 66:				
Cut grain lifts.....	35.760	.298	.500	167.79
Grade and skive.....	53.646	.298	.333	111.84
Tack rands.....	43.000	.400	.500	125.00
Dry.....	13.500	.113	.502	444.45
Compress.....	8.400	.070	.500	714.29
General work.....	20.250	.209	.619	296.30
Ship and pack.....	27.000	.225	.500	222.22
Organization.....	20.250	.238	.705	296.30
Total.....	226.906	1.851	.490	
Establishment No. 67:				
Cut lifts.....	82.077	1.063	.792	731.02
Cut wedges.....	6.933	.065	.563	865.43
Build and press.....	82.282	1.000	.729	72.92
Gouge.....	6.000	.046	.460	1,000.00
Compress.....	9.000	.078	.520	666.67
Organization and inspection.....	19.200	.400	1.250	312.50
Total.....	205.492	2.672	.780	
Average, all establishments.....	230.247	2.147	.559	

TIME AND LABOR COSTS IN THE MANUFACTURE OF PARTS PURCHASED FOR 100 PAIRS OF SHOES IN 1923, BY ESTABLISHMENT AND OPERATION—Continued.

HEELS (LEATHER), WOMEN'S, 8/8.

Establishment and operation.	Time cost (minutes).	Labor cost.	Hourly earnings.	Number of pairs worked on per hour.
Establishment No. 61:				
Cut lifts	41.557	\$0.404	\$0.583	144.38
Cut wedges	4.140	.084	.090	1,449.28
Sort lifts	66.912	.395	.354	89.67
Gouge lifts	5.280	.033	.375	1,186.36
Build heels and press	151.580	.900	.380	39.58
Dry	11.269	.090	.479	532.44
Compress	24.255	.190	.470	247.37
Inspect, sort, count, and case	21.257	.155	.438	282.26
Utility	4.937	.036	.438	1,215.32
Ship	4.835	.047	.363	1,240.96
Organization	4.896	.068	.833	1,225.50
Total	340.918	2.412	.424	
Establishment No. 66:				
Cut grain lifts	157.560	1.313	.500	38.08
Cut wedges	8.667	.072	.498	692.28
Grade	67.568	.375	.333	88.80
Build	106.758	.790	.444	56.20
Press (jack)	6.750	.056	.498	888.89
Inspect	6.750	.055	.489	888.89
Gouge	18.000	.100	.333	333.33
Dry	6.750	.056	.498	888.89
Compress and count	8.400	.070	.860	714.29
General work	20.250	.209	.619	296.30
Pack and ship	27.000	.225	.500	222.22
Organization	20.250	.238	.705	296.30
Total	454.703	3.559	.467	
Establishment No. 67:				
Cut lifts	82.077	1.083	.792	731.02
Cut wedges	6.933	.065	.563	866.43
Build and press heels	98.742	1.200	.799	90.78
Gouge	6.000	.046	.460	1,000.00
Compress	9.000	.078	.520	686.67
Organization and inspection	19.200	.490	1.250	812.50
Total	221.952	2.872	.776	
Establishment No. 68:				
Cut grain lifts	186.799	1.731	.556	32.12
Cut wedges	9.571	.078	.489	626.89
Build	177.960	1.483	.500	33.72
Press (jack)	6.000	.044	.440	1,060.00
Compress	9.000	.063	.553	666.67
Inspect and count	2.308	.019	.494	2,599.65
Sweep	2.400	.020	.860	2,500.00
Organization	2.400	.027	.675	2,500.00
Total	396.438	3.485	.527	
Establishment No. 69:				
Cut flexible lifts; cut grain lifts	131.800	1.296	.590	45.53
Cut wedges	12.443	.108	.521	432.20
Sort grain and flexible lifts	349.764	1.852	.318	17.15
Serve lifts and paste	10.165	.053	.913	580.26
Build	98.249	.580	.354	61.07
Press (jack), dry, and scrape	6.776	.038	.336	885.48
Inspect, wet	3.388	.021	.372	1,770.96
Compress	6.250	.033	.317	960.00
Inspect, dry	10.165	.056	.331	590.26
Lump	10.165	.064	.378	590.26
Pack and ship	3.388	.085	.620	1,770.96
Organization	13.553	.145	.642	442.71
Total	656.106	4.281	.391	

TIME AND LABOR COSTS IN THE MANUFACTURE OF PARTS PURCHASED FOR 100 PAIRS OF SHOES IN 1923, BY ESTABLISHMENT AND OPERATION—Continued.

HEELS (LEATHER), WOMEN'S, 8/8—Concluded.

Establishment and operation.	Time cost (minutes).	Labor cost.	Hourly earnings.	Number of pairs worked on per hour.
Establishment No. 70:				
Cut flexible lifts.....	142.147	\$0.905	\$0.382	42.21
Cut grain lifts.....	70.995	.452	.382	84.51
Skive wedges.....	18.000	.109	.363	339.33
Grade lifts.....	3.927	.025	.382	1,527.88
Serve lifts and paste.....	13.200	.080	.364	484.55
Build heels.....	125.000	.700	.336	48.00
Press (jack).....	13.200	.080	.364	484.55
Inspect, wet.....	13.200	.080	.364	484.55
Gouge.....	18.000	.109	.363	333.33
Compress.....	13.187	.080	.364	484.99
Inspect, dry, and pack.....	11.793	.071	.364	512.69
Organization.....	26.400	.220	.500	227.27
Total.....	468.959	2.911	.372	
Average, all establishments.....	423.179	3.253	.461	

TOP PIECES, LEATHER.

Establishment No. 65:				
Sort and skive pieces.....	2.444	\$0.023	\$0.555	2,454.99
Cut.....	21.993	.228	.622	272.81
Count and inspect.....	12.708	.118	.556	472.14
Organization.....	13.500	.175	.778	444.45
Total.....	50.645	.544	.644	
Establishment No. 69:				
Sort scrap.....	7.812	.049	.375	768.05
Skive and roll stock.....	7.812	.060	.459	768.05
Cut.....	31.250	.288	.552	192.00
Compress and count.....	6.250	.087	.354	960.00
Lamp.....	7.812	.049	.375	768.05
Inspect and ship.....	7.812	.081	.625	768.05
Organization.....	7.812	.109	.833	768.05
Total.....	76.560	.673	.627	
Establishment No. 71:				
Sort pieces.....	6.000	.056	.556	1,000.00
Cut top lifts.....	30.000	.311	.622	200.00
Grade and sort.....	7.500	.069	.555	800.00
Skive.....	4.000	.063	.489	1,500.00
Count and bag.....	1.500	.012	.488	4,000.00
Organization.....	6.000	.073	.733	1,000.00
Total.....	55.000	.554	.604	
Establishment No. 72:				
Sort scrap leather.....	8.571	.079	.556	700.04
Skive scrap leather.....	2.143	.020	.554	2,799.82
Cut.....	16.788	.174	.622	357.40
Skive lifts.....	2.143	.020	.554	2,799.82
Count lifts and ship.....	1.071	.010	.555	5,602.24
Organization.....	7.714	.100	.778	777.81
Total.....	36.430	.408	.629	
Establishment No. 73:				
Skive and roll stock.....	9.000	.070	.467	666.67
Sort stock.....	9.000	.100	.667	666.67
Cut.....	30.878	.343	.667	194.31
Inspect and count.....	1.500	.012	.468	4,000.00
Organization.....	9.000	.167	1.111	666.67
Total.....	59.378	.692	.699	

TIME AND LABOR COSTS IN THE MANUFACTURE OF PARTS PURCHASED FOR 100 PAIRS OF SHOES IN 1923, BY ESTABLISHMENT AND OPERATION—Concluded.

TOP PIECES, LEATHER—Concluded.

Establishment and operation.	Time cost (minutes).	Labor cost.	Hourly earnings.	Number of pairs worked on per hour.
Establishment No. 74:				
Skive	9.000	\$0.083	\$0.555	666.67
Roll	6.857	.064	.556	875.02
Cut top lifts	24.000	.267	.667	250.00
Count top lifts857	.010	.665	7,001.17
Organization	11.250	.229	1.222	533.33
Total	51.964	.653	.754	-----
Average, all establishments	55.330	.587	.636	-----

BOX TOES, LEATHER.

Establishment No. 59:				
Sort stock	6.000	\$0.060	\$0.600	1,000.00
Cut	25.000	.290	.624	240.00
Grade	24.000	.180	.375	250.00
Skive	16.000	.173	.649	375.00
Sort and rack	24.000	.205	.513	250.00
General work	27.429	.171	.374	218.75
Organization	13.714	.250	1.094	437.51
Total	136.143	1.269	.559	-----
Establishment No. 60:				
Sort stock	1.440	.012	.500	4,166.67
Cut	20.928	.218	.625	296.70
Grade	3.497	.034	.583	1,715.76
Skive	3.490	.029	.500	1,724.14
Sort and count	10.440	.058	.353	574.71
Pack and inspect	2.633	.032	.729	2,278.77
Stamp	3.456	.018	.312	1,736.11
Scour	8.756	.076	.521	685.24
Pick	3.300	.014	.250	1,785.71
Wipe	1.680	.007	.250	3,571.43
Organization	4.362	.063	.729	1,375.52
Total	64.032	.551	.516	-----
Establishment No. 62:				
Cut	53.100	.425	.480	112.99
Sort, flat	20.625	.165	.480	290.91
Skive	7.500	.055	.440	800.00
Sort	13.750	.110	.490	436.36
Ship	4.541	.026	.344	1,321.29
General work	4.541	.024	.317	1,321.29
Organization	4.541	.048	.694	1,321.29
Total	108.598	.853	.471	-----
Establishment No. 65:				
Roll and skive rough stock	18.000	.167	.556	333.33
Cut	41.379	.429	.622	145.01
Skive finished box toes	6.759	.070	.622	888.89
Buff finished box toes	6.750	.038	.353	888.89
Sort	12.000	.124	.622	500.00
Count	7.500	.078	.622	800.00
Nail cases	18.000	.147	.459	333.33
General work	18.000	.173	.578	333.33
Organization	18.000	.233	.778	333.33
Total	146.379	1.458	.598	-----
Average, all establishments	113.788	1.033	.545	-----

APPENDIX A. TIME AND LABOR COSTS IN MAKING 100 PAIRS OF SHOES, BY THE HAND METHOD IN 1863 AND BY THE MACHINE METHOD IN 1895.

The table following, which is reproduced from the Thirteenth Annual Report of the United States Commissioner of Labor (pp. 540 to 550), shows the time cost and the labor cost of each operation in producing 100 pairs of shoes, by the hand method in 1863 and by the machine method in 1895.

UNIT 71.—SHOES: 100 PAIRS MEN'S MEDIUM GRADE, CALF,

[Data covering the production of 1 pair of shoes were secured, but in the presentation herewith made these are shown in the machine method for this unit. One person,

HAND METHOD.

Work done.	Machine, implement, or tool used.
Measuring feet, cutting patterns, and fitting lasts to measure.	Punch measure, size stick, lasts, knife, etc.
Selecting and sorting stock	None used
Cutting out vamps	Knife, cutting board, and pattern
Cutting out tips	do
Cutting out quarters	do
Cutting out linings	do
Cutting out facings and stays	do
Skiving upper stock	Knife and skiving table
Pasting facings to linings	Brush
Folding top of quarters	Folding stick
Making wax ends	Awl and knife
Making linings and sewing on facings and stays	Awl, needle, thimble, etc.
Sewing back seam of quarters	do
Pasting linings to quarters	Brush
Sewing linings to quarters and turning tops	Awl, needle, thimble, etc.
Sewing stays on back seam of quarters	do
Trimming edges of uppers	Welt awl
Fastening eyelets	Punch and hammer
Sewing back seam of vamps	Awl, clamp, and knife
Rubbing down seams	Hammer and rubbing stick
Pasting quarters to vamps	Brush
Sewing vamps to quarters	Awl, clamp, and knife
Sewing tips to vamps	do
Fitting lasts to measure	Last, knife, and hammer
Cutting out insoles	Knife and pattern
Tempering insoles	Water basin and sponge
Skiving insoles	Knife and skiving board
Rounding and fitting insoles	Knife and pattern
Tacking insoles to lasts	Hammer and last
Cutting and turning insole channel	Knife and channel iron
Cutting out counters	Knife and pattern
Skiving counters	Knife and skiving board
Cutting out welts	Knife and board
Skiving and fitting welts	Knife and skiving board
Hammering counters	Hammer and lapstone
Inserting counters and shank and drawing uppers over lasts and tacking them to insoles	Hammer, pincers, knife, etc.
Sewing welts to uppers and insoles	Awl, knife, clamp, pincers, and hammer.
Pulling out tacks	Pincers
Beating up welts	Hammer, peening iron, and knife.
Trimming welts	Welt knife.
Filling bottoms	Hammer and knife.
Cutting out outsoles	Knife and pattern
Tempering outsoles	Water basin and sponge
Skiving outsoles	Knife and skiving board
Tacking on and fitting outsoles	Hammer, knife, and last
Molding outsoles	Hammer and last
Cutting out heel and top lifts	Knife and pattern
Tempering heel and top lifts	Water basin and sponge
Cutting and turning outsole channels	Dividers and knife.
Sewing shanks to welts	Round awl, hammer, strap, etc.
Sewing outsoles to welts	Square, awl, hammer, strap, etc.
Cementing and closing channels and leveling bottoms	Brush, hammer, and long stick
Fastening heel seats	Hammer and awl
Nailing heel lifts together	do
Nailing on heels	do
Driving slugs in heels	do
Trimming edge of heels	Hammer, shave, and knife
Cutting down breast of heels	Hammer and knife.
Trimming edge of soles	Knife, edge plane, and edge glass.
Dividing and setting up stitches	Flat awl
Filing and scouring edge of heels	Rasp, file, and sandpaper
Blackening, burnishing, and beading heels	Brush, lamp, and burnishing iron
Blackening and burnishing edge of soles	do
Scraping and scouring bottoms and heel tops	Edge glass and buffer
Staining and polishing bottoms	Sponge and rubbing bone
Stripping soles and blackening heel, tops, and shanks	Sponge
Burnishing soles, heel, tops, and shanks	Lamp and burnishing iron
Blackening, treating, cleaning, and polishing uppers and cleaning edge of soles	Sponge, cloth, brush, and stick
Pulling out lasts	Last hook
Inserting laces	None used
Cutting out sock linings	Knife, cutting board, and pattern
Inserting sock linings	Brush
Total time and labor costs	

WELT, LACE SHOES, SINGLE SOLES, SOFT BOX TOES.

data have been conformed to 100 pairs for ready comparison with the more modern method of producing 10 hours per day in 1863, produced these shoes.]

HAND METHOD.

Motive power.	Persons necessary on one machine.	Employees at work on the unit.							
		Number and sex.	Occupation.	Age.	Time worked.		Pay of labor.		Labor cost.
					h.	m.	Rate.	Per--	
Hand	1	1 M.	Shoemaker	36	91	40.0	\$2.50	Day	\$22.9167
do	1	1 M.	do	36	33	20.0	2.50	do	8.3333
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	5	0	2.50	do	1.2500
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	33	20.0	2.50	do	8.3333
do	1	1 M.	do	36	50	0	2.50	do	12.5000
do	1	1 M.	do	36	25	0	2.50	do	6.2500
do	1	1 M.	do	36	5	0	2.50	do	1.2500
do	1	1 M.	do	36	100	0	2.50	do	25.0000
do	1	1 M.	do	36	50	0	2.50	do	12.5000
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	25	0	2.50	do	6.2500
do	1	1 M.	do	36	25	0	2.50	do	6.2500
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	133	20.0	2.50	do	33.3333
do	1	1 M.	do	36	50	0	2.50	do	12.5000
do	1	1 M.	do	36	50	0	2.50	do	12.5000
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	3	20.0	2.50	do	.8333
do	1	1 M.	do	36	1	40.0	2.50	do	.4167
do	1	1 M.	do	36	5	0	2.50	do	1.2500
do	1	1 M.	do	36	6	40.0	2.50	do	1.6667
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	25	0	2.50	do	6.2500
do	1	1 M.	do	36	3	20.0	2.50	do	.8333
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	3	20.0	2.50	do	.8333
do	1	1 M.	do	36	116	40.0	2.50	do	29.1667
do	1	1 M.	do	36	98	0	2.50	do	24.5000
do	1	1 M.	do	36	2	0	2.50	do	.5000
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	25	0	2.50	do	6.2500
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	6	40.0	2.50	do	1.6667
do	1	1 M.	do	36	11	40.0	2.50	do	2.9167
do	1	1 M.	do	36	5	0	2.50	do	1.2500
do	1	1 M.	do	36	13	20.0	2.50	do	3.3333
do	1	1 M.	do	36	3	20.0	2.50	do	.8333
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	50	0	2.50	do	12.5000
do	1	1 M.	do	36	150	0	2.50	do	37.5000
do	1	1 M.	do	36	25	0	2.50	do	6.2500
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	25	0	2.50	do	6.2500
do	1	1 M.	do	36	25	0	2.50	do	6.2500
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	53	20.0	2.50	do	13.3333
do	1	1 M.	do	36	5	0	2.50	do	1.2500
do	1	1 M.	do	36	50	0	2.50	do	12.5000
do	1	1 M.	do	36	33	20.0	2.50	do	8.3333
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	8	20.0	2.50	do	2.0833
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	21	40.0	2.50	do	5.4167
do	1	1 M.	do	36	20	0	2.50	do	5.0000
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	33	20.0	2.50	do	8.3333
do	1	1 M.	do	36	16	40.0	2.50	do	4.1667
do	1	1 M.	do	36	3	20.0	2.50	do	.8333
do	1	1 M.	do	36	5	0	2.50	do	1.2500
do	1	1 M.	do	36	3	20.0	2.50	do	.8333
							1,831	40.0	458.1864

UNIT 71.—SHOES: 100 PAIRS MEN'S MEDIUM GRADE, CALF,

[Data covering the production of 1,500 pairs of shoes were secured, but in the presentation herewith made
duction shown in the hand method for this unit. Three hundred and seventy-one

MACHINE METHOD.

Work done.	Machine, implement, or tool used.
Selecting and sorting upper stock.....	None used.....
Cutting out vamps.....	Knives, cutting boards, and patterns.....
Cutting out quarters.....	do.....
Cutting out tips.....	do.....
Cutting out linings.....	do.....
Cutting out sock linings.....	Mallets, dies, and blocks.....
Cutting out trimmings.....	do.....
Perforating toe tips.....	Mallets, punches, and blocks.....
Cutting out doublers to quarters.....	Knives, cutting boards, and patterns.....
Overseeing upper-cutting department.....	None used.....
Sorting vamps.....	do.....
Sorting quarters.....	do.....
Throating vamps.....	Knives, cutting boards, and patterns.....
Tying parts in bunches.....	None used.....
Marking vamps for tips.....	Tip marker.....
Selecting doublers for quarters.....	None used.....
Skiving vamps.....	Skiving machines.....
Skiving tips.....	do.....
Skiving doublers.....	do.....
Skiving trimmings.....	do.....
Skiving quarters.....	do.....
Matching and marking parts for stitching room.....	Pencil.....
Marking linings.....	Stamps.....
Pasting facings to lining pieces.....	Brushes.....
Sewing facings to linings.....	Sewing machines.....
Marking places for second-row stitching.....	Markers.....
Folding top of quarters.....	Folding sticks.....
Sewing second rows.....	Sewing machines.....
Sewing back seam of quarters.....	do.....
Making linings and sewing on back stays.....	do.....
Sewing linings to quarters.....	do.....
Cementing linings and turning tops.....	Brushes and turning irons.....
Trimming edges of uppers.....	Under-trimming sewing machines.....
Sewing around tops.....	do.....
Fastening eyelets.....	Gong punches and eyelet machines.....
Sewing stays on back seam of quarters.....	Sewing machines.....
Blackening edge of vamps.....	Brushes.....
Cementing doublers to vamps.....	do.....
Sewing tips to vamps.....	Sewing machines.....
Sewing back seam of vamps.....	do.....
Rubbing down back seams.....	Seam-rubbing machines.....
Cementing vamps to quarters and putting on stays.....	Hammers and brushes.....
Sewing vamps to quarters.....	Double-needle sewing machines.....
Lacing uppers for lasting.....	None used.....
Rubbing down top seams.....	Rubbing irons.....
Barring toe linings.....	Sewing machines.....
Overseeing fitting and stitching department.....	None used.....
Cutting leather into strips for outsoles.....	Stripping machine.....
Rolling outsole strips.....	Rolling machine.....
Cutting out outsoles.....	Sole-cutting machine.....
Sorting outsoles.....	Sorting table.....
Tying up outsoles.....	None used.....
Overseeing sole-leather cutting department.....	do.....
Skiving outsoles.....	Skiving machine.....
Tempering outsoles.....	Water tank and rack.....
Rounding outsoles.....	Sole-rounding machine.....
Beveling edge of outsoles.....	Feather-edging machine.....
Molding outsoles.....	Molding machine.....
Cementing outsoles.....	Brush.....
Cutting out insoles.....	Sole-cutting machines.....
Sorting insoles.....	None used.....
Tying up insoles.....	do.....
Skiving insoles.....	Skiving machine.....
Rounding insoles.....	Sole-rounding machine.....
Channeling insoles.....	Channeling machines.....
Cutting across insoles.....	Knife.....

MACHINE METHOD:

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WELT, LACE SHOES, SINGLE SOLES, SOFT BOX TOES.

these data have been conformed to 100 pairs for ready comparison with the more primitive method of different persons working 10 hours per day in 1895 produced these shoes.]

MACHINE METHOD.

Motive power.	Persons necessary on one machine.	Employees at work on the unit.						Labor cost.
		Number and sex.	Occupation.	Age.	Time worked.	Pay of labor.		
						Rate.	Per—	
					h. m.	(1)	Year	
Hand	1	1 M.	Upper-stock selector	37	10.0		Hour	\$0.0692
do.	1	5 M.	Vamp cutters	28-40	3 16.7	\$0.27	Hour	.9015
do.	1	7 M.	Quarter cutters	27-45	4 35.3	.22	do.	1.0324
do.	1	2 M.	Tip cutters	29-33	1 18.7	.25	do.	.3279
do.	1	2 M.	Lining cutters	24, 26	53.6	.25	do.	.2233
do.	1	3 M.	Sock-lining cutters	17-22	32.0	.12	do.	.0667
do.	1	3 M.	Trimming cutters	17-22	1 26.0	.12	do.	.1792
do.	1	2 M.	Tip punchers and scallopers	26, 30	1 18.7	.25	do.	.3279
do.	1	2 M.	Quarter-lining cutters	22, 25	1 18.7	.12	do.	.1640
do.	1	1 M.	Foreman	37	30.0	(1)	Year	.2076
Hand	1	2 M.	Vamp sorters	31, 36	49.2	.30	Hour	.2490
do.	1	1 M.	Quarter sorter	38	39.3	.25	do.	.1638
do.	1	2 M.	Vamp throaters	25, 40	1 18.7	.25	do.	.3279
do.	1	2 M.	Upper bunchers	30, 35	1 18.7	.30	do.	.2935
do.	1	1 M.	Tip marker	27	20.0	.22	do.	.0750
do.	1	1 M.	Matcher	30	20.0	.22	do.	.0750
Steam	1	2 M.	Vamp skivers	19, 27	49.2	.20	do.	.1640
do.	1	2 M.	Tip skivers	20, 25	49.2	.17	do.	.1435
do.	1	1 M.	Doubler skiver	29	39.3	.17	do.	.1146
do.	1	2 M.	Trimming skivers	22, 30	49.2	.22	do.	.1845
do.	1	2 M.	Quarter skivers	26, 32	49.2	.25	do.	.2050
Hand	1	1 M.	Distributor	31	39.3	.25	do.	.1638
do.	1	3 F.	Lining stampers	17-20	1 36.7	.15	do.	.2418
do.	1	3 F.	Facing pasters	20-25	1 36.7	.15	do.	.2418
Steam	1	3 F.	Facing stitchers	21-26	1 56.0	.12	do.	.2417
Hand	1	3 F.	Second-row markers	18-20	58.0	.12	do.	.1208
do.	1	3 F.	Folders	18-20	1 36.7	.12	do.	.2015
Steam	1	3 F.	Second-row stitchers	20-25	1 36.7	.15	do.	.2418
do.	1	2 F.	Top closers	20, 25	1 .4	.15	do.	.1510
do.	1	6 F.	Lining makers	18-25	3 52.0	.15	do.	.5800
do.	1	3 F.	Closers-on	18-25	1 56.0	.16	do.	.3093
Hand	1	6 F.	Cementers and turners	20-25	3 52.0	.15	do.	.5800
Steam	1	6 F.	Upper edge trimmers	20-34	17.4	.16	do.	.0464
do.	1	6 F.	Top stitchers	20-34	3 34.6	.16	do.	.5723
do.	1	4 M.	Eyetealers	18-25	2 37.3	.17	do.	.4588
do.	1	6 F.	Stayers	25-30	3 52.0	.17	do.	.6573
Hand	1	2 M.	Vamp blackers	22, 25	49.2	.15	do.	.1230
do.	1	3 F.	Vamp cementers	18-22	1 36.7	.12	do.	.2015
Steam	1	3 F.	Tip stitchers	20-30	1 36.7	.16	do.	.2579
do.	1	2 F.	Vamp closers	20, 25	1 1.5	.25	do.	.2563
do.	1	2 M.	Seam rubbers	20, 25	1 1.5	.15	do.	.1538
Hand	1	2 F.	Vamp cementers	20, 25	1 .4	.12	do.	.1258
Steam	1	12 F.	Vampers	25-40	7 44.0	.25	do.	1.9333
Hand	1	3 F.	Last lacers	18-20	1 56.0	.10	do.	.1933
do.	1	2 M.	Seam rubbers	18, 20	59.0	.15	do.	.1475
Steam	1	2 F.	Lining barrers	18, 20	1 1.5	.12	do.	.1281
do.	1	1 M.	Foreman	37	40.0	(2)	Year	.2662
Steam	1	1 M.	Outsole-stock stripper	60	23.6	.20	Hour	.0787
do.	1	1 M.	Outsole-strip roller	55	15.9	.20	do.	.0530
do.	1	1 M.	Outsole cutter	25	39.3	.25	do.	.1638
Hand	1	1 M.	Outsole sorter	30	26.2	.25	do.	.1092
do.	1	1 M.	Outsole buncher	30	11.8	.25	do.	.0492
do.	1	1 M.	Foreman	60	40.0	(2)	Year	.3195
Steam	1	1 M.	Outsole skiver	40	13.9	.25	Hour	.0579
Hand	1	1 M.	Outsole temperer	40	5.9	.25	do.	.0248
Steam	1	1 M.	Outsole rounder	35	29.5	.25	do.	.1229
do.	1	1 M.	Feather edger	45	23.6	.22	do.	.0885
do.	1	1 M.	Outsole molder	45	13.9	.22	do.	.0521
Hand	1	1 M.	Outsole cementer	75	39.3	.12	do.	.0819
Steam	1	2 M.	Insole cutters	33, 35	49.2	.20	do.	.1640
Hand	1	1 M.	Insole sorter	35	19.7	.25	do.	.0821
do.	1	1 M.	Insole buncher	35	19.7	.25	do.	.0821
Steam	1	1 M.	Insole skiver	35	11.8	.25	do.	.0492
do.	1	1 M.	Insole rounder	28	28.1	.25	do.	.1171
do.	1	2 M.	Insole channelers	28	1 18.7	.22	do.	.2961
Hand	1	1 M.	Insole slasher	18	34.7	.15	do.	.0868

¹ Rate \$1,300.

² Rate \$1,250.

³ Rate \$1,500.

UNIT 71.—SHOES: 100 PAIRS MEN'S MEDIUM GRADE, CALF,
 MACHINE METHOD—Continued.

Work done.	Machine, implement, or tool used.
Typing and bunching insoles.....	None used.....
Tempering insoles.....	Sponge and water basin.....
Turning up insole channels.....	Channel-turning machine.....
Tempering heel stock.....	Water tank.....
Skiving heel stock.....	Skiving machine.....
Rolling heel stock.....	Rolling machine.....
Cutting out heel lifts.....	Mallet, die, and block.....
Pasting and nailing heel lifts together.....	Hammers, brushes, and dies.....
Cutting out rands.....	Splitting machine.....
Curling and shaping rands.....	Rand-curling machine.....
Tacking rands to heel.....	Rand-fastening machine.....
Cutting off rand ends.....	Lever and knife.....
Compressing and molding heels.....	Heel-compressing machine.....
Cutting leather into strips for heel tops.....	Stripping machine.....
Tempering top lift stock.....	Water tank.....
Skiving top-lift stock.....	Skiving machine.....
Rolling top-lift stock.....	Rolling machine.....
Cutting out top lifts.....	Cutting machine.....
Sorting top lifts.....	None used.....
Sorting and arranging counter stock.....	do.....
Cutting out counters.....	Counter-cutting machines.....
Skiving counters to thickness.....	Skiving machines.....
Skiving bottom edge of counters.....	do.....
Skiving bottom and top of counters.....	do.....
Skiving top edge of counters.....	do.....
Skiving ends of counters.....	do.....
Skiving ridges (left by machines) off counters.....	Spokeshaves and clamps.....
Scouring counters.....	Buffing machines.....
Rolling counters.....	Rolling machines.....
Molding counters.....	Molding machines.....
Overseeing counter-molding department.....	None used.....
Sorting counters.....	do.....
Overseeing counter-sorting department.....	do.....
Furnishing power for making counters.....	Engine.....
Firing boiler.....	Shovel, poker, etc.....
Inserting counters, shank pieces, and insoles and pulling uppers over lasts.....	Lasting jacks, pincers, etc.....
Drawing uppers over lasts and tacking to insoles.....	Lasting machines, pincers, etc.....
Stringing toes.....	None used.....
Pulling out tacks.....	Tack pullers.....
Cutting leather into strips for welts.....	Knife and gauge.....
Scarfing ends of welt strips.....	Scarfing machine.....
Cutting strips to uniform width for welting.....	Welt-cutting machine.....
Cementing ends of welt strips.....	Brushes and mallets.....
Skiving welt strips to uniform thickness.....	Skiving machine.....
Cutting welting into uniform lengths.....	Tape measure and knife.....
Winding welting on reels.....	Reel.....
Furnishing power for making welting.....	Engine.....
Firing boiler.....	Shovel, poker, etc.....
Grooving and beveling welts.....	Welt-grooving machines.....
Sewing welts to uppers and insoles.....	Welt-sewing machines.....
Trimming welts.....	Welt trimmer.....
Beating up welts.....	Welt-beating machines.....
Filling bottoms.....	Knives.....
Laying outsoles.....	Sole-laying machines.....
Fitting and gauging outsoles.....	Knives and gauges.....
Cutting channels in outsoles.....	Channeling machine.....
Turning outsole channels.....	Channel twiners.....
Sewing outsoles to welts.....	Sole-sewing machines.....
Fastening heel seats.....	Wire grip-fastening machines.....
Randing out heel seats and rubbing down stitches.....	Randing-out knives and rubsticks.....

WELT, LACE SHOES, SINGLE SOLES, SOFT BOX TOES—Continued.

MACHINE METHOD—Continued.

Motive power.	Persons necessary on one machine.	Employees at work on the unit.						Labor cost.
		Number and sex.	Occupation.	Age.	Time worked.	Pay of labor.		
						Rate.	Per--	
Hand	1	1 M.	Insole buncher	38	h. m. 3.9	\$0.15	Hour	\$0.0096
do	1	1 M.	Insole temperer	38	19.7	.12	do	.0410
Steam	1	1 M.	Channel turner	18	19.7	.12	do	.0410
Hand	1	1 M.	Heel-stock temperer	60	7.9	.17	do	.0230
Steam	1	1 M.	Heel-stock skiver	60	13.9	.17	do	.0405
do	1	1 M.	Heel-stock roller	60	13.9	.17	do	.0405
do	1	1 M.	Heel-lift cutter	28	1 38.3	.22	do	.3686
do	1	4 F.	Heel builders	30-40	2 8.9	.50	100 pairs	.5000
Steam	1	1 M.	Rand cutter	26	3.0	2.50	Day	.0125
do	1	1 M.	Rand curler	26	5.9	2.50	do	.0246
do	1	1 M.	Rand fastener	22	32.8	1.75	do	.0957
Foot	1	1 M.	Rand trimmer	17	19.7	1.25	do	.0410
Steam	1	1 M.	Heel compressor	60	27.6	1.25	do	.0575
do	1	1 M.	Top-lift stock stripper	25	3.9	2.00	do	.0130
Hand	1	1 M.	Top-lift stock temperer	25	2.0	1.75	do	.0058
Steam	1	1 M.	Top-lift stock skiver	25	2.0	1.75	do	.0058
do	1	1 M.	Top-lift stock roller	25	2.0	1.75	do	.0058
do	1	1 M.	Top-lift cutter	25	7.9	2.25	do	.0296
do	1	1 M.	Top-lift sorter	28	7.9	2.50	do	.0329
do	1	1 M.	Counter-stock sorter	35	9.1	2.00	do	.0303
Steam	1	2 M.	Counter cutters.	23, 40	18.3	2.75	do	.0839
do	1	2 M.	do	23, 40	18.3	2.25	do	.0686
do	1	2 M.	do	23, 40	18.3	2.00	do	.0610
do	1	1 M.	do	40	9.1	1.83	do	.0278
do	1	2 M.	do	23, 40	18.3	1.75	do	.0534
do	1	1 M.	do	23	9.1	1.50	do	.0228
do	1	2 F.	Counter skivers	24, 35	17.5	5.00	Week	.0243
do	1	1 M.	do	33	9.1	2.25	Day	.0841
do	1	5 M.	do	28-30	45.7	2.00	do	.1523
do	1	1 M.	do	36	9.1	1.75	do	.0265
do	1	2 M.	do	22, 24	18.3	1.50	do	.0458
Hand	1	8 M.	do	25-40	1 13.2	2.25	do	.2745
Steam	1	2 M.	Counter buffers	19, 21	13.7	1.00	do	.0228
do	1	2 M.	Counter rollers	22	18.3	1.00	do	.0305
do	1	2 M.	Counter molders	26, 40	18.3	10.00	Week	.0508
do	1	3 M.	do	26, 40	27.4	1.25	Day	.0571
do	1	1 M.	do	26	9.1	1.00	do	.0152
do	1	1 M.	Foreman	30	9.3	2.75	do	.0426
Hand	1	1 M.	Counter sorter	45	9.1	2.50	do	.0879
do	1	1 M.	do	23	9.1	2.00	do	.0303
do	1	1 F.	Counter sorter's helper	25	8.8	1.00	do	.0147
do	1	1 F.	do	17	5.9	.75	do	.0074
do	1	1 M.	Foreman	45	9.1	3.00	do	.0455
Steam	1	1 M.	Engineer	33	1.9	2.75	do	.0087
Hand	1	1 M.	Fireman	45	1.9	1.50	do	.0048
do	1	8 M.	Pullers-over	33-40	4 5.17	.07	Pair	7.0000
(*)	1	8 M.	Lasters	33-40	4 5.17	.07	Pair	7.0000
Hand	1	3 M.	Toe stringers	17-20	1 59.3	1.50	Day	.2983
do	1	4 M.	Tack pullers	16-18	2 37.3	1.25	do	.3277
do	1	1 M.	Welt stripper	26	11.5	.25	Hour	.0479
Steam	1	1 M.	Welt scarfer	30	9.5	.15	do	.0238
do	1	1 M.	Welt cutter	35	4.3	.25	do	.0179
Hand	1	2 M.	Welt cementers	26	13.8	.15	do	.0345
Steam	1	1 M.	Welt skiver	32	1.9	.25	do	.0079
Hand	1	1 M.	Welt measurer	30	1.9	.25	do	.0079
do	1	1 M.	Welt reeler	26	6.3	.15	do	.0153
Steam	1	1 M.	Engineer	33	.1	2.50	Day	.0094
Hand	1	1 M.	Fireman	45	.1	1.50	do	.0063
Steam	1	2 M.	Welt groovers	28, 35	6 11.8	.20	Hour	.0393
do	1	10 M.	Welt stitchers	30-40	6 15.8	3.50	Day	2.1922
Hand	1	6 M.	Welt trimmers	25-40	1 58.0	.30	do	.6250
Steam	1	6 M.	Welt beaters	25-40	1 58.0	.30	24 pairs	.6250
Hand	1	6 M.	Bottom fillers	25-40	3 56.0	.24	do	1.0000
Steam	1	3 M.	Outsole layers	42-46	1 58.0	.20	do	.8333
Hand	1	6 M.	Outsole gaugers	38-42	3 43.5	.30	do	1.2500
do	1	6 M.	Outsole channelers	38-42	3 56.0	3.00	Day	1.1800
do	1	6 M.	Channel turners	16-18	3 56.0	1.75	do	.6883
Steam	1	8 M.	Outsole stitchers	35-40	5 14.7	3.50	do	1.8358
do	1	2 M.	Heel-seat fasteners	20, 22	1 18.7	1.50	do	.1968
Hand	1	4 M.	Heel-seat randers	35-41	2 37.3	2.50	do	.6594

* Steam and hand.

UNIT 71.—SHOES: 100 PAIRS MEN'S MEDIUM GRADE. CALF,
MACHINE METHOD—Concluded.

Work done.	Machine, implement, or tool used.
Cementing and closing channels.....	Cementing and pounding machines.....
Leveling bottoms.....	Leveling machines, hammer, etc.....
Pulling out lasts.....	Last hooks and spindles.....
Nailing on heels.....	Heel-nailing machines.....
Driving slugs in heels.....	Wire grip-slugging machines.....
Relasting shoes.....	Lasts and spindles.....
Trimming edge of heels.....	Heel-trimming machines.....
Cutting down breast of heels and pounding up heel seats.....	Heel-breasting machines and hammers.....
Trimming edge of soles.....	Edge-trimming machines and rand knives.....
Making sole and heel joints.....	Knives and hammers.....
Dividing and setting up stitches.....	Flat awls.....
Blacking and burnishing edge of soles.....	Edge-setting machines and brushes.....
Scouring breast of heels.....	Heel-scouring machines.....
Scouring edge of heels.....	do.....
Blacking edge of heels.....	Brushes.....
Burnishing edge of heels.....	Heel-burnishing machines.....
Beading heel seats.....	Heel-beading machines.....
Scouring heel tops.....	Bottom-buffing machines.....
Blacking heel tops.....	Brush.....
Polishing heel tops.....	Brush wheel.....
Scraping blacking off nail heads.....	Knife.....
Scouring forepart of bottoms.....	Bottom-buffing machines.....
Scouring shanks.....	Shank-buffing machines.....
Staining and brushing forepart of bottoms.....	Brushes and brush wheels.....
Gumming and polishing forepart of bottoms.....	do.....
Marking and blacking shanks.....	Knives and brushes.....
Striping and burnishing forepart of bottoms.....	Stripers, burnishing irons, and lamps.....
Burnishing shanks.....	Burnishing irons, lamps, and knives.....
Polishing forepart of bottoms.....	Felt wheels.....
Polishing shanks.....	do.....
Waxing and brushing shanks.....	Brush wheels.....
Stamping firm name on bottoms.....	Stamp.....
Fastening lacing studs.....	Lace-stud machine.....
Cleaning edge of soles.....	Cloths, lamps, and irons.....
Greasing, rubbing and treeing uppers.....	Shoe trees, brushes, etc.....
Inserting sock linings.....	Brushes.....
Dressing and polishing uppers.....	Sponges and cloths.....
Cleaning shoes and inserting laces.....	Cloths.....
Brushing heels and edge of soles.....	Brush wheels and cloths.....
Tying shoes in pairs.....	None used.....
Overseeing finishing department.....	do.....
Overseeing bottoming department.....	do.....
Packing shoes and marking boxes.....	Hammers, stencils, brushes, etc.....
Keeping machinery in order.....	Machinists' tools.....
Furnishing power.....	Engine.....
Firing boiler.....	Shovel, poker, etc.....
Watching establishment.....	None used.....
Total time and labor costs.....	

WELT, LACE SHOES, SINGLE SOLES, SOFT BOX TOES—Concluded.

MACHINE METHOD—Concluded.

Motive power.	Persons necessary on one machine.	Employees at work on the unit.							
		Number and sex.	Occupation.	Age.	Time worked.	Pay of labor.		Labor cost.	
						Rate.	Per—		
					<i>h.</i>	<i>m.</i>			
Steam.	2	2 M.	Cementers and channel layers	19, 40	1	18.7	1.50	Day	\$0. 1968
(⁴)	1	3 M.	Bottom levelers	30-40	1	58.0	3.00	do.	.5900
Hand.	1	3 M.	Last pullers	20-21	1	58.0	1.50	do.	.2950
Steam.	2	3 M.	Heel nailers	25-27	1	58.0	3.25	do.	.6392
do.	1	3 M.	Heel nailers' helpers	16-19	1	58.0	1.00	do.	.1967
Hand.	1	3 M.	Heel sluggers	21-25	1	58.0	2.50	do.	.4917
Steam.	1	2 M.	Relasters	30, 40	1	18.7	2.00	do.	.2623
do.	1	3 M.	Heel trimmers	25-30	1	58.0	.20	24 pairs	.8333
do.	1	3 M.	Heel breasters	20-25	1	58.0	2.25	Day	.4425
do.	1	4 M.	Edge trimmers	35-40	2	37.3	.50	24 pairs	2.0833
Hand.	1	3 M.	Joint makers	45-50	1	58.0	2.50	Day	.4917
do.	1	6 M.	Stitch dividers	20-25	3	56.0	1.75	do.	.6883
(⁴)	1	5 M.	Edge setters	35-40	3	16.7	.72	24 pairs	3.0000
Steam.	1	2 M.	Heel scourers	20, 25	1	1.5	1.50	Day	.1538
do.	1	2 M.	do.	38, 55	1	18.7	2.50	do.	.3279
Hand.	1	2 M.	Heel blackers	17, 20	1	10.2	1.25	do.	.1463
Steam.	1	2 M.	Heel finishers	32, 38	1	1.5	2.75	do.	.2819
do.	1	2 M.	Heel beadars	20, 30	1	1.5	2.00	do.	.2050
do.	1	2 M.	Heel-top buffers	42	1	1.5	2.50	do.	.2563
Hand.	1	1 M.	Heel-top blacker	17		39.3	1.00	do.	.0655
Steam.	1	1 M.	Heel-top polisher	25		39.3	2.25	do.	.1474
Hand.	1	1 M.	Heel-top scraper	17		39.3	.75	do.	.0491
Steam.	1	4 M.	Forepart buffers	32-45		24.6	2.50	do.	.6025
do.	1	2 M.	Shank buffers	21, 24		49.2	2.25	do.	.1845
(⁴)	1	3 M.	Bottom stainers	38-41	1	38.3	2.50	do.	.4096
(⁴)	1	2 M.	Bottom polishers	25, 27	1	5.6	2.00	do.	.2187
Hand.	1	3 M.	Shank markers and blackers	38-42	1	22.0	1.25	do.	.1708
do.	1	3 M.	Forepart stripers	25-29	1	22.0	1.50	do.	.2050
do.	1	3 M.	Shank burnishers	33-55	1	38.3	2.50	do.	.4096
Steam.	1	2 M.	Forepart polishers	42, 50		54.6	2.25	do.	.2048
do.	1	2 M.	Shank polishers	32, 40		49.2	2.00	do.	.1640
do.	1	2 M.	Shank fakars	42, 50	1	1.5	2.00	do.	.2050
Hand.	1	1 M.	Monogrammer	38		39.3	1.50	do.	.0983
Steam.	1	2 F.	Stud fasteners	20, 25	1	18.7	1.40	do.	.1836
Hand.	1	4 M.	Edge cleaners	32-38	2	27.5	2.00	do.	.4917
do.	1	20 M.	Trees	30-40	13	6.7	2.50	do.	3.2779
do.	1	3 F.	Sock liners	25-35	1	36.7	1.40	do.	.2256
do.	1	5 F.	Dressers	20-26	3	13.3	1.50	do.	.4833
do.	1	4 F.	Cleaners and lacers	22-30	2	25.0	1.25	do.	.3021
(⁴)	1	2 M.	Edge polishers	17, 20		58.7	1.00	do.	.0978
Hand.	1	3 F.	Strap stringers	20-25	1	36.7	1.00	do.	.1612
do.	1	1 M.	Foreman	35		40.0	(⁵)	Year	.2556
do.	1	1 M.	do.	30		40.0	(⁵)	do.	.3195
Hand.	1	5 M.	Packers	26-29	3	20.0	.15	Hour	.5000
do.	1	1 M.	Machinist	45		40.0	2.50	Day	.1667
Steam.	1	1 M.	Engineer	30		40.0	3.00	do.	.2000
Hand.	1	1 M.	Fireman	40		40.0	1.75	do.	.1167
do.	1	1 M.	Watchman	50		40.0	1.75	do.	.1167
do.	1	1 M.	do.	50		40.0	1.50	do.	.1000
					236	6.3			59.5461

⁴ Steam and hand.

APPENDIX B.—TIME AND LABOR COSTS IN MAKING 100 PAIRS OF SHOES IN 1916.¹

In this appendix is presented a table showing the time cost and labor cost, by occupations, in the manufacture of 100 pairs of welt shoes, the rate of wages or earnings per hour of the employee, and the number of pairs of shoes worked on per hour, by the employee, in a representative shoe factory.

The table presents most forcibly the minute specialization of work in a modern shoe factory, the many hands through which a shoe passes in the course of manufacture, the great number of repetitions of a single operation in an hour, and the comparatively short time consumed, and the small labor cost in the making of a pair of shoes.

The total time cost, as shown by the total at the end of the table, for making 100 pairs of shoes is, in this establishment, 8,560.10 minutes, or 142.7 hours, and the total labor cost \$36.7761. Reduced to a single pair of shoes, the time cost is 1 hour and 26 minutes, and the labor cost \$0.368. One man in one hour makes seven-tenths of a pair of shoes.

Under each department of the factory the occupations are given in the order of the operation. At the end of each department are shown the cost of "daywork" and of "organization." The "daywork" includes operations that can not be carried under a piece-rate system nor easily separated into specific individual operations. "Organization" includes the work of superintendents, assistants, foremen, laborers, clerks, firemen, and others whose work is more or less general, the cost of which has been apportioned to the several departments according to the amount of time determined as devoted to each.

The column "Time cost" shows the time in minutes required for one person to perform the work of the occupation on 100 pairs of shoes. The "labor cost" is the amount paid for the work done by the operator in the time given in the time-cost column.

The hourly wages is the amount earned per hour by the employee in the occupation named.

The number of pairs worked on per hour is the number of pairs of shoes for which the given operation is performed in one hour.

To illustrate: The first operation in order of process in the upper-leather department is that of "tongue cutter." It requires 36.65 minutes for this operator to cut the tongues for 100 pairs of welt shoes of a given style, and for this work he is paid \$0.1519. This amount is equivalent to an hourly rate of \$0.2487, and, in one hour the operator will cut the tongues for 163.71 pairs of shoes.

¹ Reproduced from Bulletin No. 232 of this bureau, pp. 165 to 169.

TIME AND LABOR COST IN THE MANUFACTURE OF 100 PAIRS OF WELT SHOES
RATE OF WAGES OR EARNINGS PER HOUR, AND NUMBER OF PAIRS WORKED
ON PER HOUR, IN 1916, BY OCCUPATIONS.

Department and occupation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
UPPER-LEATHER DEPARTMENT.				
Tongue cutters.....	36.65	\$0.1519	\$0.2487	163.71
Eyelet-facing cutters, top section.....	44.00	.1799	.2453	136.36
Eyelet-facing cutters, toe section.....	29.38	.1200	.2451	204.22
Backstay cutters.....	17.10	.0720	.2526	350.88
Remnant sorters.....	10.19	.0417	.2455	588.81
Eyelet-facing skivers, top section.....	6.65	.0242	.2183	902.26
Eyelet-facing skivers, toe section.....	14.62	.0534	.2192	410.40
Tongue skivers.....	3.21	.0117	.2187	1,869.16
Backstay skivers.....	3.21	.0117	.2187	1,869.16
Eyelet-facing cementers.....	33.01	.1200	.2181	181.76
Eyelet-facing sorters.....	9.77	.0266	.1634	614.12
Tongue sorters.....	2.42	.0067	.1661	2,479.34
Cloth folders and rollers.....	2.04	.0833	.2441	2,941.18
Cloth-lining and doubler cutters.....	5.65	.0333	.3536	1,061.95
Lining casers.....	4.58	.0167	.2188	1,310.04
Doubler casers.....	2.52	.0092	.2190	2,360.95
Packers.....	1.56	.0042	.1615	3,846.15
Vamp and tip cutters.....	151.93	.9963	.3935	39.49
Top cutters.....	119.05	.4865	.2452	50.40
Die distributors.....	8.26	.0225	.1634	726.39
Vamp sorters and casers.....	36.65	.1333	.2182	163.71
Tip sorters and casers.....	9.17	.0333	.2179	654.31
Top sorters and casers.....	21.77	.0792	.2183	275.61
Vamp painters and sizers.....	3.06	.0083	.1627	1,960.78
Tip painters and sizers.....	1.22	.0033	.1623	4,918.03
Top painters and sizers.....	3.36	.0092	.1643	1,785.71
Vamp recounters.....	6.21	.0167	.1614	966.18
Tip recounters.....	2.42	.0067	.1661	2,479.34
Top recounters.....	6.21	.0167	.1614	966.18
Vamp tiers-up.....	1.66	.0042	.1615	3,846.15
Tip tiers-up.....	1.22	.0033	.1623	4,918.03
Top tiers-up.....	1.66	.0042	.1615	3,846.15
Refinishers.....	7.96	.0250	.1908	763.36
Tongue casers.....	2.07	.0075	.2174	2,898.55
Eyelet-facing casers.....	6.19	.0225	.2181	969.31
Heel-stay casers.....	2.52	.0092	.2190	2,360.95
Backstay casers.....	3.44	.0125	.2180	1,744.19
Daywork.....	199.88	.7299	.2191	30.02
Organization.....	242.70	1.0913	.2698	24.72
SOLE-LEATHER DEPARTMENT.				
Outsole-stock sorters, skivers, etc.....	4.60	.0188	.2452	1,304.35
Side dippers.....	1.43	.0052	.2182	4,195.80
Pilers (near machine).....	.66	.0024	.2182	9,090.91
Pilers (on machine).....	.61	.0022	.2164	9,836.06
Cleaners-up (around machine).....	.83	.0030	.2167	7,228.92
Outsole cutters.....	19.65	.1250	.3317	305.34
Pilers (under machine).....	.97	.0035	.2165	6,185.57
Insole cutters.....	19.72	.1075	.3271	304.26
Gem-duck cutters, insole.....	2.00	.0100	.3000	3,000.00
Burlap cutters, insole.....	6.60	.0300	.2727	909.09
Tap-stock sorters, skivers, etc.....	30.25	.1240	.2460	198.35
Tap cutters.....	27.60	.1500	.3273	318.18
Top-lift stock sorters, skivers, etc.....	15.15	.0620	.2455	396.04
Top-lift cutters.....	23.10	.1260	.3273	259.74
Box-toe cutters.....	2.20	.0100	.2727	2,727.27
Outsole graders and skivers.....	12.73	.0425	.2003	471.33
Outsole sorters.....	17.89	.0975	.3270	335.38
Outsole grade painters.....	14.90	.0475	.1913	402.68
Tap graders and skivers.....	12.96	.0400	.1911	477.71
Tap butters.....	5.80	.0175	.1909	1,090.91
Tap sorters.....	9.02	.0450	.2993	665.19
Tap casers.....	5.70	.0233	.2453	1,052.63
Tap wirers.....	2.34	.0096	.2462	2,664.10
Putters-away (tap).....	2.25	.0113	.3013	2,666.67
Insole graders and skivers.....	12.58	.0400	.1907	476.95
Insole-split sorters.....	11.93	.0660	.3269	502.93
Insole grade painters.....	.63	.0020	.1905	9,523.81
Putters-away (insole).....	1.84	.0067	.2185	3,260.87
Insole casers.....	6.73	.0275	.2452	891.53
Insole buffers.....	7.33	.0300	.2456	818.55
Insole gem-duck sorters and putters-away.....	1.87	.0050	.1911	3,821.66
Insole gem-duck casers.....	4.70	.0192	.2451	1,276.69

TIME AND LABOR COST IN THE MANUFACTURE OF 100 PAIRS OF WELT SHOES, RATE OF WAGES OR EARNINGS PER HOUR, AND NUMBER OF PAIRS WORKED ON PER HOUR, IN 1916, BY OCCUPATIONS—Continued.

Department and occupation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
SOLE-LEATHER DEPARTMENT—concluded.				
Putters-away (insole buckram).....	.52	\$0.0018	\$0.2077	11,538.46
Insole buckram casers.....	6.73	.0275	.2452	891.53
Collectors and shippers.....	1.65	.0075	.2727	3,636.36
Box-toe skivers.....	5.62	.0230	.2466	1,067.62
Box-toe sorters.....	4.35	.0138	.1903	1,379.31
Counter fiber-edge trimmers.....	3.30	.0120	.2182	1,818.18
Counter fiber strippers.....	2.83	.0105	.2226	2,120.14
Counter cutters.....	5.50	.0200	.2182	1,090.91
Counter stackers (for end trim).....	2.36	.0075	.1907	2,542.37
Counter-end trimmers.....	2.47	.0090	.2186	2,429.15
Counter skivers.....	2.62	.0088	.2015	2,290.08
Counter temperers.....	.28	.0020	.4286	21,428.57
Counter rollers.....	5.06	.0138	.1636	1,185.77
Counter molders.....	22.68	.0825	.2183	204.55
Dryer-box emptiers.....	.92	.0025	.1630	6,521.73
Counter sorters.....	7.68	.0250	.1953	781.25
Counter waterproofers.....	.89	.0025	.2174	8,695.65
Putters-away (outsole).....	4.09	.0167	.2450	1,466.99
Outsole casers.....	9.43	.0428	.2723	636.27
Outsole shippers.....	.24	.0011	.2750	25,000.00
Box-toe casers.....	3.67	.0150	.2452	1,634.88
Box-toe tiers-up.....	1.70	.0054	.1906	3,529.41
Box-toe shippers.....	.47	.0019	.2426	12,765.96
Putters-away (counters).....	.28	.0010	.2143	21,428.57
Counter casers.....	4.48	.0183	.2451	1,239.29
Counter shippers.....	.44	.0018	.2455	13,636.36
Daywork.....	86.98	.3133	.2161	68.98
Organization.....	143.66	.7656	.3198	41.77
HEEL DEPARTMENT.				
Heeling-stock skivers, sorters, etc.....	58.65	.2400	.2455	102.30
Heel builders.....	107.17	.7600	.2728	35.89
Rough sorters.....	13.44	.0550	.2455	446.43
Heel gougers.....	5.66	.0180	.1908	1,060.07
Heel skivers.....	4.72	.0150	.1907	1,271.19
Heel compressors.....	9.03	.0288	.1914	864.45
Heel sorters.....	8.80	.0400	.2727	681.82
Top-lift graders.....	3.44	.0125	.2180	1,744.19
Top-lift skivers.....	2.75	.0075	.1636	2,181.82
Top-lift compressors.....	8.66	.0275	.1905	892.84
Top-lift sorters.....	6.73	.0275	.2452	891.53
Top-lift casers.....	5.70	.0233	.2453	1,052.63
Heel casers.....	5.70	.0233	.2453	1,052.63
Daywork.....	48.73	.1840	.2266	123.13
Organization.....	68.99	.2924	.2974	161.71
MANUFACTURING DEPARTMENT.				
Markers (for tips).....	22.91	.0625	.1637	261.89
Vamp cut-off skivers.....	11.45	.0416	.2180	524.02
Heel-seam skivers.....	22.91	.0833	.2182	261.89
Vamp-extension pasters.....	27.42	.0625	.1368	218.82
Vamp doublers.....	53.35	.1250	.1406	112.46
Side liners.....	27.59	.0666	.1448	217.47
Top skivers (corner of heel).....	22.91	.0625	.1637	261.89
Top skivers (at bottom).....	22.91	.0625	.1637	261.89
Top doublers.....	25.28	.0625	.1483	237.34
Reinforced-stay pasters.....	53.35	.1250	.1406	112.46
Stencil liners.....	13.09	.0416	.1907	458.37
Lasting-tape stitchers.....	68.72	.1875	.1637	87.31
Tip stitchers.....	53.05	.1875	.2121	113.10
Box-toe to vamp stitchers.....	53.51	.1468	.1635	112.13
Vamp seamers.....	39.28	.1250	.1909	152.75
Vamp stayers.....	41.09	.1250	.1825	146.02
Top seamers.....	29.21	.0938	.1927	205.41
Top rubbers.....	15.27	.0416	.1635	392.93
Backstay stitchers.....	114.58	.4166	.2182	52.37
Heel-stay stitchers.....	76.42	.2083	.1635	78.51
Top-facing stitchers.....	39.28	.1250	.1909	152.75
Eyelet-facing stitchers.....	95.99	.2917	.1823	62.51
Stitchers and trimmers.....	223.58	.9166	.2460	26.84
Eyeletters.....	40.74	.1668	.2457	147.28
Lacers.....	26.19	.0833	.1908	229.10
Toe-lining seamers.....	45.83	.1250	.1636	130.92

TIME AND LABOR COST IN THE MANUFACTURE OF 100 PAIRS OF WELT SHOES, RATE OF WAGES OR EARNINGS PER HOUR, AND NUMBER OF PAIRS WORKED ON PER HOUR, IN 1916, BY OCCUPATIONS—Continued.

Department and occupation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
MANUFACTURING DEPARTMENT—continued.				
Vampers.....	341.46	\$1.5832	\$0.2782	17.57
Sizers-out.....	18.33	.0416	.1362	327.33
Outsole shankers-out.....	20.37	.0556	.1638	294.55
Outsole size stampers.....	9.17	.0250	.1636	654.31
Tap cementers.....	10.83	.0278	.1540	554.02
Heel dippers (in waterproofing).....	15.28	.0416	.1634	392.67
Tap scourers.....	10.83	.0278	.1540	554.02
Outsole cementers.....	12.21	.0333	.1636	491.40
Outsole counters and craters.....	6.55	.0208	.1905	916.03
Insole putters-up (for rounders).....	4.58	.0125	.1638	1,310.04
Insole rounders.....	15.28	.0625	.2454	392.67
Insole channellers.....	33.37	.1668	.2999	179.80
Insole-lip cutters (at toe).....	7.64	.0208	.1634	785.34
Insole dippers (in stiffener).....	3.82	.0104	.1634	1,570.68
Insole-lip turners.....	38.20	.1041	.1635	157.07
Insole-lip reinforcers.....	45.83	.1250	.1636	130.92
Insole scourers and size stampers.....	9.17	.0208	.1361	654.31
Insole welt-line markers and casers.....	12.21	.0278	.1366	491.40
Insole formers (in cloth).....	65.53	.1582	.1448	91.56
Insole-lip trimmers.....	30.59	.0833	.1634	196.14
Insole-lip straighteners.....	16.26	.0500	.1845	369.00
Insole-lip stiffeners.....	15.28	.0416	.1634	392.67
Insole counters and casers.....	8.62	.0208	.1448	696.06
Last casers-up.....	13.09	.0417	.1911	458.37
Insole tackers (to last).....	32.74	.1041	.1908	187.26
Insole trimmers (at heel).....	13.09	.0416	.1907	458.37
Last chalkers.....	18.34	.0500	.1636	327.15
Upper maters.....	15.27	.0417	.1639	392.93
Assemblers.....	86.48	.3541	.2457	69.38
Box shellackers.....	34.40	.0938	.1636	174.42
Vamp wetters (for pull-over).....	15.27	.0417	.1639	392.93
Fullers-over (Rex machine).....	104.76	.6665	.3817	57.27
Side lasters (C. H. M. machine).....	125.00	.6280	.3000	48.00
Heel and toe lasters.....	269.61	1.5832	.3523	22.25
Toe-tack pullers.....	32.79	.1041	.1905	182.98
Trimmers-out.....	22.91	.0625	.1637	261.89
Stiffeners.....	11.45	.0362	.1897	524.02
Case assemblers.....	9.83	.0362	.2210	610.37
Checkers-out.....	11.94	.0375	.1884	502.51
Tack pullers.....	72.08	.2292	.1936	63.24
Welters.....	97.00	.7498	.4638	61.86
Side-tack pullers.....	20.37	.0552	.1628	294.55
Inseam trimmers.....	81.50	.3333	.2454	73.62
Welt beaters.....	29.41	.0938	.1914	204.01
Insole-tack knockers.....	30.56	.0833	.1635	196.34
Stickers-in (shank).....	29.41	.0938	.1914	204.01
Bottom fillers.....	54.38	.1668	.1840	110.33
Bottom cementers.....	22.91	.0625	.1637	261.89
Sole layers.....	40.74	.1668	.2457	147.28
Heel-seat nailers.....	34.38	.1250	.2182	174.52
Maters (for levelers).....	22.91	.0416	.1089	261.89
Outsole rounders.....	65.07	.4791	.4418	92.21
Heel-seat rounders.....	19.65	.0625	.1908	305.34
Channel openers.....	45.83	.1250	.1636	130.92
Stitchers.....	162.24	.9583	.3544	36.98
Channel cementers.....	30.56	.0833	.1635	196.34
Channel layers.....	45.83	.1668	.2184	130.92
Wheel stitchers.....	34.85	.1108	.1908	172.17
Upper-edge blackers.....	22.91	.0625	.1637	261.89
Levelers.....	30.56	.1250	.2454	196.34
Last pullers.....	39.30	.1250	.1908	152.67
Last throwers (into bins).....	10.48	.0333	.1906	572.52
Heel tenders.....	58.39	.1771	.1820	102.76
Heelers.....	56.41	.3333	.3545	106.36
Sluggers.....	40.74	.1668	.2457	147.28
Heel trimmers.....	35.98	.2292	.3822	166.76
Heel breasters.....	30.56	.1250	.2445	196.34
Heel-breast scourers.....	34.38	.0938	.1637	174.52
Edge trimmers.....	171.34	1.1666	.4085	35.02
Knifers-up (machine).....	54.38	.1668	.1840	110.33
Heel scourers (first).....	41.22	.1875	.2729	145.56
Edge setters.....	114.58	.6252	.3274	52.37
Edge brushers-up.....	17.46	.0552	.1897	343.64
Stitch polishers.....	30.56	.0833	.1635	196.34
Heel scourers (second).....	32.05	.1459	.2731	187.21

TIME AND LABOR COST IN THE MANUFACTURE OF 100 PAIRS OF WELT SHOES, RATE OF WAGES OR EARNINGS PER HOUR, AND NUMBER OF PAIRS WORKED ON PER HOUR, IN 1916, BY OCCUPATIONS—Concluded.

Department and occupation.	Time cost of 100 pairs (minutes).	Labor cost of 100 pairs.	Hourly wages.	Number of pairs worked on per hour.
MANUFACTURING DEPARTMENT—concluded.				
Heel blackers.....	18.34	\$0.0416	\$0.1361	327.15
Heel burnishers.....	45.83	.2083	.2727	130.92
Shank and top-lift scourers.....	100.73	.4590	.2723	59.57
Dusters and gummers.....	33.20	.1041	.1695	157.07
Painters.....	54.33	.1693	.1349	110.33
Gummers and polishers.....	71.34	.2918	.2454	84.10
Strippers.....	36.66	.1002	.1040	163.67
Heel-breast painters.....	20.95	.0667	.1910	236.40
Top-lift rollers.....	41.92	.1334	.1909	143.13
Bottom waxers.....	23.04	.1041	.2181	239.50
Shank nailers.....	19.65	.0625	.1908	305.34
Forepart stampers.....	19.65	.0625	.1908	305.34
Shank stampers.....	19.65	.0625	.1908	305.34
Meters (for troers).....	15.27	.0417	.1639	392.93
Troers (machine).....	13.90	.7608	.2445	317.40
Putters-in (heel pins).....	29.23	.0667	.1366	204.85
Drill leather repairers.....	63.75	.1875	.1686	87.27
Fillers (tip).....	26.19	.0633	.1908	229.10
Oilers.....	73.57	.2500	.1909	76.37
Stitch brushers.....	22.91	.0553	.1461	261.89
Dressers.....	73.57	.2500	.1909	76.37
Lacers.....	30.56	.0633	.1635	190.34
Brushers.....	33.20	.1041	.1635	157.07
Meters (for inspectors).....	15.27	.0417	.1639	392.93
Packers.....	34.85	.1108	.1908	172.17
Daywork.....	133.88	.4629	.3090	43.20
Organization.....	763.47	4.4306	.3521	7.86
Total.....	18,560.10	36.7761	.2574	

¹ 142.7 hours.