

UNITED STATES DEPARTMENT OF LABOR

W. N. DOAK, Secretary

BUREAU OF LABOR STATISTICS

CHARLES E. BALDWIN, Acting Commissioner

BULLETIN OF THE UNITED STATES } No. 575
BUREAU OF LABOR STATISTICS }

WAGES AND HOURS OF LABOR SERIES

**WAGES AND HOURS OF LABOR
IN AIR TRANSPORTATION, 1931**



JANUARY, 1933

**UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1933**

For sale by the Superintendent of Documents, Washington, D. C. - - - - Price 5 cents

CONTENTS

	Page
Introduction.....	1
Hours and earnings of pilots, 1931, by district.....	2
Days, hours, and earnings of copilots, 1931, by district.....	3
Basic salaries of pilots and copilots, October, 1931.....	4
Earnings of pilots and copilots, October, 1931, by district.....	5
Distribution of pilots by classified flight-hours in month.....	6
Days, hours, and earnings of ground personnel, by occupation.....	7
Classified earnings per hour:	
Pilots, copilots, and ground personnel.....	8
Ground personnel, by occupation.....	10
Classified full-time hours per week, 1931, of ground personnel, by occupation.....	12
Changes in wage rates, July 1, 1930, to October 1, 1931.....	13
Bonus systems.....	14
Progress in civil aeronautics.....	14
General tables.....	14
TABLE A.—Average number of days on which employees worked in one week, average full-time and credited hours and earnings per week, and per cent of full time worked, 1931, ground personnel only, by occupation and district.....	15
TABLE B.—Average and classified earnings per hour, 1931, ground personnel only, by occupation and district.....	19
TABLE C.—Average and classified full-time hours per week, 1931, ground personnel only, by occupation and district.....	25
TABLE D.—Average and classified actual earnings in one week, 1931, ground personnel only, by occupation and district.....	28
APPENDIX.—Air transportation occupational terms, definitions, and classification by Bureau of Labor Statistics.....	34

BULLETIN OF THE U. S. BUREAU OF LABOR STATISTICS

No. 575

WASHINGTON

January, 1933

WAGES AND HOURS OF LABOR IN AIR TRANSPORTATION, 1931

This bulletin presents the results of a study by the Bureau of Labor Statistics of hours and earnings of commercial air-transportation employees in the United States in October, 1931. The study was limited to pilots and copilots operating heavier-than-air machines on scheduled mail and passenger routes in continental United States, and to the ground personnel used in the operation and repair of such machines; it covered approximately 95 per cent of such workers, 3,509 males and 88 females employed by 26 transportation companies serving 138 cities in 40 States and the District of Columbia. Employees engaged in the operation of sight-seeing, crop dusting, mapping and surveying, and flying-instruction machines were not included.

While the average full-time flight hours of pilots are fixed by the Department of Commerce at a maximum of 110 per month, the study showed that the hours actually flown in October, 1931, averaged only 80.4.

The actual earnings of pilots during the month averaged \$569.49 and those of copilots \$227.89. Those of all other employees combined averaged \$31.66 per week.

Average hours and earnings are shown by districts in Table 1 for pilots, in Table 2 for copilots, and in Table A for each of the other important occupations in commercial transportation and also for a group, designated as "Other employees," including occupations having too few employees to warrant separate occupational tabulation. The wage figures are shown by districts, instead of by States or cities, in order to avoid showing averages for one company and thus possibly revealing its identity. The States included in each of the geographic districts shown are as follows:

North Atlantic.—Massachusetts, New Jersey, New York, and Pennsylvania.

South Atlantic.—Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and the District of Columbia.

East North Central.—Illinois, Indiana, Michigan, Ohio, and Wisconsin.

South Central.—Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas.

West North Central.—Iowa, Kansas, Minnesota, Missouri, Nebraska, and North Dakota.

Western.—Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming.

It is the policy of the bureau, whenever possible, to bring wage figures to a common basis of one week when the pay periods of the different companies are for varying lengths of time. Weather conditions are a great factor in flight activities. It was found that all planes of a company on one route might be kept from flight for an entire week while those on another route of that company during

the same week would be operated every day of the week as scheduled. Consequently, wage figures for the flight personnel (pilots and copilots) were collected by the bureau for the entire month of October, 1931, for each company covered in the study. Wage figures for the ground personnel of each company were collected for a whole pay period in October and then converted to a weekly basis in order that the hours and earnings of such employees might be as nearly as possible comparable with those of other industries for which figures are published by the bureau.

Each transport company maintains at large terminal and intermediate airports a force of employees ranging from a few operation mechanics and radio operators and repairers to a large organization including all the occupations for which wage figures are shown in this report. As many as six or seven companies may each maintain a force of employees at large terminal airports; in such cases each force was counted a "local unit."

Hours and Earnings of Pilots, 1931, by District

Pilots must possess a high degree of skill and resourcefulness and considerable intelligence and experience. Each one must have a United States Department of Commerce transport license, rating him according to his experience on various weights and types of aircraft. From the time he steps into the plane until he leaves it, the pilot has complete command. He operates the controls of the plane at all times during its flight, unless he has a copilot to relieve him; a great majority of the pilots, however, are not accompanied by copilots.

Full-time flight hours of pilots are regulated by the United States Department of Commerce. A pilot employed in interstate passenger air transport service shall not be on flight duty more than 110 hours in any one month, nor 30 hours in any 7-day period, nor 8 hours in any 24-hour period. He must also be granted a rest period of at least 24 consecutive hours within each 7-day period. Certain latitude, however, is allowed when necessary for reasonable schedules.

Although the maximum flight-hours are 110 per month, the hours actually flown during the month studied averaged only 80.4. The average in the various districts ranged from 76.2 in the Western district to 86.7 in the South Central district. The proportion of full time that was actually flown ranged from 69.3 per cent in the Western to 78.8 per cent in the South Central district. The per cent for all districts combined was 73.1, thus showing 26.9 per cent of lost time during the month.

Average actual earnings in one month ranged from \$482.45 for the South Central to \$617.84 for the South Atlantic district, and for all districts combined were \$569.49.

Average earnings per flight-hour ranged from \$5.565 for the South Central to \$8.066 for the Western district; for all districts combined they were \$7.084.

At full time (110 hours per month), with the hourly earnings shown above—\$7.084—these employees would have earned \$779.19. In the various districts average full-time earnings would have ranged from \$612.17 for the South Central to \$887.28 for the Western district.

In a small number of companies the pilots are paid a monthly salary regardless of the number of hours flown during the month. In the

majority of companies, however, the pilots receive a monthly salary plus a specified rate for each mile flown. The mileage rate for night flying is generally higher than that for day flying (in some companies twice as high). The rates also vary according to the terrain of the route. Actual figures showing monthly salaries and mileage rates separately could not be published, however, without the possibility of revealing the identity of some of the companies.

TABLE 1.—Average hours and earnings of pilots and per cent of full time flown in one month, 1931, by district

District	Number of local units	Number of pilots	Average full-time flight-hours per month ¹	Hours actually flown in one month		Average earnings per flight-hour ³	Average full-time earnings per month	Average actual earnings in one month ⁴
				Average number ²	Per cent of full time			
North Atlantic.....	12	46	110.0	84.1	76.5	\$7.284	\$801.19	\$612.87
East North Central.....	24	123	110.0	79.4	72.2	6.929	762.22	550.22
West North Central.....	12	81	110.0	78.4	71.3	6.906	759.65	541.47
South Atlantic.....	10	45	110.0	85.8	78.0	7.199	791.89	617.84
South Central.....	16	53	110.0	86.7	78.8	5.565	612.17	482.45
Western.....	24	112	110.0	76.2	69.3	8.066	887.28	614.86
Total.....	98	460	110.0	80.4	73.1	7.084	779.19	569.49

¹ Regulated by the U. S. Department of Commerce.

² Computed by dividing total hours actually flown during month by the employees covered.

³ Computed by dividing actual earnings in one month by hours actually flown in month.

⁴ Computed by dividing total actually earned in month by number of pilots covered.

Days, Hours, and Earnings of Copilots, 1931, by District

Copilots usually hold a United States Department of Commerce transport license and are qualified to operate the controls of the plane when called on to relieve the pilot. On planes equipped with radio they must also have a radio operator's license permitting them to maintain communication by radio with ground stations. On long flights they often act as stewards, serving meals en route and providing for the comfort of the passengers.¹

Table 2 shows, for the copilots covered in each geographic district and in all districts combined, average days and hours per month and average earnings per month and per hour. Average earnings are shown for their work as copilots, as acting pilots, and in both capacities. Figures for copilots are not shown for the South Atlantic district, due to the fact that flying in this district was from base ports in adjacent districts where data for them are shown.

Except for the regular relief day every seven days, the copilots report for duty every day or every other day, depending upon the schedule arranged. In the month studied (October, 1931) 65 of the copilots were supposed to be on duty for 15 days and 73 for 27 days.

Average full-time days in one month ranged by districts from 19.8 for the North Atlantic to 22.8 for the Western district; the average for all districts combined was 21.2. Due to the schedule, copilots have full-time hours of either 120 or 216 per month. Of the 138 copilots included in this study, the full-time hours of 47 per cent were

¹ One company includes a hostess among its flight personnel and one company has a stewardess on certain of its routes. For obvious reasons, data for these two occupations are not shown.

120 per month and those of 53 per cent were 216 per month. The range, by districts, was from 158.4 for the North Atlantic to 182.7 for the Western district, and the average for all districts was 170 hours.

Since it was impossible to get actual flight-hours for copilots except when they were on duty as pilots, data on this point and on actual earnings per flight-hour can not be shown for them.

With few exceptions, copilots are paid a straight monthly salary regardless of the mileage flown in the month. Their only additional earnings are for work as acting pilot. For work as copilot only, the average full-time earnings in one month ranged from \$198.16 for the West North Central to \$238.21 for the Western district, and for all districts were \$218.26. The average earnings per hour ranged from \$1.162 for the West North Central to \$1.422 for the North Atlantic district, and for all districts were \$1.284.

Table 2 shows that in the month covered by the study, 12 copilots (4 in the North Atlantic, 3 in the East North Central, and 5 in the Western district) acted as pilots. Their earnings in this capacity, averaging \$110.69 each for the month, were sufficient to raise earnings per month for the whole group of copilots from an average of \$218.26 to \$227.89, and earnings per hour from \$1.284 to \$1.341.

TABLE 2.—Average days and hours worked by copilots, and earnings for regular and additional work, 1931, by district

District	Number of local units	Number of copilots	Average full time in 1 month		Earnings for copilot work only		Earnings for additional work as acting pilot		Total earnings	
			Days	Hours ¹	Average in 1 month	Per hour ²	Number of employees having	Average in 1 month	Average in 1 month	Average per hour
North Atlantic.....	6	20	19.8	158.4	\$225.21	\$1.422	4	\$154.00	\$256.01	\$1.616
East North Central.....	10	48	20.3	162.0	208.21	1.285	3	33.27	210.29	1.298
West North Central.....	4	19	21.3	170.6	198.16	1.162	—	—	198.16	1.162
South Central.....	5	13	22.4	179.1	215.77	1.205	—	—	215.77	1.205
Western.....	9	38	22.8	182.7	238.21	1.304	5	122.49	254.32	1.392
Total.....	34	138	21.2	170.9	218.26	1.284	12	110.69	227.89	1.341

¹ Computed by dividing total full-time hours by number of copilots.

² Based on average full-time hours and earnings in 1 month.

Basic Salaries of Pilots and Copilots, October, 1931

The basic monthly salaries of pilots (except 16 who were paid mileage rates only and 29 whose rates were not reported) and of copilots are shown in Table 3. Approximately 25 per cent of the pilots received only the basic salary, while 75 per cent also received mileage rates. The figures in the table do not include earnings for mileage flown.

TABLE 3.—Number of pilots and copilots, October, 1931, by basic salary per month
 [Approximately 25 per cent of the pilots are paid salary only; others are paid salary and rates per mile flown]

Salary per month	Number of pilots	Number of co-pilots	Salary per month	Number of pilots	Number of co-pilots	Salary per month	Number of pilots	Number of co-pilots
Under \$100.....	6	---	\$192 ¹	5	---	\$270.....	---	---
\$100.....	2	1	\$200.....	30	21	\$275.....	1	---
\$120.....	6	---	\$208 ¹	14	---	\$300.....	99	14
\$125.....	---	7	\$210.....	1	3	\$350.....	14	---
\$130.....	5	---	\$213.....	2	---	\$375.....	12	---
\$140.....	3	1	\$217 ¹	16	11	\$400.....	11	---
\$145.....	---	1	\$220.....	2	---	\$430.....	1	---
\$150.....	37	6	\$225.....	13	46	\$450.....	2	---
\$160.....	8	1	\$230.....	1	1	\$500.....	19	---
\$163.....	---	1	\$233 ¹	5	---	\$525.....	3	---
\$167 ¹	10	---	\$238.....	1	---	\$600.....	4	---
\$170.....	4	---	\$240.....	2	---	\$775.....	2	---
\$175.....	16	11	\$242 ¹	1	---	Mileage rate only.....	16	---
\$180.....	4	---	\$248.....	---	7	Not reported.....	29	---
\$183 ¹	16	---	\$250.....	27	5			
\$188.....	9	---	\$260.....	1	---			
\$190.....	---	15				Total.....	460	138

¹ Based on yearly salary.

Earnings of Pilots and Copilots, October, 1931, by District

Table 4 shows for each geographic district and for all districts combined the number of pilots and of copilots whose earnings fell within each classified group of earnings in October, 1931. The earnings for each person include his basic salary per month or proportionate part thereof for any portion of the month that he was on the pay rolls in the month and his mileage earnings for miles flown, if any.

Five of the 460 pilots covered in the study earned less than \$150 in October, due probably to the fact that they were not on the rolls the entire month and that their hours of flight were few or none in the month. The earnings of 4 pilots were between \$950 and \$1,000 in the month; in each case the amount included basic salary and earnings for mileage.

TABLE 4.—Classified earnings per month of pilots and copilots, October, 1931, by district

Classified actual earnings in one month	Pilots						Copilots						
	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	Total	North Atlantic	East North Central	West North Central	South Central	Western	Total
Under \$150.....	1	---	1	---	1	2	5	---	1	1	---	1	3
\$150 and under \$160.....	---	---	---	---	4	---	4	1	---	2	---	---	3
\$170 and under \$180.....	---	---	2	---	---	---	2	---	9	---	2	---	11
\$190 and under \$200.....	---	---	---	---	---	---	---	2	7	3	---	2	15
\$200 and under \$210.....	---	---	---	---	---	---	---	2	9	7	1	3	22
\$210 and under \$220.....	---	---	---	---	---	2	2	3	2	---	---	3	8
\$220 and under \$230.....	---	---	---	---	1	---	2	1	11	6	5	22	45
\$230 and under \$240.....	---	---	1	---	---	1	1	2	---	---	---	---	2
\$240 and under \$250.....	---	---	---	---	3	---	3	7	3	---	---	---	10
\$250 and under \$275.....	---	1	4	---	2	---	7	---	4	---	3	2	9
\$275 and under \$300.....	---	---	---	---	---	---	2	1	2	---	---	---	3
\$300 and under \$325.....	1	3	4	2	1	3	14	---	---	---	---	1	1
\$325 and under \$350.....	---	1	1	---	2	1	5	---	---	---	---	---	---
\$350 and under \$400.....	---	21	7	---	2	5	35	---	---	---	---	---	---
\$400 and under \$450.....	---	8	5	2	5	7	27	---	---	---	---	---	---
\$450 and under \$500.....	1	4	4	---	6	9	24	1	---	---	---	1	2
\$500 and under \$550.....	12	20	6	14	5	5	62	1	---	---	---	1	2
\$550 and under \$600.....	3	25	14	5	4	9	60	---	---	---	2	---	2

TABLE 4.—Classified earnings per month of pilots and copilots, October, 1931, by district—Continued

Classified actual earnings in one month	Pilots							Copilots					
	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	Total	North Atlantic	East North Central	West North Central	South Central	Western	Total
\$600 and under \$650..	9	11	12	3	2	19	56						
\$650 and under \$700..	5	11	2	5	7	9	39						
\$700 and under \$750..	4	8	1	7	7	9	36						
\$750 and under \$800..	4	2	8	2	1	13	30						
\$800 and under \$850..	1	3	4	2		13	23						
\$850 and under \$900..	2	4	2	1		2	11						
\$900 and under \$950..	2	1	1			2	6						
\$950 and under \$1,000..			1	2		1	4						
Total.....	46	123	81	45	53	112	460	20	48	19	13	38	138

Distribution of Pilots by Classified Flight-Hours in Month

Table 5 gives a distribution of the pilots covered in the study for each district and for all districts combined according to classified hours actually flown in one month, and also shows the average hours actually flown in the month and average earnings per flight-hour.

In the month studied the flight-hours of one pilot in the North Atlantic district and of two in the Western district fell within the classified group of "15 and under 20," and of one in the East North Central district and of two in the West North Central district within the group of "125 and under 130." The flight-hours of the other 454 pilots covered in the study fell within the groups between these extremes, the largest number in any one group being 72 at "80 and under 85."

TABLE 5.—Distribution of pilots in each district and in all districts, by hours actually flown in one month, 1931

Classified flight-hours in 1 month	Number of pilots in each classified group of flight-hours by districts						
	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	Total
15 and under 20.....	1					2	3
20 and under 25.....			1			1	3
25 and under 30.....		1				1	3
30 and under 35.....			1	1	1	2	5
35 and under 40.....	1	1		1	1	1	6
40 and under 45.....		5				6	11
45 and under 50.....		4	1			3	9
50 and under 55.....		3	6	2	1	3	14
55 and under 60.....	2	3	1		1	4	11
60 and under 65.....	1	2	5		2	5	15
65 and under 70.....	1	12	6	1	5	8	33
70 and under 75.....	3	12	11	2	4	6	38
75 and under 80.....	4	10	5	5	2	10	36
80 and under 85.....	12	24	11	5	6	14	72
85 and under 90.....	4	13	12	11	6	17	63
90 and under 95.....	4	14	3	6	3	16	46
95 and under 100.....	4	11	7	3	4	6	35
100 and under 105.....	4	2	4	3	7	4	24
105 and under 110.....	3	1	2	3	3	3	17
110 and under 115.....	2			2	5	1	9
115 and under 120.....		2			2		4
120 and under 125.....		1	1				3
125 and under 130.....		1	2				3
Number of local units.....	12	24	12	10	16	24	98
Number of pilots.....	46	123	81	45	53	112	460
Average hours actually flown.....	84.1	79.4	78.4	85.8	86.7	76.2	80.4
Average earnings per flight-hour.....	\$7.284	\$6.929	\$6.906	\$7.199	\$5.565	\$8.066	\$7.084

Days, Hours, and Earnings of Ground Personnel, by Occupation

Average days worked in one week, average full time and credited hours and earnings in one week, the per cent of full time worked in the week, and average earnings per hour are shown in Table 6 for each of the important occupations of the ground personnel only, and also for the groups designated as "Other employees." These groups include a number of occupations, each too few in number of employees to warrant separate tabulation. The data in this table do not include figures for pilots and copilots. Figures by occupation are for males only. Because of the small number of female wage earners in any one occupation, figures for this sex are for a combination of traffic agents, clerks, stenographers, seamstresses, fabric workers, and the group of other employees, skilled and unskilled. Wage figures for males in each occupation and for females in all occupations combined are shown by districts in Table A (pp. 15 to 18).

Approximately 10 per cent of the employees in Table 6 were paid hourly rates for the hours actually worked during the pay period covered by the study and 90 per cent were paid weekly, monthly, or yearly salaries based on full time, regardless of the number of hours actually worked during the period. The salary of each employee whose rate was for a month or year was reduced to a weekly rate. The full-time hours per week of each salaried employee and his weekly rate were used in computing average earnings per hour. Therefore, the fifth column of Table 6 is headed "Hours credited in one week" instead of "Average hours actually worked in one week" as in wage reports for other industries.

Traffic agents, the first occupation in the table, worked an average of 6 days in the week. In arriving at this average, each full day or part of a day on which an agent did any work in the week was counted a day, regardless of the number of hours he actually worked on the day. Their full-time hours per week averaged 48, and credited hours averaged 47.8 in one week, or 99.6 per cent of full time. They earned an average of 62.9 cents per hour and \$30.07 in one week. Had they worked full time at the same average per hour as was earned in the hours credited, their full-time earnings in the week would have averaged \$30.17.

Average full-time hours per week, by occupation, ranged from 47.2 for machinists and tool makers to 53.0 for janitors. Average hours credited in one week ranged from 47.8 for traffic agents to 53.5 for machinists and toolmakers. The per cent that hours credited in the week was of the average full-time hours per week ranged from 99.6 for traffic agents to 113.3 for machinists and toolmakers, thus showing that for traffic agents there was only 0.4 per cent of lost time in the week and for machinists and toolmakers there was at least 13.3 per cent of overtime. The credited hours of only two occupations (traffic agents and radio mechanics) were less than their full-time hours. Average earnings per hour ranged from 24 cents for porters to \$1.069 for chief mechanics. Average full-time earnings per week ranged from \$11.54 for porters to \$51.30 for chief mechanics. Average actual earnings per week for the different occupations in the industry ranged from \$11.54 for porters to \$51.86 for chief mechanics.

TABLE 6.—Average days, hours, and earnings of ground personnel, 1931, by occupation

Occupation and sex	Number of local units	Number of employees	Average days on which employees worked in 1 week	Average full-time hours per week	Hours credited in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Per cent of full time			
Agents, traffic, male.....	103	175	6.0	48.0	47.8	99.6	\$0.629	\$30.17	\$30.07
Chauffeurs, male.....	17	41	6.0	48.3	48.7	100.8	.558	26.93	27.14
Clerks, stenographers, male.....	43	107	6.0	48.2	48.2	100.0	.551	26.54	26.54
Crew chiefs, male.....	14	44	6.0	48.7	50.1	103.0	.902	43.91	45.17
Dispatchers, male.....	52	118	5.9	47.9	47.9	100.0	.592	28.37	28.37
Inspectors, male.....	13	25	6.1	48.0	49.6	103.0	.945	45.37	46.87
Janitors, male.....	30	73	6.2	53.0	53.2	100.4	.362	19.21	19.27
Machinists and toolmakers, male.....	9	19	6.1	47.2	53.5	113.3	.754	35.58	40.36
Mechanics, airplanes, licensed, male.....	23	162	6.0	47.8	51.7	108.2	.734	35.08	37.92
Mechanics, engine, licensed, male.....	31	150	5.9	48.0	49.6	103.3	.742	35.61	36.83
Mechanics, airplane and engine, licensed, male.....	115	588	6.0	48.4	49.5	102.3	.747	36.16	37.01
Mechanics, airplane and engine, not licensed, male.....	28	170	5.8	47.9	50.0	104.4	.641	30.68	31.74
Mechanics, chief, male.....	70	119	6.0	48.0	48.5	101.0	1.069	51.30	51.86
Mechanics' helpers, licensed, male.....	33	60	6.1	47.7	49.6	104.0	.549	26.20	27.24
Mechanics' helpers, not licensed, male.....	77	332	6.0	48.5	50.0	103.1	.441	21.39	22.08
Porters, male.....	28	44	6.0	48.2	48.2	100.0	.240	11.54	11.54
Radio mechanics, male.....	24	94	6.0	48.0	47.9	99.8	.688	33.01	32.97
Radio operators, male.....	81	184	6.1	48.4	48.4	100.0	.712	34.49	34.49
Stock clerks, male.....	24	82	6.0	47.9	48.6	101.5	.557	26.70	27.10
Other ground-personnel employees, skilled, male.....	53	143	5.9	48.0	48.0	100.0	.817	39.19	39.19
Other ground-personnel employees, unskilled, male.....	36	181	6.1	51.3	52.0	101.4	.384	19.72	19.98
All ground-personnel employees, male.....	214	2,911	6.0	48.5	49.5	102.1	.645	31.26	31.89
All ground-personnel employees, female.....	36	88	6.0	48.0	48.0	100.0	.497	23.85	23.85
All ground-personnel employees, male and female.....	214	2,999	6.0	48.5	49.4	101.9	.640	31.05	31.66

Classified Earnings per Hour

Pilots, Copilots, and Ground Personnel

A distribution by number and per cent of pilots, copilots, and of the ground personnel of each sex in each classified group of average earnings per hour is shown in Table 7.

Only 1, or less than 1 per cent, of the 460 pilots covered in the study earned less than \$1.00 per hour and 1 earned an average that fell within the group "\$14.00 and under \$14.50" per hour, while 121, or 26 per cent, earned an average that was within the group "\$6.00 and under \$7.00" per hour. The lowest average per hour of copilots fell within the group of "90 and under 95 cents" per hour and the highest within the group of "\$4.00 and under \$5.00" per hour. Only one male of the ground personnel earned more than \$1.90 per hour and one female earned an average of more than 85 cents per hour.

TABLE 7.—Number and per cent of pilots, copilots, and of the ground personnel of each sex in each classified group of average earnings per hour, 1931

[Earnings in this table are per flight-hour for pilots, see page 2; per full-time hour for copilots, see page 3; and per credited hour for employees of the ground personnel, see page 7]

Classified average earnings per hour	Number				Per cent					
	Pilots	Co-pilots	Ground personnel		Total	Pilots	Co-pilots	Ground personnel		Total
			Male	Female				Male	Female	
Under 7 cents			3		3			(1)		(1)
7 and under 8 cents			2		2			(1)		(1)
8 and under 9 cents										
9 and under 10 cents			1		1			(1)		(1)
10 and under 11 cents			1	1	2			(1)	1	(1)
11 and under 12 cents										
12 and under 13 cents			2		2			(1)		(1)
13 and under 14 cents										
14 and under 15 cents			8		8			(1)		(1)
15 and under 16 cents										
16 and under 17 cents										
17 and under 18 cents			1		1			(1)		(1)
18 and under 19 cents			6		6			(1)		(1)
19 and under 20 cents			11		11			(1)		(1)
20 and under 21 cents			2		2			(1)		(1)
21 and under 22 cents			21		21			1		1
22 and under 23 cents										
23 and under 24 cents			2		2			(1)		(1)
24 and under 25 cents			19	1	20			1	1	1
25 and under 27½ cents			27		27			1		1
27½ and under 30 cents			45	3	48			2	3	1
30 and under 32½ cents			29		29			1		1
32½ and under 35 cents			25	1	26			1	1	1
35 and under 37½ cents			77	6	83			3	7	2
37½ and under 40 cents			71	12	83			2	14	2
40 and under 42½ cents			79	2	81			3	2	2
42½ and under 45 cents			96	9	105			3	10	3
45 and under 47½ cents			45	5	50			2	6	1
47½ and under 50 cents			201	13	214			7	15	6
50 and under 55 cents			180	7	187			6	8	5
55 and under 60 cents			152	7	159			5	8	4
60 and under 65 cents			377	11	388			13	13	11
65 and under 70 cents			209	1	210			7	7	6
70 and under 75 cents			373	6	379			13	7	11
75 and under 80 cents			203	1	204			7	1	6
80 and under 85 cents			256	1	257			9	1	7
85 and under 90 cents			87		87			3		2
90 and under 95 cents		20	56		76		14	2		2
95 cents and under \$1.00	1		92	1	94	(1)		3	1	3
\$1.00 and under \$1.10		41	67		108		30	2		3
\$1.10 and under \$1.20		10	21		31		7	1		1
\$1.20 and under \$1.30		4	39		43		3	1		1
\$1.30 and under \$1.40		1	5		6		1			
\$1.40 and under \$1.50		11	12		23		(1)			(1)
\$1.50 and under \$1.60		15	1		16		11	(1)		(1)
\$1.60 and under \$1.70		2	3		5		1	(1)		(1)
\$1.70 and under \$1.80	1	3	1		5	(1)	2	(1)		(1)
\$1.80 and under \$1.90	2	1	2		5	(1)	8	(1)		(1)
\$1.90 and under \$2.00	1	1			2	(1)	1			(1)
\$2.00 and under \$2.25	3	10	1		14	1	7	(1)		(1)
\$2.25 and under \$2.50		4			4		3			(1)
\$2.50 and under \$3.00	1	1			2	(1)	1			(1)
\$3.00 and under \$4.00	17				17	4	7			(1)
\$4.00 and under \$5.00	30				34	7	9			1
\$5.00 and under \$6.00	42	4			42	9	3			3
\$6.00 and under \$7.00	121				121	26				2
\$7.00 and under \$8.00	87				87	19				2
\$8.00 and under \$9.00	74				74	16				1
\$9.00 and under \$10.00	43				43	9				1
\$10.00 and under \$12.00	30				30	7				
\$12.00 and under \$14.00	6				6	1				(1)
\$14.00 and under \$14.50	1				1	(1)				(1)
Total	460	138	2,911	88	3,597	100	100	100	100	100

1 Less than 1 per cent.

Ground Personnel, by Occupation

Table 8 shows the per cent of employees in each of the important occupations and in the groups of "Other employees" of the ground personnel in each of the classified groups of average earnings per hour. Figures for pilots and copilots are not included in this table. The classified groups of earnings extend from "under 20 cents" to "\$2.00 and under \$3.00" per hour.

The average earnings per hour of 2 per cent of the 175 traffic agents fell within the group of "30 and under 35 cents" per hour and 2 per cent earned an average that fell within the group of "\$1.00 and under \$1.25." It will also be observed that 41 per cent of the porters earned less than 20 cents per hour and that only 2 per cent of them earned as much as 40 and under 45 cents per hour.

TABLE 8.—Average earnings per hour and per cent of ground personnel earning each classified amount per hour, 1931, by occupation and sex

Occupation and sex	Number of local units	Number of employees	Average earnings per hour	Per cent of employees whose earnings per hour were—															
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 60 cents	60 and under 70 cents	70 and under 80 cents	80 and under 90 cents	90 cents and under \$1.00	\$1.00 and under \$1.25	\$1.25 and under \$1.50	\$1.50 and under \$2.00	\$2.00 and under \$3.00
Agents, traffic, male.....	103	175	\$0.629				2	8	5	15	11	21	25	3	9	2			
Chauffeurs, male.....	17	41	.558				2	2	2	7	54	15	10		5				
Clerks, stenographers, male.....	43	107	.551	1	2	3	1	13	7	24	8	18	15	3	3	2			
Crew chiefs, male.....	14	44	.902								2	9	16	23	20	30			
Dispatchers, male.....	52	118	.592					8	4	19	22	26	9	5	3	1	1		
Inspectors, male.....	13	25	.945								4	12	24	24	28	4			
Janitors, male.....	30	73	.362	10	19	11	4	10	14	15	14	4							
Machinists and toolmakers, male.....	9	19	.754								5	21	37	32	5				
Mechanics, airplane, licensed, male.....	23	162	.734				1			1	10	28	34	19	6	2			
Mechanics, engine, licensed, male.....	31	150	.742							1	7	25	39	23	5	1	1		
Mechanics, airplane and engine, licensed, male.....	115	588	.747					(1)	1	2	4	26	31	26	7	2	1		
Mechanics, airplane and engine, not licensed, male.....	28	170	.641			1		1	5	6	24	38	15	8	2	1			
Mechanics, chief, male.....	70	119	1.069						1	1			8	6	19	54	8	3	
Mechanics' helpers, licensed, male.....	33	60	.549						8	18	48	23	2						
Mechanics' helpers, not licensed, male.....	77	332	.441	1	2	10	3	16	21	16	22	9	(1)						
Porters, male.....	28	44	.240	41	9	16	9	23	2										
Radio mechanics, male.....	24	94	.688			1				14	10	22	33	17	2	1			
Radio operators, male.....	81	184	.712						1	7	1	32	42	16	2				
Stock clerks, male.....	24	82	.557			1	9	5	7	16	22	28	7	1	1	2			
Other ground-personnel employees, skilled, male.....	53	143	.817		1			1	2	3	8	21	23	14	11	9	3	3	
Other ground-personnel employees, unskilled, male.....	36	181	.384	3	9	9	13	18	22	14	7	3	1	1					
All ground-personnel employees, male.....	214	2,911	.645	1	2	2	2	5	6	8	11	20	20	12	5	4	1	(1)	
All ground-personnel employees, female.....	36	88	.497	1	1	3	1	20	12	20	16	14	8	1	1				
All ground-personnel employees, male and female.....	214	2,999	.640	1	2	3	2	6	6	9	12	20	19	11	5	4	1	(1)	

¹ Less than 1 per cent.

Classified Full-Time Hours per Week, 1931, of Ground Personnel, by Occupation

Table 9 shows for each of the occupations in air transportation, except pilots and copilots, average full-time hours per week and the per cent of employees at each specified number of hours per week.

Full-time hours per week are those established by a regular time of beginning and quitting work on each day of the week less any regular time off duty for dinner, lunch, or other meal.

The full-time hours per week of 86 per cent of the 2,911 males and of all of the females were 48.

TABLE 9.—Average and classified full-time hours per week of ground-personnel employees, 1931, by occupation

Occupation	Number of local units	Number of employees	Average full-time hours per week	Per cent of employees whose full-time hours per week were—													
				42 and under	44	48	50	50½	54	56	60	63	70	77 and over			
Agents, traffic, male	103	175	48.0	1	97	1	1	1									
Chauffeurs, male	17	41	48.3	2	93		5										
Clerks and stenographers, male	43	107	48.2		95	4	1										
Crew chiefs, male	14	44	48.7		89		11										
Dispatchers, male	52	118	47.9	1	88	11											
Inspectors, male	13	25	48.0	4	88		8										
Janitors, male	30	73	53.0	1	67		7	3	8	1	8						4
Machinists and toolmakers, male	9	19	47.2	21	79												
Mechanics, airplane, licensed, male	23	162	48.7	10	86		2	2									
Mechanics, engine, licensed, male	31	150	48.0	11	75		10	3									
Mechanics, airplane and engine, licensed, male	115	588	48.4	(¹)	87		7	4	1								
Mechanics, airplane or engine, not licensed, male	28	170	47.9	10	81		6	2									
Mechanics, chief, male	70	119	48.0	5	89		4	1	1								
Mechanics' helpers, licensed, male	33	60	47.7	2	10	88											
Mechanics' helpers, not licensed, male	77	332	48.5	(¹)	4	82		5	8	(¹)							
Porters, male	28	44	48.2		98		2										
Radio mechanics, male	24	94	48.0		100												
Radio operators, male	81	184	48.4		95		5										
Stock clerks, male	24	82	47.9	7	84		9										
Other ground-personnel employees, skilled, male	53	143	48.0	1	3	92	1	2	1	1							
Other ground-personnel employees, unskilled, male	36	181	51.3	1	73		15	1	3	1				1			7
All ground-personnel employees, male	214	2,911	48.5	(¹)	3	86	1	5	3	1	(¹)	(¹)	(¹)	(¹)			1
All ground-personnel employees, female	36	88	48.0		100												
All ground-personnel employees, male and female	214	2,999	48.5	(¹)	3	87	1	4	3	1	(¹)	(¹)	(¹)	(¹)			1

¹ Less than 1 per cent.

The hours per week and per day, Monday to Friday, Saturday, and Sunday, in Table 10, are the regular or customary hours of the employees at the local units included in the study of the industry when working full time or when there is no overtime and no part-time work by any worker.

Full-time hours per week ranged by local units from 42 for the 2 with the shortest to 56 for the 12 with the longest hours per week. The hours of the employees of 182, or 85 per cent, of the local units were 48 per week or 8 hours per day, Monday to Saturday.

While air transportation is a 7-day-week industry, it is the general policy of the officials at the local units to provide for the relief of each employee on one day each week, thus making a 6-day week for the great mass of employees in the industry.

TABLE 10.—Number of local units in each district at each specified number of full-time hours per week and per day, 1931

[The figures in this table are limited to the ground personnel only. They do not include data for pilots and copilots]

Per week	Full-time hours			Number of local units at each specified hours per week and day						Total
	Per day			North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	
	Monday to Friday	Saturday	Sunday							
42.....	6	6	6			2				2
44.....	8	4	0					1		1
44 ¹	18	14	0		1					1
48 ²	28	28	0							
48.....	8	8	0	19	33	25	27	37	41	182
48 ¹	18	18	0							
50.....	10	0	0	1			1			2
48 ¹	18	18	0							
50 ^{1/2}	29	25 ^{1/2}	0					1		1
54.....	29	29	0							
48 ¹	18	18	0		5	1			1	7
54.....	29	29	0							
48 ¹	18	18	0					2		2
56.....	28	28	8				2			4
50.....	10	0	0	2						4
56.....	8	8	8					8	4	12
Total.....				22	39	28	30	49	46	214

¹ For one group of employees.
² For another group of employees.
³ For a third group of employees.

Changes in Wage Rates, July 1, 1930, to October 1, 1931

Between July 1, 1930, and October 1, 1931, wage rates of all employees of 2 local units were increased, and of all or certain specified employees of 51 local units were reduced. There was no change in the rates of any of the employees of 161 local units.

Table 11 shows the number of local units, the employees whose rates were changed, and the percentage of increase and of decrease.

TABLE 11.—Change in wage rates July 1, 1930, to October 1, 1931

Number of local units	Employees affected by change	Per cent or amount of change		Number of local units	Employees affected by change	Per cent or amount of change	
		Increase	Decrease			Increase	Decrease
16	All.....		7 1/2	1	Pilots.....		6
	{ Base rate.....		50	2	All.....	12	
9	{ Pilots Day mileage rate.....		10	3	{ Pilots.....		19
	{ Night mileage rate.....		25		{ Mechanics.....		
6	{ Pilots Day mileage rate.....	1	20 and 29		{ Helpers.....		
	{ Night mileage rate.....	1	30 and 36	1	{ Traffic manager.....		33 1/2
13	{ Pilots Day mileage rate.....	1	0 and 20		{ Ticket agent.....		
	{ Night mileage rate.....	1	10 and 30		{ Pilots (base pay).....		
2	All.....		10				

¹ Depending upon the route flown.

Bonus Systems

A bonus is pay in addition to earnings at stipulated rates. Only one company included in the study of the air-transportation industry reported bonus systems in operation in October, 1931. That company reported two systems, both being for pilots. One bonus was based upon length of service in the company. The other was called a "terrain bonus," and applied to a particularly hazardous route due to mountainous country or to heavy atmospheric conditions, a set amount being paid monthly for flying the route. Bonus earnings were included as part of the actual earnings of the pilots of the company.

Progress in Civil Aeronautics

Air transportation of mail and passengers is a new industry. Table 12, taken from the May, 1932, Air Commerce Bulletin, of the United States Department of Commerce, shows that the number of commercial planes in transport service increased from 69 in 1926, the first year in which the industry was of material importance, to 128 in 1927, to 325 in 1928, to 525 in 1929, to 600 in 1930, and then dropped to 590 in 1931. The number of passengers carried increased from year to year from 5,782 in 1926 to 417,505 in 1930 and 522,345 in 1931.

Only one company was operating planes on schedule as early as 1919. The industry was reported as in the experimental state until 1928, when the operation of aircraft on scheduled routes really became a recognized public service.

TABLE 12.—Progress in civil aeronautics, 1926 to 1931

Item	1926	1927	1928	1929	1930	1931
Pilots employed.....	(1)	107	308	562	675	690
Total personnel employed.....	(1)	462	1,496	2,345	3,475	4,290
Number of planes in transport service.....	69	128	325	525	600	590
Passengers carried on transport lines.....	5,782	8,079	49,715	173,405	417,505	522,345
Airplane-miles flown by all operators.....	4,318,087	5,870,489	10,673,450	25,141,499	36,945,203	47,385,987
Mileage of commercial airways in operation.....	8,404	9,122	16,667	36,321	49,549	50,398
Mileage of lighted airways.....	2,041	4,468	6,988	12,448	15,258	17,512
Electric and gas beacons.....	612	760	1,188	1,311	1,652	1,836
Municipal airports.....	(1)	240	368	453	550	636

¹ Not available.

Each of the occupational terms found by the bureau in the study of the industry is listed and defined in the Appendix (pp. 34 to 41).

General Tables

The preceding tables in this bulletin have presented detailed figures for pilots and copilots, and summaries only for the employees in the other occupations (ground personnel) in the industry. Detailed figures for the ground personnel are given in four general tables as follows:

TABLE A.—Average number of days on which employees worked in one week, average full-time and credited hours and earnings per week, average earnings per hour, and per cent of full time worked, 1931, ground personnel only, by occupation and district.

TABLE B.—Average and classified earnings per hour, 1931, ground personnel only, by occupation and district.

TABLE C.—Average and classified full-time hours per week, 1931, ground personnel only, by occupation and district.

TABLE D.—Average and classified actual earnings in one week, 1931, ground personnel only, by occupation and district.

TABLE A.—Average number of days on which employees worked in one week, average full-time and credited hours and earnings per week, average earnings per hour, and per cent of full time worked, 1931, ground personnel only, by occupation and district

Occupation, sex, and district	Number of local units	Number of employees	Average days on which employees worked in 1 week	Average full-time hours per week	Hours credited in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Per cent of full time			
Agents, traffic, male:									
North Atlantic.....	13	21	6.0	48.0	48.0	100.0	\$0.576	\$27.65	\$27.65
East North Central.....	22	43	6.0	48.0	48.0	100.0	.649	31.17	31.17
West North Central.....	13	16	6.1	47.3	47.3	100.0	.701	33.12	33.12
South Atlantic.....	17	23	6.0	48.1	48.1	100.0	.555	26.69	26.69
South Central.....	22	41	6.0	48.2	48.2	100.0	.603	28.04	28.04
Western.....	16	31	5.9	48.2	47.2	97.9	.689	33.20	32.49
Total.....	103	175	6.0	48.0	47.8	99.6	.629	30.17	30.07
Chauffeurs, male:									
North Atlantic.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
East North Central.....	7	20	6.1	48.2	49.4	102.5	.528	25.45	26.09
West North Central.....	3	6	5.8	48.0	46.7	97.3	.500	23.98	23.31
South Atlantic.....	1	5	(1)	(1)	(1)	(1)	(1)	(1)	(1)
South Central.....	2	2	6.5	52.0	52.0	100.0	.333	17.31	17.31
Western.....	3	5	6.0	48.0	48.0	100.0	.620	29.77	29.77
Total.....	17	41	6.0	48.3	48.7	100.8	.556	26.93	27.14
Clerks, stenographers, male:									
North Atlantic.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
East North Central.....	11	23	6.0	48.0	48.0	100.0	.4.8	22.96	22.96
West North Central.....	8	16	6.0	48.0	48.0	100.0	.534	25.65	25.65
South Atlantic.....	6	24	6.0	48.0	48.0	100.0	.620	29.74	29.74
South Central.....	8	25	6.0	48.7	48.7	100.0	.487	23.73	23.73
Western.....	9	18	6.0	48.0	48.0	100.0	.661	31.74	31.74
Total.....	43	107	6.0	48.2	48.2	100.0	.551	26.54	26.54
Crew chiefs, male:									
North Atlantic.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
East North Central.....	9	25	6.1	49.2	51.7	105.1	.838	41.22	43.31
West North Central.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
South Atlantic.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
South Central.....	2	2	6.0	48.0	48.0	100.0	.837	40.19	40.19
Total.....	14	44	6.0	48.7	50.1	103.0	.902	43.91	45.17
Dispatchers, male:									
North Atlantic.....	7	23	5.6	48.8	48.8	100.0	.559	27.26	27.26
East North Central.....	11	27	6.0	48.0	48.0	100.0	.608	29.17	29.17
West North Central.....	4	9	6.0	48.0	48.0	100.0	.668	31.82	31.82
South Atlantic.....	11	26	5.8	48.3	48.3	100.0	.549	26.54	26.54
South Central.....	10	17	6.0	45.9	45.9	100.0	.520	23.86	23.86
Western.....	9	16	6.0	48.0	48.0	100.0	.718	34.46	34.46
Total.....	52	118	5.9	47.9	47.9	100.0	.592	28.37	28.37
Inspectors, male:									
North Atlantic.....	3	5	6.0	48.0	48.0	100.0	1.038	49.84	49.84
East North Central.....	3	9	6.2	47.6	50.6	106.3	.863	41.07	43.63
West North Central.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
South Atlantic.....	2	2	6.0	48.0	48.0	100.0	1.022	49.04	49.04
South Central.....	2	3	6.0	49.7	49.7	100.0	.953	47.31	47.31
Western.....	2	3	6.0	48.0	49.7	103.5	1.031	49.50	51.22
Total.....	13	25	6.1	48.0	49.6	103.0	.945	45.37	46.87

¹ Data included in the total but not given separately, to avoid identification.

TABLE A.—Average number of days on which employees worked in one week, average full-time and credited hours and earnings per week, average earnings per hour, and per cent of full time worked, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employees	Average days on which employees worked in 1 week	Average full-time hours per week	Hours credited in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Per cent of full time			
Janitors, male:									
North Atlantic.....	4	7	6.0	51.4	51.4	100.0	\$0.396	\$20.36	\$20.36
East North Central.....	9	28	6.3	54.7	55.5	101.5	.328	17.93	18.19
West North Central.....	4	6	6.2	60.0	58.7	97.8	.402	24.11	23.58
South Atlantic.....	3	7	6.0	51.4	51.4	100.0	.272	14.01	14.01
South Central.....	5	9	6.2	51.1	51.1	100.0	.282	14.39	14.39
Western.....	5	16	6.1	49.7	49.7	100.0	.455	24.11	24.11
Total.....	30	73	6.2	53.0	53.2	100.4	.362	19.21	19.27
Machinists and toolmakers, male:									
East North Central.....	5	10	6.2	46.4	58.3	125.6	.756	35.09	44.12
West North Central.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
South Central.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Western.....	2	5	6.0	48.0	48.1	100.2	.721	34.61	34.68
Total.....	9	19	6.1	47.2	53.5	113.3	.754	35.58	40.36
Mechanics, airplane, licensed, male:									
East North Central.....	5	25	6.1	46.3	51.0	112.3	.786	35.45	39.81
West North Central.....	3	32	5.3	48.0	46.8	97.5	.676	32.44	31.67
South Atlantic.....	3	16	6.2	48.0	53.9	112.3	.749	35.93	40.33
South Central.....	4	7	6.0	48.9	50.5	103.3	.650	31.79	32.84
Western.....	8	82	6.1	48.0	53.1	110.6	.748	35.91	39.75
Total.....	23	162	6.0	47.8	51.7	108.2	.734	35.08	37.92
Mechanics, engine, licensed, male:									
North Atlantic.....	4	9	6.0	48.0	48.0	100.0	.791	37.98	37.98
East North Central.....	10	46	6.1	47.3	52.0	109.9	.704	33.32	36.64
West North Central.....	3	27	5.7	48.0	47.4	98.8	.717	34.43	34.02
South Atlantic.....	3	20	6.0	48.0	48.9	101.9	.852	40.87	41.64
South Central.....	3	16	5.8	50.1	48.6	97.0	.722	36.18	35.10
Western.....	8	32	5.9	48.0	49.5	103.1	.747	35.85	37.00
Total.....	31	150	5.9	48.0	49.6	103.3	.742	35.61	36.83
Mechanics, airplane and engine, licensed, male:									
North Atlantic.....	12	72	6.0	48.0	49.1	102.3	.783	37.60	38.48
East North Central.....	27	132	6.1	48.6	51.7	106.4	.711	34.54	36.78
West North Central.....	18	67	6.0	48.1	48.4	100.6	.700	33.66	33.87
South Atlantic.....	10	59	6.0	48.0	48.1	100.2	.806	38.70	38.76
South Central.....	19	99	6.0	49.5	49.7	100.4	.721	35.67	35.85
Western.....	29	159	6.0	48.0	48.8	101.7	.778	37.33	37.92
Total.....	115	588	6.0	48.4	49.5	102.3	.747	36.16	37.01
Mechanics, airplane or engine, not licensed, male:									
North Atlantic.....	5	9	6.2	48.0	49.4	102.9	.653	31.33	32.27
East North Central.....	7	51	6.0	47.1	53.3	113.2	.641	30.19	34.18
West North Central.....	3	31	5.0	48.0	44.8	93.3	.573	27.50	25.68
South Atlantic.....	5	39	6.0	48.0	48.8	101.7	.647	31.05	31.59
South Central.....	2	24	5.9	49.1	49.2	100.2	.721	35.41	35.52
Western.....	6	16	6.0	48.0	49.0	102.1	.615	29.51	30.10
Total.....	28	170	5.8	47.9	50.0	104.4	.641	30.68	31.74
Mechanics, chief, male:									
North Atlantic.....	7	7	6.0	48.0	49.6	103.3	1.077	51.67	53.36
East North Central.....	14	25	6.0	47.3	48.1	101.7	1.037	49.06	49.91
West North Central.....	8	17	6.1	48.0	49.5	103.1	1.088	52.23	53.84
South Atlantic.....	6	10	6.0	48.0	48.0	100.0	1.197	57.46	57.46
South Central.....	10	17	6.0	48.7	48.7	100.0	1.016	49.52	49.52
Western.....	25	43	6.0	48.2	48.3	100.2	1.069	51.53	51.59
Total.....	70	119	6.0	48.0	48.5	101.0	1.065	51.30	51.86

¹ Data included in the total but not given separately, to avoid identification.

TABLE A.—Average number of days on which employees worked in one week, average full-time and credited hours and earnings per week, average earnings per hour, and per cent of full time worked, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employees	Average days on which employees worked in 1 week	Average full-time hours per week	Hours credited in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Per cent of full time			
Mechanics' helpers, licensed, male:									
North Atlantic.....	2	3	6.3	48.0	50.7	105.6	\$0.603	\$28.96	\$30.57
East North Central.....	15	34	6.1	47.3	50.1	105.9	.534	25.28	26.76
West North Central.....	6	8	6.3	47.3	49.1	103.8	.593	28.06	29.12
South Atlantic.....	3	6	5.0	48.0	48.0	100.0	.529	25.39	25.39
South Central.....	3	4	6.0	50.5	50.2	99.4	.570	23.76	28.57
Western.....	5	5	6.0	48.0	48.0	100.0	.555	26.63	26.63
Total.....	33	60	6.1	47.7	49.6	104.0	.549	26.20	27.24
Mechanics' helpers, not licensed, male:									
North Atlantic.....	7	28	6.1	48.0	49.6	103.3	.483	23.19	23.96
East North Central.....	17	72	6.0	49.7	51.8	104.2	.384	19.07	19.88
West North Central.....	11	51	6.0	47.9	48.1	100.4	.420	20.12	20.21
South Atlantic.....	10	57	6.1	48.0	51.1	106.5	.441	21.19	22.55
South Central.....	10	42	6.0	49.2	50.0	101.6	.406	22.92	23.29
Western.....	22	82	6.0	48.0	49.2	102.5	.479	23.01	23.57
Total.....	77	332	6.0	48.5	50.0	103.1	.441	21.39	22.08
Porters, male:									
North Atlantic.....	3	5	6.0	48.0	48.0	100.0	.361	17.31	17.31
East North Central.....	6	9	6.0	48.0	48.0	100.0	.174	3.35	8.35
West North Central.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
South Atlantic.....	11	16	6.0	48.0	48.0	100.0	.207	9.93	9.93
South Central.....	6	11	6.1	48.7	48.7	100.0	.250	12.17	12.17
Western.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total.....	28	44	6.0	48.2	48.2	100.0	.240	11.54	11.54
Radio mechanics, male:									
North Atlantic.....	5	8	6.0	48.0	48.0	100.0	.749	35.96	35.96
East North Central.....	4	20	6.0	48.0	48.0	100.0	.725	34.81	34.81
West North Central.....	3	15	5.9	48.0	47.7	99.4	.716	34.37	34.12
South Atlantic.....	3	15	6.0	48.0	48.0	100.0	.637	30.58	30.58
South Central.....	6	11	6.0	48.0	48.0	100.0	.751	36.07	36.07
Western.....	3	25	6.0	48.0	48.0	100.0	.624	29.94	29.94
Total.....	24	94	6.0	48.0	47.9	99.8	.688	33.01	32.97
Radio operators, male:									
North Atlantic.....	10	20	6.0	48.0	48.0	100.0	.705	33.85	33.85
East North Central.....	10	24	6.0	48.0	48.0	100.0	.646	31.00	31.00
West North Central.....	13	27	6.0	48.0	48.0	100.0	.681	32.71	32.71
South Atlantic.....	11	21	6.0	48.0	48.0	100.0	.719	34.50	34.50
South Central.....	14	30	6.2	49.9	49.9	100.0	.711	35.43	35.43
Western.....	23	62	6.0	48.4	48.4	100.0	.751	36.36	36.36
Total.....	81	184	6.1	48.4	48.4	100.0	.712	34.49	34.49
Stock clerks, male:									
North Atlantic.....	2	4	6.0	48.0	48.0	100.0	.535	25.68	25.68
East North Central.....	6	19	6.1	46.7	50.2	107.5	.559	26.11	28.09
West North Central.....	3	13	5.9	48.0	47.3	98.5	.496	23.80	23.47
South Atlantic.....	3	13	6.0	48.0	48.0	100.0	.514	24.68	24.68
South Central.....	3	10	6.0	49.8	49.8	100.0	.601	29.89	29.39
Western.....	7	23	6.0	48.0	48.0	100.0	.599	28.75	28.75
Total.....	24	82	6.0	47.9	48.6	101.5	.557	26.70	27.10

1: Data included in the total but not given separately, to avoid identification.

TABLE A.—Average number of days on which employees worked in one week, average full-time and credited hours and earnings per week, average earnings per hour, and per cent of full time worked, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employees	Average days on which employees worked in 1 week	Average full-time hours per week	Hours credited in 1 week		Average earnings per hour	Average full-time earnings in 1 week	Average actual earnings in 1 week
					Average number	Per cent of full time			
Other ground-personnel employees, skilled, male:									
North Atlantic.....	9	13	6.0	48.2	49.9	103.5	\$0.801	\$38.62	\$40.01
East North Central.....	11	40	6.1	47.8	50.3	105.2	.817	39.05	41.08
West North Central.....	9	22	5.4	47.7	41.9	87.8	.851	40.58	35.68
South Atlantic.....	9	28	6.0	48.1	48.1	100.0	.864	41.52	41.52
South Central.....	8	16	6.1	49.0	49.2	100.4	.645	31.61	31.73
Western.....	7	24	6.0	48.0	47.9	99.8	.859	41.23	41.11
Total.....	53	143	5.9	48.0	48.0	100.0	.817	39.19	39.19
Other ground-personnel employees, unskilled, male:									
North Atlantic.....	6	7	6.1	52.9	52.9	100.0	.363	19.19	19.19
East North Central.....	9	23	6.4	55.3	57.9	104.7	.380	21.00	21.99
West North Central.....	3	15	5.8	52.4	49.4	94.3	.434	22.73	21.41
South Atlantic.....	3	56	6.0	48.0	48.8	101.7	.381	18.30	18.62
South Central.....	10	65	6.1	51.2	51.4	100.4	.364	18.65	18.73
Western.....	5	15	6.3	55.7	59.2	106.3	.445	24.76	26.30
Total.....	36	181	6.1	51.3	52.0	101.4	.384	19.72	19.98
All ground-personnel employees, male:									
North Atlantic.....	22	250	6.0	48.3	49.0	101.4	.678	32.76	33.26
East North Central.....	39	705	6.1	48.5	51.1	105.4	.629	30.49	32.16
West North Central.....	28	385	5.8	48.3	47.6	98.6	.640	30.96	30.50
South Atlantic.....	30	454	6.0	48.1	48.9	101.7	.603	29.00	29.48
South Central.....	49	454	6.0	49.4	49.5	100.2	.597	29.51	29.58
Western.....	46	663	6.0	48.3	49.4	102.3	.712	34.37	35.13
Total.....	214	2,911	6.0	48.5	49.5	102.1	.645	31.26	31.89
All ground-personnel employees, female:									
North Atlantic.....	2	4	6.0	48.0	48.0	100.0	.445	21.35	21.35
East North Central.....	8	15	6.0	48.0	48.0	100.0	.493	23.65	23.65
West North Central.....	6	9	6.0	48.0	48.0	100.0	.535	25.68	25.68
South Atlantic.....	7	22	6.0	48.0	48.0	100.0	.517	24.82	24.82
South Central.....	5	11	6.0	48.0	48.0	100.0	.474	22.76	22.76
Western.....	8	27	6.0	48.0	48.0	100.0	.487	23.39	23.39
Total.....	36	88	6.0	48.0	48.0	100.0	.497	23.85	23.85
All ground-personnel employees, male and female:									
North Atlantic.....	22	254	6.0	48.3	49.0	101.4	.675	32.59	33.07
East North Central.....	39	720	6.1	48.5	51.1	105.4	.626	30.36	31.98
West North Central.....	28	394	5.8	48.3	47.6	98.6	.639	30.84	30.39
South Atlantic.....	30	476	6.0	48.1	48.9	101.7	.599	28.82	29.27
South Central.....	49	465	6.0	49.3	49.5	100.4	.595	29.31	29.42
Western.....	46	690	6.0	48.3	49.3	102.1	.703	33.96	34.67
Total.....	214	2,999	6.0	48.5	49.4	101.9	.640	31.05	31.66

TABLE B.—Average and classified earnings per hour, 1931, ground personnel only, by occupation and district

Occupation, sex, and district	Number of local units	Number of employ-ees	Average earn-ings per hour	Number of employees whose earnings per hour were—															
				Un-der 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 60 cents	60 and under 70 cents	70 and under 80 cents	80 and under 90 cents	90 cents and under \$1	\$1 and under \$1.25	\$1.25 and under \$1.50	\$1.50 and under \$1.75	\$2 and under \$3
Agents, traffic, male:																			
North Atlantic.....	13	21	\$0.576					2	1	5	3	4	5	1					
East North Central.....	22	43	.649					4	2	5	3	12	9	3	3	2			
West North Central.....	13	16	.701				1		2	2	2	2	4	1	4				
South Atlantic.....	17	23	.555					2	2	6	7	4			2				
South Central.....	22	41	.603				2	5	2	7	2	7	12	4	4				
Western.....	16	31	.689					1		3	2	8	13	1	2	1			
Total.....	103	175	.629				3	14	9	26	19	37	43	6	15	3			
Chauffeurs, male:																			
North Atlantic.....	1	(1)	(1)							1	16	(1)			(1)				
East North Central.....	7	20	.528				1	1				1	1						
West North Central.....	3	6	.500								4	1							
South Atlantic.....	1	(1)	(1)							(1)	(1)	(1)			(1)				
South Central.....	2	2	.333			1			1										
Western.....	3	5	.620							1	1	1	2						
Total.....	17	41	.558			1	1	1	1	3	22	6	4		2				
Clerks and stenographers, male:																			
North Atlantic.....	1	(1)	(1)							(1)									
East North Central.....	11	23	.478			1		6	1	10	2	2		1					
West North Central.....	8	16	.534					2	3	4	2	2	2	1					
South Atlantic.....	6	24	.620		1			1	3	5	1	5	4		2	2			
South Central.....	8	25	.487	1	1	2	1	4	1	5	1	5	4						
Western.....	9	18	.661					1		1	3	5	6	1	1				
Total.....	43	107	.551	1	2	3	1	14	8	26	9	19	16	3	3	2			
Crew chiefs, male:																			
North Atlantic.....	1	(1)	(1)												(1)	(1)			
East North Central.....	9	25	.838								1	4	6	8	1	5			
West North Central.....	1	(1)	(1)										(1)						
South Atlantic.....	1	(1)	(1)												(1)	(1)			
South Central.....	2	2	.837											2					
Total.....	14	44	.902								1	4	7	10	9	18			

¹ Data included in total but not given by districts, to avoid identification.

TABLE B.—Average and classified earnings per hour, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employ-ees	Aver-ge earnings per hour	Number of employees whose earnings per hour were—															
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 60 cents	60 and under 70 cents	70 and under 80 cents	80 and under 90 cents	90 cents and under \$1	\$1 and under \$1.25	\$1.25 and under \$1.50	\$1.50 and under \$1.75	\$2 and under \$3
Dispatchers, male:																			
North Atlantic.....	7	23	\$0.559					4	2	2	6	5	3		1				
East North Central.....	11	27	.608					1	1	6	2	11	4		2				
West North Central.....	4	9	.663							2	1	3		2	1				
South Atlantic.....	11	26	.549					1	2	5	12	5	1						
South Central.....	10	17	.520					4		5	3	4		1					
Western.....	9	16	.718							3	2	3		3		1	1		
Total.....	52	118	.592					10	5	23	26	31	11	6	4	1	1		
Inspectors, male:																			
North Atlantic.....	3	5	1.038											2		3			
East North Central.....	3	9	.863						1			1	2		1	1	1		
West North Central.....	1	(¹)	(¹)											(¹)	(¹)				
South Atlantic.....	2	2	1.022											1		1			
South Central.....	2	3	.953											1	1	1			
Western.....	2	3	1.031												2	1			
Total.....	13	25	.945						1			1	3	6	6	7	1		
Janitors, male:																			
North Atlantic.....	4	7	.396				2	1	3	1									
East North Central.....	9	26	.328	6	8	2		2		3	7								
West North Central.....	4	6	.402		1				3		2								
South Atlantic.....	3	7	.272	1	2	1	1	2			2								
South Central.....	5	9	.282		3	5		1											
Western.....	5	16	.485					1	4	7	1	3							
Total.....	30	73	.362	7	14	8	3	7	10	11	10	3							
Machinists and toolmakers, male:																			
East North Central.....	5	10	.756								1	3	1	4	1				
West North Central.....	1	(¹)	(¹)											(¹)	(¹)				
South Central.....	1	(¹)	(¹)											(¹)	(¹)				
Western.....	2	5	.721									1	4						
Total.....	9	19	.754								1	4	7	6	1				

143699* 88 1

Mechanics, airplane, licensed, male:

East North Central	5	25	.766							4	7	4	6	2	2		
West North Central	3	32	.676						11	5	11	4	4	1			
South Atlantic	3	16	.749							5	5	6	4	2			
South Central	4	7	.650						1	1	4	1					
Western	8	82	.748			1			1		24	34	15	5	2		
Total	23	162	.734			1			1	16	45	55	30	10	4		

Mechanics, engine, licensed, male:

North Atlantic	4	9	.791								3	3	2			1	
East North Central	10	46	.704					1	5	15	17	8					
West North Central	3	27	.717						3	6	14	3	1				
South Atlantic	3	20	.852						1	5	5	9	4			1	
South Central	3	16	.722							8	3	5					
Western	8	32	.747						2	5	16	7	2				
Total	31	150	.742						1	10	38	58	34	7	1	1	

Mechanics, airplane and engine, licensed, male:

North Atlantic	12	72	.783					5	1	7	18	35	5	1			
East North Central	27	132	.711			1	5		17	30	44	28	7				
West North Central	18	67	.700					2	5	27	21	8	3	1			
South Atlantic	10	59	.806							13	14	21	6	5			
South Central	19	99	.721						2	1	48	28	11	5	4		
Western	29	159	.778						3	1	26	59	52	15	3		
Total	115	588	.747			1	5	12	25	151	184	155	41	14			

Mechanics, airplane or engine, not licensed, male:

North Atlantic	5	9	.653					1	2	4		1	1				
East North Central	7	51	.641			1	2	4	12	19	10	3					
West North Central	3	31	.573					6	9	12	4						
South Atlantic	5	39	.647						4	12	13	5	2	2	1		
South Central	2	24	.721			1			1	9	6	5	1	1			
Western	6	16	.615						1	5	7	1	2				
Total	28	170	.641			1	1	8	11	40	64	26	13	4	2		

Mechanics, chief, male:

North Atlantic	7	7	1.077									1	2	3	1		
East North Central	14	25	1.037									3	1	6	14	1	
West North Central	8	17	1.088									3		1	10	3	
South Atlantic	6	10	1.197									2	1	5	5		2
South Central	10	17	1.016									1	1	8	5	2	
Western	25	43	1.069					*1		1	3	2	5	27	3	3	1
Total	70	119	1.069					*1		1	10	7	23	64	10	3	

* Data included in total but not given by districts, to avoid identification.

* Also paid by another company using same airport.

TABLE B.—Average and classified earnings per hour, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employ-ees	Aver- age earnings per hour	Number of employees whose earnings per hour were—															
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 60 cents	60 and under 70 cents	70 and under 80 cents	80 and under 90 cents	90 cents and under \$1	\$1 and under \$1.25	\$1.25 and under \$1.50	\$1.50 and under \$1.75	\$2 and under \$3
Mechanics' helpers, licensed, male:																			
North Atlantic.....	2	3	\$0.603							1	1			1					
East North Central.....	15	34	.534						3	8	16	7							
West North Central.....	6	6	.593								4	4							
South Atlantic.....	3	4	.523						1	2	1	2							
South Central.....	2	4	.570									4							
Western.....	5	5	.555						1			3	1						
Total.....	33	60	.549						5	11	29	14	1						
Mechanics' helpers, not licensed, male:																			
North Atlantic.....	7	28	.483				1	7	5	3	5	7							
East North Central.....	17	72	.384		1	26	3	6	14	9	11	2							
West North Central.....	11	51	.420		1	2	3	10	22	9	1	3							
South Atlantic.....	10	57	.441	3	3	1	2	13	8	6	14	6	1						
South Central.....	10	42	.466		1	2	2	3	10	7	16	1							
Western.....	22	82	.479	1		2		13	12	18	25	11							
Total.....	77	332	.441	4	6	33	11	52	71	52	72	30	1						
Porters, male:																			
North Atlantic.....	3	5	.361			1		3	1										
East North Central.....	6	9	.174	7	1	1													
West North Central.....	1	(1)	(1)					(1)											
South Atlantic.....	11	16	.207	7	1	3	3	2											
South Central.....	6	11	.250	4	2	2	1	2											
Western.....	1	(1)	(1)					(1)											
Total.....	28	44	.240	18	4	7	4	10	1										
Radio mechanics, male:																			
North Atlantic.....	5	8	.749									2	3	3					
East North Central.....	4	20	.725							2		4	7	6	1				
West North Central.....	3	15	.716								4	4	3	2	1				
South Atlantic.....	3	15	.637							1	5	5	4						
South Central.....	6	11	.751			1						1	8						
Western.....	3	25	.624							10		5	6	1					
Total.....	24	94	.688			1				13	9	21	31	16	2	1			

Radio operators, male:																
North Atlantic.....	10	20	.705						1		11	6	2			
East North Central.....	10	24	.646						2		5	11	2			
West North Central.....	13	27	.681					1			11	11	2			
South Atlantic.....	11	21	.719							1	11	3				
South Central.....	14	30	.711								9	18	2	4		
Western.....	23	62	.761						1		11	31	19			
Total.....	81	184	.712					1	13	1	58	78	29	4		
Stock clerks, male:																
North Atlantic.....	2	4	.635				1	1			1	1				
East North Central.....	6	19	.559		1	1		1	4		4	7	1			
West North Central.....	3	13	.496			2	2	3	2		2	1	1			
South Atlantic.....	3	13	.514			4	1	1			1	4	1	1		
South Central.....	3	10	.601						4	3	1	1			1	
Western.....	7	23	.599						3	10	8				1	
Total.....	24	82	.557		1	7	4	6	13	18	23	6	1	1	2	
Other ground-personnel employees, skilled, male:																
North Atlantic.....	9	13	.801							1	3	2	3	4		
East North Central.....	11	40	.817					1	2	2	9	12	5	3	4	1
West North Central.....	9	22	.851							1	7	6	3	1	2	1
South Atlantic.....	9	28	.864							5	6	4	2	6	2	1
South Central.....	8	16	.645		1		2	2	1	2	3	3	2	2	2	1
Western.....	7	24	.859						2	2	2	6	5	2	3	1
Total.....	53	143	.817		1		2	3	5	11	30	33	20	16	13	4
Other ground-personnel employees, unskilled, male:																
North Atlantic.....	6	7	.363		2	1	1		1		1					
East North Central.....	9	23	.380		2	4	2	1	7	1	1	1				
West North Central.....	3	15	.434		1	1			8		4	1				
South Atlantic.....	3	56	.381		7	3	7	12	15	5	6	1				
South Central.....	10	65	.364		3	5	13	16	15	6	2					
Western.....	5	15	.445			3		1	1	6	2		1	1		
Total.....	36	181	.384	5	17	17	23	32	40	25	13	6	2	1		
All ground-personnel employees, male:																
North Atlantic.....	22	250	.678		2	2	4	19	13	21	19	50	42	50	17	10
East North Central.....	39	705	.629		15	12	35	6	24	32	70	104	140	131	77	27
West North Central.....	28	385	.641			3	3	7	16	48	21	53	90	81	29	15
South Atlantic.....	30	454	.603		11	14	8	17	34	32	35	66	82	48	43	36
South Central.....	49	454	.597		8	13	19	19	37	31	39	31	102	88	32	19
Western.....	46	663	.712		1		5	1	18	19	60	59	122	136	112	34
Total.....	214	2,911	.645	35	44	72	54	148	175	246	332	586	576	343	148	127

¹Data included in total but not given by districts, to avoid identification.

TABLE B.—Average and classified earnings per hour, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employ-ees	Average earnings per hour	Number of employees whose earnings per hour were—																	
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 60 cents	60 and under 70 cents	70 and under 80 cents	80 and under 90 cents	90 cents and under \$1	\$1 and under \$1.25	\$1.25 and under \$1.50	\$1.50 and under \$1.75	\$2 and under \$3		
All ground-personnel employees, female:																					
North Atlantic.....	2	4	\$.445		1			1				1	1								
East North Central.....	8	15	.493			1		4	2	2	3	2				1					
West North Central.....	6	9	.535					1	1	2	3	1			1						
South Atlantic.....	7	22	.517	1					5	7	3	2	4								
South Central.....	5	11	.474			2	1	1	1	2	1	2	1								
Western.....	8	27	.487					11	2	5	3	4									
Total.....	36	88	.497	1	1	3	1	18	11	18	14	12	7	1	1						
All ground-personnel employees, male and female:																					
North Atlantic.....	22	254	.675		3	2	4	20	13	21	20	51	42	50	17	10		1			
East North Central.....	39	720	.628	15	12	36	6	28	34	72	107	142	131	77	28	28		3		1	
West North Central.....	28	394	.639		3	3	7	17	49	23	56	91	81	30	15	14		4			
South Atlantic.....	30	476	.599	12	14	8	17	34	37	42	69	84	52	43	36	22		4			
South Central.....	49	465	.595	8	13	21	20	38	32	41	32	104	89	32	19	14		2			
Western.....	46	690	.703	1		5	1	29	21	65	62	126	188	112	34	39		5		2	
Total.....	214	2,999	.640	36	45	75	55	166	186	264	346	598	583	344	149	127		17		7	1

TABLE C.—Average and classified full-time hours per week, 1931, ground personnel only, by occupation and district

Occupation, sex, and district	Number of local units	Number of employees	Average full-time hours per week	Number of employees whose full-time hours per week were—										
				Under 42	44	48	50	50½	54	56	60	70	77 and over	
Agents, traffic, male:														
North Atlantic	13	21	48.0			21								
East North Central	22	43	48.0			43								
West North Central	13	16	47.3	2		14								
South Atlantic	17	23	48.1			22	1							
South Central	22	41	48.2			40			1					
Western	16	31	48.2			30			1					
Total	103	175	48.0	2		170	1		1	1				
Chauffeurs, male:														
North Atlantic	1	(1)	(1)			(1)								
East North Central	7	20	48.2		1	18				1				
West North Central	3	6	48.0			6								
South Atlantic	1	(1)	(1)			(1)								
South Central	2	2	52.0			1				1				
Western	3	5	48.0			5								
Total	17	41	48.3		1	38				2				
Clerks and stenographers, male:														
North Atlantic	1	(1)	(1)			(1)								
East North Central	11	23	48.0			23								
West North Central	8	16	48.0			16								
South Atlantic	6	24	48.0			24								
South Central	8	25	48.7			20		4		1				
Western	9	18	48.0			18								
Total	43	107	48.2			102		4		1				
Crew chiefs, male:														
North Atlantic	1	(1)	(1)			(1)								
East North Central	9	25	49.2			20				5				
West North Central	1	(1)	(1)			(1)								
South Atlantic	1	(1)	(1)			(1)								
South Central	2	2	48.0			2								
Total	14	44	48.7			39				5				
Dispatchers, male:														
North Atlantic	7	23	48.8			14	9							
East North Central	11	27	48.0			27								
West North Central	4	9	48.0			9								
South Atlantic	11	26	48.3			22	4							
South Central	10	17	45.9	1		16								
Western	9	16	48.0			16								
Total	52	118	47.9	1		104	13							
Inspectors, male:														
North Atlantic	3	5	48.0			5								
East North Central	3	9	47.6		1	8								
West North Central	1	(1)	(1)			(1)								
South Atlantic	2	2	48.0			2								
South Central	2	3	49.7			1		2						
Western	2	3	48.0			3								
Total	13	25	48.0		1	22		2						
Janitors, male:														
North Atlantic	4	7	51.4			5					2			
East North Central	9	28	54.7		1	15			5			6		1
West North Central	4	6	60.0			4								2
South Atlantic	3	7	51.4			5					2			
South Central	5	9	51.1			6			2			1		
Western	5	16	49.7			14					12			
Total	30	73	53.0		1	49			5	2	17	6		3
Machinists and toolmakers, male:														
East North Central	5	10	46.4		4	6								
West North Central	1	(1)	(1)			(1)								
South Central	1	(1)	(1)			(1)								
Western	2	5	48.0			5								
Total	9	19	47.2		4	15								

¹Data included in total.

²Including 1 at 63.

TABLE C.—Average and classified full-time hours per week, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employees	Average full-time hours per week	Number of employees whose full-time hours per week were—								
				Under 42	44	48	50	50½	54	56	60	70	77 and over
Mechanics, airplane, licensed, male:												
East North Central.....	5	25	46.3	-----	15	7	-----	-----	-----	3	-----	-----
West North Central.....	3	32	48.0	-----	-----	32	-----	-----	-----	-----	-----	-----
South Atlantic.....	3	16	48.0	-----	-----	16	-----	-----	-----	-----	-----	-----
South Central.....	4	7	48.9	-----	1	2	-----	4	-----	-----	-----	-----
Western.....	8	82	48.0	-----	-----	82	-----	-----	-----	-----	-----	-----
Total.....	23	162	47.8	-----	16	139	-----	4	3	-----	-----	-----
Mechanics, engine, licensed, male:												
North Atlantic.....	4	9	48.0	-----	-----	9	-----	-----	-----	-----	-----	-----
East North Central.....	10	46	47.3	-----	16	25	-----	-----	5	-----	-----	-----
West North Central.....	3	27	48.0	-----	-----	27	-----	-----	-----	-----	-----	-----
South Atlantic.....	3	20	48.0	-----	-----	20	-----	-----	-----	-----	-----	-----
South Central.....	3	16	50.1	-----	1	-----	-----	15	-----	-----	-----	-----
Western.....	8	32	48.0	-----	-----	32	-----	-----	-----	-----	-----	-----
Total.....	31	150	48.0	-----	17	113	-----	15	5	-----	-----	-----
Mechanics, airplane and engine, licensed, male:												
North Atlantic.....	12	72	48.0	-----	-----	72	-----	-----	-----	-----	-----	-----
East North Central.....	27	132	48.6	-----	8	105	-----	-----	19	-----	-----	-----
West North Central.....	18	67	48.1	-----	1	64	-----	-----	2	-----	-----	-----
South Atlantic.....	10	59	48.0	-----	-----	59	-----	-----	-----	-----	-----	-----
South Central.....	19	99	49.5	-----	-----	53	-----	39	3	4	-----	-----
Western.....	29	159	48.0	-----	-----	159	-----	-----	-----	-----	-----	-----
Total.....	115	588	48.4	-----	1	8	512	-----	39	24	4	-----
Mechanics, airplane or engine, not licensed, male:												
North Atlantic.....	5	9	48.0	-----	-----	9	-----	-----	-----	-----	-----	-----
East North Central.....	7	51	47.1	-----	17	30	-----	-----	4	-----	-----	-----
West North Central.....	3	31	48.0	-----	-----	31	-----	-----	-----	-----	-----	-----
South Atlantic.....	5	39	48.0	-----	-----	39	-----	-----	-----	-----	-----	-----
South Central.....	2	24	49.1	-----	-----	13	-----	11	-----	-----	-----	-----
Western.....	6	16	48.0	-----	-----	16	-----	-----	-----	-----	-----	-----
Total.....	28	170	47.9	-----	17	138	-----	11	4	-----	-----	-----
Mechanics, chief, male:												
North Atlantic.....	7	7	48.0	-----	-----	7	-----	-----	-----	-----	-----	-----
East North Central.....	14	25	47.3	-----	6	18	-----	-----	1	-----	-----	-----
West North Central.....	8	17	48.0	-----	-----	17	-----	-----	-----	-----	-----	-----
South Atlantic.....	6	10	48.0	-----	-----	10	-----	-----	-----	-----	-----	-----
South Central.....	10	17	48.7	-----	-----	12	-----	5	-----	-----	-----	-----
Western.....	25	43	48.2	-----	-----	42	-----	-----	1	-----	-----	-----
Total.....	70	119	48.0	-----	6	106	-----	5	1	1	-----	-----
Mechanics' helpers, licensed, male:												
North Atlantic.....	2	3	48.0	-----	-----	3	-----	-----	-----	-----	-----	-----
East North Central.....	15	34	47.3	-----	6	28	-----	-----	-----	-----	-----	-----
West North Central.....	6	8	47.3	-----	1	7	-----	-----	-----	-----	-----	-----
South Atlantic.....	3	6	48.0	-----	-----	6	-----	-----	-----	-----	-----	-----
South Central.....	2	4	50.5	-----	-----	4	-----	-----	-----	-----	-----	-----
Western.....	5	5	48.0	-----	-----	5	-----	-----	-----	-----	-----	-----
Total.....	33	60	47.7	-----	1	6	53	-----	-----	-----	-----	-----
Mechanics' helpers, not licensed, male:												
North Atlantic.....	7	28	48.0	-----	-----	28	-----	-----	-----	-----	-----	-----
East North Central.....	17	72	49.7	-----	12	32	-----	-----	28	-----	-----	-----
West North Central.....	11	51	47.9	-----	1	50	-----	-----	-----	-----	-----	-----
South Atlantic.....	10	57	48.0	-----	-----	57	-----	-----	-----	-----	-----	-----
South Central.....	10	42	49.2	-----	-----	24	-----	17	-----	1	-----	-----
Western.....	22	82	48.0	-----	-----	82	-----	-----	-----	-----	-----	-----
Total.....	77	332	48.5	-----	1	12	273	-----	17	28	1	-----
Porters, male:												
North Atlantic.....	3	5	48.0	-----	-----	5	-----	-----	-----	-----	-----	-----
East North Central.....	6	9	48.0	-----	-----	9	-----	-----	-----	-----	-----	-----
West North Central.....	1	(1)	(1)	-----	-----	(1)	-----	-----	-----	-----	-----	-----
South Atlantic.....	11	16	48.0	-----	-----	16	-----	-----	-----	-----	-----	-----
South Central.....	6	11	48.7	-----	-----	10	-----	-----	1	-----	-----	-----
Western.....	1	(1)	(1)	-----	-----	(1)	-----	-----	-----	-----	-----	-----
Total.....	28	44	48.2	-----	-----	43	-----	-----	1	-----	-----	-----

1 Data included in total.

TABLE C.—Average and classified full-time hours per week, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employees	Average full-time hours per week	Number of employees whose full-time hours per week were—										
				Under 42	44	48	50	50½	54	56	60	70	77 and over	
Radio mechanics, male:														
North Atlantic	5	8	48.0			8								
East North Central	4	20	48.0			20								
West North Central	3	15	48.0			15								
South Atlantic	3	15	48.0			15								
South Central	6	11	48.0			11								
Western	3	25	48.0			25								
Total	24	94	48.0			94								
Radio operators, male:														
North Atlantic	10	20	48.0			20								
East North Central	10	24	48.0			24								
West North Central	13	27	48.0			27								
South Atlantic	11	21	48.0			21								
South Central	14	30	49.9			23			7					
Western	23	62	48.4			59			3					
Total	81	184	48.4			174			10					
Stock clerks, male:														
North Atlantic	2	4	48.0			4								
East North Central	6	19	46.7		6	13								
West North Central	3	13	48.0			13								
South Atlantic	3	13	48.0			13								
South Central	3	10	49.8			3		7						
Western	7	23	48.0			23								
Total	24	82	47.9		6	69		7						
Other ground-personnel employees, skilled, male:														
North Atlantic	9	13	48.2			12		1						
East North Central	11	40	47.8		4	35			1					
West North Central	9	22	47.7	1		21								
South Atlantic	9	28	48.1			27	1							
South Central	8	16	49.0			12		3		1				
Western	7	24	48.0			24								
Total	53	143	48.0	1	4	131	2	3	1	1				
Other ground-personnel employees, not skilled, male:														
North Atlantic	6	7	52.9			5					1	1		
East North Central	9	23	55.3		1	16			1			1	4	
West North Central	3	15	52.4			13							2	
South Atlantic	3	56	48.0			56								
South Central	10	65	51.2			31		27		4			3	
Western	5	15	55.7			11				1			3	
Total	36	181	51.3		1	132		27	1	5	1	2	12	
All ground-personnel employees, male:														
North Atlantic	22	250	48.3			236	10				3	1		
East North Central	39	705	48.5		98	522		72	1		7	5		
West North Central	28	385	48.3	6		373		2				4		
South Atlantic	30	454	48.1			446	6				2			
South Central	49	454	49.4	1	2	287		134	3	23	1		3	
Western	46	663	48.3			652		1	5	2			3	
Total	214	2,911	48.5	7	100	2,516	16	134	78	29	28	8	15	
All ground-personnel employees, female:														
North Atlantic	2	4	48.0			4								
East North Central	8	15	48.0			15								
West North Central	6	9	48.0			9								
South Atlantic	7	22	48.0			22								
South Central	5	11	48.0			11								
Western	8	27	48.0			27								
Total	36	88	48.0			88								
All ground-personnel employees, male and female:														
North Atlantic	22	254	48.3			240	10				3	1		
East North Central	39	720	48.5		98	537		72	1		7	5		
West North Central	28	394	48.3	6		382		2				4		
South Atlantic	30	476	48.1			468	6				2			
South Central	49	465	49.3	1	2	298		134	3	23	1		3	
Western	46	690	48.3			679		1	5	2			3	
Total	214	2,999	48.5	7	100	2,604	16	134	78	29	28	8	15	

¹ Data included in total.

² Including 1 at 63.

Dispatchers, male:														
North Atlantic.....	7	23	27.26				4	4	9	4	1	1		
East North Central.....	11	27	29.17				1	7	10	10	1	1		
West North Central.....	4	9	31.82					2	3	1	3			
South Atlantic.....	11	26	26.54				1	7	12	6				
South Central.....	10	17	23.86		1		4	4	7		1			
Western.....	9	16	34.46				3	3	2	6	2	1	1	1
Total.....	52	118	28.37		1		10	27	40	27	3	7	1	1
Inspectors, male:														
North Atlantic.....	3	5	49.84								2			3
East North Central.....	3	9	43.63					1	1	1	3	1		2
West North Central.....	1	(1)	(1)								(1)	(1)		
South Atlantic.....	2	2	49.04								1			1
South Central.....	2	3	47.31							1	1	1		1
Western.....	2	3	51.22								2			1
Total.....	13	25	46.87					1	1	2	7	6		6
Janitors, male:														
North Atlantic.....	4	7	20.36				3	4						
East North Central.....	9	28	18.19		1	14	1	4	6	2				
West North Central.....	4	6	29.58				2	1	2		1			
South Atlantic.....	3	7	14.01			3	4							
South Central.....	5	9	14.39			8	1							
Western.....	5	16	24.11				1	9	4	2				
Total.....	30	73	19.27		1	25	12	18	12	4	1			
Machinists and toolmakers, male:														
East North Central.....	5	10	44.12							1	3	1	3	1
West North Central.....	1	(1)	(1)								(1)			
South Central.....	1	(1)	(1)							(1)	(1)			
Western.....	2	5	34.68							3	2			
Total.....	9	19	40.36							5	7	2	3	1
Mechanics, airplane, licensed, male:														
East North Central.....	5	25	39.81					1	9	4	4	1	4	1
West North Central.....	3	32	31.67		1	4	3	7	6	5	3	1	1	1
South Atlantic.....	3	16	40.33					1	7	4	2		1	1
South Central.....	4	7	32.84					1	3	3				
Western.....	8	82	39.75			2	1	2	34	13	11	4	1	6
Total.....	23	162	37.92		1	6	4	12	59	25	22	8	6	9

¹Data included in total.

TABLE D.—Average and classified actual earnings in one week, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employees	Average actual earnings in one week	Number of employees whose earnings in one week were—																	
				Under \$5	\$5 and under \$10	\$10 and under \$15	\$15 and under \$20	\$20 and under \$25	\$25 and under \$30	\$30 and under \$35	\$35 and under \$40	\$40 and under \$45	\$45 and under \$50	\$50 and under \$55	\$55 and under \$60	\$60 and under \$65	\$65 and under \$70	\$70 and under \$75	\$75 and under \$80	\$80 and under \$85	\$85 and under \$90	$90 and over
Mechanics, engine, licensed, male:																					
North Atlantic.....	4	9	\$37.98								3	3	2		1						
East North Central.....	10	46	36.64						5	20	5	10	3	3							
West North Central.....	3	27	34.02		1		1	1	5	6	5	6	1	1							
South Atlantic.....	3	20	41.64							5	1	9	4			1					
South Central.....	3	16	35.10							11	2	3									
Western.....	8	32	37.00			1			3	11	6	8		2			1				
Total.....	31	150	36.83		1	1	1	1	13	56	22	38	10	5			2				
Mechanics, airplane and engine, licensed, male:																					
North Atlantic.....	12	72	38.48					5	1	18	8	30	7	2			1				
East North Central.....	27	132	35.78					7	12	38	27	29	13	4	2						
West North Central.....	18	67	33.87					1	17	22	14	9	3	1							
South Atlantic.....	10	59	38.78					1	1	22	5	19	7	2	2						
South Central.....	19	99	35.85			1		1	5	45	23	12	10	2							
Western.....	29	159	37.92				2	7	7	44	34	46	11	5	2		1				
Total.....	115	588	37.01			1	2	22	43	189	111	145	51	16	6	1	1				
Mechanics, airplane or engine, not licensed, male:																					
North Atlantic.....	5	9	32.27					1	5	1		1		1							
East North Central.....	7	51	34.18			1		6	10	12	8	9	3	1	1						
West North Central.....	3	31	25.68			2	4	9	9	6		2	1								
South Atlantic.....	5	39	31.59					5	16	7	3	2	3	1							
South Central.....	2	24	35.52			1		1	2	7	5	6	2								
Western.....	6	16	30.10					1	7	6		1									
Total.....	28	170	31.74			4	4	23	49	41	17	19	9	3	1						
Mechanics, chief, male:																					
North Atlantic.....	7	7	53.36									1	1	2	2						
East North Central.....	14	25	49.91								3	1	6	11	1		3				
West North Central.....	8	17	53.94							1		1	1	4	5		1				
South Atlantic.....	6	10	57.46									2	2	3	4						
South Central.....	10	17	49.52								1	3	6	3	2		2			1	1
Western.....	25	43	51.59					1		2	2	4	4	13	13	1	2				
Total.....	70	119	51.86					1		3	7	12	20	33	27	5	7	1	1	1	1

TABLE D.—Average and classified actual earnings in one week, 1931, ground personnel only, by occupation and district—Continued

Occupation, sex, and district	Number of local units	Number of employees	Average actual earnings in one week	Number of employees whose earnings in one week were—																		
				Under \$5	\$5 and under \$10	\$10 and under \$15	\$15 and under \$20	\$20 and under \$25	\$25 and under \$30	\$30 and under \$35	\$35 and under \$40	\$40 and under \$45	\$45 and under \$50	\$50 and under \$55	\$55 and under \$60	\$60 and under \$65	\$65 and under \$70	\$70 and under \$75	\$75 and under \$80	\$80 and under \$85	\$85 and under \$90	\$90 and over
Stock clerks, male:																						
North Atlantic.....	2	4	\$25.68				2		1			1										
East North Central.....	6	19	28.09			1	1	5	5	3		2										
West North Central.....	3	13	23.47			1	4	4	1	2		1										
South Atlantic.....	3	13	24.68				5	1	5					1								
South Central.....	3	10	29.89					4	3	2				1								
Western.....	7	23	28.75					4	14	4												
Total.....	24	82	27.10			2	12	18	29	12	3	3	2	1								
Other ground-personnel employees, skilled, male:																						
North Atlantic.....	9	13	40.01						2	2		3	2	3					1			
East North Central.....	11	40	41.08					2	4	12	6	5	3	2	2	1			2		1	
West North Central.....	9	22	35.68		3			3	1	5	2	3	2									
South Atlantic.....	9	28	41.62						7	8		2	6	2								
South Central.....	8	16	31.73			1	2	2	1	5	2	1	1									
Western.....	7	24	41.11					2	2	4	5	5	1	2	1					1		
Total.....	53	143	39.19		3	1	2	9	17	36	18	18	16	6	5	1	4	2		2	1	
Other ground-personnel employees, unskilled, male:																						
North Atlantic.....	6	7	19.19			2	2	2				1										
East North Central.....	9	23	21.99		2	3	5	5	5	2		1										
West North Central.....	3	15	21.41			2	3	7	1	1			1									
South Atlantic.....	3	56	18.62			9	23	18	6													
South Central.....	10	65	18.73		2	8	31	21	1	2												
Western.....	5	15	26.30				2	5	5	1	2											
Total.....	36	181	19.98		4	24	66	58	18	7	3	1										
All ground-personnel employees, male:																						
North Atlantic.....	22	250	33.26			3	26	32	29	63	22	44	16	7	5	1		1				
East North Central.....	39	705	32.16	1	9	40	40	110	104	150	75	84	40	29	11	9			2		1	
West North Central.....	28	385	30.50		5	12	42	71	64	82	39	33	16	8	7	1		4			1	
South Atlantic.....	30	464	29.43	5	5	21	57	69	79	92	16	47	38	7	11			3			3	

Appendix

Air Transportation Occupational Terms, Definitions, and Classification by Bureau of Labor Statistics

Airport term	Definition	Classified by bureau under—
Agent, passenger.....	(See Ticket agent).....	Agents, traffic.
Agent, traffic.....	Supervises dispatch of planes, sells tickets, makes reservations, and routes passengers to best advantage.	Do.
Agent, transportation.....	(See Ticket agent).....	Do.
Airplane cleaner.....	(See Ship cleaner).....	Other ground-personnel employees, unskilled.
Airplane inspector.....	(See Inspector).....	Inspectors.
Airplane mechanic, licensed.	(See Mechanic, airplane, licensed).....	Mechanics, airplane, licensed.
Airplane mechanic, not licensed.	(See Mechanic, airplane or engine, not licensed).....	Mechanics, airplane or engine, not licensed.
Airplane-service mechanic, licensed.	A skilled mechanic who makes any minor repairs and adjustments to planes until it is necessary to take the plane temporarily out of service and send it to the shop for complete overhaul. Also holds a U. S. Department of Commerce aircraft license.	Mechanics, airplane, licensed.
Airplane washer.....	(See Ship cleaner).....	Other ground-personnel employees, unskilled.
Airplane and engine maintenance foreman, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Airplane and engine mechanic, licensed.	(See Mechanic, airplane and engine, licensed).....	Mechanics, airplane and engine, licensed.
Airplane or engine mechanic, not licensed.	(See Mechanic, airplane or engine, not licensed).....	Mechanics, airplane or engine, not licensed.
Apprentice.....	A workman learning the duties of a particular trade under contract to serve a definite period of time.	Other ground-personnel employees, unskilled.
Battery department foreman.	(See Foreman, battery department).....	Other ground-personnel employees, skilled.
Battery department helper.	Assists foreman of battery department in charging and repairing batteries used for ignition current in plane engines.	Other ground-personnel employees, unskilled.
Beach master.....	Supervises take-off and docking of planes, assists passengers to and from planes, and cares for luggage.	Do.
Boatman.....	Accompanies seaplanes on take-off and arrival and stands by for any possible mishap.	Do.
Boss mechanic, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Bus driver.....	(See Chauffeur).....	Chauffeurs.
Cabin overhaul mechanic, licensed.	A skilled woodworker or cabinetmaker, who repairs window and door moldings, paneling, etc., in cabins of planes. Also holds a U. S. Department of Commerce aircraft license.	Mechanics, airplane, licensed.
Cable man.....	(See Cable splicer).....	Other ground-personnel employees, skilled.
Cable splicer.....	Attaches cable fittings to wing struts and fuselage and splices and installs rudder, elevator, and aileron cables for control of the plane.	Do.
Carburetor mechanic, licensed.	A skilled employee who specializes in the repair, overhaul, and adjustment of carburetors. Holds a U. S. Department of Commerce engine mechanic's license.	Mechanics, engine, licensed.
Carburetor mechanic, not licensed.	Works under supervision of a licensed mechanic, as he does not hold a U. S. Department of Commerce mechanic's license. (See Carburetor mechanic, licensed.)	Mechanics, airplane or engine, not licensed.
Caretaker, field.....	(See Laborer, field).....	Other ground-personnel employees, unskilled.
Carpenter, foreman.....	Supervises work done by maintenance carpenters, and also does some productive work about the hangar.	Other ground-personnel employees, skilled.
Carpenter, hangar.....	Does repair work or makes necessary changes in the maintenance of wooden structural parts in and about the hangar and shop.	Do.
Carpenter, maintenance.	(See Carpenter, hangar).....	Do.
Chauffeur.....	Drives bus, limousine, etc., used for taking passengers to and from the airport and business section of the city being served. Also drives trucks used for hauling fuel and express shipments.	Chauffeurs.

Airport term	Definition	Classified by bureau under—
Check mechanic, licensed.	(See General airplane and engine maintenance mechanic, licensed).	Mechanics, airplanes and engine, licensed.
Chief dispatcher.....	Supervises work done by all dispatchers at larger airports.	Other ground-personnel employees, skilled.
Chief inspector, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Chief mechanic, licensed.	.....do.....	Do.
Chief motor mechanic, licensed.	.....do.....	Do.
Chief radio mechanic....	Supervises work done by radio mechanics and also does some productive work.	Other ground-personnel employees, skilled.
Chief radio operator, licensed.	Supervises radio operators at larger airports and also does some productive work. Holds a U. S. Department of Commerce radio-operator's license.	Do.
Chief ship mechanic, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Chief stock clerk.....	Has charge of stock room; keeps records of supplies received and those passed out to mechanics, and is responsible also for maintenance of necessary supply of repair parts for planes and engines.	Other ground-personnel employees, skilled.
Cleaner, airplane.....	(See Ship cleaner).....	Other ground-personnel employees, unskilled.
Cleaner, plane.....	.....do.....	Do.
Clearance clerk.....	Must see that the following documents required by planes departing from the United States for foreign countries are prepared and ready for use: A passenger list, a report of personal baggage, manifest of cargo, and a bill of health.	Clerks and stenographers.
Clerk.....	(See Operations clerk).....	Do.
Clerk, communications.....	.....do.....	Do.
Clerk, ticket office.....	Maintains files of correspondence and other office records of traffic department; may also type letters.	Do.
Clerk and stenographer.	Takes stenographic notes for correspondence; operates typewriter or teletype machine; gives estimates on repair of planes or engines; prepares clearance papers of planes between the United States and foreign countries; maintains records of fuel consumption, flight-hours, time worked by employees, etc.	Do.
Copilot.....	Controls plane during flight as a relief to the pilot. If a licensed radio operator, maintains communication with ground stations, and also acts in capacity of steward. Usually holds a U. S. Department of Commerce transport-pilot's license.	Copilots.
Communications clerk....	(See Operations clerk).....	Clerks and stenographers.
Cowl man, licensed....	(See Sheet-metal worker, licensed).....	Mechanics, airplane and engine, licensed.
Cowl man, not licensed.	(See Sheet-metal worker, not licensed).....	Mechanics, airplane or engine, not licensed.
Crew chief.....	Acts as subforeman over a small group of repair mechanics. Usually holds both aircraft and engine mechanic's licenses from the U. S. Department of Commerce.	Crew chiefs.
Crew chief, radios.....	(See Chief radio mechanic).....	Other ground-personnel employees, skilled.
Dispatcher.....	Records time of arrival and departure of planes. At some of the larger airports, which are equipped with electric signals, directs air traffic by operating these signals.	Dispatchers.
Dispatcher, chief.....	(See Chief dispatcher).....	Other ground-personnel employees, skilled.
Doper.....	Uses spray gun or brush to apply a preparation known as "dope" to fabric covering of airplanes for the purpose of shrinking and weatherproofing.	Do.
Driver, bus.....	(See Chauffeur).....	Chauffeurs.
Driver, truck.....	(See Truck driver; Gas-truck driver).....	Do.
Dural mechanic, licensed.	(See Sheet-metal worker, licensed).....	Mechanics, airplane and engine, licensed.
Electrician, airplane, not licensed.	Installs and repairs such electrical equipment as wing lights, landing lights, etc. Sometimes repairs engine ignition systems. Works under supervision of a licensed mechanic, as he does not hold a U. S. Department of Commerce mechanic's license.	Mechanics, airplane or engine, not licensed.
Electrician, field.....	Installs and repairs hangar lights, beacon lights, border lights, flood lights, etc., at airport.	Other ground-personnel employees, skilled.
Electrician, hangar.....	Installs and keeps in repair hangar lights and various electrical shop equipment.	Do.
Engine change foreman, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Engine mechanic, licensed.	(See Mechanic, engine, licensed).....	Mechanics, engine, licensed.
Engine overhaul foreman, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.

Airport term	Definition	Classified by bureau under—
Engine-service mechanic, licensed.	A skilled workman who makes any minor repairs and adjustments to engines until such time as the engine is "pulled" to be sent to the shop for complete overhaul. Assists in "pulling" old engines and installing new or overhauled ones. Also holds a U. S. Department of Commerce engine-mechanic's license.	Mechanics, engine, licensed.
Estimator.....	Computes probable cost of repair work on planes or engines for individual owners and companies.	Clerks and stenographers.
Fabric worker, not licensed.	Cuts, fits, and sews the fabric used for covering wings, tail units, etc. Works under supervision of a licensed mechanic, as he does not hold a U. S. Department of Commerce mechanic's license.	Mechanics, airplane or engine, not licensed.
Field clerk.....	(See Dispatcher).....	Dispatchers.
Field electrician.....	(See Electrician, field).....	Other ground-personnel employees, skilled.
Field foreman, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Field keeper.....	(See Watchman).....	Other ground-personnel employees, unskilled.
Field man.....	(See Laborer, field).....	Do.
Field manager, small airport, licensed.	(See Mechanic, chief, licensed.) At large airports, this position is similar to manager of operations, which position was not included in the bureau's study.	Mechanics, chief.
Field-service foreman, licensed.	(See Mechanic, chief, licensed).....	Do.
Field-traffic agent.....	(See Ticket agent).....	Agents, traffic.
Field-traffic manager.....	Has charge of the passenger traffic department; in addition makes personal contact with prospective passengers and civic organizations, and endeavors to stimulate "air-mindedness" or passenger traffic.	Other ground-personnel employees, skilled.
Ford inspector.....	(See Inspector).....	Inspectors.
Ford repairman, licensed.	A highly skilled metal worker who specializes on duralumin work. Also holds a U. S. Department of Commerce aircraft license.	Mechanics, airplane, licensed.
Foreman, airplane and engine maintenance, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Foreman, battery department.	Supervises charging and rebuilding of batteries used for ignition current in airplane engines. Also does some productive work.	Other ground-personnel employees, skilled.
Foreman, carpenter.....	(See Carpenter, foreman).....	Do.
Foreman, engine change, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Foreman, engine overhaul, licensed.	.....do.....	Do.
Foreman, field service, licensed.	.....do.....	Do.
Foreman, machinist.....	(See Machinist's foreman).....	Other ground-personnel employees, skilled.
Foreman, mechanics, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Foreman, radio maintenance.	(See Chief radio mechanic).....	Other ground-personnel employees, skilled.
Foreman, service crew, licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.
Foreman, sheet-metal workers, licensed.	.....do.....	Do.
Foreman, shop, licensed.	.....do.....	Do.
Foreman, woodworking, licensed.	.....do.....	Do.
Gas man.....	Refills fuel tanks of planes with gasoline and oil under proper supervision of head lineman.	Other ground-personnel employees, unskilled.
Gas-truck driver.....	Drives gasoline truck and fuels planes under proper supervision.	Chauffeurs.
General airplane and engine maintenance mechanic, licensed.	A skilled mechanic who, between time of arrival and departure of planes, examines thoroughly the planes, engines, or both, making any minor repairs or adjustments. Sometimes called operations mechanic, line mechanic, or check mechanic. Holds both U. S. Department of Commerce aircraft and engine mechanic's licenses.	Mechanics, airplane and engine, licensed.
Hangar chief, licensed.....	(See Mechanic, chief, licensed).....	Mechanics, chief.
Hangar clerk.....	Performs clerical duties in hangar, maintains records of fuel consumption, pilots' flight-hours, etc.	Clerks and stenographers.
Hangar electrician.....	(See Electrician, hangar).....	Other ground-personnel employees, skilled.
Hangar maintenance mechanic.	General all-round man whose duties are the upkeep and repair of machine shop and hangar equipment, alignment of shafting, pulleys, belts, etc.	Do.
Hangar man, night.....	(See Watchman).....	Other ground-personnel employees, unskilled.
Hangar mechanic, licensed.	(See Mechanic, airplane and engine, licensed).....	Mechanics, airplane and engine, licensed.

Airport term	Definition	Classified by bureau under—
Head lineman-----	Supervises and assists in refilling fuel tanks of planes with gasoline and oil.	Other ground-personnel employees, skilled.
Head mechanic, licensed.	(See Mechanic, chief, licensed)-----	Mechanics, chief.
Inspector-----	Makes final check on all mechanical work done on either plane or engine before it is again used. Usually holds both aircraft and engine mechanic's licenses from the U. S. Department of Commerce.	Inspectors.
Inspector, chief, licensed.	(See Mechanic, chief, licensed)-----	Mechanics, chief.
Instrument engineer....	Conducts research work on various instruments such as altimeter, induction compasses, etc., and is in charge of installation of same.	Other ground-personnel employees, skilled.
Instrument mechanic, licensed.	(See Mechanic, airplane and engine, licensed)-----	Mechanics, airplane and engine, licensed.
Instrument mechanic's helper, not licensed.	(See Mechanic's helper, not licensed)-----	Mechanics' helpers, not licensed.
Janitor-----	Sweeps and cleans shop, hangar, and airport offices, also removes refuse.	Janitors.
Junior mechanic, not licensed.	A skilled employee capable of making repairs, adjustments, or overhauling planes or engines. Usually comes from the automobile industry, and without experience on airplanes can not obtain a U. S. Department of Commerce mechanic's license; is therefore required to work under supervision of a licensed mechanic.	Mechanics, airplane or engine, not licensed.
Keeper, field-----	(See Watchman)-----	Other ground-personnel employees, unskilled.
Laboratory operator....	Conducts tests to determine color, corrosion, acidity, and sulphur content of gasoline; flash point, viscosity, acidity, carbon, and precipitation of oil. Also reclaims used oil for further use.	Other ground-personnel employees, skilled.
Laborer, field-----	Keeps landing field in proper condition, marks out landing strips, mows turf, scrapes field, etc.	Other ground-personnel employees, unskilled.
Leader, mechanic-----	(See Crew chief)-----	Crew chiefs.
Line mechanic, licensed.	(See General airplane and engine maintenance mechanic, licensed.)-----	Mechanics, airplane and engine, licensed.
Lineman-----	(See Gas man)-----	Other ground-personnel employees, unskilled.
Machinist-----	(See Machinist and toolmaker)-----	Machinists and tool-makers.
Machinist and tool-maker.	Machinists make necessary repairs and adjustments of old machines and operate lathes and other metal-working machines to make new parts in accordance with specifications. Toolmakers make and repair cutting tools, dies, jigs, fixtures, gauges, and other tools of like nature.	Do.
Machinist's foreman....	Supervises work done by machinists and also does considerable productive work.	Other ground-personnel employees, skilled.
Machinist's helper-----	A worker of some degree of skill who assists machinists in repairing and setting up various machines.	Do.
Magnetos and carburetor man, licensed.	A skilled employee specializing in the repair, overhaul, and adjustment of magnetos and carburetors. Holds a U. S. Department of Commerce engine mechanic's license.	Mechanics, engine, licensed.
Maintenance airplane and engine foreman, licensed.	(See Mechanic, chief, licensed)-----	Mechanics, chief.
Maintenance airplane and engine mechanic, licensed.	(See General airplane and engine maintenance mechanic, licensed.)-----	Mechanics, airplane and engine, licensed.
Materials man-----	(See Stock clerk)-----	Stock clerks.
Mechanic, airplane, licensed.	A skilled mechanic capable of servicing, repairing, or overhauling a plane. Holds a U. S. Department of Commerce aircraft license.	Mechanics, airplane, licensed.
Mechanic, airplane, not licensed.	(See Mechanic, airplane or engine, not licensed)-----	Mechanics, airplane or engine, not licensed.
Mechanic, airplane and engine, licensed.	A skilled mechanic capable of overhauling and doing repair and service work on engines, planes, and instruments. Holds U. S. Department of Commerce mechanic's licenses for both aircraft and engine.	Mechanics, airplane and engine, licensed.
Mechanic, airplane or engine, not licensed.	A skilled mechanic who services, repairs, or overhauls planes, instruments, or engines. Works under supervision of a licensed mechanic, as he does not hold a U. S. Department of Commerce mechanic's license.	Mechanics, airplane or engine, not licensed.
Mechanic, airplane-service, licensed.	(See Airplane-service mechanic, licensed)-----	Mechanics, airplane, licensed.
Mechanic boss, licensed.	(See Mechanic, chief, licensed)-----	Mechanics, chief.
Mechanic, cabin overhaul, licensed.	(See Cabin overhaul mechanic, licensed)-----	Mechanics, airplane, licensed.
Mechanic, carburetor, licensed.	(See Carburetor mechanic, licensed)-----	Mechanics, engine, licensed.

Airport term	Definition	Classified by bureau under—
Mechanic, check, licensed.	(See General airplane and engine maintenance mechanic, licensed.)	Mechanics, airplane and engine, licensed.
Mechanic, chief, licensed.	A skilled employee who supervises overhauling and servicing of engines and planes and makes final check on overhauled planes. Holds U. S. Department of Commerce mechanic's licenses for both airplanes and engines.	Mechanics, chief.
Mechanic, chief motor, licensed.	(See Mechanic, chief, licensed)	Do.
Mechanic, chief radio.	(See Chief radio mechanic)	Other ground-personnel employees, skilled.
Mechanic, chief ship, licensed.	(See Mechanic, chief, licensed)	Mechanics, chief.
Mechanic, dural, licensed.	(See Sheet-metal worker, licensed)	Mechanics, airplane and engine, licensed.
Mechanic, engine, licensed.	A skilled workman who may do anything from minor adjustments and servicing, to a complete overhaul of engine. Holds a U. S. Department of Commerce engine-mechanic's license.	Mechanics, engine, licensed.
Mechanic foreman, licensed.	(See Mechanic, chief, licensed)	Mechanics, chief.
Mechanic, general airplane and engine maintenance, licensed.	(See General airplane and engine maintenance mechanic, licensed.)	Mechanics, airplane and engine, licensed.
Mechanic, hangar, licensed.	(See Mechanic, airplane and engine, licensed)	Do.
Mechanic, hangar maintenance.	(See Hangar maintenance mechanic)	Other ground-personnel employees, skilled.
Mechanic, head, licensed.	(See Mechanic, chief, licensed)	Mechanics, chief.
Mechanic, instruments, licensed.	(See Mechanic, airplane and engine, licensed)	Mechanics, airplane and engine, licensed.
Mechanic, junior, not licensed.	(See Junior mechanic, not licensed)	Mechanics, airplane or engine, not licensed.
Mechanic leader	(See Crew chief)	Crew chiefs.
Mechanic, metal, licensed.	(See Sheet-metal worker, licensed)	Mechanics, airplane and engine, licensed.
Mechanic, metal, not licensed.	(See Sheet-metal worker, not licensed)	Mechanics, airplane or engine, not licensed.
Mechanic, operations, licensed.	(See General airplane and engine maintenance mechanic, licensed.)	Mechanics, airplane and engine, licensed.
Mechanic, overhaul, licensed.	(See Mechanic, airplane and engine, licensed)	Do.
Mechanic, overhaul, not licensed.	(See Mechanic, airplane or engine, not licensed)	Mechanics, airplane or engine, not licensed.
Mechanic, plane service, licensed.	(See Airplane-service mechanic, licensed)	Mechanics, airplane, licensed.
Mechanic, propeller, licensed.	(See Propeller mechanic, licensed)	Do.
Mechanic, radio	(See Radio mechanic)	Radio mechanics.
Mechanic, service, licensed.	(See Mechanic, airplane and engine, licensed)	Mechanics, airplane and engine, licensed.
Mechanic's helper, licensed.	A skilled mechanic who assists the mechanic in making minor repairs and adjustments to planes. Has obtained U. S. Department of Commerce mechanic's licenses for either engine or aircraft and is working as helper to obtain additional experience.	Mechanics' helpers, licensed.
Mechanic's helper, not licensed.	A semiskilled workman who helps other mechanics on various jobs such as metal work, woodwork, engine or plane overhaul or service, etc.	Mechanic's helpers, not licensed.
Mechanic's helper, airplane or engine, not licensed.	(See Mechanic's helper, not licensed)	Do.
Metal mechanic, licensed.	(See Sheet-metal worker, licensed)	Mechanics, airplane and engine, licensed.
Metal mechanic, not licensed.	(See Sheet-metal worker, not licensed)	Mechanics, airplane or engine, not licensed.
Metal worker, licensed.	(See Sheet-metal worker, licensed)	Mechanics, airplane and engine, licensed.
Metal worker, not licensed.	(See Sheet-metal worker, not licensed)	Mechanics, airplane or engine, not licensed.
Meteorologist	(See Weather observer)	Other ground-personnel employees, skilled.
Motor mechanic, chief, licensed.	(See Mechanic, chief, licensed)	Mechanics, chief.
Night hangar man	(See Watchman)	Other ground-personnel employees, unskilled.
Operations clerk	Maintains a record of all flights, attempted or delayed flights, forced landings, their causes, etc.	Clerks and stenographers.
Operations mechanic, licensed.	(See General airplane and engine maintenance mechanic, licensed.)	Mechanics, airplane and engine, licensed.
Operations stenographer.	Does stenographic and typing work in connection with operations office correspondence.	Clerks and stenographers.

Airport term	Definition	Classified by bureau under—
Operator, radio, licensed.	(See Radio operator, licensed).....	Radio operators.
Overhaul mechanic, licensed.	(See Mechanic, airplane and engine, licensed).....	Mechanics, airplane and engine, licensed.
Overhaul mechanic, not licensed.	(See Mechanic, airplane or engine, not licensed).....	Mechanics, airplane or engine, not licensed.
Packer, parachute, licensed.	(See Parachute packer, licensed).....	Other ground-personnel employees, skilled.
Painter.....	Uses a hand brush or spray gun to apply paint, varnishes, or other substances to airplanes. May also do some lettering and at slack times paint hangars or other buildings at airport.	Do.
Painter's helper.....	Assists the painter in moving parts, passing materials, etc., used in applying the various coats of paint, varnish, or shellac, etc.	Other ground-personnel employees, unskilled.
Parachute man.....	(See Parachute packer, licensed).....	Other ground-personnel employees, skilled.
Parachute packer, licensed.	A highly skilled workman who repacks parachutes periodically or after they have been used. Holds a special parachute license from the U. S. Department of Commerce.	Do.
Parachute repairer.....	(See Parachute packer, licensed).....	Do.
Parts man.....	(See Stock clerk).....	Stock clerks.
Passenger agent.....	(See Ticket agent).....	Agents traffic.
Pilot, licensed.....	Has complete command of plane from time of entering it until leaving it. Controls plane at all times during flight, unless accompanied by a copilot who may take over the controls at the pilot's discretion. Maintains communication with ground stations when the plane is equipped with radio. Holds a U. S. Department of Commerce transport-pilot's license.	Pilots, licensed.
Plane cleaner.....	(See Ship cleaner).....	Other ground-personnel employees, unskilled.
Plane inspector.....	(See Inspector).....	Inspectors.
Plane-service mechanic, licensed.	(See Airplane-service mechanic, licensed).....	Mechanics, airplane, licensed.
Plane washer.....	(See Ship cleaner).....	Other ground-personnel employees, unskilled.
Porter, clean-up.....	(See Janitor).....	Janitors.
Porter, redcap.....	Carries passengers' luggage to and from bus, taxi or car, and plane. Also keeps waiting room clean.	Porters.
Porter, shop.....	(See Janitor).....	Janitors.
Porter, waiting room.....	(See Porter, redcap).....	Porters.
Propeller mechanic, licensed.	A skilled mechanic who installs propellers, does etching, inspects for flaws, and checks for proper mechanical balance. Also holds a U. S. Department of Commerce aircraft license.	Mechanics, airplane, licensed.
Radio, crew chief.....	(See Chief radio mechanic).....	Other ground-personnel employees, skilled.
Radio engineer.....	(See Radio technician).....	Do.
Radio-instrument serviceman.	(See Radio mechanic).....	Radio mechanics.
Radio-maintenance foreman.	(See Chief radio mechanic).....	Other ground-personnel employees, skilled.
Radio mechanic.....	Builds, installs, and services radio equipment, and checks all radio equipment at regular intervals.	Radio mechanics.
Radio mechanic's helper.	Assists radio mechanic in installing and servicing radio equipment, working under his supervision.	Other ground-personnel employees, unskilled.
Radio operator, licensed.	Maintains radio contact between ground and airplanes or between ground stations. Holds a U. S. Department of Commerce radio-operator's license.	Radio operators.
Radio operator, chief, licensed.	(See Chief radio operator, licensed).....	Other ground-personnel employees, skilled.
Radio-service man.....	(See Radio mechanic).....	Radio mechanics.
Radio supervisor.....	(See Chief radio mechanic).....	Other ground-personnel employees, skilled.
Radio technician.....	Conducts radio research for purpose of devising more compact and lighter sending and receiving sets for planes without impairing their efficiency. Also experiments with various types of spark plugs, radio shielded, to increase the efficiency and life of plugs functioning under such intense heat.	Do.
Redcap, porter.....	(See Porter, redcap).....	Porters.
Relief radio operator, licensed.	(See Radio operator, licensed).....	Radio operators.
Repairer, parachutes.....	(See Parachute packer, licensed).....	Other ground-personnel employees, skilled.
Rigger, licensed.....	A highly skilled aircraft mechanic who aligns the plane into flying condition through adjustment of landing, flying, incident, and stagger wires. Holds a U. S. Department of Commerce aircraft-mechanic's license.	Mechanics, airplane, licensed.

Airport term	Definition	Classified by bureau under—
Rigger, not licensed....	Works under supervision of a licensed mechanic. (<i>See Rigger, licensed.</i>)	Mechanics, airplane or engine, not licensed.
Sailmaker, not licensed.	Works under supervision of a licensed mechanic. (<i>See Fabric worker, not licensed.</i>)	Do.
Seamstress, not licensed.	.....do.....	Do.
Service-crew foreman, licensed.	(<i>See Mechanic, chief, licensed.</i>)	Mechanics, chief.
Service man.....	(<i>See Gas man.</i>)	Other ground-personnel employees, unskilled.
Service mechanic, licensed.	(<i>See Mechanic, airplane and engine, licensed.</i>)	Mechanics, airplane and engine, licensed.
Service mechanic, airplane, licensed.	(<i>See Airplane-service mechanic, licensed.</i>)	Mechanics, airplane, licensed.
Service mechanic, engine, licensed.	(<i>See Engine-service mechanic, licensed.</i>)	Mechanics, engine, licensed.
Sheet-metal worker, licensed.	A skilled workman who uses hand tools to bend and shape sheet aluminum and duralumin, repairs metal wings and fuselage. Also makes engine cowling, landing gear "pants," and other devices for stream lining. Holds U. S. Department of Commerce mechanic's licenses for both aircraft and engine.	Mechanics, airplane and engine, licensed.
Sheet-metal worker, not licensed.	Works under supervision of a licensed mechanic, as he does not hold a U. S. Department of Commerce mechanic's license. (<i>See Sheet-metal worker, licensed.</i>)	Mechanics, airplane or engine, not licensed.
Sheet-metal worker foreman, licensed.	(<i>See Mechanic, chief, licensed.</i>)	Mechanics, chief.
Sheet-metal worker's helper, not licensed.	(<i>See Mechanic's helper, not licensed.</i>)	Mechanics' helpers, not licensed.
Ship cleaner.....	Washes and cleans plane inside and out, using water and a sponge outside, and a vacuum cleaner inside. (<i>See Mechanic, chief, licensed.</i>)	Other ground-personnel employees, unskilled. Mechanics, chief.
Ship mechanic, chief, licensed.	(<i>See Ship cleaner.</i>)	Other ground-personnel employees, unskilled.
Ship washer.....	(<i>See Mechanic, chief, licensed.</i>)	Mechanics, chief.
Shop foreman, licensed.	(<i>See Cable splicer.</i>)	Other ground-personnel employees, skilled.
Splicer, cable.....	(<i>See Mechanic, chief, licensed.</i>)	Mechanics, chief.
Station manager, licensed.	Supervises plane dispatchers and acts as ticket agent at airports not having a ticket agent. (<i>See Ticket agent.</i>)	Agents, traffic.
Station master.....	(<i>See Traffic stenographer; Operations stenographer.</i>)	Clerks and stenographers.
Stenographer.....	Maintains a check on spare stock parts received, quantity on hand, and other equipment such as tools, which are issued to the mechanics under requisition.	Stock clerks.
Stock clerk.....	(<i>See Stock clerk.</i>)	Do.
Stock man.....	.....do.....	Do.
Storekeeper.....	(<i>See Chief radio mechanic.</i>)	Other ground-personnel employees, skilled.
Supervisor, radio mechanics.	(<i>See Janitor.</i>)	Janitors.
Sweeper.....	A typist, trained in handling the teletype for inter-divisional communication.	Clerks and stenographers.
Teletype operator.....	Sells tickets, makes reservations, makes contact between the company and the public and routes passengers to the best advantage. (<i>See Timekeeper.</i>)	Agents, traffic.
Ticket agent.....	Maintains a record of the time worked by employees in the shop and elsewhere at the airport.	Clerks and stenographers.
Time clerk.....	Maintains a record of all tools issued to mechanics on requisition.	Do.
Timekeeper.....	(<i>See Machinist and toolmaker.</i>)	Other ground-personnel employees, unskilled.
Tool-room clerk.....	(<i>See Agent, traffic.</i>)	Machinists and toolmakers.
Toolmaker.....	(<i>See Field-traffic manager.</i>)	Agents, traffic.
Traffic agent.....	Does stenographic and typing work in connection with traffic-office correspondence.	Other ground-personnel employees, skilled.
Traffic manager.....	(<i>See Ticket agent.</i>)	Clerks and stenographers.
Traffic stenographer.....	Drives a truck used for picking up and delivering express shipments and hauling supplies.	Agents, traffic.
Transportation agent.....	Repairs and replaces upholstering material in cabins or cockpits of planes.	Chauffeurs.
Truck driver.....	(<i>See Porter, redcap.</i>)	Other ground-personnel employees, skilled.
Upholsterer.....	(<i>See Ship cleaner.</i>)	Porters.
Waiting-room porter.....	.....do.....	Other ground-personnel employees, unskilled.
Washer, airplane.....	.....do.....	Do.
Washer, plane.....	.....do.....	Do.
Washer, ship.....	Patrols the grounds in and around hangar at specified intervals to guard against fire, burglary, etc.	Do.
Watchman.....		

Airport term	Definition	Classified by bureau under—
Weather observer.....	Conducts local weather observations and coordinates reports from other airports for general use of pilots and operations office.	Other ground-personnel employees, skilled.
Welder, licensed.....	Uses acetylene torch or electric-welding machine to weld broken parts together. Holds U. S. Department of Commerce mechanic's licenses for both aircraft and engine.	Mechanics, airplane and engine, licensed.
Welder's helper, not licensed.	(See Mechanic's helper, not licensed).....	Mechanics' helpers, not licensed.
Wing man, licensed....	A skilled mechanic who specializes either as a woodworker or a metal worker in the repair and rebuilding of wings of planes, depending upon the structure of same. Also holds a U. S. Department of Commerce aircraft license.	Mechanics, airplane, licensed.
Wing wiper.....	(See Ship cleaner).....	Other ground-personnel employees, unskilled.
Woodworker, licensed..	Does necessary repair work on wooden-frame fuselage, interior trim, wing or tail unit. Also holds a U. S. Department of Commerce aircraft-mechanic's license.	Mechanics, airplane, licensed.
Woodworker, not licensed.	Works under supervision of a licensed mechanic. (See Woodworker, licensed.)	Mechanics, airplane or engine, not licensed.
Woodworker's helper, not licensed.	(See Mechanic's helper, not licensed).....	Mechanics' helpers, not licensed.
Woodworking foreman licensed.	(See Mechanic, chief, licensed).....	Mechanics, chief.

LIST OF BULLETINS OF THE BUREAU OF LABOR STATISTICS

The following is a list of all bulletins of the Bureau of Labor Statistics published since July, 1912, except that in the case of bulletins giving the results of periodic surveys of the bureau only the latest bulletin on any one subject is here listed.

A complete list of the reports and bulletins issued prior to July, 1912, as well as the bulletins published since that date, will be furnished on application. Bulletins marked thus () are out of print.*

Conciliation and arbitration (including strikes and lockouts).

- *No. 124. Conciliation and arbitration in the building trades of Greater New York. [1913.]
- *No. 133. Report of the industrial council of the British Board of Trade on its inquiry into industrial agreements. [1913.]
- *No. 139. Michigan copper district strike. [1914.]
- *No. 144. Industrial court of the cloak, suit, and skirt industry of New York City. [1914.]
- *No. 145. Conciliation, arbitration, and sanitation in the dress and waist industry of New York City. [1914.]
- No. 191. Collective bargaining in the anthracite-coal industry. [1916.]
- *No. 198. Collective agreements in the men's clothing industry. [1916.]
- No. 233. Operation of the industrial disputes investigation act of Canada. [1918.]
- No. 255. Joint industrial councils in Great Britain. [1919.]
- No. 283. History of the Shipbuilding Labor Adjustment Board, 1917 to 1919.
- No. 287. National War Labor Board: History of its formation, activities, etc. [1921.]
- *No. 303. Use of Federal power in settlement of railway labor disputes. [1922.]
- No. 341. Trade agreement in the silk-ribbon industry of New York City. [1923.]
- No. 402. Collective bargaining by actors. [1926.]
- No. 468. Trade agreements, 1927.
- No. 481. Joint industrial control in the book and job printing industry. [1928.]

Cooperation.

- No. 313. Consumers' cooperative societies in the United States in 1920.
- No. 314. Cooperative credit societies (credit unions) in America and in foreign countries. [1922.]
- No. 437. Cooperative movement in the United States in 1925 (other than agricultural).
- No. 631. Consumers', credit, and productive cooperative societies, 1929.

Employment and unemployment.

- *No. 109. Statistics of unemployment and the work of employment offices in the United States. [1913.]
- *No. 172. Unemployment in New York City, N. Y. [1915.]
- *No. 183. Regularity of employment in the women's ready-to-wear garment industries. [1915.]
- *No. 195. Unemployment in the United States. [1916.]
- *No. 196. Proceedings of Employment Managers' Conference, held in Minneapolis, Minn., January 19 and 20, 1916.
- *No. 202. Proceedings of the conference of Employment Managers' Association of Boston, Mass., held May 10, 1916.
- No. 206. The British system of labor exchanges. [1916.]
- *No. 227. Proceedings of Employment Managers' Conference, Philadelphia, Pa., April 2 and 3, 1917.
- *No. 235. Employment system of the Lake Carriers' Association. [1918.]
- *No. 241. Public employment offices in the United States. [1918.]
- *No. 247. Proceedings of Employment Managers' Conference, Rochester, N. Y., May 9-11, 1918.
- *No. 310. Industrial unemployment: A statistical study of its extent and causes. [1922.]
- No. 409. Unemployment in Columbus, Ohio, 1921 to 1925.
- No. 542. Report of the Advisory Committee on Employment Statistics. [1931.]
- No. 544. Unemployment-benefit plans in the United States and unemployment insurance in foreign countries. [1931.]
- *No. 553. Fluctuation in employment in Ohio, 1914 to 1929.
- No. 555. Social and economic character of unemployment in Philadelphia, April, 1930.
- No. 574. Technological changes and employment in the United States Postal Service. [1932.]

Foreign labor laws.

- *No. 142. Administration of labor laws and factory inspection in certain European countries. [1914.]
- No. 494. Labor legislation of Uruguay. [1929.]
- No. 510. Labor legislation of Argentina. [1930.]
- No. 529. Workmen's compensation legislation of the Latin American countries. [1930.]
- No. 549. Labor legislation of Venezuela. [1931.]
- No. 554. Labor legislation of Paraguay. [1931.]
- No. 559. Labor legislation of Ecuador. [1931.]
- No. 569. Labor legislation of Mexico. [1932.]

Housing.

- *No. 158. Government aid to home owning and housing of working people in foreign countries. [1914.]
- No. 263. Housing by employers in the United States. [1920.]
- No. 295. Building operations in representative cities, 1920.
- No. 545. Building permits in principal cities of the United States in [1921 to] 1930.

Industrial accidents and hygiene.

- *No. 104. Lead poisoning in potteries, tile works, and porcelain-enameled sanitary ware factories. [1912.]
- No. 120. Hygiene of painters trade. [1913.]
- *No. 127. Dangers to workers from dusts and fumes, and methods of protection. [1913.]
- *No. 141. Lead poisoning in the smelting and refining of lead. [1914.]
- *No. 157. Industrial accident statistics. [1915.]
- *No. 165. Lead poisoning in the manufacture of storage batteries. [1914.]
- *No. 179. Industrial poisons used in the rubber industry. [1915.]
- No. 188. Report of British departmental committee on the danger in the use of lead in the painting of buildings. [1916.]
- *No. 201. Report of the committee on statistics and compensation insurance costs of the International Association of Industrial Accident Boards and Commissions. [1916.]
- No. 209. Hygiene of the printing trades. [1917.]
- *No. 219. Industrial poisons used or produced in the manufacture of explosives. [1917.]
- No. 221. Hours, fatigue, and health in British munition factories. [1917.]
- No. 230. Industrial efficiency and fatigue in British munition factories. [1917.]
- *No. 231. Mortality from respiratory diseases in dusty trades (inorganic dusts). [1918.]
- *No. 234. The safety movement in the iron and steel industry, 1907 to 1917.
- No. 236. Effects of the air hammer on the hands of stonecutters. [1918.]
- *No. 249. Industrial health and efficiency. Final report of British Health of Munitions Workers' Committee. [1919.]
- *No. 251. Preventable death in the cotton-manufacturing industry. [1919.]
- No. 256. Accidents and accident prevention in machine building. [1919.]
- No. 267. Anthrax as an occupational disease. [1920.]
- No. 276. Standardization of industrial accident statistics. [1920.]
- *No. 280. Industrial poisoning in making coal-tar dyes and dye intermediates. [1921.]
- *No. 291. Carbon monoxide poisoning. [1921.]
- No. 293. The problem of dust phthisis in the granite-stone industry. [1922.]
- No. 298. Causes and prevention of accidents in the iron and steel industry, 1910-1919.
- No. 306. Occupation hazards and diagnostic signs: A guide to impairments to be looked for in hazardous occupations. [1922.]
- No. 392. Survey of hygienic conditions in the printing trades. [1925.]
- No. 405. Phosphorus necrosis in the manufacture of fireworks and in the preparation of phosphorus. [1926.]
- No. 427. Health survey of the printing trades, 1922 to 1925.
- No. 428. Proceedings of the Industrial Accident Prevention Conference, held at Washington, D. O., July 14-16, 1926.
- No. 460. A new test for industrial lead poisoning. [1928.]
- No. 466. Settlement for accidents to American seamen. [1928.]
- No. 488. Deaths from lead poisoning, 1925-1927.
- No. 490. Statistics of industrial accidents in the United States to the end of 1927.
- No. 507. Causes of death, by occupation. [1930.]

Industrial relations and labor conditions.

- No. 237. Industrial unrest in Great Britain. [1917.]
- *No. 340. Chinese migrations, with special reference to labor conditions. [1923.]
- No. 349. Industrial relations in the West Coast lumber industry. [1923.]
- *No. 361. Labor relations in the Fairmont (W. Va.) bituminous-coal field. [1924.]
- No. 380. Postwar labor conditions in Germany. [1925.]
- No. 383. Works council movement in Germany. [1925.]
- No. 384. Labor conditions in the shoe industry in Massachusetts, 1920-1924.
- No. 399. Labor relations in the lace and lace-curtain industries in the United States. [1925.]
- No. 534. Labor conditions in the Territory of Hawaii, 1929-1930.

Labor laws of the United States (including decisions of courts relating to labor).

- *No. 211. Labor laws and their administration in the Pacific States. [1917.]
- No. 229. Wage payment legislation in the United States. [1917.]
- No. 285. Minimum wage laws of the United States: Construction and operation. [1921.]
- No. 321. Labor laws that have been declared unconstitutional. [1922.]
- No. 322. Kansas Court of Industrial Relations. [1923.]
- No. 343. Laws providing for bureaus of labor statistics, etc. [1923.]
- No. 370. Labor laws of the United States with decisions of courts relating thereto. [1925.]
- No. 408. Laws relating to payment of wages. [1926.]
- No. 548. Decisions of courts and opinions affecting labor, 1929-1930.
- No. 552. Labor legislation, 1930.

Proceedings of annual conventions of the Association of Governmental Officials in Industry of the United States and Canada. (Name changed in 1928 from Association of Governmental Labor Officials of the United States and Canada.)

- *No. 266. Seventh, Seattle, Wash., July 12-15, 1920.
- No. 307. Eighth, New Orleans, La., May 2-6, 1921.
- *No. 323. Ninth, Harrisburg, Pa., May 22-26, 1922.
- *No. 352. Tenth, Richmond, Va., May 1-4, 1923.
- *No. 389. Eleventh, Chicago, Ill., May 19-23, 1924.
- *No. 411. Twelfth, Salt Lake City, Utah, August 13-15, 1925.
- *No. 429. Thirteenth, Columbus, Ohio, June 7-10, 1926.
- *No. 465. Fourteenth, Paterson, N. J., May 31 to June 3, 1927.
- *No. 480. Fifteenth, New Orleans, La., May 21-24, 1928.
- No. 508. Sixteenth, Toronto, Canada, June 4-7, 1929.
- No. 530. Seventeenth, Louisville, Ky., May 20-23, 1930.
- No. 563. Eighteenth, Boston, Mass., May 18-22, 1931.

Proceedings of annual meetings of the International Association of Industrial Accident Boards and Commissions.

- No. 210. Third, Columbus, Ohio, April 25-28, 1916.
- No. 248. Fourth, Boston, Mass., August 21-25, 1917.
- No. 264. Fifth, Madison, Wis., September 24-27, 1918.
- *No. 273. Sixth, Toronto, Canada, September 23-26, 1919.
- No. 281. Seventh, San Francisco, Calif., September 20-24, 1920.
- No. 304. Eighth, Chicago, Ill., September 19-23, 1921.
- No. 333. Ninth, Baltimore, Md., October 9-13, 1922.
- *No. 358. Tenth, St. Paul, Minn., September 24-26, 1923.
- No. 385. Eleventh, Halifax, Nova Scotia, August 26-28, 1924.
- No. 395. Index to proceedings, 1914-1924.
- No. 406. Twelfth, Salt Lake City, Utah, August 17-20, 1925.
- No. 432. Thirteenth, Hartford, Conn., September 14-17, 1926.
- No. 456. Fourteenth, Atlanta, Ga., September 27-29, 1927.
- No. 485. Fifteenth, Paterson, N. J., September 11-14, 1928.
- No. 611. Sixteenth, Buffalo, N. Y., October 8-11, 1929.
- No. 536. Seventeenth, Wilmington, Del., September 22-26, 1930.
- No. 564. Eighteenth, Richmond, Va., October 5-8, 1931.

Proceedings of annual meetings of the International Association of Public Employment Services.

- No. 192. First, Chicago, December 19 and 20, 1913; second, Indianapolis, September 24 and 25, 1914; third, Detroit, July 1 and 2, 1915.
- *No. 220. Fourth, Buffalo, N. Y., July 20 and 21, 1916.
- No. 311. Ninth, Buffalo, N. Y., September 7-9, 1921.
- No. 337. Tenth, Washington, D. C., September 11-13, 1922.
- No. 355. Eleventh, Toronto, Canada, September 4-7, 1923.
- No. 400. Twelfth, Chicago, Ill., May 19-23, 1924.
- No. 414. Thirteenth, Rochester, N. Y., September 15-17, 1925.
- No. 478. Fifteenth, Detroit, Mich., October 25-28, 1927.
- No. 501. Sixteenth, Cleveland, Ohio, September 18-21, 1928.
- No. 538. Seventeenth, Philadelphia, Pa., September 24-27, 1929; eighteenth, Toronto, Canada, September 9-12, 1930.

Productivity of labor.

- No. 356. Productivity costs in the common-brick industry. [1924.]
- No. 360. Time and labor costs in manufacturing 100 pairs of shoes, 1923.
- No. 407. Labor cost of production and wages and hours of labor in the paper box-board industry. [1926.]
- *No. 412. Wages, hours, and productivity in the pottery industry, 1925.
- No. 441. Productivity of labor in the glass industry. [1927.]
- No. 474. Productivity of labor in merchant blast furnaces. [1928.]
- No. 475. Productivity of labor in newspaper printing. [1929.]
- No. 550. Cargo handling and longshore labor conditions. [1932.]

Retail prices and cost of living.

- *No. 121. Sugar prices, from refiner to consumer. [1913.]
- *No. 130. Wheat and flour prices, from farmer to consumer. [1913.]
- *No. 164. Butter prices, from producer to consumer. [1914.]
- *No. 170. Foreign food prices as affected by the war. [1915.]
- No. 357. Cost of living in the United States. [1924.]
- No. 389. The use of cost-of-living figures in wage adjustments. [1925.]
- No. 495. Retail prices, 1890 to 1928.

Safety codes.

- No. 336. Safety code for the protection of industrial workers in foundries.
- No. 350. Rules governing the approval of headlighting devices for motor vehicles.
- *No. 351. Safety code for the construction, care, and use of ladders.
- No. 375. Safety code for laundry machinery and operations.
- *No. 382. Code of lighting school buildings.
- No. 410. Safety code for paper and pulp mills.
- *No. 430. Safety code for power presses and foot and hand presses.
- No. 447. Safety code for rubber mills and calendars.
- No. 451. Safety code for forging and hot-metal stamping.
- No. 463. Safety code for mechanical power-transmission apparatus—first revision.
- No. 509. Textile safety code.
- No. 512. Code for identification of gas-mask canisters.
- No. 519. Safety code for woodworking plants, as revised 1930.
- No. 527. Safety code for use, care, and protection of abrasive wheels, as revised 1930.
- No. 556. Code of lighting: Factories, mills, and other work places. (Revision of 1930.)
- No. 562. Safety codes for the prevention of dust explosions.

Vocational and workers' education.

- *No. 159. Short-unit courses for wage earners, and a factory school experiment. [1915.]
- *No. 162. Vocational education survey of Richmond, Va. [1915.]
- *No. 199. Vocational education survey of Minneapolis, Minn. [1917.]
- No. 271. Adult working-class education in Great Britain and the United States. [1920.]
- No. 459. Apprenticeship in building construction. [1928.]

Wages and hours of labor.

- *No. 146. Wages and regularity of employment and standardization of piece rates in the dress and waist industry of New York City. [1914.]
- *No. 147. Wages and regularity of employment in the cloak, suit, and skirt industry. [1914.]
- No. 161. Wages and hours of labor in the clothing and cigar industries, 1911 to 1913.
- *No. 163. Wages and hours of labor in the building and repairing of steam railroad cars, 1907 to 1913.
- *No. 190. Wages and hours of labor in the cotton, woolen, and silk industries, 1907 to 1914.
- No. 204. Street-railway employment in the United States. [1917.]
- No. 218. Wages and hours of labor in the iron and steel industry, 1907 to 1915: With a glossary of occupations.
- *No. 225. Wages and hours of labor in the lumber, millwork, and furniture industries, 1915.
- No. 265. Industrial survey in selected industries in the United States, 1919.
- No. 297. Wages and hours of labor in the petroleum industry, 1920.
- No. 356. Productivity costs in the common-brick industry. [1924.]
- No. 358. Wages and hours of labor in the automobile-tire industry, 1923.
- No. 360. Time and labor costs in manufacturing 100 pairs of shoes, 1923.
- No. 365. Wages and hours of labor in the paper and pulp industry, 1923.
- No. 394. Wages and hours of labor in metalliferous mines, 1924.
- No. 407. Labor cost of production and wages and hours of labor in the paper box-board industry. [1926.]
- No. 412. Wages, hours, and productivity in the pottery industry, 1925.
- No. 416. Hours and earnings in anthracite and bituminous coal mining, 1922 and 1924.
- No. 484. Wages and hours of labor of common street laborers, 1928.
- No. 499. History of wages in the United States from colonial times to 1928.
- No. 502. Wages and hours of labor in the motor-vehicle industry, 1928.
- No. 504. Wages and hours of labor in the hosiery and underwear industries, 1907 to 1928.
- No. 514. Pennsylvania Railroad wage data. From Report of Joint Fact Finding Committee in the wage negotiations in 1927.
- No. 516. Hours and earnings in bituminous-coal mining, 1929.
- No. 523. Wages and hours in the manufacture of airplanes and aircraft engines, 1929.
- No. 525. Wages and hours of labor in the Portland cement industry, 1929.
- No. 526. Wages and hours of labor in the furniture industry, 1910 to 1929.
- No. 532. Wages and hours of labor in the cigarette manufacturing industry, 1930.
- No. 533. Wages and hours of labor in woolen and worsted goods manufacturing, 1910 to 1930.
- No. 534. Labor conditions in the Territory of Hawaii, 1929-1930.
- No. 535. Wages and hours of labor in the slaughtering and meat-packing industry, 1929.
- No. 537. Wages and hours of labor in the dyeing and finishing of textiles, 1930.
- No. 539. Wages and hours of labor in cotton goods manufacturing, 1910 to 1930.
- No. 546. Wages and hours in rayon and other synthetic manufacturing, 1930.
- No. 547. Wages and hours in cane-sugar refining industry, 1930.
- No. 551. Wages and hours of labor in the boot and shoe industry, 1910 to 1930.
- No. 557. Wages and hours in the men's clothing industry, 1911 to 1930.
- No. 560. Wages and hours of labor in the lumber industry in the United States, 1930.
- No. 566. Union scales of wages and hours of labor, May 15, 1931.
- No. 567. Wages and hours of labor in the iron and steel industry, 1931.
- No. 568. Wages and hours of labor in the manufacture of silk and rayon goods, 1931.
- No. 570. Wages and hours of labor in foundries and machine shops, 1931.
- No. 571. Wages and hours of labor in the furniture industry, 1910 to 1931.
- No. 573. Wages and hours of labor in metalliferous mining, 1924 to 1931.

Welfare work.

- *No. 123. Employers' welfare work. [1913.]
- No. 222. Welfare work in British munition factories. [1917.]
- *No. 250. Welfare work for employees in industrial establishments in the United States. [1919.]
- No. 458. Health and recreation activities in industrial establishments, 1926.

Wholesale prices.

- *No. 284. Index numbers of wholesale prices in the United States and foreign countries. [1921.]
- No. 463. Revised index numbers of wholesale prices, 1923 to July, 1927.
- No. 543. Wholesale prices, 1930.
- No. 572. Wholesale prices, 1931.

Women and children in industry.

- *No. 116. Hours, earnings, and duration of employment of wage-earning women in selected industries in the District of Columbia. [1913.]
- *No. 117. Prohibition of night work of young persons. [1913.]
- *No. 118. Ten-hour maximum working-day for women and young persons. [1913.]
- No. 119. Working hours of women in the pea canneries of Wisconsin. [1913.]
- *No. 122. Employment of women in power laundries in Milwaukee. [1913.]
- No. 160. Hours, earnings, and conditions of labor of women in Indiana mercantile establishments and garment factories. [1914.]
- *No. 167. Minimum-wage legislation in the United States and foreign countries. [1915.]
- *No. 175. Summary of the report on conditions of women and child wage earners in the United States. [1915.]
- *No. 176. Effect of minimum-wage determination in Oregon. [1915.]
- *No. 180. The boot and shoe industry in Massachusetts as a vocation for women. [1915.]
- *No. 182. Unemployment among women in department and other retail stores of Boston, Mass. [1916.]
- No. 193. Dressmaking as a trade for women in Massachusetts. [1916.]
- No. 215. Industrial experience of trade-school girls in Massachusetts. [1917.]
- *No. 217. Effect of workmen's compensation laws in diminishing the necessity of industrial employment of women and children. [1917.]
- *No. 223. Employment of women and juveniles in Great Britain during the war. [1917.]
- No. 253. Women in the lead industries. [1919.]
- No. 467. Minimum wage legislation in various countries. [1928.]
- No. 568. Labor conditions of women and children in Japan. [1931.]

Workmen's insurance and compensation (including laws relating thereto).

- *No. 101. Care of tuberculous wage earners in Germany. [1912.]
- *No. 102. British national insurance act, 1911.
- *No. 103. Sickness and accident insurance law in Switzerland. [1912.]
- No. 107. Law relating to insurance of salaried employees in Germany. [1913.]
- *No. 155. Compensation for accidents to employees of the United States. [1914.]
- *No. 212. Proceeding of the conference on social insurance called by the International Association of Industrial Accident Boards and Commissions, Washington, D. C., December 5-9, 1916.
- *No. 243. Workmen's compensation legislation in the United States and foreign countries, 1917 and 1918.
- No. 301. Comparison of workmen's compensation insurance and administration. [1922.]
- No. 312. National health insurance in Great Britain, 1911 to 1921.
- *No. 379. Comparison of workmen's compensation laws of the United States as of January 1, 1925.
- No. 477. Public-service retirement systems, United States and Europe. [1929.]
- No. 496. Workmen's compensation legislation of the United States and Canada as of January 1, 1929. (With text of legislation enacted in 1927 and 1928.)
- No. 529. Workmen's compensation legislation of the Latin American countries. [1930.]

Miscellaneous series.

- *No. 174. Subject index of the publications of the United States Bureau of Labor Statistics up to May 1, 1915.
- No. 208. Profit sharing in the United States. [1916.]
- No. 242. Food situation in central Europe, 1917.
- No. 254. International labor legislation and the society of nations. [1919.]
- No. 288. Historical survey of international action affecting labor. [1920.]
- No. 282. Mutual relief associations among Government employees in Washington, D. C. [1921.]
- No. 319. The Bureau of Labor Statistics: Its history, activities, and organization. [1922.]
- No. 326. Methods of procuring and computing statistical information of the Bureau of Labor Statistics. [1923.]
- No. 342. International Seamen's Union of America: A study of its history and problems. [1923.]
- No. 346. Humanity in government. [1923.]
- No. 372. Convict labor in 1923.
- No. 386. Cost of American almshouses. [1925.]
- No. 398. Growth of legal-aid work in the United States. [1926.]
- No. 401. Family allowances in foreign countries. [1926.]
- No. 461. Labor organizations in Chile. [1928.]
- *No. 465. Beneficial activities of American trade-unions. [1928.]
- No. 479. Activities and functions of a State department of labor. [1928.]
- No. 483. Conditions in the shoe industry in Haverhill, Mass., 1928.
- *No. 489. Care of aged persons in United States. [1929.]
- No. 505. Director of homes for the aged in the United States. [1929.]
- No. 506. Handbook of American trade-unions. 1929 edition.
- No. 518. Personnel research agencies. 1930 edition.
- No. 541. Handbook of labor statistics. 1931 edition.
- No. 561. Public old-age pensions in the United States and in foreign countries. [1932.]
- No. 565. Park recreation areas in the United States, 1930.