

CARRIAGE AND WAGON WORKS.

Under this division of wood-working industries are included those establishments making all grades of carriages and wagons, from the finest to the coarsest work.

In few industries have there been greater changes in the character of output and methods of manufacture than in this. The character and finish of the carriages and vehicles of twenty-five years ago were very much inferior to those of the present time. This change has resulted in a great increase in selling price and in cost. Another important change has been in the substitution of machine for hand labor, and in the production of parts of carriages at large establishments. Twenty-five or thirty years ago nearly all the work on a carriage or wagon was done in the same establishment. The stock, especially the wood and iron, was brought into the works in a comparatively crude state, and all the processes of wheel- and body-making, as well as upholstering and finishing, were carried on there. Now parts of this work are done in large establishments, the carriage-maker buying separate parts and putting the carriage together, supplying certain portions in his own factory, and finishing. A great deal of what is known as wagon and carriage hardware, which was formerly forged by blacksmiths in such establishments, is now supplied to the carriage establishments. The same is true of hubs, spokes wheels, bodies, etc.

Of the 219 schedules sent out, but 45 were returned and 26 tabulated. Those tabulated are divided according to states, as follows :

Connecticut	1	Iowa	2	New York	4
Delaware	1	Kentucky	2	North Carolina	1
Georgia	1	Maine	1	Ohio	1
Illinois	2	Massachusetts	4	Pennsylvania	1
Indiana	2	Missouri	1	Wisconsin	2

Extra earnings or deductions.—But few opportunities for over-time are reported. These are in certain busy seasons when the day is long.

As a rule there are no allowances. One establishment reports giving a bonus to its men, the works being operated somewhat on the co-operative principle.

All wood-workers and trimmers furnish their own tools. The expense of these, however, is light, especially of late years, when the introduction of machinery has done away with a great deal of wood-working in the carriage-making establishments.

Payments.—But two of the establishments reporting pay any part of wages in merchandise or store-orders, and it is apparent that one of these should be classified as paying all cash. The usual interval of payment is weekly, though in some cases monthly. There are instances, also, of lengthening the interval of payment from weekly to every two weeks.

Hours of labor.—The usual hours of labor per day are 10. The same rule that applies to other wood-working establishments applies here also in regard to night-work.

Regularity of employment.—There seems to be considerable irregularity of employment at these establishments, due chiefly to the lightness of demand not only at the different seasons, but in accordance with the prosperous or depressed state of the times.

Carriages are luxuries, and in bad times old ones will be used longer and new ones will not be bought, and wagons, though not luxuries, can oftentimes be used longer in bad times than they would were the times prosperous.

For many classes of carriages, also, there are greater demands at some seasons than at others. At some works advantage is taken of these dull times to make stock which is disposed of in brisk times; in other cases the works are idle.

Relation of wages and labor to selling price and cost.—There are so many styles of carriages and wagons that it is evident it would be impossible to give any figures that would be satisfactory under this head. Nor is there any

standard that would be the same through the different years. The character of all classes of vehicles has so improved in 20 or 25 years as to cause the increase in selling price that has already been noted, and to make it impossible to compare figures for the different years. Selling prices, however, are given in quite a number of instances.

Efficiency of labor and labor-saving machinery.—There has been but little improvement in the efficiency of labor.

While some machinery has been introduced into the works reporting, as has been stated, the change in the methods of work in this industry by which certain parts of carriages and wagons are produced in large establishments and sold to carriage works, has made it unnecessary to introduce much labor-saving machinery at the carriage works proper.

WAGES TABLES, WITH SUPPLEMENTARY AND EXPLANATORY REMARKS.

Durham & Wooster, New Haven, Connecticut.

Classes of employes.	Unit of payment.	DATES.																
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.	
Foreman	Day	\$3 75	\$3 50	\$3 00	\$3 00	\$3 50	\$3 50										\$3 00	
Body-maker	do	3 00	2 75	2 50	2 50	2 75	2 75										3 00	2 75
Wood-worker	do	3 00	2 75	2 50	2 50	2 75	2 75											
Carver	do	2 25	2 00	2 25	2 50	2 50	2 50											
Blacksmith	do	2 50	2 50	2 50	2 75	3 00	3 00										3 25	3 00
Blacksmith's helper	do	2 25	2 00	1 75	1 75	2 00	2 00										2 00	1 75
Painter	do	3 00	2 75	2 50	2 50	2 50	2 75										3 00	2 75
Striper	do	3 00	3 00	2 75	2 75	2 75	3 00											
Varnisher	do	3 00	3 00	2 75	2 75	2 75	3 00											
Stitcher	do	3 00	2 50	2 50	2 25	2 25	2 25											
Trimmer	do	3 00	2 75	2 50	2 75	2 75	2 75										3 00	2 75
Finisher	do	3 00	2 75	2 50	2 75	2 75	2 75											
Teamster	do	2 25	2 00	2 00	2 00	2 00	2 00											
Watchman	do	2 25	2 00	2 00	2 00	2 00	2 00											

REMARKS.—These works were established in 1853, but the table of wages dates back only to 1865, the records for the previous years having been destroyed by fire.

The products are fine work of the best class, known as family and heavy carriages.

There have been some opportunities for over-time for apprentice-boys to enable them to earn extra pay during their first year, and for others during busy seasons. These have not been included in the table.

The body-makers and trimmers furnish their own tools. Body-makers' tools cost from \$100 to \$200, and trimmers' about \$15.

Employés are paid weekly and all in cash.

Regarding hours of labor it is stated that the men do not work as well on short time, and when it is necessary to restrict production the number of men is reduced rather than the working-hours.

The trade fluctuates according to the general activity or depression of other trades, as carriages, generally being regarded as a luxury, are among the first articles to be dispensed with by those retrenching expenses. There have been no strikes of any importance.

Regarding the selling prices in the following table, it is stated that the quality of the goods manufactured has changed very much

in the time covered by the report, the markets in which the goods are now sold demanding the best quality :

Year.	Landau.	Coach.	Coupé.	Six-passenger rockaway.
1853.....		\$700 00	\$500 00	\$400 00
1855.....		700 00	600 00	500 00
1860.....		800 00	650 00	600 00
1865.....	\$1,000 00	900 00	600 00	700 00
1870.....	1,000 00	1,000 00	700 00	700 00
1875.....	1,100 00	1,000 00	750 00	750 00
1880.....	1,200 00	1,100 00	825 00	800 00

Wages constitute about one-third of the total cost of product.

The growth in demand for fine work in this trade has led to an increase in the efficiency of labor.

Various improved machinery, such as drills, thread-cutters, tire-setters, etc., have been introduced, the result of which has been an increase in production.

The trade is healthful in most branches. Painters are sometimes afflicted with colic, which may be avoided by not using lead.

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Wood-worker	do	3 00	2 75	2 50	2 50	2 75	2 75										
Carver	do	2 25	2 00	2 25	2 50	2 50	2 50										
Blacksmith	do	2 50	2 50	2 50	2 75	3 00	3 00					3 25					3 00
Blacksmith's helper	do	2 25	2 00	1 75	1 75	2 00	2 00					2 00					1 75
Painter	do	3 00	2 75	2 50	2 50	2 50	2 75					3 00					2 75
Striper	do	3 00	3 00	2 75	2 75	2 75	3 00										
Varnisher	do	3 00	3 00	2 75	2 75	2 75	3 00										
Stitcher	do	3 00	2 50	2 50	2 25	2 25	2 25										
Trimmer	do	3 00	2 75	2 50	2 75	2 75	2 75					3 00					2 75
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Wages constitute about one-third of the total cost of product.

The growth in demand for fine work in this trade has led to an increase in the efficiency of labor.

Various improved machinery, such as drills, thread-cutters, tire-setters, etc., have been introduced, the result of which has been an increase in production.

The trade is healthful in most branches. Painters are sometimes afflicted with colic, which may be avoided by not using lead.

McLear & Kendall, Wilmington, Delaware.

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		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.
Foreman.....	Day	\$3 33 $\frac{1}{2}$	\$3 33 $\frac{1}{2}$	\$3 33 $\frac{1}{2}$	\$3 33 $\frac{1}{2}$	\$4 00	\$4 00	\$4 00	\$3 50	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$2 50	\$2 50
Body-maker.....	do	3 50	3 50	3 50	3 50	3 50	3 50	3 50	4 00	4 00	4 00	3 50	3 50	3 50	3 50	3 00	3 00
Wood-worker.....	do	1 66 $\frac{2}{3}$	1 66 $\frac{2}{3}$	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Curver.....	do	3 00	3 00	3 00	3 00	3 00	3 00	3 00	4 00	4 00	4 00	3 50	3 50	3 50	3 00	3 00	2 50
Wheelwright.....	do	2 00	2 50	2 50	2 50	2 50	2 50	3 00	3 50	3 50	3 50	3 00	3 00	3 00	3 00	3 00	2 50
Blacksmith.....	do	3 50	3 50	3 50	3 50	3 50	3 50	3 50	4 00	4 00	4 00	3 50	3 50	3 50	3 50	3 00	3 00
Blacksmith's helper.....	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00	1 75	1 75	1 75	1 75	1 50	1 50
Painter.....	do	1 66 $\frac{2}{3}$	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	3 00	2 50	2 50	2 50	2 50	2 00	2 00
Striper.....	do	2 00	2 00	2 00	2 50	2 50	2 50	2 75	3 00	3 50	3 50	3 00	3 00	3 00	3 00	2 00	2 00
Varnisher.....	do	2 50	2 50	2 50	2 75	2 75	3 00	3 00	3 25	3 50	3 50	3 50	3 50	3 50	3 50	2 50	2 50
Stitcher (female).....	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Trimmer.....	do	3 00	3 00	3 00	3 00	3 00	3 00	3 00	4 00	4 00	4 00	3 50	3 50	3 00	3 00	3 00	2 50
Finisher.....	do	1 75	2 00	2 00	2 00	2 00	2 00	2 50	2 50	3 00	2 50	2 50	2 50	2 50	2 50	2 00	2 00
Engineer.....	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 00	2 00	2 00	2 00	2 00	2 00
Watchman.....	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Apprentice.....	do	33 $\frac{1}{2}$ 66 $\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$	33$\frac{1}{2}$ 66$\frac{2}{3}$

REMARKS.—This firm manufactures buggies and carriages.

The wages paid to apprentices from 1864 to 1871 were 33 $\frac{1}{2}$ cents a day for the first year, 50 cents for the second, 66 $\frac{2}{3}$ cents for the third, and 83 $\frac{1}{3}$ cents for the fourth. Since 1871, 50 cents has been paid for the second and third years and 66 $\frac{2}{3}$ for the fourth.

Very little over-time is made, and extra earnings have been considered in the table. There are no allowances.

A few of the first-class workmen supply their own tools, but the cost is too small for consideration.

Employes are paid weekly and wholly in cash.

All classes work 10 hours a day, and the works are in constant operation. The only irregularity in running is that at some seasons of the year more men are employed than at others, because the demand is greater. There have been no strikes or lockouts.

Labor-saving machinery has been introduced. This has increased output, but has not affected wages or number of employes.

The following table gives the selling prices and the labor cost of several articles produced :

Year.	SELLING PRICE.		LABOR COST.	
	Buggies, each.	Carriages, each.	Buggies, each.	Carriages, each.
1865.....	\$250 00	\$400 00	\$83 00	\$133 00
1870.....	250 00	400 00	83 00	133 00
1875.....	175 00	300 00	58 00	100 00
1880.....	140 00	225 00	47 00	75 00

There has been no change in the efficiency of labor. The trade is healthful and free from danger.

C. H. Asborn, Griffin, Georgia.

Classes of employes.	Unit of payment.	DATES.															
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.
Foreman.....	Month	\$50 00	\$50 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00	\$55 00
Machine-hand.....	Day	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Turner.....	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Cabinet-maker.....	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Chair-maker.....	do																
Varnisher.....	do	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Finisher.....	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Upholsterer.....	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Engineer.....	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Laborer.....	do	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80

REMARKS.—At the establishment making this return light pleasure-vehicles, farm-wagons, etc., are manufactured.

The extra earnings, which are very insignificant, are included in the rates given above. There are no allowances or expenses.

Payments are in cash and weekly.

The hours of labor are 10 a day for all classes.

It is stated that the works are in constant operation, as the demand is always as great as the capacity of the establishment, and there have been no strikes.

Improved shaping, dandling, and planing machines have been introduced, the effect of which has been a saving in time and labor.

The selling prices of two grades of buggies are given below :

Year.	Buggies, highest grade.	Buggies, lowest grade.
1865.....	\$275 00	\$150 00
1870.....	225 00	140 00
1875.....	200 00	130 00
1880.....	175 00	125 00

The trade is healthful.

Heinzelman Brothers, Belleville, Illinois.

Classes of employes.	Unit of payment.	DATES.											
		1860.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.
Body-maker	Day	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00
Wood-worker	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00
Wheelwright	do												
Blacksmith	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00
Blacksmith's helper	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Painter	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00
Striper	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00
Varnisher	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00
Trimmer	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00
Apprentice	do	41¢	41¢	41¢	41¢	41¢	41¢	41¢	50	50	50	50	50

Classes of employes.	Unit of payment.	DATES.											
		1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.
Body-maker	Day	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$2 50	\$2 50	\$2 00	\$2 00	\$2 00	\$2 00	\$2 00
Wood-worker	do	3 00	3 00	3 00	3 00	3 00	2 50	2 50	2 00	2 00	2 00	2 00	2 00
Wheelwright	do									2 00	2 00	2 00	2 00
Blacksmith	do	3 00	3 00	3 00	3 00	3 00	2 50	2 50	2 00	2 00	2 00	2 00	2 00
Blacksmith's helper	do	1 50	1 50	1 50	1 50	1 50	1 25	1 25	1 00	1 00	1 00	1 00	1 00
Painter	do	3 00	3 00	3 00	3 00	3 00	2 50	2 50	2 00	2 00	2 00	2 00	2 00
Striper	do	3 00	3 00	3 00	3 00	3 00	2 50	2 50	2 00	1 75	1 75	1 75	1 75
Varnisher	do	3 00	3 00	3 00	3 00	3 00	2 50	2 50	2 00	2 00	2 00	2 00	2 00
Trimmer	do	3 00	3 00	3 00	3 00	3 00	2 50	2 50	2 00	2 00	2 00	2 00	2 00
Apprentice	do	50	50	50	50	50	50	50	33¢	33¢	33¢	33¢	33¢

REMARKS.—The articles of manufacture at these works are carriages, top-buggies, and open buggies.

There are no opportunities for extra earnings and no allowances or deductions.

Payments are weekly and all in cash.

The hours of labor are 10 a day for all classes. This, it is remarked, has always seemed satisfactory to the employes.

The works are in operation 12 months each year. No strikes or lockouts have occurred.

There has been no change in the efficiency of labor.

No labor-saving machinery has been introduced.

The business is generally healthful. The painters' trade was in former years deleterious to health, but since the use of white lead has been discarded this trade seems as healthful as any of the other branches. There is no danger of accidents incidental to this occupation.

Below are given selling prices and labor cost. The percentage of wages to cost of product is stated to be about 50 per cent.:

Year.	SELLING PRICE.			LABOR COST.		
	Top-buggy.	Open buggy.	Spring wagon.	Top-buggy.	Open buggy.	Spring wagon.
1857				\$60 00	\$50 00	\$55 00
1860	\$200 00	\$125 00	\$150 00	60 00	50 00	55 00
1865	350 00	250 00	275 00	50 00	40 00	45 00
1870	300 00	200 00	225 00	50 00	40 00	45 00
1875	225 00	160 00	175 00	50 00	40 00	45 00
1880	165 00	100 00	115 00	50 00	40 00	45 00

Thomas H. Brown, Chicago, Illinois.

Classes of employes.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Wood-worker	Day	\$2 00	\$2 50	\$2 00	\$3 05	\$3 40					\$2 80	\$3 00
Blacksmith	do	1 75	2 00	2 00	2 10	2 50					2 30	2 50
Painter	do	1 70	2 00	2 25	2 25	2 50					2 10	2 25
Trimmer	do	2 50	2 50	2 50	2 50	2 50					2 05	2 00

REMARKS.—Fine buggies, road-wagons, skeleton wagons, and fine sulkies are mentioned as the products of these works.

There have been few opportunities for extra earnings, and no allowances.

Wood-workers, blacksmiths, and trimmers furnish their own tools. Employes are paid weekly, and wholly in cash.

All classes work 10 hours per day, and observation has led to the belief that any change in the hours of labor would be disadvantageous.

The works have been in constant operation except during the years 1872, 1873, 1874, and 1875, when they were idle on account of the great fire of 1871. The fluctuations in demand for goods in the different seasons of the year do not interfere with the regularity of employment, as the surplus of stock in dull seasons is used in meeting the demand when trade is brisk. There have been no strikes or lockouts.

There has been no noticeable increase in the efficiency of labor.

The selling prices of several styles of product are given in the following table:

Year.	Top-buggies, each.	Wagons, each.	Sulkies, each.	Cushions, with weight-pocket.
1870	\$425 00	\$175 00 to 425 00	\$125 00	\$8 00
1876	425 00	175 00 to 425 00	125 00	8 00
1880	425 00	175 00 to 425 00	125 00 to 150 00	8 00

Regarding the introduction of labor-saving machinery, it is stated that nearly all the work is done by hand.

There is nothing connected with the trade which is detrimental to health.

STATISTICS OF WAGES—CARRIAGE AND WAGON WORKS.

A. A. Helfer & Sons, Indianapolis, Indiana.

Classes of employes.	Unit of payment.	DATES.														
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.
Body-maker	Day		\$2 25	\$2 00	\$2 00	\$2 00	\$2 00	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50	\$2 25	\$2 25	\$2 50	\$2 50
Wood-worker	do		2 00	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 00	2 00	2 00	2 00	1 75	1 75
Wheelwright	do		1 75	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00	1 75
Blacksmith	do		2 50	2 50	2 25	2 25	2 25	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Blacksmith's helper	do		1 25	1 25	1 00	1 00	1 00	1 00	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Painter	do		2 00	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 00	2 00	2 00	2 00	1 75
Striper	do		1 50	1 25	1 25	1 25	1 50	1 50	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Varnisher	do		2 25	2 00	2 00	2 00	2 00	2 00	2 25	2 25	2 25	2 25	2 25	2 25	2 00	2 00
Stitcher	do		1 25	1 00	1 00	1 00	1 00	1 00	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Trimmer	do		2 25	2 00	2 00	2 00	2 00	2 00	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 00
Watchman	do		1 50	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 25
Laborer	do		1 25	1 00	1 00	1 00	1 00	1 00	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Apprentice	do		75	50	50	50	50	50	75	75	75	75	75	75	75	75

Classes of employes.	Unit of payment.	DATES.															
		1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.	1850.
Body-maker	Day	\$2 50	\$2 50	\$1 75	\$1 75	\$2 25	\$2 25	\$2 25	\$2 25	\$2 25	\$2 25	\$1 75	\$1 75	\$1 75	\$2 00	\$2 00	\$2 00
Wood-worker	do	1 75	1 50	1 50	1 50	2 00	2 00	2 00	2 00	2 00	1 50	1 50	1 50	1 75	1 75	1 75	
Wheelwright	do	1 75	1 50	1 50	1 75	1 75	1 75	1 75	1 75	1 75	1 25	1 25	1 25	1 50	1 50	1 50	
Blacksmith	do	2 50	2 00	2 00	2 00	2 25	2 25	2 00	2 00	2 00	1 75	1 75	1 75	2 00	2 00	2 00	
Blacksmith's helper	do	1 25	1 00	75	75	1 00	1 00	1 25	1 00	1 00	75	75	75	1 00	1 00	1 00	
Painter	do	1 75	1 75	1 50	1 50	2 00	2 00	1 75	1 75	1 50	1 50	1 25	1 25	1 25	1 50	1 50	
Striper	do	1 75	1 75	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75	1 50	1 50	1 50	1 75	1 75	
Varnisher	do	2 00	1 75	1 75	2 00	2 00	2 00	2 00	2 00	2 00	1 75	1 75	1 75	2 00	2 00	2 00	
Stitcher	do	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	90	90	90	1 00	1 00	1 00	
Trimmer	do	2 00	1 75	1 75	2 00	2 00	2 00	2 00	2 00	2 00	1 50	1 50	1 50	2 00	2 00	2 00	
Watchman	do	1 25	1 00	1 00	1 00	1 00	1 00	1 25	1 25	1 25	75	75	75	1 00	1 00	1 00	
Laborer	do	1 25	1 00	1 00	1 00	1 00	1 00	1 25	1 25	1 25	75	75	75	1 00	1 00	1 00	
Apprentice	do	75	50	50	50	50	50	50	50	50	40	40	40	50	50	50	

REMARKS.—This firm manufactures fine carriages of all styles. There have been a few opportunities for extra earnings from overtime during the busy seasons. These would increase regular wages, and have not been included in the table. There are no allowances and no deductions. Payments are weekly and all in cash. From March 1 to November 1 employes work 10 hours per day, and the remainder of the year 9 hours. It is stated that the works are never idle, but that in 1853, and also in 1861 and 1862, the force was greatly reduced; in the former year in consequence of depression of business, and in the latter years on account of the war. An estimate is made that the reduction in number of employes in 1853 was equal to a stoppage of the entire factory for three months a year from 1853 to 1855, and the reduction in 1861 and 1862 was equal to a stoppage of the factory for two months per year from 1862 to 1865. There have been no strikes or lockouts. The products of these works differ greatly in style and price.

The figures given below are the averages of the various prices for each article:

Year.	Carriages, each.	Buggies, each.	Wagons, each.
1850	\$300 00	\$150 00	\$100 00
1855	350 00	200 00	125 00
1860	400 00	200 00	125 00
1865	500 00	250 00	200 00
1870	575 00	300 00	200 00
1875	700 00	250 00	225 00
1880	475 00	200 00	175 00

There has been an increase in the efficiency of labor, arising from more general education and the help of machinery. Labor-saving machinery has been introduced. This has improved the quality of goods and lessened hand-labor. The trade is not dangerous or unhealthful.

Shaw Carriage Company, Indianapolis, Indiana.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Foreman	Day	\$2 00	\$2 00	\$2 50	\$2 50	\$3 00	\$4 00	\$4 00	\$4 00	\$4 00	\$4 00
Apprentice	do	83-1 00	83-83½	83-83½	83-83½	50-83½	50-83½	50-83½	50-1 00	50-83½	50-83½

REMARKS.—These works were established in 1863, and manufacture carriages, buggies, hearses, and farm wagons.

Payments are weekly and all in cash. All classes work 10 hours per day 8 months in the year, and 8

Shaw Carriage Company, Indianapolis, Indiana—Continued.

hours for 4 months, as there are certain branches of the work that can not be done by artificial light, and in winter the demand for goods is less.

The works are operated 12 months a year. The selling price and labor cost of several styles of goods are as follows:

Year.	SELLING PRICE.					LABOR COST.				
	Phaetons, each.	Platform 4-passenger carriages, each.	Landaus, each.	Hearse, each.	Open buggies, each.	Phaetons, each.	Platform 4-passenger carriages, each.	Landaus, each.	Hearse, each.	Open buggies, each.
1870	\$450 00	\$700 00	\$1,500 00	\$1,200 00 to 1,000 00	\$225 00	\$05 00	\$180 00	\$440 00	\$400 00	\$16 00
1875	250 00	500 00	1,000 00	000 00	125 00	75 00	145 00	325 00	310 00	38 00
1880	250 00	500 00	800 00	850 00	125 00	65 00	130 00	300 00	300 00	34 00

Some labor-saving machinery has been introduced since 1875. The effect of this has been to increase output and to decrease cost of construction, but has not occasioned a change in rates of wages.

There has been no increase in the efficiency of labor. The trade is not dangerous except through carelessness in the use of hand-tools.

John Burg & Sons, Burlington, Iowa.

Classes of employes.	Unit of payment.	DATES.									
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	
Foreman	Day	\$3 25	\$3 25								
Body-maker	do	2 85	2 85	\$3 00	\$3 00	\$3 10	\$3 10	\$3 25	\$3 25	\$3 25	
Wood-worker	do	2 00	2 00	1 75	2 00	2 00	2 00	2 50-2 75	3 00	3 00	
Wheelwright	do	2 00	2 00	2 25	2 25	2 50	2 50	2 50	2 75	2 75	
Blacksmith	do	1 25-1 85	1 25-1 85	1 25-1 75	1 40-2 00	1 50-2 00	1 00-1 65	1 50-2 25	1 50-2 25	1 50-2 25	
Blacksmith's helper	do	1 25	1 25	1 25	1 40	1 50	1 50	1 50	1 50	1 50	
Painter	do	1 00-1 75	1 00-1 75	00-1 75	90-1 75	1 00-1 75	1 00-1 75	1 00-2 00	1 00-2 00	1 00-2 00	
Striper	do	2 50	2 25	2 00	2 00	2 00	2 00	2 50	2 50	2 50	
Varnisher	do	1 75-2 25	1 50-2 00	1 50-2 00	1 85-1 75	1 40-1 75	1 85-1 75	1 50-1 85	1 50-1 85	1 50-1 75	
Trimmer	do	3 00	2 85	2 75	2 75	2 85	2 85	2 75	3 00	3 00	
Engineer	do	2 00	1 85	2 00	1 85	1 85	1 85	1 85	2 00	2 00	
Machinist	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	2 00	
Temster	do	1 65	1 50	1 50	1 65	1 65	1 60	1 50	1 75	1 65	
Watchman	do	1 50	1 50	1 50	1 85						
Laborer	do	1 25	1 25	1 25	1 40	1 40	1 40	1 50	1 50	1 50	
Apprentice	do	50-1 00	50-1 00	50-75	50-1 00	50-90	50-90	60-1 00	75-1 00	75-1 00	

REMARKS.—At this factory, which began operations in 1872, farm, freight, lumber, and spring wagons are manufactured, and custom work also is done.

Regular rates are paid for over-time work, for which there have been a few opportunities.

There are no allowances. Wood-workers at the bench furnish all their own bench-tools.

Payment is all in cash if preferred, though store-orders are given when desired. In 1872 employes were paid weekly, but in 1875 the interval was changed to two weeks.

The employes work from 10 to 12 hours per day in summer and from 8 to 9 hours in winter. The opinion is expressed that a reduction in hours of labor, say to 8 hours, would be detrimental to the health and habits of the men, as the leisure would probably be spent in dissipation.

The works have been in constant operation, with the exception of a few weeks each year, the stoppage in 1876 amounting to two weeks and in 1877 to a month. The firm reports that it has had no strikes.

The increase in the percentage of wages to cost of spring wagons in the following table is accounted for by the fact that in later

years less finished hardware has been bought, and more has been made at the factory:

Year.	SELLING PRICE.				PERCENTAGE OF WAGES TO COST.			
	Farm wagons, each.	Freight wagons, each.	Lumber wagons, each.	Spring wagons, each.	Farm wagons.	Freight wagons.	Lumber wagons.	Spring wagons.
1872.....	\$95 00	\$185 00	\$95 00	\$185 00	Per cent. 30	Per cent. 40	Per cent. 30	Per cent. 25
1875.....	85 00	115 00	80 00	125 00	33	37½	33	33
1880.....	70 00	100 00	70 00	110 00	37½	37½	37½	30

There has been a decrease in the efficiency of labor, resulting from the immigration of large numbers of foreigners who work for lower wages, and thereby lower the standard of labor.

Improved machinery has been introduced, the effect of which has been to lessen cost and increase production without altering wages.

The business is neither unhealthful nor very dangerous if proper care is exercised by the workmen.

STATISTICS OF WAGES—CARRIAGE AND WAGON WORKS.

T. Connolly, Dubuque, Iowa.

Classes of employes.	Unit of payment.	DATES.											
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.
Wood-worker	Day	\$2 50	\$2 25	\$2 25	.....	\$2 25	\$2 25	\$2 50	\$2 50	\$2 75	\$2 75	\$2 75	\$2 75
Blacksmith	do	2 50	2 25	2 25	.....	2 25	2 25	2 50	2 50	2 75	2 75	2 75	2 75
Painter	do	2 50	2 25	2 25	.....	2 25	2 25	2 50	2 50	2 75	2 75	2 75	2 75
Trimmer	do	2 50	2 25	2 25	.....	2 25	2 25	2 50	2 50	2 75	2 75	2 75	2 75

Classes of employes.	Unit of payment.	DATES.											
		1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.
Wood-worker	Day	\$2 75	\$2 75	\$2 75	\$2 75	\$2 75	\$2 50	\$2 00	\$1 50	\$1 25	\$1 25	\$1 25	\$1 25
Blacksmith	do	2 75	2 75	2 75	2 75	2 75	2 50	2 00	1 50	1 25	1 25	1 25	1 25
Painter	do	2 75	2 75	2 75	2 75	2 75	2 50	2 00	1 50	1 25	1 25	1 25	1 25
Trimmer	do	2 75	2 75	2 75	2 75	2 75	2 50	2 00	1 50	1 25	1 25	1 25	1 25

REMARKS.—There are no extra earnings worthy of mention. Wood-workers and trimmers furnish their own tools, the expense of which has been considered in the wages table.

Employes have always been paid weekly, and wholly in cash.

All classes work 10 hours a day, and the opinion is expressed that this is fully enough for a day's labor.

The works are operated 12 months a year. The statement is made that there has never been a strike or a lockout at this establishment.

Below are given the selling prices and labor cost of each item of manufacture. The average percentage of wages to cost is stated to be about 33 1/3:

Year.	SELLING PRICE.			LABOR COST.		
	Buggies, each.	Carriages, each.	Sleighs, each.	Buggies, each.	Carriages, each.	Sleighs, each.
1860 ...	\$125 00 to \$250 00	\$350 00 to \$600 00	\$75 00 to \$150 00	.....	.....	.....
1865 ...	175 00 to 400 00	400 00 to 800 00	80 00 to 225 00	\$45 00 to \$85 00	\$125 00 to \$200 00	\$25 00 to \$50 00
1870 ...	175 00 to 400 00	400 00 to 800 00	80 00 to 225 00	60 00 to 135 00	140 00 to 265 00	26 00 to 75 00
1875 ...	150 00 to 300 00	400 00 to 750 00	75 00 to 200 00	60 00 to 135 00	140 00 to 265 00	26 00 to 75 00
1880 ...	150 00 to 300 00	400 00 to 750 00	75 00 to 200 00	50 00 to 100 00	133 00 to 250 00	25 00 to 66 00

There has been a slight decrease in the efficiency of labor, arising from the extensive manufacture of cheap vehicles within the last two or three years, which causes a scarcity of good mechanics.

Some improved machinery has been introduced. The trade is neither unhealthful nor dangerous.

Baker & Rubel, Louisville, Kentucky.

Classes of employes.	Unit of payment.	DATES.														
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.
Body-maker	Day .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wood-worker	do	\$2 83	\$3 00	\$3 33	\$3 50	\$3 00	\$3 83	\$3 83	\$4 00	\$3 83	\$3 00	\$3 50	\$3 50	\$3 33	\$3 00	\$3 00
Blacksmith	do	2 50	3 00	3 33	3 50	3 00	4 16	4 16	3 83	4 00	4 00	4 00	4 00	4 00	4 00	5 00
Painter	do	2 50	2 10	2 33	2 50	2 50	3 00	3 50	3 83	3 83	3 50	3 50	3 50	3 50	3 33	3 16
Trimmer	do	2 50	2 06	3 00	3 00	3 00	3 50	3 50	4 00	3 50	3 50	3 00	3 50	3 50	3 33	3 16

Classes of employes.	Unit of payment.	DATES.														
		1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.
Body-maker	Day .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wood-worker	do	\$2 50	\$2 33	\$2 00	\$1 83	\$1 66	\$2 50	\$2 50	\$2 50	\$2 33	\$2 33	\$2 33	\$2 33	\$2 33	\$2 10	\$2 00
Blacksmith	do	4 33	4 00	3 00	1 66	1 50	2 33	2 33	2 33	2 33	2 33	2 33	2 33	2 33	2 00	2 00
Painter	do	3 00	2 50	2 10	1 83	1 83-2 00	2 00	1 83	1 83	1 83	1 83	1 83	1 60	1 50	1 50	1 50
Trimmer	do	3 00	2 41	2 16	1 83	1 66	2 00	2 33	2 16	2 00	2 00	2 08	2 00	1 83	1 66	1 66

REMARK.—The only supplemental statement accompanying this report is to the effect that no over-time is made.

J. Enders & Co., Louisville, Kentucky.

Classes of employes.	Unit of payment.	DATES.											
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	
Body-maker	Day		\$5 00	\$4 16	\$4 10	\$4 10	\$4 10	\$3 33	\$3 33	\$3 33	\$4 16	\$4 16	\$4 16
Blacksmith	do		3 33	3 16	3 16	3 16	3 16	3 16	3 16	3 33	4 00	4 00	4 00
Blacksmith's helper	do		1 16	1 16	1 16	1 16	1 16	1 00	1 00	1 00	1 16	1 16	1 16
Painter	do		3 33	3 16	3 16	3 16	3 16	3 16	3 33	3 00	3 00	3 06	3 06
Trimmer	do		3 06	3 33	3 33	3 33	3 33	3 33	3 33	3 33	3 00	3 06	3 06

REMARKS.—This firm manufactures landaus, landaulets, coupés, coupelets, top-buggies and open buggies, road-wagons, sulkies, etc. The works were established in 1854.

Payments have always been weekly and all in cash.

All classes work 10 hours a day.

The factory has been in constant operation since its establishment.

The following statement of selling prices of product is given :

Year.	Landaus, each.	Landaulets, each.	Coupés, each.	Coupelets, each.	Top-buggies, each.	Open buggies, each.	Rock-aways, each.	Sulkies, each.
1870.....	\$1,000	\$1,200	\$1,000	\$1,200	\$400	\$275	\$800	\$100
1875.....	1,000	1,200	1,000	1,200	400	275	800	100
1880.....	1,500	1,100	900	1,100	350	250	800	75

Martin, Pennell & Co., Portland, Maine.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.															
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	
Foreman	Day	\$3 00	\$2 75	\$2 75	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	
Body-maker	do	3 00	2 75	2 75	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	
Wood-worker	do	3 00	2 75	2 75	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	
Wheelwright	do	3 00	2 75	2 75	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	
Blacksmith	do		2 75	2 75	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	
Blacksmith's helper	do	1 50	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	
Painter	do	3 00	2 75	2 75	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	
Striper	do	3 00	2 50	2 50	2 50	2 50	2 50	2 75	2 75	2 75	3 00	3 00	3 00	3 00	3 00	3 00	
Varnisher	do	3 00	2 50	2 50	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	
Stitcher	do	2 50	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	
Trimmer	do	3 00	2 50	2 50	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	
Finisher	do	1 80½	1 50	1 50	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	
Teamster	do	1 50	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	
Watchman	do	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	
Laborer	do	1 50	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	
Apprentice	do	80½	65	65	75	75	75	75	75	75	75	75	65	65	65	65	

Classes of employes.	Unit of payment.	DATES.															
		1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.	1850.
Foreman	Day	\$3 00	\$3 00	\$2 50	\$2 00	\$1 75	\$1 75	\$1 75	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50
Body-maker	do	3 00	3 00	2 50	2 00	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Wood-worker	do	3 00	3 00	2 50	1 75	1 50	1 50	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Wheelwright	do	3 00	2 75	2 25	1 75	1 50	1 50	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Blacksmith	do	3 00	3 00	2 50	2 00	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Blacksmith's helper	do	1 50	1 50	1 25	1 25	1 25	1 25	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Painter	do	3 00	3 00	2 50	2 00	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Striper	do	3 00	3 00	2 50	2 00	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Varnisher	do	3 00	3 00	2 50	2 00	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Stitcher	do	2 00	2 00	2 00	1 50	1 25	1 25	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Trimmer	do	3 00	3 00	2 50	2 00	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Finisher	do	1 75	1 75	1 50	1 50	1 75	1 25	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Teamster	do	1 50	1 50	1 25	1 25	1 25	1 25	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Watchman	do	1 50	1 50	1 25	1 00	1 00	1 00										
Laborer	do	1 50	1 50	1 50	1 25	1 25	1 25	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Apprentice	do	65	65	65	60	60	60	60	50	50	50	50	50	50	50	50	50

REMARKS.—Fine carriages and sleighs are made at this establishment.

There are opportunities for 2 hours extra each day during about a month each in the spring and fall. These would increase wages

about the regular rates per hour, and have not been included in the table.

Employes in the wood and trimming departments find their own tools, which would decrease their wages about 1 per cent.

Martin, Pennell & Co., Portland, Maine—Continued.

Prior to 1850 a large proportion of the wages was paid in store-orders, but the amount paid in this way has gradually decreased, until at the present time 99 per cent. is paid in cash. From 1849 to 1860 there was no regular pay-day; since 1860 the employes have been paid weekly.

Previously to 1850 it was the custom with mechanics to light up and work until 9 o'clock p. m., beginning September 20 and continuing until March 20; also previously to 1850 nearly all mechanics worked by the day. Since that time it has been the general custom to work by the hour and to make 10 hours per day. The opinion is expressed that a reduction to 10 hours has not decreased the

amount of output, but that a further reduction would decrease output, and would have an injurious effect upon most of the workmen.

The works are in operation 12 months each year, though in the months of August, September, October, and November the force is reduced, as about one-fourth of the work of the factory is repairing, and there is little of this to be done in the months named. There have been no strikes.

The following table gives the selling price and labor cost of some of the articles of product. The percentage of wages to cost is stated to be: top-buggies, 50 per cent.; cabriolots, 64 to 65 per cent.; phaetons, 50 per cent.; and sleighs, 81½ per cent.

Year.	SELLING PRICE.						LABOR COST.			
	Top-buggy.	Cabriole.	No-top wagon.	Phaeton.	Chaise.	Sleigh.	Top-buggy.	No-top wagon.	Phaeton.	Sleigh.
1850..	\$150 00	.....	\$75 00	\$150 00	\$150 00	\$25 00 to 75 00	\$60 00	\$30 00	\$60 00	\$16 25 to 48 75
1855..	150 00	.....	75 00	150 00	150 00	25 00 to 75 00	60 00	30 00	60 00	16 25 to 48 75
1860..	200 00	.....	100 00	200 00	200 00	40 00 to 100 00	80 00	52 00	80 00	20 00 to 65 00
1865..	300 00	\$500 00	175 00	300 00	300 00	100 00 to 250 00	120 00	61 00	120 00	65 00 to 102 50
1870..	300 00	500 00	175 00	300 00	300 00	100 00 to 250 00	120 00	61 00	120 00	65 00 to 102 50
1875..	250 00	350 00	150 00	250 00	250 00	75 00 to 200 00	100 00	78 00	100 00	48 00 to 130 00
1880..	275 00	400 00	165 00	275 00	275 00	100 00 to 250 00	110 00	85 00	110 00	65 00 to 102 50

There is no risk of accidents connected with this business, and nothing injurious to health, except in the painting department, where the use of turpentine sometimes affects the kidneys, producing Bright's disease and other kidney complaints. Very few instances of this kind have occurred, however, though one case is reported as having proved fatal in a few hours.

There has been an increase in the efficiency of labor, which is

attributed to the fact that as the country has grown, individual interests have increased, and there has been a consequent disposition on the part of mechanics to excel in the amount and quality of their production.

Various kinds of labor-saving machinery have been introduced, which have brought about a decrease in the number of employes, but have not affected wages.

Felia D. Parry, Amesbury, Massachusetts.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.														
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.
Foreman.....	Day	\$2 54	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50	\$2 25	\$2 25	\$2 25	\$2 25	\$2 25
Body-maker.....	do	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04
Wood-worker.....	do	1 30	1 30	1 30	1 30	1 30	1 30	1 30	1 30	1 30	1 30	1 30	1 30	1 30	1 30	1 30
Carver.....	do	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04
Wheelwright.....	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Blacksmith.....	do	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04
Blacksmith's helper.....	do	1 35	1 35	1 35	1 35	1 35	1 35	1 35	1 35	1 35	1 35	1 35	1 35	1 35	1 35	1 35
Painter.....	do	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04
Striper.....	do	1 70	1 70	1 70	1 70	1 70	1 70	1 70	1 70	1 70	1 70	1 70	1 70	1 70	1 70	1 70
Varnisher.....	do	1 05	1 05	1 05	1 05	1 05	1 05	1 05	1 05	1 05	1 05	1 05	1 05	1 05	1 05	1 05
Stitcher.....	do	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Trimmer.....	do	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04	1 04
Finisher.....	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Engineer.....	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Machinist.....	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Teamster.....	do	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Watchman.....	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Laborer.....	do	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Apprentice.....	do	07	07	07	07	07	07	07	07	07	07	07	07	07	07	07

REMARKS.—There have been a few opportunities for extra earnings from working piece-work, but these would not increase the rates given in the table, which are average earnings.

There are no allowances.

Employes furnish their own bench-tools.

Payments have always been in cash and every four weeks.

Felix D. Parry, Amesbury, Massachusetts—Continued.

All classes work 10 hours a day, which is considered by this firm a good standard.

The works have been entirely idle only three times since their establishment, these occasions being 1 month in 1874, 6 months in 1878, and 1 month in 1879. At certain seasons of the year, however, they have not been in full operation. From 1866 to 1870 the average was 9 months per year, and from 1870 to 1880, 8 months full time.

There has been no change in the efficiency of labor.

Some improved machinery has been introduced, the effect of which has been to lessen the number of employes and cost but not to change wages.

The following table gives the selling prices, etc., of top-buggies and phaetons for the years named:

Year.	Selling price.	Percentage of wages to cost.	Year.	Selling price.	Percentage of wages to cost.
1866...	\$160 00	35.00	1874...	\$175 00	30.50
1867...	130 00	34.70	1875...	160 00	27.85
1868...	115 00	32.20	1876...	140 00	23.10
1869...	130 00	43.00	1877...	110 00	21.15
1870...	160 00	40.96	1878...	85 00	24.07
1871...	181 00	38.75	1879...	80 00	26.67
1872...	185 00	35.00	1880...	75 00	23.50
1873...	180 00	37.05			

The business is not unhealthful, except in the paint department.

Sargent & Ham, Boston, Massachusetts.

Classes of employes.	Unit of payment.	DATES.									
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Wood-worker	Day	\$2 35	\$2 20	\$2 20	\$2 25	\$2 25	\$2 30	\$2 30	\$2 50	\$2 50	\$2 50
Wheelwright.....	do	2 75	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Blacksmith.....	do	2 40	2 25	2 15	2 25	2 25	2 25	2 30	2 40	2 40	2 40
Blacksmith's helper.....	do	2 00	1 75	1 50	1 75	1 85	2 00	2 00	2 00	2 00	2 00
Painter.....	do	2 25	2 20	2 10	2 10	2 20	2 20	2 25	2 30	2 30	2 30
Stitcher.....	do	2 00	1 75	1 75	1 75	1 50	1 75	1 75	1 75	1 75	1 75
Trimmer.....	do	2 50	2 35	2 25	2 25	2 35	2 35	2 40	2 50	2 50	2 50
Finisher.....	do	2 50	2 50	2 50	2 25	2 25	2 50	2 50	2 50	2 50	2 50
Engineer.....	do	2 50	2 50	2 50	2 25	2 25	2 50	2 50	2 50	2 50	2 50
Machinist.....	do	2 50	2 50	2 50	2 25	2 25	2 50	2 50	2 50	2 50	2 50
Teamster.....	do	2 00	2 00	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00
Watchman.....	do	2 00	2 00	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00

REMARKS.—These works were established in 1852, and manufacture all styles of fine pleasure-carriages.

The rates given in the table for wood-workers and trimmers are subject to deduction for tools. A set of wood-workers' tools costs about \$50, and of trimmer's tools, about \$25.

Employes are paid weekly and wholly in cash.

The hours of labor are 10 a day.

The works are in continual operation.

It is estimated that wages constitute about 50 per cent of cost of production.

An establishment in Massachusetts.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	* 1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Foreman	Day	\$3 00	\$3 00	\$2 50	\$2 50	\$2 75	\$3 00	\$3 50	\$3 50	\$3 50	\$3 50
Body-maker.....	do	2 50	2 25	2 00	2 00	2 25	2 50	3 00	3 00	3 00	3 00
Blacksmith.....	do	3 00	2 75	2 50	2 20	2 50	3 00	3 50	3 50	4 00	3 50
Blacksmith's helper.....	do	2 00	1 60	1 40	1 20	1 40	1 50	2 00	2 20	2 50	2 00
Painter.....	do	1 25-	1 00-	1 00-	85-	1 00-	1 25-	1 50-	1 50-	1 80-	1 80-
		2 30	2 00	1 80	1 50	1 50	2 00	2 50	2 50	2 50	2 50
Striper.....	do	2 25	2 00	2 00	1 75	1 75	2 00	2 25	2 25	2 25	2 25
Varnisher.....	do	3 00	3 00	2 85	2 75	2 50	2 75	3 00	3 50	3 50	3 00
Stitcher.....	do	2 00	1 85	1 60	1 50	1 50	2 00	2 25	2 50	2 50	2 25
Finisher.....	do	3 00	2 70	2 50	2 20	2 00	4 00	4 00	3 30	3 30	3 30
Laborer.....	do	1 00	88								
Apprentice.....	do	1 00									

REMARKS.—These works were established in 1835, but have been under the management of their present proprietor since 1871 only. Light carriages of several varieties are manufactured.

During the summer months, especially from May to July, the employes have opportunities to work from 12 to 14 hours per day if so inclined. This would increase regular wages, and has not been included in the table.

There are no allowances.

Body-makers and carriage-trimmers furnish their own tools. These last a long time, and the expense has not been considered in the table.

Employes are paid monthly and wholly in cash.

The hours of labor average 10 a day the year round. Employes in the painting, trimming, and to some extent in the body-making

An establishment in Massachusetts—Continued.

department can not work well after the daylight begins to decline, and consequently during part of the fall and winter can not make more than 7 or 8 hours a day. It is therefore customary for all classes to begin with good daylight and discontinue at dusk. The over-work during the busy seasons, however, brings the average up to 10 hours for the year.

From 1835 to 1860 the factory was operated 12 months each year; from 1861 to 1865 an average of 10 months, and from 1866 to 1880 an average of 11 months. Regarding cause of irregularity, it is stated that hard times have made the demand for carriages so light at times that nothing but a shut-down would prevent over-production. There have been no strikes.

There has been an increase in the efficiency of labor, arising, it is stated, from a demand for better goods, which has necessitated an increased amount of skill to supply the wants of the market.

Some labor-saving machinery has been introduced. This has done much to improve the quality of the goods, but has not affected the help, at least not unfavorably.

The following table gives the selling price of three varieties of product back to 1855, and labor cost back to 1860, though it is stated

that the figures for the earlier years may not be exact, as the books are not available :

Year.	SELLING PRICE.			LABOR COST.		
	Top-buggies, each.	Light carryalls, each.	Heavy carryalls, each.	Top-buggies, each.	Light carryalls, each.	Heavy carryalls, each.
1855.....	\$175 00	\$250 00	\$450 00	.....	.....	.....
1860.....	350 00	550 00	650 00	\$115 00	\$175 00	\$240 00
1865.....	375 00	550 00	650 00	120 00	175 00	240 00
1870.....	300 00	335 00	550 00	115 00	160 00	230 00
1875.....	275 00	300 00	450 00	80 00	100 00	160 00
1880.....	250 00	300 00	500 00	75 00	110 00	175 00

The trade is not unhealthful. It is stated by the proprietors of this establishment that the painters at these works are generally free from the ills which are popularly supposed to belong to that branch of the business, in consequence, it is thought, of their disposition to take much outdoor exercise.

An establishment in Massachusetts.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.											
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1860.
Foreman.....	Day.....	\$3 00- 3 50	\$3 00- 3 25	\$3 00- 3 25									
Body-maker.....	do.....	2 00- 2 00											
Wood worker.....	do.....	2 25- 2 50	2 50- 2 75	2 00	2 00								
Wheelwright.....	do.....	2 00- 2 00	2 00- 3 00										
Blacksmith.....	do.....	1 33- 3 00											
Blacksmith's helper.....	do.....	1 00- 2 00											
Painter.....	do.....	1 00- 2 00	2 50- 3 00										
Striper.....	do.....	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 00- 2 37	2 00- 2 37
Varnisher.....	do.....	2 50- 2 75	2 00- 2 50	2 00- 2 50									
Stitcher.....	do.....	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	2 00- 2 25	1 50- 1 75	1 50- 1 75					
Trimmer.....	do.....	1 00- 3 00	1 00- 3 00	1 00- 3 00	1 00- 3 00	2 50- 3 00	3 00- 3 50						
Finisher.....	do.....	3 50	3 50	3 50	3 50	3 50- 3 75	3 00	3 00					
Teamster.....	do.....	1 50- 1 75	1 00- 1 25	1 00- 1 25									
Watchman.....	do.....	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 00- 1 25	1 00- 1 25
Apprentice.....	do.....	75- 1 00											

Classes of employes.	Unit of payment.	DATES.											
		1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.
Foreman.....	Day.....	\$3 00- 3 25	\$2 75- 3 00	\$2 75- 3 00	\$2 75- 3 00	\$2 75- 3 00							
Body-maker.....	do.....	2 00- 3 00	2 00- 3 00	2 00- 3 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 16- 1 50					
Wood-worker.....	do.....	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	1 25	1 25	1 25	1 25
Wheelwright.....	do.....	2 00- 3 00	2 00- 3 00	2 00- 3 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 16- 1 50					
Blacksmith.....	do.....												
Blacksmith's helper.....	do.....												
Painter.....	do.....	2 50- 3 00	2 50- 3 00	2 00- 3 00	1 66- 2 00	1 66- 2 00	1 66- 2 00	1 50- 1 66					
Striper.....	do.....	2 00- 2 37	1 75- 2 00	1 75- 2 00	1 75- 2 00	1 75- 2 00							
Varnisher.....	do.....	2 00- 2 50	2 00	2 00	2 00	2 00							

John Bosche, Buffalo, New York—Continued.

REMARKS.—Regular rates are paid for over-time work. The opportunities for extra earnings, however, have been so few as not to be worthy of consideration.

Wood-workers and trimmers furnish their own tools.

Employés are paid weekly and wholly in cash.

The hours of labor are 10 for all classes, and the opinion is expressed that any change in these hours would be disadvantageous.

The works have been in operation 12 months each year, and have been free from strikes and lockouts.

Some improvements in machinery have been introduced. These have lessened cost, but have had no effect on wages or number of employés.

There has been no noticeable change in the efficiency of labor.

A statement of selling prices and labor cost is given as follows:

Year.	SELLING PRICE.				LABOR COST.		
	Buggies, each.	Cutters, each.	Wagons, each.	Phaetons, each.	Buggies, each.	Cutters, each.	Phaetons, each.
1870	\$325 00	\$125 00	\$165 00 to 225 00	\$600 00	\$80 00	\$40 00	\$80 00
1875	325 00	100 00	150 00 to 225 00	550 00	80 00	40 00	80 00
1880	275 00	90 00	140 00 to 200 00	500 00	75 00	37 00	75 00

The trade is not dangerous or unhealthful.

J. B. Brewster & Co., New York, N. Y.

Classes of employés.	Unit of payment.	DATES.															
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	
Body-maker	Day	\$2 75		\$2 50			\$2 75					\$3 00					
Blacksmith	do	3 25		3 00			3 25					3 50					
Blacksmith's helper	do	1 50		1 33			1 50					1 50					
Painter	do	2 75		2 50			2 75					3 00					
Varnisher	do	3 00		2 75			3 00					3 25					
Stitcher	do	2 25		2 00			2 25					2 50					
Trimmer	do	3 25		3 00			3 25					3 50					
Finisher	do	3 25		3 00			3 25					3 50					
Engineer	do	3 00		3 00			3 00					3 00					
Machinist	do	2 50		2 25			2 25					2 50					

Classes of employés.	Unit of payment.	DATES.															
		1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.	1850.
Body-maker	Day	\$2 50					\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75
Blacksmith	do	3 00					2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Blacksmith's helper	do	1 25					1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Painter	do	3 00					1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Varnisher	do	3 25					1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Stitcher	do	2 25															
Trimmer	do	3 00					1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Finisher	do	3 00					1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Engineer	do	2 50					1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Machinist	do	2 25					1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75

REMARKS.—These works were established in 1838.

Most of the men are employed on piece-work, the rates given above representing the amount earned per day by the average workman.

Very little over-time is made, the firm considering that it is injurious in its effects both upon the workman and upon his products.

Blacksmiths pay their helpers, finishers, and filers, and wood-workers and trimmers furnish their own tools. None of these expenses have been considered in the table.

Payments are all in cash and weekly.

Twelve hours constituted a day's labor up to 1845, since which time 10 hours has been the rule. The amount of production has not lessened with the hours of labor, and the adoption of the 10-hour system has afforded the men increased opportunity for study and self-improvement.

The works have been in operation an average of 11½ months each year since their establishment.

There has been a material increase in the efficiency of labor; this is attributed partly to the increased opportunity for study and improvement afforded by reduced hours of labor, and partly to ambition to excel.

The only department of the business which can be called in any measure unhealthful, it is stated, is the paint-shop, in which the men are more or less affected by lead-poisoning. This can be avoided to a great extent by care and cleanliness.

The following are the selling prices for two articles of product for the years named:

Year.	Top-wagons, each.	Coaches, each.
1840	\$175 00	\$700 00
1845	175 00	700 00
1850	175 00	700 00
1855	250 00	850 00
1860	250 00	850 00
1865	400 00	1,600 00
1870	450 00	1,650 00
1875	490 00	1,750 00
1880	475 00	1,650 00

Cost of labor, it is stated, varies but little from 40 per cent. of total cost.

Constant improvements in machinery have been going on since 1850. The effect of these has been to improve the character of product, to increase output, and to decrease the number of employés.

With the exception of a partial strike in 1867, which lasted about three weeks, and in which the men were successful, there have been no labor disturbances at these works.

Brewster & Co. (of Broome street), New York, N. Y.

Classes of employes.	Unit of payment.	DATES.								
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	
Body-maker	Day	\$2 00- 5 01	\$1 83- 5 00	\$1 00- 5 00	\$2 00- 5 00	\$2 00- 5 33	$2 00- 5 33	$2 00- 5 33	$2 00- 5 33	$2 00- 5 33
Carver	do	2 01	2 00	2 00	2 83	3 08	3 08	3 08	3 58	3 58
Blacksmith	do	2 25- 4 33	2 00- 4 00	2 00- 4 00	2 33- 4 00	1 50- 5 00	1 50- 5 33	2 41- 5 00	2 06- 5 50	2 06- 5 50
Painter	do	2 00- 3 75	1 83- 3 50	1 83- 3 50	1 83- 3 50	1 83- 3 75	1 83- 3 75	1 83- 3 75	2 00- 3 75	2 00- 3 75
Varnisher	do	3 33- 5 33	3 00- 5 00	3 00- 5 00	3 00- 5 00	3 50- 5 00	3 50- 5 00	3 33- 5 00	3 50- 5 00	3 50- 5 00
Stitcher	do	2 00- 2 33	2 08	2 08	2 08	2 08	2 12	2 12	2 33	2 33
Trimmer	do	2 33- 2 83	2 10- 2 00	2 10- 2 50	2 10- 2 00	2 33- 2 83	2 50- 3 00	2 50- 2 75	2 75- 3 16	2 75- 3 16
Finisher	do	2 00- 4 33	1 83- 4 00	1 83- 4 00	1 83- 4 00	2 00- 5 00	2 10- 5 33	2 00- 5 00	2 50- 3 50	2 50- 3 50
Engineer	do	3 50	3 33	3 33	3 33	3 00	3 00	3 00	3 00	3 00
Machinist	do	3 00	2 66	2 16	2 25	2 75	2 75	2 75	2 75	2 75
Laborer	do	1 50- 1 83	1 50- 1 83	1 50- 1 83	1 50- 1 83	1 00- 1 83	1 00- 1 83	1 00- 1 83	1 00- 1 83	1 00- 2 10

REMARKS.—These works were established in 1856.

Regular rates are paid for over-time, but the opportunities for extra earnings are very few.

In some departments bonuses have been paid over and above the regular wages, which enable the more capable men to receive the benefit of their skill. This accounts in part for the range of rates of wages.

Body-makers, running-gear makers, and carvers buy their own tools. A good kit of tools, however, lasts a great many years, and the expense of keeping them in order would affect the wages but slightly.

Payments are weekly and all in cash.

Employes work 59 hours per week in winter and 58 hours in summer, the 10 minutes less per day in summer being added to the dinner hour. Although there has been no change in the hours of labor, observation has led to the belief that a reduction would not

be to the advantage of employer or employe in this trade, which is less laborious than many others.

But one strike is reported. This occurred in 1872, and was caused by a demand of the men for a reduction of the hours of labor to 8. The strike lasted two weeks, at the end of which time the men returned to work at the old hours, having lost \$3,000 in wages.

Some improved machinery was introduced in 1874. This, however, was of such a character as to secure greater uniformity in the construction of carriages, and has no effect in cheapening or increasing production.

The trade is deemed a healthful one. At one time, it is stated, much white lead was used in the painting department, and this was to some extent injurious to the workmen. During the past twelve years "permanent wood-filling" has been used in place of lead, and the trouble has ceased.

An establishment in the state of New York.

Classes of employes.	Unit of payment.	DATES.															
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1860.	1868.	1867.	1866.	1865.
Mechanics	Day	\$2 00- 2 87½	\$2 00- 2 87½	\$2 00- 3 00	\$2 25- 3 00	\$2 25- 2 87½	\$2 25- 2 87½	\$2 25- 2 87½	\$2 25- 2 87½	\$2 12½- 2 75	\$2 18½- 2 75	\$2 18½- 2 75	\$2 08½- 2 87	\$2 00- 2 81	\$2 04½- 2 56½	\$1 70- 2 37½	\$1 61- 2 20½
Helpers	do	1 25	1 25	1 37½	1 50	1 50	1 50	1 50	1 50	1 37½	1 37½	1 37½	1 06½	1 50	1 34½	1 28	1 12½

Classes of employes.	Unit of payment.	DATES.															
		1864.	1863.	1862.	1861.	1860.	1850.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.	1850.	1840.
Mechanics	Day	\$1 28- 1 85½	\$1 28- 1 75	\$1 25- 1 77½	\$1 25- 1 77½	\$1 08- 1 05	\$1 14- 1 05	\$1 41- 1 60	\$1 41- 1 00	\$1 41- 1 51	\$1 17½- 1 50	\$1 13- 1 50	\$1 13- 1 50	\$1 00½- 1 50	\$1 00½- 1 50	\$1 00½- 1 50	\$1 06½- 1 50
Helpers	do	1 01½	1 01½	1 06	1 01	87½	87½	87½	87½	87½	83½	83½	73½	73½	73½	73½	73½

REMARKS.—There are no opportunities for over-time at these works, and no allowances.

Mechanics in the wood-working department furnish their own tools. This would not decrease the wages more than a quarter of 1 per cent.

Payments have been weekly and wholly in cash.

The works are operated 12 months each year, and have never had a strike or a lockout.

The hours of labor average 10 a day for all classes the year round. There has been a slight decrease in the efficiency of labor, arising from the reduced number of apprentices.

Some labor-saving machinery has been introduced. This has had the effect of reducing the number of employes, but has made no change in wages.

There is nothing connected with the trade to render it dangerous or unhealthful.

STATISTICS OF WAGES—CARRIAGE AND WAGON WORKS.

Metra L. Makely, Makelyville, North Carolina.

Classes of employes.	Unit of payment.	DATES.					Classes of employes.	Unit of payment.	DATES.				
		1881.	1880.	1879.	1878.	1877.			1881.	1880.	1879.	1878.	1877.
Wheelwright.....	Day	\$2 00	\$2 00	\$2 00	\$2 25	\$2 50	Trimmer.....	Day	\$2 00	\$2 00	\$2 00	\$2 25	\$2 50
Blacksmith.....	do	1 50	1 50	1 75	1 75	2 00	Laborer.....	do	80	75	75	75	75
Painter.....	do	2 00	2 00	2 00	2 25	2 50							

REMARKS.—At this establishment the manufacture of buggies was begun in 1877.

There have been but few opportunities for over-time work. Those which have occurred would increase the wages, and have not been included in the table.

Houses, gardens, and fire-wood are furnished free when desired. These would also increase the rates given above.

No deductions for tools are required.

Payments are weekly. The employes are privileged to take

such a portion of their earnings in merchandise as they desire, at times even being permitted to overdraw their account, the balance of the wages, if any, being paid in cash.

The hours of labor average 10 for the year round, being a little shorter in winter and a little longer in summer.

There have been no strikes.

In 1877 top-buggies sold for \$200 and open buggies for \$140. The prices have since gradually declined, until in 1880 the price of top-buggies was \$130 and of open buggies \$90.

Muts & Riddle, Ravenna, Ohio.

Classes of employes.	Unit of payment.	DATES.														
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.
Foreman.....	Day															
Body-maker.....	do	\$4 00- 2 50	\$3 50- 2 00	\$3 50- 2 50	\$3 50- 2 50	\$3 50- 2 50	\$3 50- 2 50	\$3 50- 2 00	\$3 50- 2 00	\$3 50- 2 00	\$3 50- 2 00					
Wood worker.....	do															
Carver.....	do															
Wheelwright.....	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Blacksmith.....	do	3 50- 2 50	3 00- 2 00	3 50- 2 50												
Blacksmith's helper.....	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Painter, first class.....	do	2 50	2 50	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Painter, second class.....	do	2 00	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Striper.....	do															
Varnisher.....	do															
Stitcher.....	do															
Trimmer.....	do	3 00- 2 00	2 50- 2 00	2 50- 2 00	2 50- 2 00	2 50- 2 00	2 50- 2 00	2 50- 2 00	3 00- 2 00	3 00- 2 00	3 00- 2 00	3 00- 2 00	3 00- 2 00	3 00- 2 00	3 00- 2 00	3 00- 2 00
Apprentice.....	do															

Classes of employes.	Unit of payment.	DATES.															
		1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.	1850.
Foreman.....	Day							\$1 50	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50
Body-maker.....	do	\$3 50- 2 00	\$3 50- 2 00	\$3 00- 2 00	\$2 00- 1 75	\$1 25- 1 75	\$1 25- 1 75	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Wood-worker.....	do							1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Carver.....	do							1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Wheelwright.....	do	2 50	2 50	2 00	2 00	1 50	1 50	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Blacksmith.....	do	3 50- 2 50	3 50- 2 00	3 00- 2 00	2 00- 1 50	1 25- 1 75	1 25- 1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Blacksmith's helper.....	do	1 50	1 50	1 50	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Painter.....	do	2 50- 2 00	2 50- 2 00	2 50- 2 00	2 00- 1 50	1 50- 1 25	1 50- 1 25	1 25- 1 50	1 25- 1 50	1 25- 1 50	1 25- 1 50	1 25- 1 50	1 25- 1 50	1 25- 1 50	1 25- 1 50	1 25- 1 50	1 25- 1 50
Striper.....	do							1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Varnisher.....	do							1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Stitcher.....	do							1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Trimmer.....	do	3 00- 2 00	3 00- 2 00	2 50- 2 00	2 00- 1 50	1 50- 1 25	1 50- 1 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Apprentice.....	do							75	75	75	75	75	75	75	75	75	75

REMARKS.—These works were established in 1831, and have been under the management of its present proprietors since 1860.

There have been some opportunities for over-time work. These would increase wages about 50 cents for each man per day worked.

There are no allowances.

Wood-workers and trimmers are the only classes required to furnish their own tools. The tools of the former, it is stated, would decrease their wages an average of \$3 per year, and those of the latter, \$1 per year.

Employes have always been paid weekly, and since 1860 wholly in cash. The use of store-orders was abandoned because money had become more plenty.

All classes work 10 hours per day.

The works are operated steadily 12 months each year. There have been no strikes.

There has been an increase in the efficiency of labor.

Improved planers and saws have been brought into use.

The trade is not dangerous nor unhealthful.

STATISTICS OF WAGES—CARRIAGE AND WAGON WORKS.

L. Glesencamp & Co., Pittsburgh, Pennsylvania.

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Body-maker	Day	\$2 00	\$1 75	\$1 83	\$1 83	\$1 75	\$1 75	\$1 00	\$1 00	\$1 83	\$1 75
Wheelwright	do	1 01	1 83	1 83	1 83	1 83	1 00	1 00	1 00	1 83	1 83
Blacksmith	do	2 36	2 16	2 00	2 00	2 00	1 83	1 75	1 00	1 83	2 00
Painter	do	2 30	2 00	2 00	1 01	1 01	1 83	1 00	1 00	2 00	2 08
Trimmer	do	2 04	1 83	1 83	1 83	1 83	1 00	1 00	2 00	2 00	2 08
Laborer	do	1 25	1 16	1 10	1 16	1 16	1 00	1 00	1 00	1 33	1 41
Apprentice	do	00	00	00	00	00	00	00	00	00	00

REMARKS.—These works were established in 1846. During the months of May, June, and July, which constitute the busiest season, the men have numerous opportunities to work overtime, for which they are paid at regular rates per hour. No allowances are given. Employes in the trimming and wood-working departments furnish their own tools. Cash is paid in full every week. All classes work 10 hours per day, and the statement is made that this length of a working-day is very satisfactory. From 1875 to 1879 the works were run an average of 10½ months per year, and in 1880 full time. The cause of irregularity was light demand. No strikes have occurred.

The following is the selling price of several varieties of product :

Year.	Livery coach.	Six-seat family carriage.	Four-seat family carriage.	Doctor's phaeton.	Top jager wagon.	Buck wagon.	Depot rock-away wagon.
1880	\$1,000	\$1,000	\$500	\$275	\$300	\$125	\$300

The labor cost of all product is about 35 per cent. of total cost. There has been no change in the efficiency of labor. No labor-saving machinery has been introduced. The business is favorable to the health of the workmen.

La Belle Wagon Works, Fond du Lac, Wisconsin.

Classes of employes.	Unit of payment.	DATES.							
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	
Foreman	Day	\$2 25	\$2 25	\$2 25	\$2 25	\$2 25	\$2 50	\$2 50	
Wood-worker	do	1 50	1 50	1 75	1 75	1 75	2 00	2 00	
Wheelwright	do	1 50	1 50	1 50	1 50	1 50	1 75	1 75	
Blacksmith	do	1 75	1 75	1 75	1 75	1 75	2 00	2 00	
Blacksmith's helper	do		1 00	1 00	1 00	1 00	1 25	1 25	
Painter	do	75- 2 00							
Striper	do	1 50	1 50	1 50	1 50	1 50	1 50	1 60	
Varnisher	do	1 25	1 25	1 25	1 25	1 25	1 25	1 25	
Engineer	do	2 25	2 25	2 25	2 25	2 00	2 00	2 00	
Teamster	do		3 00	3 00	2 75	2 50	2 50	2 50	
Watchman	do		1 25	1 25	1 25	1 25	1 50	1 50	
Laborer	do	1 00- 1 25	1 25- 1 50	1 25- 1 50					

REMARKS.—These works were established in 1870, and changed proprietors in 1874. Several varieties of wagons are manufactured. There are no extras or deductions. All classes work 10 hours per day during 8 months of the year, and 8 hours during 4 months. The works are practically in constant operation, only about two weeks each year being lost by reason of necessary repairs, taking inventory, and holidays. There have been no strikes. There has been an increase in the efficiency of labor, arising from experience and good management. Various kinds of improved machinery have been introduced. These have increased the output without changing the number of employes.

The following statement gives the range of prices, the labor cost, and percentage of wages to cost of wagons :

Year.	Selling price.	Labor cost.	Percentage of wages to cost.
1875	\$60 50 to 110 00	\$15 00	Per cent.
1880	50 00 to 90 50	12 00	25

Employes are paid cash in full every two weeks. The trade is reported to be generally healthful.

The Winchester & Partridge Manufacturing Company, Whitewater, Wisconsin.

Classes of employes.	Unit of payment.	DATES.										
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Wood-worker (a)	Day	\$2 00- 2 50	\$2 00	\$2 00	\$2 00	\$2 00						
Blacksmith	do	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 25	2 00- 2 75	1 50- 2 75	2 00- 3 00	1 50- 2 50	1 50- 2 50	1 75- 2 50	2 00- 2 50
Blacksmith's helper	do	1 12½	1 12½	1 12½	1 12½	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Painter (b)	do	1 75	2 25	2 50	2 75	2 80	3 00	3 25	3 25	3 25	3 50	3 50
Engineer	do	2 00	2 00	2 00	1 75	1 75	1 75	2 25	2 25	2 25	2 00	2 00
First machinist	do	2 75	2 50	2 50	2 50	3 00	3 25	3 25	3 00	3 00	2 75	2 75
Second machinist	do	2 00	1 50	1 50	1 50	1 75	1 75	2 00	2 00	1 75	1 75	1 75
Teamster (c)	do		50	50	50	50	70	70	1 25	1 25	1 25	1 25
Watchman	do	1 75	2 00	2 00	2 00	2 00	2 00	2 00	1 75	1 75	1 75	1 50
Laborer	do	1 12½	1 00	1 00	1 00	1 00- 1 25	1 25	1 25	1 25	1 25	1 25	1 25

Classes of employes.	Unit of payment.	DATES.										
		1800.	1808.	1807.	1806.	1805.	1804.	1803.	1802.	1801.	1800.	1800.
Wood-worker (a)	Day	\$2 00- 2 75	\$2 00- 2 75	\$2 00- 2 75	\$2 00- 2 50	\$2 00						
Blacksmith	do	1 75- 2 50	2 00- 2 50	2 00- 3 00	2 00- 2 50	1 75- 2 00	\$1 75	\$1 50	\$1 50	\$1 25- 1 50	\$1 25	
Blacksmith's helper	do	1 50	1 50	1 50	1 50	1 50	1 25	1 00	1 00	1 00	80	
Painter (b)	do	1 75- 2 00	1 75- 2 50	2 00- 2 50	1 75- 2 00	1 50- 1 75						
Engineer	do	1 75	1 75	2 00	1 75	1 50	1 37½	1 25	1 12½	1 12½	1 00	
First machinist	do	2 75	2 75	2 50	2 25	2 00	1 75	1 50	1 50	1 25	1 25	
Second machinist	do	1 75	1 50	1 50	1 50							
Teamster (c)	do	1 50	1 50	1 50	1 50	1 50	1 25	1 00	1 00	1 00	70	
Watchman	do											
Laborer	do	1 25	1 37½	1 37½	1 50	1 37½	1 25	1 00	1 00	80	75	

a Since 1874 wood-workers have worked by the piece. b Since 1800 painters have been paid by the wagon. c From 1874 to 1880 teamster was paid per wagon.

REMARKS.—These works were established in 1847, and from that date until 1864 the products were steel and cast-iron plows, road-scrappers, and corn-and-cob mills for grinding feed. In 1864 farm and spring wagons were added to the list of manufactures, and since 1870 wagons and corn-and-cob mills have been manufactured almost exclusively.

There have been no opportunities for extra earnings except in cases where repairing is necessary, and the extra earnings for such over-time have not been included in the table.

No employes are obliged to pay out any part of their wages in connection with their work except wood-workers, who furnish their own tools.

Payments are weekly and all in cash.

The hours of labor are 10 a day for all classes.

The works were operated an average of 11½ months per year from 1864 to 1870; 11 months from 1870 to 1875; 10½ months from 1875 through the census year. From 1875 to 1880 the irregularity was occasioned by building, putting in of new machinery, and light demand. Owing to the last cause the works ran but 8 hours per day during November, December, and January of 1876, 1877, and 1878. No labor troubles have arisen.

The selling prices in the first column of the following table are for wagons without seats, brakes, or top-boxes:

Year.	SELLING PRICE.					LABOR COST.			PERCENTAGE OF WAGES TO COST.				
	Single-box wagons, each.	Steel-spring seats and brakes, each.	Top-boxes, each.	Cast-iron plows, each.	Corn-and-cob mills, each.	Complete wagons, each.	Cast-iron plows, each.	Corn-and-cob mills, each.	Single-box wagons, each.	Steel-spring seats and brakes, each.	Top-boxes, each.	Cast-iron plows, each.	Corn-and-cob mills, each.
1860				\$6 40	\$40 00		\$1 35	\$6 45	Per cent.	Per cent.	Per ct.	Per ct.	Per ct.
1865	\$95 00	\$10 00	\$5 00	7 20	45 00	\$23 80	1 48	8 00	31	12	15	27	32
1870	70 00	4 50	3 00	7 20	35 00	21 65		7 07	33	13	-15		32
1875	58 00	4 00	3 00		30 00	16 52		7 20	30½	13	12		35
1880	55 00	2 50	2 00		23 00	11 63		7 20	28	12	8		40

In the above estimate of labor cost, office labor and salary to traveling men for selling and collecting are not included. These additional expenses would amount to about \$2 50 per wagon in 1870, \$3 in 1875, and \$2 50 in 1880.

There has been an increase in the efficiency of the workmen, arising from division of labor.

Several kinds of labor-saving machinery have been introduced. Among the most important of these there is a machine for forming iron, known as the "big blacksmith", which does the work of three

men. Nearly all the irons on a wagon are formed on this, and many of them without heating, which saves fuel and labor. This necessitates a whitesmith-shop, where all irons are put on gearing cold. A staple-machine, which works the iron without heating, a sand-paper machine, hub-bending and wheel machines have also been adopted. By the aid of the above machinery production has been increased over one-fourth within 5 or 6 years, with no increase in the number of employes.

The trade is healthful, and there have been very few accidents.

CAR-WORKS.

Under this head is included the manufacture of all kinds of railroad cars—freight, passenger, and Pullman. Of 29 schedules sent out, but 7 were returned and 4 tabulated. In addition to the schedules tabulated, 1 was received from Indiana, giving rates for the two years 1868 and 1880. These are as follows:

Classes of employés.	1880.	1868.
Carpenters	\$1 85	\$2 00
Machinists	2 25	2 25
Molders	2 25	2 25
Blacksmiths	2 25	2 00
Laborers	1 25	1 50

From an Ohio car-factory rates of wages for 3 years for the classes of labor stated were also received. These are as follows, the rates being per day, except the last, which is per month:

Classes of employés.	1880.	1879.	1878.
Engineer	\$1 70	\$1 00	\$1 00
Machinists	2 02	1 03	1 03
Blacksmiths	2 14	2 04	2 04
Blacksmiths' helpers..	1 35	1 20	1 20
Carpenters	2 03	1 04	1 03
Tinsmiths	1 80	1 05	1 05
Car-repairers	1 60	1 40	1 51
Laborers	1 10	1 05	1 05
Painters	1 97	1 03	1 83
Cabinet-makers	2 12	2 03	2 02
Upholsterers	2 40	2 25	2 18
Car-inspectors	44 87	43 43	43 43

Extra earnings or deductions.—At the car-works reporting there have been some opportunities for over-time but no allowances, and, as is customary in all industries, carpenters furnish their own tools.

Payments are all in cash, the interval at 2 establishments being weekly and at 2 monthly.

Hours of labor.—At all four establishments the regular hours of labor are 10.

Regularity of employment.—All the establishments reporting have run regularly 12 months in the year during all the years covered by the report.

Relation of wages and labor to selling price and cost.—There is great fluctuation in the selling price of cars as well as in the labor cost and percentage of wages to cost—the variation in the percentage of wages to cost growing out of the great variation in cost of material. In 1879, at an establishment reporting, whose return has not been tabulated, a box grain-car sold at \$420; in 1880 the same sold as high as \$615, the chief difference in cost being in the value of the iron, of which 5 tons are used to a car.

At the same establishment it is stated that the percentage of wages to cost would be about 12, except in times of unusual advance in iron, when the percentage would be less.

From an establishment in Indiana the following statement of prices, labor cost, and percentage of wages to cost of cars is given:

Year.	SELLING PRICE.			LABOR COST.			PERCENTAGE OF WAGES TO COST.
	Box car.	Flat car.	Stock car.	Box car.	Flat car.	Stock car.	Box, flat, or stock car.
1870...	\$750 00	\$575 00	\$675 00	\$105 00	\$70 00	\$105 00	} 14 Per cent.
1875...	550 00	400 00	550 00	80 00	50 00	85 00	
1880...	600 00	550 00	600 00	70 00	45 00	70 00	

STATISTICS OF WAGES—CAR-WORKS.

Wages in Great Britain.—The following statement of wages paid in 1880 in this industry in Birmingham and neighborhood is from the *Miscellaneous Statistics of the United Kingdom, Part XI*, and is introduced here for the purpose of comparison with our own tables:

[NOTE.—In England the terms "coach" and "wagon" are used to designate what are called "cars" in the United States.]

Description of occupations.	Employés.	Rates of wages per week.	Hours of labor per week.	Description of occupations.	Employés.	Rates of wages per week.	Hours of labor per week.
BIRMINGHAM AND NEIGHBORHOOD.				BIRMINGHAM AND NEIGHBORHOOD.			
Pattern-makers	Men	\$8 47	54	Oilvermen	Lads and boys	α \$1 94	54
Pattern-makers	Lads and boys	1 94	54	Strikers	Men	α 5 45	54
Coach-body-makers	Men	α 8 11	54	Fitters	Men	α 6 53	54
Coach-finishers	Men	α 7 50	54	Drillers	Men	α 4 84	54
Coach-finishers	Lads and boys	α 2 12	54	Drillers	Lads and boys	α 2 42	54
Coach-trimmers	Men	α 7 50	54	Riveters	Men	α 6 05	54
Coach-trimmers	Lads	α 3 63	54	Grinders	Men	α 6 00	54
Coach-trimmers	Women	α 2 06	54	Wood-machinists	Men	α \$6 20- 9 20	54
Wagon-makers	Men	α 7 50	54	Sawyers	Men	α 7 26	54
Wagon-makers	Lads and boys	α 2 06	54	Painters, coach	Men	α 7 26	54
Molders	Men	\$6 78- 8 71	54	Painters, wagon	Men	α 4 84	54
Brass-casters	Men	7 02	54	Writers	Men	α 6 06	54
Smiths	Men	α 8 11	54	Laborers	Men	4 36	54
Oilvermen	Men	α 7 26	54				

α For piece-work.

WAGES TABLES, WITH SUPPLEMENTARY AND EXPLANATORY REMARKS.

Jackson & Sharp Company, Wilmington, Delaware.

Classes of employés.	Unit of payment.	DATES.							
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.
Foreman	Day	\$3 00	\$2 83½	\$2 83½	\$3 00	\$3 00	\$3 00	\$3 33½	\$3 33½
Carpenter	do	1 75	1 60½	1 58½	1 60½	1 60½	1 83½	2 16½	2 50
Machinist	do	1 66½	1 50	1 50	1 60½	1 60½	1 60½	1 83½	2 00
Tinner	do	1 83½	1 60½	1 60½	1 83½	1 83½	1 83½	2 25	2 33½
Blacksmith	do	1 83½	1 83½	1 83½	2 00	2 00	2 00	2 25	2 50
Blacksmith's helper	do	1 16½	1 25	1 41½	1 33½	1 33½	1 33½	1 41½	1 50
Painter	do	1 60½	1 60½	1 58½	1 60½	1 83½	1 83½	2 00	2 16½
Laborer	do	1 16½	1 25	1 33½	1 33½	1 33½	1 33½	1 41½	1 50

REMARKS.—This firm manufactures railroad cars of all kinds, and dates from 1863, though tabulated wages are given from 1873 only.

The opportunities for over-time earnings are very few. There are no allowances. No employés except carpenters pay out any part of their wages for tools.

Payments are weekly and in cash.

Up to 1880 the hours of labor for all classes were 10 a day, except in winter, when no work was done after dark. In 1880, however, the electric light was introduced, and operatives now work 10 hours the year round.

The works have been in operation 12 months each year. There have been no strikes or lockouts.

The following table gives the selling prices of cars for the years named:

Year.	First-class passenger-cars, each.	Sleeping-cars, each.
1865	\$4,000	\$8,000
1870	4,800	\$10,000 to 12,000
1875	4,000	10,000 to 12,000
1880	4,000	12,000 to 15,000

There has been no change in the efficiency of labor. The trade is stated to be neither dangerous nor unhealthful.

Michigan Car Company, Detroit, Michigan.

Classes of employes.	Unit of payment.	DATES.										
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Blacksmith	Day...	\$2 00	\$1 87½	\$1 87½	\$1 87½	\$1 87½	\$2 00	\$2 50	\$2 25	\$2 25	\$2 25	\$2 25
Blacksmith's helper	do	1 30	1 20	1 20	1 20	1 20	1 25	1 35	1 50	1 50	1 50	1 50
Machinist, iron	do	2 00	1 60	1 60	1 60	1 00	1 75	1 80	2 00	2 00	2 00	2 00
Machinist, wood	do	1 40	1 20	1 20	1 20	1 20	1 35	1 35	1 50	1 50	1 50	1 50
Machinist's helper	do	1 20	1 10	1 10	1 10	1 10	1 20	1 35	1 50	1 50	1 50	1 50
Carpenter	do	1 05	1 05	1 05	1 05	1 05	1 80	1 90	2 12½	2 12½	2 12½	2 12½
Framer	do	1 05	1 40	1 40	1 40	1 40	1 55	1 60	1 75	1 75	1 75	1 75
Truckman	do	1 55	1 40	1 40	1 40	1 40	1 40	1 50	1 62½	1 62½	1 62½	1 62½
Laborer	do	1 10	1 00	1 00	1 00	1 00	1 20	1 35	1 50	1 50	1 50	1 50
Painter	do	2 00	1 62½	1 62½	1 62½	1 75	1 87½	1 87½	2 00	2 00	2 00	2 00

REMARKS.—Freight-cars are manufactured at these works, which were established in 1864.

During 1880, machinists and blacksmiths and their helpers worked from 2½ to 5 hours over-time daily. The extra earnings for which opportunity was thus afforded would increase the regular wages from 25 to 50 per cent., and have not been included in the table.

Carpenters supply their own tools.

Payments are monthly and exclusively in cash.

From 1870 to 1880 the hours of labor were 10 a day. In 1880, however, as above remarked, machinists and blacksmiths worked

from 12½ to 15 hours daily; all other classes of employes work but 9½ hours in winter and 10 in summer.

The works are in constant operation, and have had neither strikes nor lockouts.

It is stated that the designs of freight-cars are so widely diversified as to render it impossible to make general statements regarding prices and labor cost.

Labor has been unchanged as to efficiency.

The trade is not unhealthful, and is no more dangerous than others involving work in machine-shops.

An establishment in Ohio.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.										
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Freight-car carpenter	Day ...	\$1 85					\$2 00	\$2 25				\$2 25-2 50
Passenger-car carpenter	do	1 00					2 00	2 25				2 50-2 75
Cabinet-maker	do	1 90					2 00	2 25				2 50
Blacksmith	do	2 00-2 25					2 00-2 25	2 25				2 25-2 50
Blacksmith's helper	do	1 25-1 40					1 50	1 50				1 60
Machinist	do	2 00-2 25					2 00-2 25	2 25				2 50
Painter	do	2 00-2 25					2 00-2 25	2 25				2 50
Laborer	do	1 30-1 15					1 25	1 50				1 50-1 60
Molder	do	2 40					3 50	3 50				2 50
Wheel-molder	do	4 00					5 00	5 00				5 50
Pattern-maker	do	2 50						2 25				2 50
Engineer	do	3 00						3 00				3 00
Watchman	do	1 60						1 80				1 75

REMARKS.—Though the establishment making this return dates from 1849, wages are given only for the years 1870, 1874, 1875, and 1880, the records for the remaining years of its history having been lost. Railroad cars of all kinds are made.

Ten hours are required for a day's labor from all classes of employes. Formerly full time was not worked during the short days of November, December, and January, but with the aid of gas, which has lately been introduced, 10 hours are now made the year round.

The works have been in constant operation since their establishment. In 1873, 1874, and 1875, however, owing to financial disorders, the force employed was greatly reduced, though the works were in constant operation during the entire year. The output during these years would of course be greatly lessened, being equivalent in 1873 to 11 months with the establishment running full time with a full force, to 4 months in 1874 and to 8 months in 1875. Strikes are infrequent. The last trouble of this kind was in 1869, on which occasion the molders left the shop and their places

were quickly supplied with non-union men. The strikers shortly after desired to be reinstated, and were informed that they would not be employed on any terms.

In regard to selling prices, it is stated that the cost of cars of the same class varies greatly for different roads, but the figures in the following table are averages:

Year.	Sleeping-cars, each.	First-class passenger-cars, each.	Second-class passenger-cars, each.	Baggage-cars, each.	Stock-cars, each.	Flat-cars, each.	Coal-cars, each.	Box-cars, each.
1860....	\$4,000	\$2,500	\$1,000	\$1,500	\$650	\$550	\$575	\$650-700
1865....	11,000	5,000-5,500	3,800	2,600-3,100	950-1,250	800-1,050	1,150	950-1,300
1870....	11,000	5,100	4,000	2,300	760	615	698	700
1875....	12,000	4,300	3,600	2,100	600	410	425	500
1880....	12,000	4,900	4,250	2,200-2,400	675	550	465-540	550-725

STATISTICS OF WAGES—CAR-WORKS.

An establishment in Ohio—Continued.

There are few if any opportunities for extra earnings, and no allowances whatever.

Payments are in cash every month.

The following statement as to amount paid per day to each employé in September, 1879, is given

Rate.	No.	Rate.	No.	Rate.	No.
\$0 40	1	\$2 25	18	\$1 35	22
5 75	10	2 15	6	1 25	96
5 40	2	2 00	66	1 20	25
5 00	3	1 90	48	1 15	13
4 50	1	1 85	34	1 10	36
4 00	5	1 80	66	1 00	80
3 50	5	1 75	67	90	3
3 25	2	1 70	16	85	1
3 00	3	1 60	7	75	18
2 75	3	1 65	26	70	1
2 50	39	1 60	26	60	7
2 40	4	1 50	82	55	3
2 35	2	1 40	33		

A classification of the above as to employment gives the following result:

Employment.	Total number.	Average wages per day.
Wood machinery	43	\$1 82
Freight-car makers.....	187	1 64
Passenger-car makers	97	1 78
Passenger-car cabinet-makers.....	40	1 77
Painters	80	1 55
Freight-car painters	16	1 32
Laborers.....	78	1 08
Blacksmiths	50	1 03
Blacksmith's helpers	57	1 15
Machine-shop.....	65	1 33
Pattern-makers	4	2 53½
Firemen.....	4	1 50½
Engineers	2	2 40
Watchmen	2	1 00½
Foundrymen.....	124	1 08
Foremen.....	9	5 41½
Total	804	

Junction Car-Works and Flue-Mill, Philadelphia, Pennsylvania.

Classes of employé's.	Unit of payment.	DATES.									
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	
Foreman.....	Month.....	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00
Machinist.....	Day.....	2 33½	2 33½	2 33½	2 33½	2 33½	2 25	2 33½	2 60½	2 50	
Temperer.....	do.....	2 58½	2 25	2 25	2 25	2 50	2 33½	2 33½	2 60½	2 00½	
Temperer's helper.....	do.....	1 33½	1 25	1 25	1 25	1 33½	1 33½	1 41½	1 58½	1 58½	
Packer.....	do.....	1 33½	1 33½	1 33½	1 25	1 33½	1 33½	1 50	1 60½	1 58½	
Blacksmith.....	do.....	2 50.	2 33½	2 33½	2 25	2 50	2 25	2 33½	2 50	2 50	
Engineer.....	do.....	2 50	2 50	2 58½	2 58½	2 58½	2 58½	3 00	3 00	3 00	
Laborer.....	do.....	1 33½	1 25	1 25	1 25	1 25	1 33½	1 50	1 50	1 50	
Painter.....	do.....	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 88½	
Carpenter.....	do.....	1 75	1 75	1 75	1 00½	1 33½	2 00	2 25	2 50	2 50	
Draughtsman.....	do.....	3 00½	3 00½	3 00½	3 00½	3 00½	3 00½	4 00	4 00	4 00	
Cabinet-maker.....	do.....	2 50	2 25	2 25	2 25	2 25	2 50	2 60½	3 00	3 00	

Classes of employé's.	Unit of payment.	DATES.									
		1871.	1870.	1860.	1868.	1867.	1866.	1865.	1864.	1863.	
Foreman.....	Month.....	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	
Machinist.....	Day.....	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	
Temperer.....	do.....	2 60½	2 60½	2 60½	2 50	2 50	2 50	2 50	2 50	2 50	
Temperer's helper.....	do.....	1 58½	1 58½	1 58½	1 58½	1 58½	1 58½	1 58½	1 58½	1 58½	
Packer.....	do.....	1 58½	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	
Blacksmith.....	do.....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	
Engineer.....	do.....	3 00	3 00	3 00	3 00	3 50	3 50	3 50	3 50	3 50	
Laborer.....	do.....	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	
Painter.....	do.....	2 33½	2 33½	2 33½	2 33½	2 50	2 50	2 50	2 50	2 50	
Carpenter.....	do.....	2 50	2 50	2 25	2 25	2 60½	2 60½	2 25	2 50	2 50	
Draughtsman.....	do.....	4 00	3 50	3 50	3 50	3 50	3 50	3 50	3 25	3 25	
Cabinet-maker.....	do.....	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	

REMARKS.—These works manufacture freight-cars. Though established in 1835, rates of wages could not be given prior to 1864.

There are opportunities for from 3 to 5 per cent. over-time. This is paid for at the rate of price and a quarter, except Sunday and holiday work, for which price and a half is paid. The extra time has not been considered in making up the table of wages.

All tools and materials are furnished by the firm, except in the case of wood-workers, who provide their own tools. The expense of these is slight.

Payments have always been weekly and in cash.

The hours of labor, which are 10 a day, have been unchanged. Full time has always been made, and no strikes have occurred.

COOPERAGE.

The wages returns in this branch of the wood-working industry are quite meager, and the classes of labor few. The industry is generally carried on in a small way, but there are and have been in certain centers, especially in connection with the petroleum, whisky, and flour interests, very large establishments for the production of barrels, and in the past few years considerable machinery has been introduced into their manufacture. The tables, however, while of interest as giving the rates of wages of a few classes in this industry, are not nearly as complete and satisfactory as they might have been.

Extra earnings or deductions.—Of the establishments reporting, only one mentions opportunities for extra time. There are no allowances, except that at one establishment employes with families are allowed wood free. Certain classes of employes, coopers especially, are obliged to furnish tools, the value of which is about \$5.

Payments at all establishments are in cash and weekly.

Hours of labor.—There seem to be no regular hours of labor for coopers, who are the largest class of employes. They are usually paid by the piece, and generally have a "stint" or "task". When this is done they cease work, or before if they choose. The hours of labor are from 7 to 10.

Regularity of employment.—All the establishments report that they have been regularly in operation each year during their existence, except in one case, which reports average running time as 11½ months per year.

Relation of wages and labor to selling price and cost.—There is but little information under this head. The only general statement that can be made is that the ratio of wages to cost is about one-third.

Efficiency of labor and labor-saving machinery.—There has been but little change in the efficiency of labor. Some labor-saving machinery has been introduced, but the information in the schedules regarding it is very meager.

WAGES TABLES, WITH SUPPLEMENTARY AND EXPLANATORY REMARKS.

William Slapp & Co., Madison, Indiana.

Classes of employes.	Unit of payment.	DATES.						
		1880.	1870.	1878.	1877.	1876.	1875.	1874.
Superintendent	Day	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75
Clerk	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Foreman	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Laborer	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Cooper	Barrel	11	11	11	11	11	11	11
Machine-hand	Day	1 50	1 50	1 50	1 50	1 50	1 50	1 50

REMARKS.—At the shop making this return barrels, staves, and headings are made. The works were established in 1864.

Workmen are subject to an expense of about \$5 per annum for tools. Payments are weekly and in cash.

The hours of labor average 9 a day for all classes. Full time is made every year. Three or four strikes are reported, but these have lasted only a day or two, and the loss has been insignificant.

The selling price of flour-barrels is given as 35 cents each for the entire period, 1865-'80.

The proprietors report that there has been no change in the efficiency of labor, and that no labor-saving machinery has been introduced.

Accidents involving the loss of fingers or parts of fingers occasionally occur.

Chess & Wymond, Louisville, Kentucky.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.				Classes of employes.	Unit of payment.	DATES.			
		1880.	1870.	1878.	1877.			1880.	1879.	1878.	1877.
Cooper	Barrel ..	\$0 20	\$0 17	\$0 17	\$0 16	Laborer	Day	\$1 10	\$1 10	\$1 00	\$1 00
Machine-hand	Day	2 00	1 50	1 50	1 25						

STATISTICS OF WAGES - COOPERAGE.

Chess and Wymond, Louisville, Kentucky—Continued.

REMARKS.—This establishment has been in existence only since 1877.

Workmen are obliged to furnish their own tools, but it is stated that the expense of these is so slight as not to appreciably decrease the rates of wages given above.

Payments, which are made each week, are in cash.

Machine-hands and laborers work 10 hours a day. Coopers, who work by the piece, average about 7 hours.

The factory is operated 12 months in the year, and strikes never occur.

There has been no change in the efficiency of labor.

The following statement of selling price, labor cost, etc., refers to oil-barrels:

Year.	Selling price.	Labor cost.	Percentage of wages to cost.
1877.....	\$1 15	\$0 30	33½
1880.....	1 25	36	33½

No labor-saving machinery has been introduced.

An establishment in Massachusetts.

Classes of employes.	Unit of payment.	DATES.																
		1881.	1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	
Outdoor workman.....	Day	\$4 00																
Inside workman	do	2 25						\$2 50										

Classes of employes.	Unit of payment.	DATES.																
		1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.	1850.	1845.
Outdoor workman.....	Day				\$5 00					\$2 50								
Inside workman	do				3 00						\$1 50						\$1 50	

REMARKS.—The firm making this report manufactures cisterns, tanks, vats, casks of all kinds, and barrels for ale, beer, molasses, sugar, etc.

There are frequent opportunities for over-time work, as most of the hands are paid by the piece.

Payments are in cash, and are made once a week.

All classes have worked 10 hours a day since 1857.

The works are operated the year round.

The firm states that it has introduced into one shop several wood-working machines, and has started a sugar-barrel shop with improved machinery. The effect of the former has been an improvement of product and a lessening of cost, but no decrease in the number of hands or rates of wages. The latter has increased production

and made possible the employment of unskilled labor and boys in occupations formerly requiring skilled labor.

The selling price and labor cost of hogsheds are given as follows for the years named:

Year.	Selling price.	Labor cost.
1860.....	\$5 50	\$0 00
1865.....	7 00	1 25
1870.....	7 00	1 25
1875.....	7 00	1 00
1880.....	5 50	1 00

An establishment in Ohio.

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Cooper.....	Day	\$1 05	\$1 05	\$1 05	\$1 05	\$1 05	\$2 25	\$2 25	\$2 25	\$2 25	\$2 25
Boy.....	do	75	75	75	75	75	85	85	85	85	85
Laborer.....	do	1 15	1 15	1 15	1 15	1 15	1 25	1 25	1 25	1 25	1 25

REMARKS.—The waste wood from this establishment is given to employes who have families, and would amount to about \$5 per annum in addition to wages of such men.

Coopers furnish their own tools at an expense, after the outfit is purchased, of about \$5 per annum.

Payments are weekly in cash.

There are no regular hours of labor. Regarding this point the

proprietor gives it as his belief that the men in this trade would earn more if allowed to work only 10 hours, as their habits would then be more regular.

Operations have been carried on 11½ months each year, the slight interruption being occasioned by strikes and changes in machinery. Strikes, however, have been infrequent.

The trade is healthful.

FURNITURE.

Under this division of wood-working industries are included those establishments which make chairs, cabinet-work and furniture of all kinds, with billiard-tables, and some establishments that in addition to the manufacture of furniture produce wooden ware, such as pails, tubs, etc.

An inspection of the wages tables, and a comparison with those of other industries, show that the fluctuations in rates in this industry are much less marked than in most branches of manufacturing.

The changes in methods of manufacturing that have taken place are very marked, and have grown out of the remarkable improvements made in wood-working machinery, and of the exhaustion in many localities of wood used in the manufacture of furniture.

Formerly most furniture was produced at little establishments in which the article was manufactured entire. Now a large proportion is produced at extensive works with the most improved machinery and methods, in many cases delivered finished to the local furniture-dealers throughout the country. In some cases the goods are sold "in the rough" and finished to suit the taste of the purchaser. An extensive business is also done by these large establishments in the manufacture of "frames". Parlor-suits, lounges, chairs, etc., both unfinished and finished, but not upholstered, are made in large quantities, and sold to local dealers to finish and upholster. The decrease in the cost of production growing out of this change in methods of manufacture is very marked, as can be seen in the statements accompanying the table.

Of 282 schedules sent out, 60 were returned and 41 tabulated. Those tabulated, as ranged according to states, are as follows:

California.....	1	Kansas	1	New Hampshire.....	1
Connecticut.....	2	Kentucky	4	New York.....	8
Illinois	7	Massachusetts.....	1	Ohio.....	3
Indiana.....	4	Michigan	1	Pennsylvania	4
Iowa	1	Missouri	1	Wisconsin	2

In addition to those tabulated, the following rates of wages at furniture establishments in Arkansas, Georgia, and New Hampshire are given for 1880:

Classes of employes.	Unit of payment.	Arkansas.	Georgin.	New Hamp- shire. (a)
Foreman.....	Month....	\$100 00	\$39 00	\$75 00
Machine-hand.....	Day	1 50	1 00	1 75
Turner	do	2 50	1 00	2 00
Cabinet-maker.....	do	2 25	1 50	1 75
Chair-maker	do	2 25	1 25	.....
Carver	do	2 00	.....	2 00
Varnisher	do	2 00	50	1 25
Finisher	do .....	.....	.....	1 50
Upholsterer	do	1 00	.....	.....
Packer	do	1 50	.....	1 50
Engineer	do	1 00	2 00	.....
Laborer	do .....	.....	1 00	1 50

a These are averages for 15 years.

Extra earnings or deductions.—There are but few opportunities for over-time in this industry. Over-time is usually made at night, and the danger of working in such establishments by artificial light is an obstacle in the way of extra hours.

There are no allowances worthy of mention.

In this, as in all wood-working industries, and in most establishments where they are employed, wood-working mechanics are compelled to furnish their own bench-tools, though, as machine-work has so largely taken the place of hand-work, the number and variety, and consequently the expense, of these tools are not nearly so great as formerly, either as to first cost or as to expense of renewals.

Payments.—Truck is very rare. Of the 41 schedules tabulated, but 3 report the use of store-orders, and 2 of these are scarcely truck, but a lending the credit of the establishment in a limited degree to workmen who, by reason of extraordinary special demand upon them, or through their improvidence, are not able to pay cash and have little or no credit. Indeed, it would be difficult in this industry to maintain store-orders. The large establishments, where there are sufficient employes to justify a store, are in large places where there is no call for such stores, nor would they be tolerated by the men; while those establishments situated in small villages and towns generally employ but few workmen, and at these such a store would not be profitable.

The interval of payment is usually monthly. A great deal of the work is piece-work, and in many instances requires the labor of a man for several weeks. Under such circumstances it is customary to make advances to the workmen on account, with a settlement in full when the work is completed. Frequently, however, no payments are made until the work is finished.

In several establishments there has been an increase in the interval of payment. Some works which formerly paid weekly have increased the interval to fortnightly and in some cases to monthly.

Hours of labor.—As a rule the hours of labor are nominally 10. In view of the fact already referred to, that there is considerable danger in many of these establishments in working by artificial light, the hours of labor in winter are somewhat shortened, the establishments running only until dark.

The following table shows the hours of labor at the different establishments:

Year.	8 hours.	9 hours.	10 hours.	11 hours.
1830.....			1	
1835.....			2	
1840.....			3	
1845.....			5	
1850.....			6	1
1855.....		1	12	1
1860.....	1	1	18	1
1865.....	1	2	24	1
1870.....	1	3	32	1
1875.....	1	5	38	1
1880.....	1	7	39	1

In those cases in which the number of hours per day varies with the season, both numbers are given in the table, and consequently the figures seem to represent more establishments than there are tabulations. The hours of labor stated are for all classes in most instances, though at one or two establishments there are a few classes whose time of working differs from that of the majority of classes at the works, and in such cases the number of hours worked by the majority of classes is taken and that of the others ignored.

Relation of wages and labor to selling price and cost.—Owing to the variety of designs and their constant changes, it is impossible to make any general statement as to prices of product, labor cost, and percentage of wages to cost. There is no standard of comparison, and the changes are so frequent as to make it impossible to make a comparison even of selling prices for a series of years. There are, however, some interesting statements accompanying the schedules, but these are to be regarded as relating only to the particular establishment making the report; the conditions and relations at others may be entirely different.

Efficiency of labor and labor-saving machinery.—Some changes in the efficiency of labor are noted in the remarks accompanying the different tabulations. In some cases it is stated that there has been an increase in the efficiency and in others a decrease, owing to the introduction of machinery. Formerly a workman could make all parts of a given piece of furniture, finishing it complete for the varnisher. Now, under the division of labor and the introduction of machinery, this general ability exists to a much less degree.

Healthfulness.—Quite a number of the schedules refer to the danger of lung diseases, arising from the use of sandpapering machines, the dust from walnut wood being specially injurious. By the use of exhaust-fans, however, and careful attention to ventilation in large establishments, the danger is reduced to a minimum.

STATISTICS OF WAGES—FURNITURE.

WAGES TABLES, WITH SUPPLEMENTARY AND EXPLANATORY REMARKS.

L. & E. Emanuel, San Francisco, California.

Classes of employés.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Foreman	Month..	\$200 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00
Machine-hand	Day	3 50	3 00	3 50	3 50	3 50	3 50	3 50	3 50	3 50	3 50	3 50
Turner	do	2 50- 4 00										
Cabinet-maker	do	2 5- 3 00	2 50- 3 00	2 50- 3 00	2 50- 3 00	2 50- 3 00	2 50- 3 00	2 50- 3 00	2 50- 3 00	2 50- 3 00	2 50- 3 00	2 50- 3 00
Chair-maker	do	2 50- 3 00										
Carver	do	2 50- 4 50										
Varnisher	do	2 00- 3 50										
Finisher	do	2 00- 3 50										
Upholsterer	do	3 00- 5 00										
Packer	do	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50
Engineer	do	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½
Laborer	do	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50

REMARKS.—All varieties of furniture, wood mantles, and interior hardwood finish are manufactured at this establishment, which dates from 1859.

There are but few opportunities for over-time. Payments on this account have not been included in the table.

Cabinet-makers, carvers, and turners furnish their own tools; so much machinery is used, however, that comparatively few tools are required.

Payments have always been weekly and in cash.

All classes work 10 hours a day.

Employment is constant. The proprietors state that but one strike has occurred in this trade in California—in October, 1879. The cause of the trouble was dissatisfaction with wages. After being out six weeks the men returned to work at the old rates,

but with the disadvantage of being obliged to wait for their payment until the job was finished, it having been the custom prior to the strike for the men to receive from \$12 to \$15 per week on account.

The firm states that the variety of the articles produced is so great as to render impossible any general statements of prices, labor cost, etc.

There has been no change in the efficiency of labor.

From time to time new machinery has been introduced. The effect of this has chiefly been to add to the beauty and elaborateness of the work. It has reduced cost very little, and has not affected wages.

The trade is healthful. Machine-hands are liable to accidents, however.

Bowditch & Prudden, New Haven, Connecticut.

(Continued on next page.)

Classes of employés.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Foreman	Month..	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$75 00	\$75 00
Machine-hand	Day	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 75	2 75
Turner	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 75	2 75
Cabinet-maker	do	2 25	2 25	2 25	2 25	2 00	2 00	2 00	2 25	2 25	2 25	2 25
Chair-maker	do	2 00	2 00	2 00	2 00	1 80	1 80	2 00	2 00	2 00	2 00	2 00
Carver	do	2 50	2 50	2 50	2 25	2 25	2 25	2 25	2 50	2 50	2 50	2 50
Varnisher	do	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80	2 00	2 00	2 00
Finisher	do	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80	2 00	2 00	2 00
Upholsterer	do	2 50	2 50	2 50	2 25	2 25	2 25	2 50	2 75	2 75	2 75	2 75
Packer	do	2 00	1 80	1 80	1 80	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Engineer	do	2 75	2 50	2 25	2 25	2 50	2 50	2 50	2 75	2 75	2 75	2 75
Laborer	do	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 80

Classes of employés.	Unit of payment.	DATES.										
		1869.	1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.
Foreman	Month..	\$80 00	\$85 00	\$85 00	\$85 00	\$80 00	\$80 00	\$80 00	\$75 00	\$70 00	\$65 00	.....
Machine-hand	Day	2 75	2 75	2 75	2 50	2 50	2 50	2 50	2 50	2 25	2 00	.....
Turner	do	2 75	2 75	2 75	2 50	2 50	2 50	2 50	2 25	2 00	2 00	.....
Cabinet-maker	do	3 00	3 00	2 50	2 50	2 50	2 25	2 25	2 00	2 00	2 00	.....
Chair-maker	do	2 25	2 25	2 25	2 00	2 00	2 00	1 80	1 80	1 80	1 80	.....
Carver	do	3 00	3 00	2 50	2 50	2 25	2 25	2 25	2 25	2 00	2 00	.....
Varnisher	do	2 50	2 50	2 75	2 50	2 50	2 25	2 25	2 00	2 00	2 00	.....
Finisher	do	2 75	2 50	2 25	2 25	2 25	2 00	2 00	2 00	1 80	1 80	.....
Upholsterer	do	3 00	2 75	2 50	2 50	2 50	2 00	2 00	2 00	2 00	2 00	.....
Packer	do	2 50	2 50	2 25	2 25	2 25	2 00	2 00	2 00	1 75	1 75	.....
Engineer	do	3 00	3 00	2 75	2 75	2 50	2 50	2 25	2 00	2 00	2 00	.....
Laborer	do	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 25	1 25	.....

STATISTICS OF WAGES—FURNITURE.

Bowditch and Prudden, New Haven, Connecticut—Continued.

REMARKS.—The firm making this report manufactures all kind of furniture for custom-trade. The works were established in 1824.

The extra earnings from over-time, for which opportunity is given, would increase the wages given in the table about 2 per cent.

Cabinet-makers and upholsterers supply their own tools. This expense, however, would decrease their wages very slightly, and has not been considered in making up the table.

Payments have always been weekly, and, since 1852, wholly in cash. The use of store-orders was abandoned because the proprietors considered cash payments more fair to the hands.

All classes work 10 hours a day.

The mill was operated continuously up to 1865, since which date it has averaged 11 months a year. There have been no strikes or lockouts.

There has been a decrease in the efficiency of labor. This is attributed to the introduction of foreign help, who do not work as hard or as continuously as Americans.

In 1860 an entire new set of machinery was put into the mill. This effected a very material reduction in cost of product.

The trade is not considered dangerous or unhealthful.

The H. W. Collender Company, Stamford, Connecticut.

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Machine-hand.....	Day ...	\$2 00	\$2 00	\$2 25	\$2 25	\$2 25	\$2 50	\$2 50	\$2 50	\$3 00	\$3 00
Turner.....	do ...	2 75	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00
Cabinet-maker.....	do ...	2 25	2 00	2 00	2 00	2 25	2 25	2 50	2 50	3 00	3 00
Carver.....	do ...	2 33½	2 00	2 00	2 00	2 25	2 25	2 50	2 50	3 00	3 00
Varnisher.....	do ...	2 25	2 00	2 00	2 00	2 00	2 25	2 50	2 50	3 00	3 00
Packer.....	do ...	1 75	2 00	2 00	2 00	2 25	2 25	2 25	2 50	3 00	3 00
Laborer.....	do ...	1 25	1 00	1 00	1 25	1 25	1 25	1 50	1 50	2 00	2 00

REMARKS.—This firm manufactures billiard-tables and all the articles appertaining thereto, such as cues, plain and fancy, cue-racks, cue-stands, pool-racks, pool-boards, markers, etc.

The proprietor states that he is unable to give a statement of wages prior to 1871, as the records are not available. In addition to the rates in the table, the following are given :

Average earnings per day, 1871 to 1880.

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Framer.....	Day	\$2 25	\$2 08½	\$2 08½	\$2 08½	\$2 25	\$2 50	\$2 50	\$2 50	\$3 00	\$3 00
Setter-up.....	do	2 50	2 50	2 50	2 50	3 00	3 00	3 33½	3 33½	4 16½	4 16½
Cue-maker.....	do	2 33½	2 25	2 25	2 25	2 50	2 50	3 00	3 00	3 33½	3 33½
Marquetric-maker.....	do	2 25	2 25	2 25	2 25	2 50	2 50	3 00	3 00	3 33½	3 33½
Machinist.....	do	2 25	2 25	2 25	2 25	2 25	2 50	2 50	2 50	3 00	3 00
Sawyer.....	do	2 00	2 00	2 00	2 25	2 25	2 25	2 50	2 50	3 00	3 00
Slate department.....	do	2 25	2 25	2 25	2 50	2 60½	2 60½	3 00	3 00	3 33½	3 33½
Boys.....	do	50-75									

When orders are pressing, over-time is occasionally made, for which price and a quarter is given. The extra earnings for which opportunity is thus afforded would only about make up for lost time, and have not been considered in the table.

Cabinet-makers and others who work in wood at benches are required to furnish themselves with kits of tools, after which they are subject to no expense except in replacing tools worn out or broken.

Employes are paid wholly in cash. Store-orders have never been used. From 1800 to 1875 payment was weekly, since which once a fortnight has been the rule.

The hours of labor have been 10 a day for all classes, except during six weeks in 1872, when 8 hours was considered a day's work.

The works have been in constant operation, though sometimes with reduced force owing to business depressions. There was a strike of 8 hours in 1872 and a partial strike for an advance in wages in 1880. The consequences were but trifling.

There has been an increase in the efficiency of labor arising from the division of work and competition between workmen.

Various kinds of improved machinery have been introduced as follows: Machines for shaping legs, lathe for turning cues, combination of saws for cutting broad rails, device for sawing cues, de-

vice for making marquetric patterns, and many others. These improvements have lessened cost of labor on those articles on which they are employed about one-half.

The following table gives the selling price and labor cost of a billiard table, with all of its appurtenances, for the years named :

Year.	Selling price.	Labor cost.
1860.....	\$500	\$100
1865.....	500	100
1870.....	400	100
1875.....	300	90
1880.....	250	50

The trade is considered safe and healthful in most departments. The only occupation supposed to be injurious is that of the men and boys running sandpapering machines. Danger to health from this cause can be averted by tying a sponge over mouth and nose.

The Bloomington Furniture Manufacturing Company, Bloomington, Illinois.

Classes of employés.	Unit of payment.	DATES.							
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.
Foreman	Month..	\$55 00— 80 00	\$55 00— 80 00	\$50 00— 78 00	\$50 00— 78 00	\$70 00— 78 00	\$70 00— 78 00	\$70 00— 78 00	\$70 00— 78 00
Machine-hand	Day ...	1 50	1 50	1 50	1 25	1 25	1 25	1 25	1 25
Turner	do	2 50	2 25	2 25	1 75	1 75	1 50	1 50	1 50
Chair-maker	do	2 25	2 00	2 00	1 75	1 75	1 75	1 75	1 75
Carver	do	2 50	2 25	2 25	2 00	2 00	2 00	2 00	2 00
Varnisher	do	77	60	57½	57½	57½	57½	57½	57½
Finisher	do	77	60	57½	57½	57½	57½	57½	57½
Packer	do	2 00	2 00	2 00	1 75	1 50	1 50	1 50	1 50
Engineer	do	2 50	2 50	2 50	2 50	2 31	2 31	2 31	2 31
Laborer	do	1 50	1 50	1 50	1 25	1 25	1 25	1 25	1 25

REMARKS.—Sawed walnut cane-seated chairs and rockers are the products of this factory, established in 1873. Turners, chair-makers, carvers, varnishers, and finishers all work by the piece; the above rates are average earnings.

Piece-workers occasionally have opportunities for over-time. These would not increase earnings to any material extent.

Bench- and piece-workers generally furnish their own tools, but at an expense so slight as to decrease their wages not over 1 or 2 per cent.

Payments are monthly, and nine-tenths in cash and one-tenth in store-orders. Orders for merchandise are given only in exceptional cases, their use being discontinued as much as possible.

The company state that it is their aim to work as nearly 10 hours per day the year round as possible, but that in winter they are obliged to cease an hour or two earlier, as they can not work by artificial light.

The works are in constant operation. There has never been a labor difficulty worthy the name of strike at the establishment.

The following figures for selling price, labor cost, etc., refer to cottage chairs:

Year.	Selling price, per dozen.	Labor cost, per dozen.
1873.....	\$20 00	\$6 40
1876.....	18 60	5 45
1880.....	15 00	4 47

There has been a great increase in the efficiency of the workmen, due to division of labor and experience. Gradual improvements have been made in machinery. These have increased production in proportion to the number of employés.

Danger may be avoided by proper care, and the trade is not unhealthful, except that in certain instances the inhaling of walnut sawdust is somewhat injurious.

Ames & Frost, Chicago, Illinois.

Classes of employés.	Unit of payment.	DATES.								
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.
Foreman	Month	\$60 00	\$55 00	\$60 00	\$45 00	\$45 00	\$45 00	\$40 00	\$40 00	\$40 00
Machine-hand	Day	2 25	2 00	2 00	2 00	2 00	1 75	1 75	1 75	1 75
Varnisher	do	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Laborer	do	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50
Weavers (women), 20 to 25	do	1 50	1 41½	1 38½	1 25	1 10½	1 10½	1 00	1 00	1 00
Boys, 15 to 17	Week	3 75	3 50	3 25	3 00	3 00	3 00	2 75	2 75	2 75
Boys, 17 to 20	do	5 50	5 00	4 50	4 25	4 00	3 75	3 75	3 50	3 50

REMARKS.—This establishment manufactures woven-wire mattresses, spring beds, and canvas cots.

During 1880 some employés had opportunities for extra earnings by piece-work after hours, which would probably increase their earnings about \$1 per week, but have not been included in the table.

There are no allowances or deductions.

Employés are paid in cash every week.

All classes work 10 hours a day.

The works are operated 12 months a year.

Scarcely any time has been lost by strikes. Such troubles never occur except among boys of foreign birth, who have occasionally, when work was pressing, struck for higher wages. Their places have always been filled at once, and the firm have positively refused to re-employ the strikers. These measures have been effectual in preventing a recurrence of the trouble.

There has been a steady increase in the efficiency of labor arising from experience.

It is stated that eighteen different varieties of spring-beds are made at these works, and the cost of labor varies with the style.

Below are selling prices, labor cost, etc., of certain of the articles manufactured:

Year.	SELLING PRICE.					LABOR COST.			Average percent- age of wages to total cost.
	Woven wire-mat-tresses, each.	Canvas-cots, each.	Spring-beds, each.	Arm-cots, each.	Com-mon slat-beds, each.	Woven wire-mat-tresses, each.	Canvas-cots, each.	Spring-beds, each.	
1875..	\$8 00	\$1 50	\$5 70	\$1 75	\$3 50	\$1 50	\$0 50	\$1 25	Per cent. { 15 to 20
1880..	4 00	1 00	1 80	1 25	1 00	1 00	18	27	

Improved machinery has been introduced. The effect of this has been to greatly increase production, to reduce cost from 10 to 50 per cent., and to indirectly increase the number of hands by increasing business.

The trade is healthful.

J. Beiersdorf, Chicago, Illinois.

Classes of employes.	Unit of payment.	DATES.												
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1860.	1868.
Foreman	Month ..	\$112 00	\$100 00	\$100 00	\$80 00	\$72 00	\$72 00	\$64 00	\$64 00	\$64 00	\$64 00	.....	.....	.....
Machine-hand	Day	2 00	1 50	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 00	\$2 25	\$2 50	\$2 50
Turner	do	2 00	1 75	2 00	2 00	1 75	1 75	2 00	2 00	2 00	2 00	.....	.....	.....
Cabinet-maker	do	2 00	1 75	2 00	2 00	1 75	1 75	1 75	2 00	2 00	2 00	2 25	2 60	2 75
Carver	do	2 80	2 25	2 50	2 50	2 50	2 25	2 25	2 50	2 50	2 50	3 00	3 00	3 50
Varnisher	do	1 61½	1 58	1 31½	1 46	1 50	1 72	1 06	1 75	1 75	1 75	.....	.....	.....
Finisher	do	1 61½	1 58	1 31½	1 46	1 50	1 72	1 06	1 75	1 75	1 75	.....	.....	.....
Upholsterer	do	2 16½	2 09½	1 71½	1 57	1 75½	1 77½	2 22½	2 25	2 25	2 25	2 75	2 75	2 75
Packer	do	1 50	1 50	1 35½	1 33½	1 26	1 34	1 50	1 50	1 50	1 50	.....	.....	.....
Engineer	do	2 50	2 25	2 50	2 50	2 25	2 25	2 25	2 50	2 50	2 50	.....	.....	.....
Laborer	do	1 25	1 50	1 50	1 25	1 25	1 25	1 25	1 50	1 50	1 50	.....	.....	.....

Classes of employes.	Unit of payment.	DATES.												
		1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.
Foreman	Month ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Machine-hand	Day	\$2 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Turner	do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cabinet-maker	do	2 75	\$2 75	\$2 50	\$2 25	\$1 02½	\$1 25	\$1 10	\$1 10	\$1 10	\$1 00	\$0 88	\$1 00	.....
Carver	do	3 50	3 50	3 50	3 50	.....	.....	.....	.....	.....	.....	.....	.....	.....
Varnisher	do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Finisher	do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Upholsterer	do	3 00	3 00	3 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Packer	do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Engineer	do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Laborer	do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65	50	65	.....

REMARKS.—The products of this factory are parlor sets, platform rockers, easy-chairs, and lounges.

The works are operated over-time for three weeks preceding Christmas each year, but as they are idle from Christmas to January 3, and the employes are permitted to take a few days' vacation in the heat of summer, the extra earnings from over-time work would increase the regular wages but little and have not been considered in the table.

Occasionally an employe asks for his wages in advance to pay his taxes or to purchase his fuel for winter. These requests are always granted. Such allowances, however, do not amount to much in the way of increasing their wages.

Employes are obliged to expend about \$2 per year for tools.

Payments are weekly, and all cash has been the rule since 1861, at which date the use of store-orders was abandoned as trade had improved and money had become more plenty.

Superintendent and bookkeeper work 10½ hours a day; teamsters 13 hours, and upholsterers 9½ hours. This proprietor gives it as his belief that though a decrease in hours from 10 to 8 per day would decrease production, the change would improve quality of work done, and be beneficial to employes, as it would improve their habits and health.

Employment has been regular 11½ months each year except in 1871, when the works were idle the entire year on account of fire. The two weeks lost each year are for holidays and stock-taking. The proprietor states that his employes have not lost two days in the last eight years by strikes. On two occasions higher wages have been demanded, and the advance immediately granted on condition that other manufacturers should be compelled to do the same.

But little improved machinery has been introduced. Such as has been adopted has reduced the number of employes slightly.

Below is a statement regarding selling price of certain articles.

Year.	SELLING PRICE.	
	Carpet-lounges, each.	Parlor suits, each, seven pieces.
1860.....	\$18 00	\$150 00
1865.....	16 00	120 00
1870.....	14 00	100 00
1875.....	11 00	75 00
1880.....	7 00	40 00

Regarding the above, it is stated that the prices are the average in a wholesale business. Much depends upon the cost of the material used for upholstering, but the decline shown in the table is not alone in cost of material; it is also due to reduction in the cost of frames. For example, a frame costing \$40 in 1860 could be purchased for \$10 in 1875. A lounge-frame costing \$5 to \$6 in 1865 can be purchased for \$1 35.

There has been a decrease in the efficiency of labor. This is attributed to the fact that boys do not now, as formerly, learn the trade in all its branches, and are employed as journeymen at too early an age.

Accidents are easily avoided by care. The dust from sandpapering wood, and especially walnut, is detrimental to health in some instances, and there is also much dust from the tow, hair, and moss; but the proprietor states that he has in his employ men who have been with him fifteen to twenty years, and who have always been healthy.

STATISTICS OF WAGES—FURNITURE.

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L. C. Boyington, Chicago, Illinois.

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Foreman	Month..	\$80 00	\$80 00	\$80 00	\$80 00	\$75 00	\$75 00	\$70 00	\$70 00	\$70 00	\$70 00
Machine-hand	Day....	2 00	2 00	2 00	2 00	1 75	1 75	1 75	1 75	1 75	1 75
Turner	do	2 25	2 25	2 25	2 25	2 00	2 00	2 00	1 75	1 75	1 75
Cabinet-maker	do	2 25	2 25	2 25	2 25	2 00	2 00	2 00	1 75	1 50	1 50
Carver	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Finisher	do	1 75	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50
Packer	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Engineer	do	2 25	2 25	2 25	2 25	2 25	2 00	2 00	2 00	2 00	2 00
Laborer	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00

REMARKS.—At this establishment automatic folding beds, woven-wire mattresses, and step- and extension-ladders are manufactured.

The wages given in the table are net, there being neither allowances nor deductions.

Payment is weekly and all in cash.

All classes work 10 hours a day.

These works have been in constant operation and have never had a strike or a lockout.

The folding beds and woven-wire mattresses referred to in the following table have been manufactured only since 1879:

Year.	SELLING PRICE.				LABOR COST.			
	Step-ladders, each.	Extension-ladders, each.	Fold-ing beds, each.	Woven-wire mat-tresses, each.	Step-ladders, each.	Exten-sion-ladders, each.	Fold-ing beds, each.	Woven-wire mat-tresses, each.
1870...	\$1 00	\$8 00	.....	.....	\$0 20	\$2 00	.....	.....
1875 ..	1 00	8 00	.....	.....	20	2 00	.....	.....
1880...	1 00	8 00	\$40 00	\$5 00	20	2 00	\$8 00	\$0 70

The proprietor of this establishment states that there has been no change in the efficiency of labor, and that no labor-saving machinery has been introduced.

The trade is not unhealthful and the risk only such as is usual in running wood-working machinery.

No serious accidents have occurred in this factory.

Freese & Hamline, Chicago, Illinois.

Classes of employes.	Unit of payment.	DATES.							
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	
Foreman	Month....	\$65 00	\$65 00	\$60 00	\$60 00	\$60 00	\$60 00	\$60 00	\$60 00
Machine-hand	Day	1 83½	1 66½	1 66½	1 50	1 00½	2 00	2 00	2 00
Turner	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Cabinet-maker	do	2 16½	2 00	1 83½	1 66½	1 83½	2 00	2 00	2 00
Carver	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Packer	do	2 00	2 00	1 75	1 75	1 75	1 75	1 75	1 75
Engineer	do	2 00	2 00	1 75	1 75	1 75	1 75	1 75	1 75

REMARKS.—This firm manufactures furniture, bureaus, bureau-frames, washstands, and desks.

There are a few opportunities for over-time work.

Bench-hands are obliged to provide themselves with benches and tools, which would decrease their wages about 2 per cent.

Payments are in cash and weekly.

The hours of labor are 10 for all classes.

The works are in operation an average of 11 months per year, the idleness being occasioned by irregularity in demand and changes in machinery. Strikes have been very infrequent and insignificant.

There has been no increase in the efficiency of labor.

Several machines have been introduced within the past two years. These have increased production nearly 100 per cent. in proportion to the number of employes, and require less skilled labor than was formerly necessary, but have had no marked effect on wages.

The product being of great variety, any statement of selling prices, etc., would be necessarily incomplete, though it is remarked that the percentage of labor to cost averages about the same in all goods.

Year.	SELLING PRICE.		LABOR COST.	
	Bureaus, each.	Wash-stands, each.	Bureaus, each.	Wash-stands, each.
1875.....	\$5 75	\$2 75	\$1 75	\$0 75
1880.....	5 00	2 40	1 25	50

The trade is not unhealthful, and the danger incidental to the running of machinery may be avoided by care.

STATISTICS OF WAGES—FURNITURE.

Koenig & Gainer, Chicago, Illinois.

Classes of employes.	Unit of payment.	DATES.								
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.
Foreman.....	Month.....	\$78 00	\$71 50	\$65 00	\$65 00	\$65 00	\$71 50	\$71 50	\$71 50	\$71 50
Machine-hand	Day	2 50	2 20	2 25	2 00	2 25	2 50	2 50	2 50	2 50
Turner	do	2 00- 3 00	2 00- 3 00	2 00- 3 00	1 75- 2 75	1 75- 2 75	1 75- 2 75	1 75- 2 75	2 00- 3 00	2 00- 3 00
Cabinet-maker.....	do	2 50- 2 75	2 50- 2 75	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50
Carver.....	do	2 00- 2 75	2 00- 2 75	2 00- 3 00	2 00- 3 00	2 00- 3 00	2 25- 3 50	2 25- 3 50	2 25- 3 50	2 25- 3 50
Varnisher	do	2 50- 2 75	2 50- 2 75	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50
Finisher	do	2 00- 3 00	2 00- 3 00	1 75- 2 25	1 75- 2 25	1 75- 2 25	1 75- 2 25	1 75- 2 25	1 75- 2 25	1 75- 2 25
Packer	do	1 75- 2 25	1 75- 2 25	1 75- 2 25	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00
Engineer	do	2 75	2 75	2 50	2 50	2 50	2 75	2 75	2 75	2 75
Laborer.....	do	2 00	1 75	1 50	1 50	1 75	2 00	2 00	2 00	2 00

REMARKS.—The firm from whom this report is received manufactures chamber-furniture, tables, and stands. Its works were established in 1862, but as the books of record were lost in the Chicago fire of 1871, the figures for wages cover only the time since 1872.

Cabinet-makers are the only class of employes who are obliged to pay out any part of their wages for tools.

Employes are paid in cash. From 1862 to 1870 payments were made weekly; from 1870 to 1875, every two weeks, and from 1875 to 1880, monthly.

All classes work 8 hours per day in winter and 10 in summer. The opinion is expressed that a reduction in the hours of labor with-

out a corresponding reduction in wages would not benefit working-men, as it would increase the cost of living, and would also have a bad effect on the character and habits of employes, as their leisure time would not be profitably used.

From 1862 to 1870 about two months were lost each winter, owing to over-production. Since 1870 the works have been operated 12 months a year.

The firm states that it has always striven to prevent strikes, and has thus far succeeded in doing so.

The following statement gives the selling prices of the various articles of product:

Year.	Maple bedsteads, each.	Walnut bedsteads, each.	Common tables, each.	Walnut tables, each.	Walnut stands, each.	Cheap suits, each.	Medium suits, each.	Fine suits, each.
1870.....	\$2 50	\$5 50	\$4 50	\$8 00	\$2 50	\$50 00	\$75 00	\$150 00
1875.....	2 25	5 00	4 25	7 00	2 25	40 00	65 00	125 00
1880.....	2 35	5 25	4 35	7 50	2 20	35 00	60 00	130 00

There has been a decrease in the efficiency of labor, resulting, as alleged, from the influence of socialism.

Labor-saving machinery has been introduced. This has not decreased the number of employes greatly, but has increased wages.

The cost of labor is given as 29 per cent., 30 per cent., and 33 1/2 per cent. of total cost of entire product for the years 1870, 1875, and 1880, respectively.

An establishment in Illinois.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.							
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	
Foreman.....	Month.....	\$75 00	\$60 00	\$60 00	\$60 00				
Machine-hand	Day	1 50- 2 50	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	\$1 50- 2 25	\$1 25- 2 00	\$1 50- 2 25
Turner	do	2 25	2 25	2 00	2 00	2 00	2 00	1 75	1 75
Cabinet-maker.....	do	1 50- 2 50	1 50- 2 25	1 50- 2 25	1 75- 2 25				
Carver.....	do	2 50- 3 00	2 50	2 50	2 25	2 25	2 25	2 25	2 50
Varnisher	do	1 75- 2 25	1 75- 2 25	1 75- 2 25	1 50- 2 25				
Finisher	do	1 75- 2 25	1 75- 2 25	1 75- 2 25	1 75- 2 25				
Packer	do	2 00	2 00	1 75					
Engineer	do	1 75	1 50	1 25	1 25	1 00		1 00	1 00
Laborer.....	do	1 00- 1 50	1 00- 1 50	1 00	1 00				

REMARKS.—These works manufacture beadsteads and chamber-suits, and date from 1874.

The opportunities for over-time earnings are so few as not to be worthy of consideration.

Cabinet-makers and carvers are the only classes of employes who furnish their own tools. These would cost in the beginning from \$25 to \$50, and from \$5 to \$7 per year to keep them in repair. This deduction has not been considered in the above table

An establishment in Illinois—Continued.

Payments are weekly and in cash.

All classes work 10 hours a day, except for a few weeks in the spring and fall, when frequently but 8 or 9 hours are made.

The works are operated about 11½ months per year, it being customary to stop for a week or two after New Year to take stock. But little difficulty has been experienced from strikes. Troubles have sometimes arisen when the price of piece-work has been reduced as more machine-work has been put upon the articles made, thereby lessening the labor, but they have always been settled with not more than a day or two of stoppage.

In the line of labor-saving machinery, sandpapering machines and jointers have been introduced. These have effected an increase in product of 20 per cent. in proportion to the number of hands.

The figures given below refer to goods not varnished. When goods are finished the prices are much higher, covering the cost of varnishing, and, in washstands and dressing-cases, the marble and mirrors. The percentage of wages to cost of finished goods would

therefore be much less than that given in the table. The prices given are also subject to 10 per cent. discount.

Year.	SELLING PRICE.			PERCENTAGE OF WAGES TO COST.		
	Bedsteads, each.	Washstands, each.	Dressing-cases, each.	Bedsteads.	Washstands.	Dressing-cases.
1880..	\$4 00 to \$33 00	\$3 50 to \$7 00	\$9 00 to \$23 00	Per cent. 30 to 60	Per cent. 40 to 50	Per cent. 40 to 60

Accidents sometimes occur to those who run the machinery, there having been three such instances in the past six years, each of which resulted in a workman's losing part of a finger. There is also much dust in the departments working dry lumber by machinery, but this has been greatly reduced of late years by the use of an exhaust-fan, and the proprietor remarks that he knows of no case of illness having arisen from this cause.

Munk & Roberts, Connersville, Indiana.

Classes of employes.	Unit of payment.	DATES.												
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.
Foreman.....	Month ..	\$78 00	\$60 00	\$60 00	\$60 00	\$60 00	\$60 00	\$60 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00
Machine-hand	Day	1 75	1 50	1 50	1 50	1 50	1 50	1 75	2 25	2 25	2 25	2 25	2 25	2 25
Turner	do	1 75	1 50	1 50	1 50	1 50	1 50	1 75	2 25	2 25	2 25	2 25	2 25	2 25
Cabinet-maker.....	do	2 00	1 75	1 75	1 75	1 75	1 75	2 00	3 00	3 00	3 00	3 00	3 00	3 00
Carver.....	do	2 00	1 75	1 75	1 75	1 75	1 75	2 00	3 00	3 00	3 00	3 00	3 00	3 00
Varnisher.....	do	1 75	1 50	1 50	1 50	1 50	1 50	1 75	2 25	2 25	2 25	2 25	2 25	2 25
Packer.....	do	1 00	1 00	1 00	1 00	1 00	1 00	1 10	1 50	1 50	1 50	1 50	1 50	1 50
Engineer.....	do	2 00	2 00	1 50	1 50	1 50	1 50	1 50	2 00	2 00	2 00	2 00	2 00	2 00
Laborer.....	do	1 25	1 25	1 00	1 00	1 00	1 00	1 00	1 50	1 50	1 50	1 50	1 50	1 50

REMARKS.—Bureaus and washstands are manufactured at this establishment, which dates from 1868.

There are no extras and no deductions, except that cabinet-makers are obliged to furnish their own tools. This expense, however, is insignificant.

Employes are paid weekly and in cash.

The hours of labor for all classes are 10, except during the short days, when but 9 hours are required. The 10-hour system is regarded as most satisfactory both to employer and to employe in this business.

The works have been in constant operation, except in 1875 and 1876, when they were idle about two months each year on account of hard times and no orders. There have been no strikes or lockouts.

There has been no change in the efficiency of labor.

The trade is considered neither dangerous nor unhealthful.

The following table gives the selling prices and labor cost of the articles produced:

Year.	SELLING PRICE.		LABOR COST.	
	Bureaus, each.	Stands, each.	Bureaus, each.	Stands, each.
1870..	\$13 00	\$5 00	\$3 68	\$1 42
1875..	11 50	4 50	3 26	1 27
1880..	10 00	3 50	3 00	1 14

Dovetailing-, sanding-, and jointing-machines have been introduced, and improvements have been made in all other wood-working machines. These have reduced the cost of production at least 10 per cent. by saving labor, but have not affected wages.

An establishment in Indiana.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.												
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	
Foreman.....	Month ..	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00	
Machine-hand	Day		1 40	1 40	1 40	1 50	1 50	1 58½	1 75	1 75	1 60½	1 50	1 25	
Turner	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	
Chair-maker	do		2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 00	
Carver.....	do		2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	
Varnisher.....	do		1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	
Finisher	do		1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	
Packer.....	do		1 00	1 00	1 00	1 00	1 00	1 25	1 25	1 25	1 50	1 50	1 50	
Engineer.....	do		1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75	
Laborer.....	do		1 00	1 00	1 00	1 10½	1 25	1 25	1 25	1 25	1 25	1 25	1 00	
Painter	do		1 10½	1 10½	1 10½	2 25	2 25	2 50	2 50	2 50	2 50	2 50	2 00	
Boy.....	do		38½	38½	38½	41½	50	58½	58½	58½	58½	58½	58½	

An establishment in Indiana—Continued.

Classes of employes.	Unit of payment.	DATES.											
		1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.
Foreman	Month	\$70 00	\$70 00	\$70 00	\$65 00	\$60 00	\$55 00	\$50 00	\$50 00	\$40 00	\$50 00	\$50 00	.....
Machine-hand	Day	1 16 $\frac{1}{2}$	1 16 $\frac{1}{2}$	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 25	1 25
Turner	do	2 00	2 00	2 00	1 75	1 75	1 50	1 50	1 25	1 25	1 50	1 50	.....
Chair-maker	do	2 00	2 00	2 00	2 00	1 60 $\frac{3}{4}$	1 75	1 75				
Carver	do	2 50	2 50	2 50	2 25	2 25	2 25	2 00	2 00	2 00	2 00	2 00	.....
Varnisher	do	1 50	1 50	1 50	1 50	1 50	1 50	1 25	1 25	1 25	1 25	1 25	.....
Finisher	do	1 75	1 75	1 75	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	.....
Packer	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 00	1 00	1 00	1 00	.....
Engineer	do	1 75	1 75	1 75	1 75	1 75	1 75	1 50	1 50	1 50	1 75	1 75	.....
Laborer	do	1 00	1 00	8 $\frac{1}{2}$	7 0	7 5	7 5	7 5	7 5	7 5	1 00	1 00	.....
Painter	do	1 16 $\frac{1}{2}$	1 16 $\frac{1}{2}$	1 16 $\frac{1}{2}$	1 16 $\frac{1}{2}$	1 10 $\frac{3}{4}$	1 16 $\frac{1}{2}$	1 16 $\frac{1}{2}$	1 10 $\frac{3}{4}$	1 16 $\frac{1}{2}$	1 25	1 25	.....
Boy	do	58 $\frac{1}{2}$	58 $\frac{1}{2}$	58 $\frac{1}{2}$	33 $\frac{1}{2}$	33$\frac{1}{2}$	33$\frac{1}{2}$	33$\frac{1}{2}$	33$\frac{1}{2}$	33$\frac{1}{2}$	40	40	.....				

REMARKS.—These works, manufacturing cane- and wood-seat chairs, have been in existence since 1858. From 1860 to 1865 the works were operated an average of 9 $\frac{1}{2}$ months a year, and since 1865, 10 months. The causes of idleness are weekly and in cash. The hours of labor are 10 a day. There have been strikes and dull times.

Western Furniture Company, Indianapolis, Indiana.

Classes of employes.	Unit of payment.	DATES.													
		1881.	1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.
Machine-hand	Day	\$1 60 $\frac{1}{2}$ - 2 16 $\frac{1}{2}$	\$1 50- 2 00	\$2 00	\$2 00	\$2 00	\$2 00- 2 50								
Cabinet-maker	do	2 00- 2 50	1 50- 2 00	2 00- 2 50	2 00- 2 50	2 00- 2 50	2 50- 4 10 $\frac{3}{4}$								
Varnisher	do	1 50- 1 60 $\frac{3}{4}$	1 33 $\frac{1}{2}$ - 1 60 $\frac{3}{4}$	1 33 $\frac{1}{2}$ - 1 60 $\frac{3}{4}$	1 33 $\frac{1}{2}$ - 1 60 $\frac{3}{4}$	1 33 $\frac{1}{2}$ - 1 60 $\frac{3}{4}$	1 33 $\frac{1}{2}$ - 1 60 $\frac{3}{4}$	1 60 $\frac{3}{4}$ - 2 00	1 60 $\frac{3}{4}$ - 2 00	1 60 $\frac{3}{4}$ - 2 00	2 00- 2 50				
Laborer	do	1 00- 1 25	1 00- 1 25	1 00- 1 25	1 00- 1 25	1 00- 1 25	1 00- 1 25	1 25	1 25	1 25	1 50- 1 75				

REMARKS.—The firm making the above return is engaged in the manufacture of chamber furniture. The works were established in 1865. Cabinet-makers furnish their own tools, at a cost of from one-half to three-quarters of 1 per cent. of their wages. This deduction has not been considered in the above table. Payments are weekly and in cash. All classes work 10 hours a day. The works are run 12 months a year, though in winter but 5 $\frac{1}{2}$ days per week are made. There has never been a strike or a lockout at this factory. On one occasion the employes demanded an advance in wages, which was granted. The firm states that it is unable to give the comparative cost of any article for the several years, as the styles are continually changing, and an article is seldom made in the same way for two years in succession. There has been no change in the efficiency of labor. The trade, it is stated, is not unhealthful.

Lawrenceburg Furniture Manufacturing Company, Lawrenceburg, Indiana.

Classes of employes.	Unit of payment.	DATES.							
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.
Foreman	Month	\$95 00	\$85 00	\$85 00	\$85 00	\$100 00	\$100 00	\$100 00	\$100 00
Machine-hand	Day	2 00	1 75	1 75	1 75	2 25	2 25	2 25	2 25
Turner	do	2 75	2 50	2 50	2 50	3 00	3 00	3 00	3 00
Cabinet-maker	do	2 50	2 00	2 00	2 00	2 80	2 80	2 80	2 80
Carver	do	2 00	1 75	1 75	1 75	2 50	2 50	2 50	2 50
Varnisher	do	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75
Finisher	do	1 85	1 75	1 75	1 75	2 50	2 50	2 50	2 50
Packer	do	1 50	1 50	1 50	1 50	1 60	1 60	1 60	1 60
Engineer	do	2 00	1 75	1 75	1 75	2 00	2 00	2 00	2 00
Laborer	do	1 33	1 25	1 25	1 25	1 50	1 50	1 50	1 50

REMARKS.—This factory, making chamber-furniture, wardrobes, and sideboards, has been in operation since 1868. There has been no opportunity for extra earnings, except to ship-pers who worked over-time during October, November, and December in 1880. This has not been considered in the above table. Carvers, cabinet-makers, and turners furnish their own hand-tools. This expense would decrease the wages given about 2 per cent. for cabinet-makers and turners. Payments are all in cash and weekly. All classes average 10 hours a day the year round. From 1868 to 1870 the works were operated 12 months a year; from 1871 to 1875, 11 months; and from 1876 to 1880, 10 $\frac{1}{2}$ months. The causes of the idleness have been irregular demand and over-production. There have been no strikes. No change has taken place in the efficiency of labor. The trade is regarded as healthful.

STATISTICS OF WAGES—FURNITURE.

Dubuque Cabinet Makers' Association, Dubuque, Iowa.

Classes of employes.	Unit of payment.	DATES.						
		1880.	1870.	1878.	1877.	1876.	1875.	1874.
Foreman.....	Month....	\$60 00	\$60 00	\$60 00	\$60 00	\$60 00	\$60 00	\$60 00
Machine-hand.....	Day.....	1 58½	1 58½	1 75	1 75	2 00	2 00	2 00
Turner.....	do.....	2 04	2 04	2 25	2 25	2 50	2 50	2 00½
Cabinet-maker.....	do.....	1 58½	1 58½	1 75	1 75	2 00	2 00	2 00
Chair-maker.....	do.....	2 04	2 04	2 25	2 25	2 50	2 50	2 00½
Carver.....	do.....	1 87½	1 87½	2 08½	2 08½	2 33½	2 50	2 50
Finisher.....	do.....	1 87½	1 87½	2 08½	2 08½	2 33½	2 33½	2 50
Upholsterer.....	do.....	1 50	1 50	1 50	1 50	1 75	1 75	1 75
Engineer.....	do.....	2 00	2 00	2 25	2 25	2 50	2 50	2 70

REMARKS.—This factory produces a great variety of furniture, including parlor, dining-room, and chamber suits. The works were established in 1867, and employed an average of 80 hands in the years for which wages are given.

Bench-workers furnish their own tools, which, however, last almost a lifetime.

Payments are weekly and nearly all in cash.

The works run 10 hours a day, except when there are less than 10 hours of daylight; employes then work from daylight to dark. The 10-hour system is spoken of with favor, the remark being made that too much idle time has a bad effect on employes.

Employment has been constant, except in 1870, when there was a short stoppage on account of fire. No strikes have taken place.

The following are the selling prices of some of the articles manufactured:

Year.	Chairs, per dozen.	Bedsteads, each.	Lounges, each.	Ex-tension-tables, each.	Rockers, each.	Chamber suits, wood top, each.	Parlor suits, medium, each.
1875.....	\$6 00	\$2 75	\$2 90	\$8 00	\$2 20	\$50 00	\$60 00
1880.....	5 25	2 00	2 80	8 00	2 20	40 00	52 00

There has been no material change in the efficiency of labor.

Improved machinery has been introduced. This, within the past five years, has diminished the demand for labor about one-third.

The trade is regarded generally as healthful, though somewhat dangerous for those operating the machinery, unless the strictest care is exercised. But very few accidents, since the establishment of the factory, however, have occurred.

Abernathy, Doughty & Hall, Leavenworth, Kansas.

Classes of employes.	Unit of payment.	DATES.										
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Foreman.....	Month....	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Machine-hand.....	Day.....	2 50	2 50	2 25	2 25	2 25	2 25	2 25	2 50	2 50	2 50	2 50
Turner.....	do.....	2 50	2 50	2 25	2 25	2 25	2 25	2 25	2 50	2 50	2 50	2 50
Cabinet-maker.....	do.....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Carver.....	do.....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Varnisher.....	do.....	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Finisher.....	do.....	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Upholsterer.....	do.....	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Packer.....	do.....	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Engineer.....	do.....	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Laborer.....	do.....	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25

REMARKS.—This factory, which produces all kinds of furniture except chairs, was established in 1865.

There have been a few opportunities for over-time, which was paid for at the regular rates and has not been considered in the table.

Skilled workmen furnish their own tools.

Payment is weekly and in cash.

All classes work 10 hours a day.

From 1870 to 1875 the works were operated an average of 10 months a year; from 1876 to 1880, 11 months. No strikes have taken place.

There has been a decrease in the efficiency of labor, which is attributed to a tendency to increase the amount of product at the expense of good workmanship.

Nearly all machinery has been greatly improved, and as a result the cost of production has been greatly reduced.

STATISTICS OF WAGES—FURNITURE.

The J. W. Davis Furniture Manufacturing Company, Louisville, Kentucky.

Classes of employes.	Unit of payment.	DATES.									
		1850.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Foreman	Month..	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Machine-hand	Day ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Turner	do ...	1 85	1 85	1 85	1 85	1 85	1 85	1 85	1 85	1 85	1 85
Cabinet-maker	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Carver	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Varnisher	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Finisher	do ...	1 90	1 90	1 90	1 90	1 90	1 90	1 90	1 90	1 90	1 90
Packer	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Engineer	do ...	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Laborer	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75

Classes of employes.	Unit of payment.	DATES.									
		1870.	1800.	1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.
Foreman	Month..	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00	\$150 00
Machine-hand	Day ...	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80
Turner	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Cabinet-maker	do ...	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80
Carver	do ...	1 90	1 90	1 90	1 90	1 90	1 90	1 90	1 90	1 90	1 90
Varnisher	do ...	1 55	1 55	1 55	1 55	1 55	1 55	1 55	1 55	1 55	1 55
Finisher	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Packer	do ...	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80	1 80
Engineer	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Laborer	do ...	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50

REMARKS.—This company manufactures bedroom suits, book-cases, and sideboards. The factory has been in operation since 1859.

In winter about 3 hours over-time each night is made, the extra earnings for which have been included in the table.

Employes furnish their own tools.

Payments have always been monthly, and since 1860 wholly in cash, the use of store-orders having been abandoned because the cash method was more convenient and satisfactory.

All classes work 10 hours a day.

The works are in constant operation. There has been but one strike in its history, and that lasted 10 days.

Some labor-saving machinery has been introduced. This has not affected wages, nor has it decreased the number of hands, as the increase of business required the same number of hands in connection with the machinery.

There has been no change in the efficiency of labor.

The following statement of selling prices is given :

Year.	Walnut chamber-suits, each.	Walnut bedsteads, each.	Walnut bureaus, each.	Walnut washstands, each.	Wardrobes, each.	Book-cases, each.
1869....	\$90 00 to 375 00	\$5 00 to 50 00	\$20 00 to 200 00	\$30 00 to 50 00	\$20 00 to 100 00	\$25 00 to 80 00
1870....	80 00 to 350 00	5 00 to 45 00	20 00 to 150 00	10 00 to 50 00	20 00 to 100 00	20 00 to 75 00
1875....	50 00 to 250 00	3 00 to 40 00	20 00 to 150 00	10 00 to 50 00	18 00 to 75 00	18 00 to 50 00
1880....	36 00 to 185 00	2 25 to 24 00	3 00 to 18 50	1 85 to 12 00	18 00 to 100 00	15 00 to 30 00

The trade is healthful.

Hartig, Koop & Co., Louisville, Kentucky.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.														
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.
Machine-hand	Day ...	\$2 00	\$2 00	\$1 00 $\frac{1}{2}$	$1 00$\frac{1}{2}$	$1 00$\frac{1}{2}$	$1 00$\frac{1}{2}$	$1 00$\frac{1}{2}$	$1 00$\frac{1}{2}$	$1 00$\frac{1}{2}$	\$2 00	\$2 00	\$2 00	\$2 00	\$2 00	\$2 00
Turner	do ...	2 50	2 50	2 00	2 00	2 00	2 00	2 00	2 00	2 50	3 00	3 00	3 00	3 00	3 00	3 00
Cabinet-maker	do ...	2 50	2 50	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Chair-maker	do ...	2 00	2 00	1 83 $\frac{1}{3}$	1 83$\frac{1}{3}$	1 83$\frac{1}{3}$	1 83$\frac{1}{3}$	1 83$\frac{1}{3}$	1 83$\frac{1}{3}$	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Carver	do ...	2 50	2 50	2 25	2 25	2 25	2 25	3 00	3 00	3 00	3 50	3 50	3 50	3 50	3 50	3 50
Varnisher	do ...	1 00 $\frac{1}{2}$	1 00 $\frac{1}{2}$	1 50	1 50	1 50	1 50	1 50	1 50	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$
Finisher	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50
Packer	do ...	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Engineer	do ...	2 25	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Laborer	do ...	1 50	1 50	1 25	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50

REMARKS.—The products of this factory are bedroom and dining-room furniture and chairs. The factory was established in 1866.

Cabinet- and chair-makers furnish their own tools. This deduction has not been considered in making up the above table.

Payments are weekly and all in cash.

The hours of labor are 10 in summer, and in winter as long as daylight will permit, averaging about 9 hours.

It is stated that full time has always been made, except during a

Harig, Koop & Co., Louisville, Kentucky—Continued.

few weeks after the panic of 1873, when only three-fourths time was made. The belief is expressed that short hours and irregular work are injurious to the character and habits of the employes.

The works are operated 12 months a year. In 1879 a strike for an increase of wages occurred, which lasted about two weeks. As a result an advance of about 10 per cent. was made on all classes of labor and piece-work. The loss in wages averaged \$20 per man.

Friozing machines, and dovetailing and mortising machines have been introduced. These have increased production probably one-fifth, but have not lessened the cost of production to any considerable degree, or diminished the number of employes or their wages. The trade is neither dangerous nor unhealthful.

The following table refers to bedroom suits:

Year.	Selling price.	Labor cost.	Percentage of wages to cost.
1866.....	\$150 00	\$40 00	} Per cent. 33½
1870.....	125 00	33 00	
1875.....	100 00	27 00	
1880.....	75 00	20 00	

There has been an increase in the efficiency of labor arising from industry and experience.

Long & Brother Chair Company, Louisville, Kentucky.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Foreman.....	Month..	\$75 00	\$75 00	\$75 00	\$75 00	\$75 00	\$75 00	\$75 00	\$80 00	\$80 00	\$80 00	\$80 00
Machine-hand.....	Day.....		1 85	1 85	1 85	1 75	1 75	1 75	2 00	2 00	2 00	2 00
Turner.....	do.....		2 50	2 50	2 50	2 25	2 25	2 25	2 50	2 50	2 50	2 50
Cabinet-maker.....	do.....		2 25	2 25	2 25	2 00	2 00	2 00	2 25	2 25	2 25	2 25
Chair-maker.....	do.....		2 00	2 00	2 00	1 75	1 75	2 00	2 25	2 25	2 25	2 25
Carver.....	do.....		3 00	3 00	2 75	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Varnisher.....	do.....		2 00	2 00	1 75	1 75	2 00	2 00	2 25	2 25	2 25	2 25
Finisher.....	do.....		3 00	3 00	2 75	2 50	2 25	2 25	2 50	2 50	2 50	2 50
Packer.....	do.....		1 00	1 00	1 00	1 50	1 50	1 00	1 00	1 00	1 00	1 00
Engineer.....	do.....		2 50	2 50	2 25	2 25	2 25	2 50	2 50	2 50	2 50	2 50
Laborer.....	do.....		1 25	1 25	1 20	1 20	1 25	1 33	1 33	1 33	1 33	1 33

Classes of employes.	Unit of payment.	DATES.										
		1860.	1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.
Foreman.....	Month..	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00
Machine-hand.....	Day.....	2 00	2 00	2 00	2 00	2 00	1 75	1 75	1 75	1 75	1 75	1 75
Turner.....	do.....	2 50	2 50	2 50	2 25	2 25	2 25	2 00	2 00	2 00	2 00	2 00
Cabinet-maker.....	do.....	2 25	2 25	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Chair-maker.....	do.....	2 25	2 25	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Carver.....	do.....	2 75	2 75	2 75	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Varnisher.....	do.....	2 25	2 25	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Finisher.....	do.....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Packer.....	do.....	1 00	1 00	1 00	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Engineer.....	do.....	2 50	2 50	2 50	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Laborer.....	do.....	1 33	1 33	1 33	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25

REMARKS.—This company manufactures cane, wood, rattan, and split-seat chairs.

Chair-makers furnish their own tools and work-benches. The work-benches cost from \$10 to \$20 each. The improved machinery now used has limited the number of tools required to such an extent that their cost per annum is very small.

Payments are weekly and wholly in cash.

The hours of labor are 10. The proprietor gives it as his belief that 10 hours are the proper number for a working-day; that less might be better in some respects, but would cause trouble between employer and employe on account of the decrease in production

which would follow. He, however, advocates stopping at noon on Saturdays with a full day's pay. This he thinks would greatly benefit the employes.

The works have been operated constantly, except in 1873, 1874, and 1875, when they ran but about 10 months a year. The cause of idleness was over-production, consequent upon the increase in manufacturing enterprises following the close of the war. No labor troubles worthy of notice have arisen.

It is stated that 121 kinds of chairs are manufactured in this factory, ranging from \$4 25 to \$60 per dozen. Below are selling prices, labor cost, and percentage of wages to cost of four styles of product:

Year.	SELLING PRICE.				LABOR COST.				Percentage of wages to cost of chairs.
	Wood-seat, per dozen.	Double cane-seat, per dozen.	Splint-bottom, per dozen.	Walnut cane-seat, per dozen.	Wood-seat, per dozen.	Double cane-seat, per dozen.	Splint-bottom, per dozen.	Walnut cane-seat, per dozen.	
1860.....	None made.	\$12 00	\$7 00	None made.	None made.	\$2 25	\$1 31½	None made.	25
1865.....	do.....	11 00	6 75	do.....	do.....	2 31	1 42	do.....	30
1870.....	do.....	10 50	6 50	do.....	do.....			do.....	
1875.....	\$7 00	10 00	6 25	\$14 00	\$1 72	2 46	1 53½	\$3 44½	80
1880.....	6 50	6 50	5 75	13 50	1 84	2 09	1 62½	3 82	33½

Long & Brother Chair Company, Louisville, Kentucky—Continued.

There has been an increase in the efficiency of labor in all departments, which is the result of employing the best class of labor and retaining as long as possible the old and experienced hands.

All kinds of improved machinery known to the business have been introduced, including turning gauge-lathes and boring-machines. The effect of these has been greatly to increase production, and also

to increase the actual number of employes; but the number of hands in proportion to the amount of work turned out has been decreased.

The business is regarded as healthful; lung disease, however, seems to be common. With intelligent and sober employes and the exercise of care there is but little risk of accident.

An establishment in Kentucky.

Classes of employes.	Unit of payment.	DATES.											
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.
Foreman	Month	\$85 00	\$85 00	\$85 00	\$85 00	\$85 00	\$85 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Machine-hand	Day	2 00	2 00	2 00	2 00	2 25	2 50	2 50	2 75	3 00	3 00	2 75	2 75
Turner	do	2 00	2 00	1 75	1 75	2 25	2 25	2 50	2 75	2 75	3 00	3 00	3 00
Cabinet-maker	do	2 00	2 00	1 75	1 75	2 00	2 50	2 50	2 50	2 75	2 75	2 75	2 75
Carver	do	2 75	2 50	2 25	2 25	2 50	2 75	2 75	3 00	3 00	3 00	2 75	3 00
Varnisher	do	2 00	1 75	1 50	1 50	1 75	2 00	2 50	2 50	2 50	2 50	2 50	2 50
Upholsterer	do	2 75	2 50	2 50	2 25	2 25	2 75	2 75	3 00	3 00	3 00	3 00	3 00
Packer	do	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 75	1 75	2 00	2 00	2 00
Engineer	do	2 50	2 50	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 00
Laborer	do	1 25	1 25	1 00	1 00	1 00	1 25	1 25	1 25	1 50	1 50	1 50	1 50

Classes of employes.	Unit of payment.	DATES.											
		1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.
Foreman	Month	\$100 00	\$100 00	\$100 00	\$85 00	\$85 00	\$85 00	\$85 00	\$75 00	\$75 00	\$75 00	\$75 00	\$75 00
Machine-hand	Day	2 75	2 75	2 50	2 50	2 00	2 00	1 75	1 50	1 25	1 75	1 50	1 50
Turner	do	3 00	3 00	2 75	2 75	2 50	2 50	1 50	1 50	1 50	1 50	1 50	1 50
Cabinet-maker	do	2 75	2 75	2 75	2 75	2 50	2 50	1 75	1 50	1 40	1 75	1 00	1 00
Carver	do	3 00	3 00	3 00	3 00	2 00	2 00	2 00	1 50	1 50	2 50	2 00	2 00
Varnisher	do	2 50	2 50	2 00	2 00	1 75	1 75	1 50	1 25	1 25	1 50	1 50	1 50
Upholsterer	do	3 00	3 00	2 75	2 50	2 50	2 50	1 75	1 50	1 25	1 50	1 50	1 50
Packer	do	2 00	2 00	2 00	1 50	1 50	1 50	1 25	1 25	1 25	1 50	1 50	1 50
Engineer	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Laborer	do	1 50	1 50	1 50	1 50	1 25	1 25	1 25	1 00	1 00	1 25	1 10	1 10

REMARKS.—But few opportunities for over-time work are afforded, and earnings on that account have not been included in the table.

Cabinet-makers, turners, and carvers furnish their own tools, at an expense amounting to from \$20 to \$25.

Payments are weekly and in cash.

The hours of labor are nominally 10 a day for all classes. For

about two months in the year, however, somewhat less than 10 hours are made.

From 1858 to 1860 the works averaged 9 months, and since 1860 the average has been 11½ months per year.

New and improved machinery has been introduced almost every year. This has effected an increase in production and an increase rather than a decrease in rates of wages.

An establishment in Massachusetts.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.														
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.
Foreman	Month	\$91 00	\$91 00	\$91 00	\$141 07	\$141 07	\$141 07	\$141 07	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Machine-hand	Day	2 00	1 50	1 50												
		3 00	3 00	3 00												
Packer	do	1 00	1 00	1 00												
		1 50	1 50	1 50												
Engineer	do	2 00	2 00	2 00												
Laborer	do	1 00	1 00	1 00												
Convicts	do			75	75	75	92	92	1 05	1 05	75	75	75	75	75	75

An establishment in Massachusetts—Continued.

REMARKS.—These works manufacture brass and iron bedsteads, spring beds, cots, and coffee machinery.

The wages in the above table are net, there being neither extras nor deductions.

Payments have always been fortnightly and in cash.

The hours of labor are 10 five days in the week, and 9 on Saturday.

The works are run 12 months a year, and there have been no strikes.

There has been no change in the efficiency of labor.

Some improved machinery has been introduced, and also improvements made in the old machinery within the last ten years. These have effected a saving in labor of about 3 men in 40.

The trade is not considered dangerous or unhealthful, or at any rate not more so than the ordinary furniture trade.

It is stated that the fall in prices and cost of labor of Tucker

springs, shown in the table given below, is owing to competition, which caused the production of a cheaper article.

Year.	SELLING PRICE.		LABOR COST.		PERCENTAGE OF WAGES TO COST.	
	Tucker springs, each.	Wire mattresses, each.	Tucker springs, each.	Wire mattresses, each.	Tucker springs.	Wire mattresses.
1860 ..	\$4 50	.....	\$1 25	.....	Per cent. 33½	.....
1865 ..	4 50	.....	1 20	.....	30	.....
1870 ..	3 50	.....	1 00	.....	40	.....
1875 ..	3 00	\$0 00	1 00	\$1 50	40	40
1880 ..	2 25	0 00	85	92	50	35

An establishment in Michigan.

Classes of employes.	Unit of payment.	DATES.																
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.	
Foreman	Month	\$80 00	\$80 00	\$80 00	\$75 00	\$80 00	\$80 00	\$80 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$110 00	\$110 00	\$100 00	\$100 00	\$100 00
Machine-hand	Day	3 00	2 75	2 50	2 25	2 50	2 75	2 75	3 00	3 00	3 00	3 00	3 00	3 00	2 75	2 75	2 50	2 50
Turner	do	3 25	3 00	2 75	2 50	2 75	3 00	3 00	3 25	3 25	3 25	3 25	3 25	3 25	3 00	3 00	3 00	3 00
Cabinet-maker	do	3 25	3 00	2 75	2 50	2 75	2 75	2 75	3 25	3 25	3 25	3 25	3 25	3 25	3 00	3 00	3 00	3 00
Carver	do	4 00	3 50	3 00	2 75	2 75	3 00	3 00	3 50	3 50	3 50	4 00	4 00	4 00	4 00	4 00	4 00	4 00
Varnisher	do	2 75	2 50	2 50	2 25	2 50	2 50	2 75	2 75	3 00	3 00	.....	.....	.....	.....	.....	.....	.....
Finisher	do	2 25	2 00	2 00	1 75	2 00	2 00	2 25	2 25	2 50	2 50	.....	.....	.....	.....	.....	.....	.....
Laborer	do	1 40	1 30	1 20	1 20	1 30	1 40	1 50	1 00	1 00	1 00	1 00	1 00	1 60	1 75	1 75	2 00	2 00

REMARKS.—The company making this return manufactures chamber furniture in white ash and walnut.

There are no regular opportunities for extra earnings, and no allowances or deductions.

The works are operated during the entire year, and the company report that they have never experienced a strike or had any difficulty whatever with employes.

It is stated that there is nothing in the business which is detrimental to the health of the employes, and the trade is not dangerous.

There has been no change in the efficiency of labor, except that on an advancing labor market help seems less efficient.

Improved machinery has been introduced, the effect of which has been to double the amount of production in proportion to the number of employes.

Regarding selling price and labor cost, the statement is made that as goods vary so much from year to year no satisfactory comparative table can be given. A detailed statement of percentage of wages to cost of entire product for each year since 1874 is given below:

Year.	Per cent.	Year.	Per cent.
1874.....	38	1876.....	35
1875.....	38½	1879.....	38
1878.....	34	1880.....	40
1877.....	35		

Payments have always been weekly and in cash. All classes work 10 hours a day uniformly.

Saint Louis Furniture Workers' Association, Saint Louis, Missouri.

Classes of employes.	Unit of payment.	DATES.			Classes of employes.	Unit of payment.	DATES.		
		1880.	1879.	1878.			1880.	1879.	1878.
Foreman	Month	\$70 00	\$80 00	\$80 00	Varnisher	Day	\$1 80	\$1 80	\$1 80
Machine-hand	Day	1 75	1 75	1 75	Finisher	do	2 00	2 00	2 00
Turner	do	2 00	2 00	2 00	Packer	do	1 75	1 75	.....
Cabinet-maker	do	1 75	1 75	1 75	Engineer	do	2 50	2 50	2 50
Carver	do	2 20	2 20	2 20	Laborer	do	1 25	1 25	1 25

REMARKS.—This establishment manufactures a great variety of goods, including chamber-furniture, sideboards, tables, lounges, kitchen-safes, etc. It is a co-operative establishment.

There are no considerations which would affect the rates in the above table except the fact that cabinet-makers furnish their own tools. The expense of keeping these in order would, it is stated, amount to about \$10 per annum.

Cash is paid on account every two weeks. All classes work 10

hours a day, except in the months of November, December, and January, when they work but 9 hours. Regarding hours of labor the opinion is expressed that over-time does not pay. It is stated that according to a provision in the by-laws of the association the works stop ten minutes twice a day, at 9.30 and 3.30, for lunch.

The works are operated about 11½ months a year, the idleness being for holidays, stock-taking, and boiler-inspection.

There has been no change in the efficiency of labor.

STATISTICS OF WAGES—FURNITURE.

An establishment in New Hampshire.

Classes of employes.	Unit of payment.	DATES.													
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.
Foreman	Month..	\$46 80	\$41 60	\$41 00	\$41 00	\$46 80	\$46 80	\$52 00	\$52 00	\$52 00	\$52 00	\$45 50	\$45 50	\$45 50	\$45 50
Machine-hand.....	Day	1 25	1 25	1 85	1 85	1 85	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Turner.....	do	1 75	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Cabinet-maker.....	do	1 35	1 85	1 50	1 50	1 50	1 65	1 65	1 65	1 65	1 65	1 65	1 65	1 65	1 60

Classes of employes.	Unit of payment.	DATES.													
		1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.
Foreman	Month..	\$45 50	\$45 50	\$45 50	\$45 50	\$36 40	\$36 40	\$36 40	\$36 40	\$39 00	\$39 00	\$39 00	\$39 00	\$39 00	\$39 00
Machine-hand.....	Day	1 50	1 50	1 40	1 25	1 25	1 10	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Turner.....	do	1 75	1 75	1 50	1 50	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Cabinet-maker.....	do	1 00	1 00	1 50	1 35	1 35	1 25	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15

REMARKS.—At this factory, established in 1853, all articles of chamber-furniture, except chairs, are manufactured.

Employes working by the piece have constant opportunities for extra earnings before and after hours on long days. These would increase their wages from 10 to 20 per cent. for the days worked.

Piece-hands furnish their own tools. The expense incurred, however, would not exceed one-fourth of 1 per cent. of their wages.

Monthly payments in cash have always been the rule.

The hours of labor were 11 a day from 1853 to 1870; at the latter date they were reduced to 10, since which time no change has been made. Regarding the reduction in hours, the belief is expressed that the men do more work per hour when working 10 hours a day than they formerly did when working 11 hours, and accomplish almost as much in the shorter as they did in the longer days. The change has also been a benefit to the operatives, affording them opportunity for mental culture.

The following table gives the number of months per year the works have been in operation:

Years.	Months.
1853 to 1855	9
1856 to 1860	9
1861 to 1865	11
1866 to 1870	10
1871 to 1875	10
1876 to 1880	10½
Year ending June 1, 1880	10½

The causes of idleness have been dullness of trade during De-

ember and January and financial depression. No strikes or lock-outs have occurred.

Below is given a very complete statement of selling prices and labor cost of the articles produced:

Year.	SELLING PRICE.				LABOR COST.			
	Bed-stands, each.	Bureaus, each.	Mirror-frames, each.	Tables, each.	Bed-stands, each.	Bureaus, each.	Mirror-frames, each.	Tables, each.
1855.....	\$1 50	\$2 75	\$1 50	\$0 50	\$2 00	\$1 00	\$0 50	\$0 25
1860.....	4 25	2 60	1 50	50	2 00	1 00	50	25
1865.....	4 75	3 00	1 75	60	2 15	1 10	60	30
1870.....	4 75	3 00	1 75	60	2 15	1 10	60	30
1875.....	4 00	2 25	1 40	50	1 75	90	45	24
1880.....	3 50	2 00	1 25	45	1 25	75	45	20

The percentage of wages to cost has varied from 55 per cent. in 1853 to 40 per cent. in 1880.

There has been an increase in the efficiency of labor, partly as the result of more liberal education.

Labor-saving machinery has been introduced. This has increased production in proportion to employes 25 per cent., but has not affected rates of wages, as most of the machinery requires skilled workmen to operate it.

The trade is no more dangerous than employment in any other wood-working establishment, and is as healthful as any indoor occupation, except for the injurious effect of dust. Exhaust-fans, however, which carry away the shavings and dust and produce a better circulation of air, have lately been introduced, and have proven of great service.

Tiffany Furniture Company, Buffalo, New York.

Classes of employes.	Unit of payment.	DATES.					Classes of employes.	Unit of payment.	DATES.				
		1880.	1879.	1878.	1877.	1876.			1880.	1879.	1878.	1877.	1876.
Foreman	Month..	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	Packer	Day	\$1 50	\$1 50	\$1 50	\$1 50	\$1 50
Turner.....	Day	1 42½	1 42½	1 42½	1 42½	1 42½	Engineer.....	do	2 00	2 00	2 00	2 00	2 00
Cabinet-maker.....	do	1 75	1 75	1 75	1 75	1 75	Laborer.....	do	1 25	1 25	1 25	1 25	1 25

REMARKS.—The report of this establishment covers the years from 1876 to 1879 only, work having been discontinued at the latter date.

The opportunities for extra earnings were very few, and would increase the wages given in the table but slightly.

Payments were in cash and semi-monthly.

The hours of labor were 10 a day for all classes.

Employment was generally regular except for an occasional stoppage for repairs, and during two or three weeks at the close of December and opening of January each year, when the works shut down to take stock. There were no strikes or lockouts.

The trade was considered neither dangerous nor unhealthful.

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Brown & Bliss, New York, New York.

Classes of employes.	Unit of payment.	DATES.								
		1880.	1870.	1878.	1877.	1870.	1875.	1874.	1873.	1872.
Foreman.....	Month.....	\$125 00	\$120 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$125 00
Machine-hand.....	Day.....	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 25
Turner.....	do.....	2 50	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 50
Cabinet-maker.....	do.....	2 50	1 75	1 75	1 75	2 00	2 00	2 00	2 00	2 50
Chair-maker.....	do.....	2 50	1 75	1 75	1 75	2 00	2 00	2 00	2 00	2 50
Carver.....	do.....	2 50	2 00	2 25	2 25	2 25	2 50	2 50	2 50	3 00
Varnisher.....	do.....	2 00	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00
Finisher.....	do.....	2 50	2 00	2 00	2 00	2 00	2 00	2 25	2 25	2 50
Upholsterer.....	do.....	3 00	2 50	2 50	2 50	2 75	2 75	2 75	3 00	3 00
Packer.....	do.....	2 25	1 75	1 75	1 75	1 75	1 75	1 75	2 00	2 00
Engineer.....	do.....	3 00	2 75	2 75	2 75	2 75	2 75	2 75	3 00	3 00
Laborer.....	do.....	2 00	1 75	1 75	1 50	1 50	1 50	1 50	1 75	2 00

Classes of employes.	Unit of payment.	DATES.								
		1871.	1870.	1869.	1868.	1867.	1866.	1865.	1864.	1863.
Foreman.....	Month.....	\$125 00	\$125 00	\$125 00	\$125 00	\$125 00	\$100 00	\$100 00	\$100 00	.....
Machine-hand.....	Day.....	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	.....
Turner.....	do.....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	.....
Cabinet-maker.....	do.....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	.....
Chair-maker.....	do.....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	.....
Carver.....	do.....	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	.....
Varnisher.....	do.....	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	.....
Finisher.....	do.....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	.....
Upholsterer.....	do.....	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	.....
Packer.....	do.....	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	.....
Engineer.....	do.....	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	.....
Laborer.....	do.....	2 00	2 00	1 75	1 75	1 75	1 75	1 75	1 75	.....

REMARKS.—The works from which this return was received were established in 1864 and manufacture dining-room furniture.

There are frequently opportunities for over-time work during the busy seasons, fall and spring. These would increase regular wages about 10 per cent., and have not been considered in the table.

The only employes required to pay out any part of their wages for implements, etc., are cabinet-makers and carvers, who furnish their own tools, cabinet-makers also furnishing their own benches.

Payments are weekly. Prior to 1875 employes were paid every Monday night, but upon their statement that Saturday evening was a better time to attend to marketing, the pay-day was changed to Saturday.

All classes work 10 hours. Regarding hours of labor it is stated by the proprietor that he believes 10 hours per day best for employer and employe. The decrease to 8 hours reduces production 25 per cent. and adds 25 per cent. cost to the consumer. It is also his opinion that the workmen would not spend their leisure to their own profit. It has been observed that the advocates of the 8-hour system are inferior workmen, and that the desire is to have 10 hours' pay for 8 hours' work; where 8 hours' pay is given for 8 hours' work the men are anxious to work 10 hours. It is further stated that a good industrious workman not only does not object to 10 hours, but is glad to have at times a chance for working over-time.

The works are run all the year round, the surplus piled up in dull seasons being sold at other seasons. The opinion is expressed that irregularity of operations is bad policy for the employer, as well as being greatly to the disadvantage of the employe. Short time or stoppages increase the cost in proportion to output, and cause the men to lose interest in the employers and their work.

In 1872 a general strike in the furniture trade took place in New York, the occasion of which was the 8-hour law. The strike lasted three weeks, and resulted in failure, the men returning to work 10 hours. About 5,000 workmen were involved, and the loss in wages, it is asserted, amounted to from \$200,000 to \$225,000.

There has been a decrease in the efficiency of labor, which has arisen from the increasing scarcity of regularly-educated mechanics.

Various kinds of new machinery have been introduced, such as improved scraping, planing, molding, sandpapering, sawing, and boring machines, and turning-lathes. The effect of these has been largely to increase the output and lessen cost, but not to affect rates of wages. The remark is also made that labor-saving machinery in the long run does not reduce the number of operatives employed, as when the cost of product is lessened the demand for the article produced is increased, and the decrease in the amount of labor required on one article balanced by the increase in quantity of product.

The following table gives figures for the selling prices, labor cost, etc., of three styles of extension tables and two styles of sideboards:

Selling price.

Year.	Common leg extension-tables, per foot.	Common pillar extension-tables, each.	Best pillar extension-tables, each.	Common sideboards, each.	Best sideboards, each.
1865.....	\$1 50	\$30 00	\$60 00	\$40 00	\$100 00
1870.....	1 50	25 00	55 00	35 00	80 00
1875.....	1 25	16 00	35 00	25 00	75 00
1880.....	1 10	20 00	40 00	30 00	60 00

Labor cost.

Year.	Common leg extension-tables, per foot.	Common pillar extension-tables, each.	Best pillar extension-tables, each.	Common sideboards, each.	Best sideboards, each.
1865.....	\$0 35	\$5 00	\$25 00	\$17 00	\$65 00
1870.....	30	3 95	21 00	15 00	60 00
1875.....	25	3 75	17 50	12 00	55 00
1880.....	31	4 25	25 00	16 00	65 00

The trade is healthful, and with care there is but little danger of accident.

STATISTICS OF WAGES—FURNITURE.

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George W. Archer & Co., Rochester, New York—Continued.

REMARKS.—The products of this factory are adjustable barber, surgeon, and dental chairs, as well as office furniture and piano- and organ-stools.

There were opportunities for over-time work during 3 months of each of the years 1868, 1872. These would increase wages about 10 per cent. for the whole year, and have not been considered in the table.

Cabinet-makers, chair-makers, etc., furnish their own tools, but as these last a lifetime it is thought that no deduction should be made for them in considering the rates paid.

Payments are weekly and all in cash.

The works have been in operation 12 months each year, though during about 4 months of the years 1873 and 1874 but three-fourths time was made. The firm state that they have never had a strike or lockout.

No machinery was used prior to 1863; since that date machinery of all descriptions has been introduced. The effect of this has been a reduction in cost of labor, and hence in cost of goods, a consequent increase in demand for product, and a tenfold increase in the number of employés.

Below are selling prices and labor cost for two of the articles of product:

Year.	SELLING PRICE.		LABOR COST.	
	Dentists' chair.	Barbers' chair.	Dentists' chair.	Barbers' chair.
1860.....	\$64 00	\$50 00	\$37 00	\$29 50
1865....	64 00	50 00	37 00	29 50
1870.....	64 00	50 00	37 00	29 50
1875.....	64 00	50 00	37 00	29 50
1880.....	64 00	50 00	37 00	29 50

The above are retail prices. The discount to the trade is 33 $\frac{1}{3}$ per cent.

There has been no change in the efficiency of labor.

The trade is healthful, and accidents are rare and of minor importance.

An establishment in the state of New York.

Classes of employés.	Unit of payment.	DATES.											
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	
Foreman.....	Month..	\$110 00	\$110 00	\$100 00	\$85 00	\$85 00	\$85 00	\$100 00	\$125 00	\$125 00	\$125 00	\$125 00	
Machine-hand.....	Day ...	2 50	2 50	2 00	1 68	1 60	1 75	2 00	2 50	2 50	2 50	2 50	
Turner.....	do ...	2 25	2 00	1 75	1 50	1 50	1 50	1 75	2 25	2 25	2 25	2 25	
Cabinet-maker.....	do ...	2 50	2 33	1 83	1 50	1 50	1 75	2 00	2 50	2 50	2 50	2 50	
Chair-maker.....	do ...	2 25	2 00	1 75	1 33	1 33	1 50	1 75	2 50	2 50	2 50	2 50	
Carver.....	do ...	2 25	2 00	1 50	1 33	1 33	1 50	1 75	2 25	2 50	2 50	2 50	
Varnisher.....	do ...	2 25	2 00	1 75	1 33	1 17	1 00	1 33	2 25	2 25	2 25	2 25	
Finisher.....	do ...	2 50	2 25	1 75	1 50	1 25	1 00	2 00	2 50	2 50	2 50	2 50	
Upholsterer.....	do ...	2 50	2 00	1 75	1 75	1 75	2 00	2 25	2 75	2 75	2 75	2 75	
Packer.....	do ...	2 00	1 75	1 75	1 75	1 75	2 00	2 00	2 33	2 33	2 33	2 33	
Engineer.....	do ...	2 33	2 33	2 00	2 00	2 00	2 25	2 25	2 50	2 50	2 50	2 50	
Laborer.....	do ...	1 33	1 17	1 17	1 00	1 00	1 17	1 25	1 50	1 50	1 50	1 50	

REMARKS.—Although this establishment has been in existence since 1850, the wages tables date back to 1870 only, the books containing the record for the previous years having been destroyed by fire. The statement is made, however, that the maximum in rates of wages was reached in 1867 and 1868, and that in 1870 they were from 5 to 10 per cent. lower than in the two years named.

During busy seasons over-time is frequently made, the extra earnings for which would increase the yearly wages of the employés 5 or 6 per cent., and have not been included in the table.

Cabinet-makers furnish their own tools, the expense for which is estimated at \$10 per annum, and has not been considered in making up the table.

Employés are paid weekly and in cash. Prior to 1854 a few store-orders were used.

The hours of labor were 10 a day until 1830, when they were reduced to 9 $\frac{1}{4}$. The proprietors remark that they do not think this decrease in hours has improved the habits or health of employés, but it has made an appreciable difference in production.

From 1850 to 1855 the works were in constant operation; from 1856 to 1865 they averaged 11 $\frac{1}{2}$ months per year; from 1866 to 1875,

12 months, and from 1876 to 1880, 11 months. The causes of irregularity were business depressions and repairs. No strikes have occurred.

There has been an increase in the efficiency of labor, which, the proprietors remark, is the result of the increased demands upon brain and muscle growing out of the condition of the times in which we live.

Much labor-saving and improved machinery has been introduced; this has lessened cost and decreased the number of employés, but has not affected rates of wages.

The opinion is expressed that the trade is not unhealthful. The rooms in which the operatives are engaged are usually large and airy, and dust is noticeable in the machinery departments only. The proprietor states, however, that the men in this department are as healthy and long-lived as in the others, and that in the census year there were in the employ of the company hands who had been with them since 1850. Working with machinery, it is remarked, is always more or less dangerous, though the accidents at this kind of work do not usually amount to more than clipping the ends of fingers.

STATISTICS OF WAGES—FURNITURE.

An establishment in the state of New York.

Classes of employes.	Unit of payment.	DATES.														
		1860.	1870.	1878.	1877.	1870.	1875.	1874.	1873.	1872.	1871.	1870.	1860.	1868.	1867.	1866.
Foreman	Month	\$84 00	\$84 00	\$84 00	\$84 00	\$84 00	\$84 00	\$84 00	\$84 00	\$84 00	\$84 00	\$84 00	\$84 00	\$84 00	\$72 00	\$72 00
Machine-hand	Day	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Turner	do	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Cabinet-maker	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Chair-maker	do	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Carver	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Varnisher	do	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Finisher	do	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Upholsterer	do	2 75	2 75	2 75	2 75	2 75	2 75	2 75	2 75	2 75	2 75	2 50	2 50	2 50	2 50	2 50
Packer	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	1 75	1 75	1 75	1 75	1 75	1 75
Engineer	do	4 00	4 00	4 00	4 00	4 00	4 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Laborer	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50

Classes of employes.	Unit of payment.	DATES.															
		1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.	1850.
Foreman	Month	\$72 00	\$72 00	\$60 00	\$60 00	\$60 00	\$60 00	\$50 00	\$50 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00
Machine-hand	Day	2 25	2 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Turner	do	2 25	2 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Cabinet-maker	do	2 50	2 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Chair-maker	do	2 25	2 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Carver	do	2 50	2 50	1 75	1 75	1 75	1 75	1 02	1 02	1 02	1 02	1 02	1 02	1 02	1 02	1 02	1 02
Varnisher	do	2 25	2 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Finisher	do	2 25	2 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Upholsterer	do	2 50	2 50	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Packer	do	1 75	1 75	1 00	1 00	1 00	1 00	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Engineer	do	3 00	3 00	2 00	2 00	2 00	2 00										
Laborer	do	1 50	1 50	1 25	1 25	1 25	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00

REMARKS.—These works were established in 1843 and manufacture a variety of furniture.

But little over-time is made; the extra earnings from this source increase the regular rates very slightly and have been included in the above table.

A few employes furnish their own hand-tools, but the expense for these is insignificant, as most of the work is done by machinery.

Payments have always been weekly and in cash.

All classes work 10 hours a day.

The works are in constant operation, except a stoppage of about two weeks each year for repairs and to take account of stock.

No strikes worth mentioning have occurred. Some 15 years ago 6 or 8 men attempted a strike for an advance in wages, but after being out less than 24 hours, they returned to work at the rates they had been receiving, or less.

Labor has increased in efficiency as the result of experience and temperate habits.

A great variety of machinery, such as molding, bending, planing, dovetailing, graining, boring and mortising machines, and improved saws and lathes, has been introduced. The effect of such machines has been to decrease the cost of production, and to increase wages and the number of employes.

Below are selling prices and labor cost of some of the articles of product:

Year.	SELLING PRICE.				LABOR COST.			
	Wood chairs, per doz.	Cane chairs, per doz.	Wood settees, per foot.	Bed-room suits, each.	Wood chairs, per doz.	Cane chairs, per doz.	Wood settees, per foot.	Bed-room suits, each.
1860..	\$4 50	\$8 25	\$0 50	\$35 00	\$1 50	\$2 75	\$0 14	\$12 00
1865..	7 50	18 00	87	55 00	2 50	4 00	20	18 00
1870..	6 50	10 50	75	33 00	2 00	3 25	25	11 00
1875..	5 00	8 00	65	28 00	1 00	2 00	20	10 00
1880..	4 50	8 00	60	20 00	1 50	2 66	20	8 00

The business is regarded as particularly healthful. Many of the men now employed by the company have been with them for 10, 20, or 35 years. Few deaths have occurred among the operatives, and sickness is rare. There is some danger incident to the running of portions of the machinery; there have been few accidents, however, and those which have taken place have in most instances been the result of carelessness.

An establishment in the state of New York.

Classes of employes.	Unit of payment.	DATES.								
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.
Foreman	Month	\$144 00	\$144 00	\$144 00	\$144 00	\$144 00	\$144 00	\$144 00	\$168 00	\$168 00
Machine-hand.	Day	2 00 $\frac{3}{4}$ 3 00 $\frac{1}{2}$	2 50- 3 00	2 00- 3 00	2 00- 3 00	2 00- 3 50	2 75- 3 50	2 60 $\frac{3}{4}$ - 3 50	2 60 $\frac{3}{4}$ - 3 50	2 60 $\frac{3}{4}$ - 3 75
Cabinet-maker	do	2 83 $\frac{1}{2}$								
Carver	do	2 50- 2 83 $\frac{1}{2}$	2 25	1 00	1 70 $\frac{1}{2}$	2 00	2 00- 3 50	2 33 $\frac{1}{2}$	2 00	2 33 $\frac{1}{2}$
Varnisher	do	2 16 $\frac{1}{2}$	1 90 $\frac{3}{4}$	2 00 $\frac{1}{2}$	1 50	1 75	1 83 $\frac{1}{2}$	2 00	2 60 $\frac{3}{4}$	2 50
Finisher	do	3 00	2 50	2 50	2 50	3 00	3 00	3 00	3 10 $\frac{3}{4}$	3 10 $\frac{3}{4}$
Upholsterer	do	2 05	2 50	2 33 $\frac{1}{2}$	2 33 $\frac{1}{2}$	2 33 $\frac{1}{2}$	3 00	2 83 $\frac{1}{2}$	3 33 $\frac{1}{2}$	3 33 $\frac{1}{2}$
Engineer	do	2 60 $\frac{3}{4}$	2 50	2 50	2 83 $\frac{1}{2}$	2 60 $\frac{3}{4}$	3 00	2 60 $\frac{3}{4}$		

REMARKS.—This factory was established in 1836.

Over-time is occasionally made at night, on Sundays, or on holidays. Such extra work is very rare, however, and the earnings for which it affords opportunity have not been included in the table.

There are no allowances or deductions.

Payments are weekly and in cash.

The following table shows the exceptions from the rule of 10 hours for a day's labor which have been made among the several classes of employes in various years:

Year.	Machine-hands.	Engi-neers.	Cabinet-makers.	Carv-ers.	Varnish-ers.	Finish-ers.	Uphol-sterers.	All others.
1860...	10	10	10	10	10	10	10	10
1865...	10	10	10	10	10	10	10	10
1870...	10	10	10	10	10	10	10	10
1875...	9 $\frac{1}{2}$	10	10	9 $\frac{1}{2}$	9 $\frac{1}{2}$	10	10	10
1878...	10	10	10	10	9 $\frac{1}{2}$	10	10	10
1879...	10	10	10	10	9 $\frac{1}{2}$	10	10	10
1880...	8 $\frac{1}{2}$	9	8 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	10

During a part of the year 1880, 9 hours per day was the rule; the reduction from 10 to 9 hours being made at the demand of the trades-unions.

The works have been operated 12 months each year, but the number of hands has occasionally been reduced to meet diminution in business.

Strikes have occurred from the following causes: For change from piece to day work; for reduction of time from 10 to 9 hours per day; against rule forbidding the use or the carrying into the factory of lager-beer. These have varied in duration from one to six weeks, generally lasting not longer than a week.

As the articles vary greatly in character and design from year to year no comparative statement of prices and labor cost can be given.

There has been no noticeable change in the efficiency of labor.

Improved sawing apparatus, jointing-machines, band-saws, and variety of improved molding-machines have been introduced. These have lessened the cost of labor.

The trade is regarded as generally very healthful. It is stated that accidents involving injury to the fingers frequently occur among those operating the machinery.

An establishment in the state of New York.

Classes of employes.	Unit of payment.	DATES.								
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	
Foreman	Month	\$95 33 $\frac{1}{2}$	\$91 00	\$86 00 $\frac{1}{2}$	\$86 00 $\frac{1}{2}$	\$91 00	\$86 00 $\frac{1}{2}$	\$82 50 $\frac{1}{2}$	\$91 00	
Machine-hand.	Day	3 00	2 60 $\frac{3}{4}$	2 50	2 50	2 83 $\frac{1}{2}$	2 83 $\frac{1}{2}$	3 00	3 33 $\frac{1}{2}$	
Turner	do	3 00 $\frac{1}{2}$	3 50	3 33 $\frac{1}{2}$	3 33 $\frac{1}{2}$	3 50	3 33 $\frac{1}{2}$	3 16 $\frac{1}{2}$	3 50	
Cabinet-maker	do	3 10 $\frac{1}{2}$	2 83 $\frac{1}{2}$	2 50	2 50	2 60 $\frac{3}{4}$	2 60 $\frac{3}{4}$	2 60 $\frac{3}{4}$	3 10 $\frac{1}{2}$	
Chair-maker	do	3 10 $\frac{1}{2}$	2 83 $\frac{1}{2}$	2 50	2 50	2 60 $\frac{3}{4}$	2 60 $\frac{3}{4}$	2 60 $\frac{3}{4}$	3 10 $\frac{1}{2}$	
Carver	do	3 50	3 16 $\frac{1}{2}$	3 00	3 00	3 16 $\frac{1}{2}$	2 83 $\frac{1}{2}$	2 83 $\frac{1}{2}$	3 33 $\frac{1}{2}$	
Varnisher	do	2 10 $\frac{1}{2}$	2 10 $\frac{1}{2}$	2 33 $\frac{1}{2}$	2 33 $\frac{1}{2}$	2 33 $\frac{1}{2}$	2 60 $\frac{3}{4}$	2 60 $\frac{3}{4}$	2 50	
Finisher	do	3 00	3 00	2 60 $\frac{3}{4}$	2 60 $\frac{3}{4}$	3 00	3 00	3 00	3 10 $\frac{1}{2}$	
Upholsterer	do	3 00 $\frac{1}{2}$	3 10 $\frac{1}{2}$	3 00	2 83 $\frac{1}{2}$	3 10 $\frac{1}{2}$	3 10 $\frac{1}{2}$	3 10 $\frac{1}{2}$	3 00	
Packer	do	2 50	2 33 $\frac{1}{2}$	2 10 $\frac{1}{2}$	2 10 $\frac{1}{2}$	2 33 $\frac{1}{2}$	2 33 $\frac{1}{2}$	2 33 $\frac{1}{2}$	2 33 $\frac{1}{2}$	
Engineer	do	4 10 $\frac{1}{2}$	4 10 $\frac{1}{2}$	4 10 $\frac{1}{2}$	4 10 $\frac{1}{2}$	4 10 $\frac{1}{2}$	4 10 $\frac{1}{2}$	4 10 $\frac{1}{2}$	4 10 $\frac{1}{2}$	
Laborer	do	1 33 $\frac{1}{2}$	1 33 $\frac{1}{2}$	1 33 $\frac{1}{2}$	1 33 $\frac{1}{2}$	1 33 $\frac{1}{2}$	1 33 $\frac{1}{2}$	1 33 $\frac{1}{2}$	1 33 $\frac{1}{2}$	

REMARKS.—This firm began business in 1860, and manufactures furniture, wood-work for dwellings, and upholstery.

There are few opportunities for over-time work, except for upholsterers. The extra earnings of the latter would increase their wages about 1 $\frac{1}{2}$ per cent., and have not been included in the table.

About one-half of the employes, including cabinet-makers, carvers, chair-makers, and upholsterers, furnish their own tools. These, however, when purchased, last a long time, and the percentage their cost bears to wages earned is very small.

Payments are weekly and all in cash.

Cabinet-makers, chair-makers, and carvers work 9 hours and all other classes 10 hours a day. For a portion of the period between 1873 and 1880 the hours of labor were one less per week than the above.

As the product is not the same in character from year to year, no comparative statement regarding prices and labor cost could be given.

There has been no change in the efficiency of labor.

No important additions have been made to the machinery.

The trade is apparently healthful.

Fuller, Hutsinpillar & Co., Gallipolis, Ohio—Continued.

REMARKS.—This factory was established in 1868, and manufactures bedroom furniture, lounges, and kitchen safes.

Most of the work is paid for by the piece. The rates of wages given in the table are the average daily earnings.

There are a few opportunities for extra earnings during the busy seasons, when from one to three hours extra are sometimes made. Over-time is paid for at regular rates, and has not been considered in the table.

The only employes whose wages are subject to any deduction are journeymen cabinet-makers who furnish their own tools.

Employes have always been paid weekly and in cash.

All classes work 10 hours a day.

Full time has been made every year except two years, during the panic, when for a few months the mill ran but three-fourths time. There have been no strikes.

There has been no change in the efficiency of labor.

Improved machinery has been introduced, which has effected a saving in labor and an increase in output, but has not altered wages.

The business is not dangerous, nor is it unhealthful except for the varnish-hands, among whom those that are addicted to the intemperate use of beer, it is stated, are apt most quickly to feel the effects of turpentine upon the system.

Marietta Chair Company, Marietta, Ohio.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.																
		1881.	1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.
Foreman.....	Month.....													\$91 00	\$104 00	\$104 00	\$104 00	\$104 00
Machine-hand.....	Day.....	\$1 50		\$1 35	\$1 35	\$1 35	\$1 35	\$1 35	\$1 75	\$1 75	\$2 00	\$2 00	\$2 00	2 25	3 00	3 00	3 00	3 00
Turner.....	do.....	2 00		1 75	1 75	1 75	1 75	1 75		1 75	2 00	2 00	2 50	2 50	3 00	3 00	3 00	3 00
Cabinet-maker.....	do.....	2 00		2 00	2 00	2 00	2 00	2 00	2 25	2 25	2 50	2 50	2 50	2 75	3 00	3 00	3 00	3 00
Chair-maker.....	do.....	2 00		2 00	2 00	2 00	2 00	2 00	2 25	2 25	2 50	2 50	2 50	2 75	3 00	3 00	3 00	3 00
Carver.....	do.....	3 00		2 50	2 50	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00					
Varnisher.....	do.....	1 50		1 35	1 35	1 35	1 35	1 35	1 75	1 75	2 00	2 00	2 00	2 25	2 50	2 50	2 50	2 50
Finisher.....	do.....	1 50		1 35	1 35	1 35	1 35	1 35	1 75	1 75	2 00	2 00	2 00	2 25	2 50	2 50	2 50	2 50
Packer.....	do.....	1 50		1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 00
Engineer.....	do.....	2 25		2 00	2 00	2 00	2 00	2 00	2 25	2 25	2 50	2 50	2 50	3 00	3 50	3 50	3 50	3 50
Laborer.....	do.....	1 00		1 00	1 00	1 00	1 00	1 00	1 25	1 25	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75
Cane-seaters (girls).....	do.....	80			85			90		1 00		1 00	1 00	1 25	1 25	1 25	1 25	1 25

REMARKS.—This factory was established in 1856, and passed into the hands of its present proprietors 10 years later. Its products are cane- and wood-seat chairs and common furniture.

The cane-seaters are girls and women, who mostly work by the piece, and the wages are what the best workers might earn in 10 hours.

Contractor's price on the following articles.	Unit of payment.	DATES.									
		1881.	1878.	1875.	1873.	1871.	1870.	1869.	1868.	1867.	1866.
Half-Grecian cane chairs.....	Per dozen.....	\$0 06	\$0 06	\$1 00	\$1 28	\$1 50	\$2 00	\$2 00	\$2 80	\$2 05	\$2 05
Large scroll-arm cane rockers.....	do.....	3 52	4 00	4 84	6 00	6 06	7 44	7 44	11 87	12 00	12 00
Common wood chairs.....	Per hundred.....	3 25	3 50	4 00	4 75	5 00	5 00	5 00	6 00	6 50	11 00
Boston arm-rockers, wood seat.....	do.....	28 00	34 00	40 00	45 00	50 00	50 00	50 00	50 00	65 00	67 00
Common trundle bedsteads.....	Each.....	18	13	17	17	22	22	23	47	50	50
Walnut breakfast-tables.....	do.....	42	48	60	85	87	87	00	1 05	1 07	1 07
Turning common wood chair-legs.....	Per hundred.....	7	8	8	10	10	12	35	35	40	40
Finishing half-Grecian cane chairs.....	Each.....	4	5	5	7	7	8	9	9	9	10
Finishing common wood chairs.....	do.....	3	4	4	5	5	7	7	7	7	8

Cabinet-makers, and makers of cane- and wood-seat chairs furnish their own tools, costing from \$25 to \$75, which must be deducted from the wages given in the table.

Beginning with January 1, 1868, the company made a contract by the piece for each different class of goods manufactured—cane-seat chairs, wood-seat chairs, cabinet-work, and finishing—making in

all four contractors. Each of these contractors at first received \$3 as wages, and afterward \$2 50 and \$2, and at the end of each six months a dividend of one-half the profits, the other half going to the company.

The following statement gives the yearly wages and the dividends received by the several classes of contractors:

Years.	CANE-SEAT JOB.		WOOD-SEAT JOB.		CABINET JOB.		FINISHING JOB.	
	Wages.	Dividend.	Wages.	Dividend.	Wages.	Dividend.	Wages.	Dividend.
1868.....	\$825 00	\$377 00	\$825 00	\$439 00	\$825 00	\$40 00	\$825 00	\$510 00
1869.....	825 00	133 70	825 00	573 00	825 00	56 87	825 00	444 00
1870.....	825 00	848 00	825 00	666 00	825 00	25 38	825 00	632 00
1873.....			825 00	737 00				
1877.....	720 00	237 00	571 00	140 80	575 00		521 00	121 00
1878.....	732 00	312 00	569 00	176 49	570 00		601 00	304 00
1879.....	719 00	341 00	590 00	340 00	600 00		731 00	440 00
1880.....	712 00	340 00	557 00	100 00	600 00		532 00	226 00

P. P. Gustine & Son, Philadelphia, Pennsylvania—Continued.

Classes of employes.	Unit of payment.	DATES.															
		1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.	1850.
Foreman.....	Month..	\$60 00	\$60 00	\$60 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00	\$48 00
Cabinet-maker.....	Day....	2 00	2 00	2 00	1 67	1 67	1 67	1 67	1 67	1 67	1 67	1 67	1 67	1 67	1 67	1 67	1 67
Chair-maker.....	do....	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Carver.....	do....	2 25	2 25	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Varnisher.....	do....	1 67	1 67	1 67	1 33	1 33	1 33	1 33	1 33	1 33	1 33	1 33	1 33	1 33	1 33	1 33	1 33
Upholsterer.....	do....	2 50	2 50	2 50	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Packer.....	do....	1 75	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50

REMARKS.—These works have been in operation since 1844, and make a specialty of the manufacture of wood- and cane-seat chairs, though fine cabinet-work is also done.
The wages in the table are net, there being neither extras nor deductions.

Payment in cash is made every week.
All classes work 10 hours a day.

The factory is operated 12 months a year. There have been frequent strikes among the men, which have been brought about by trades-unions. These have usually resulted in compromise. In 1863, however, the manufacturers were compelled to accede to all the demands made and to grant a decided advance in wages.

There has been a decided increase in the efficiency of labor within the last 30 years. This is ascribed to several causes, viz, that the work is done in larger factories with good management and systematic arrangement of work; that the trade is more exacting than formerly, as to the quality of goods; and that there is an abundance of labor.

The figures in the following tables of selling price, etc., refer only to wood-seat chairs, though they fairly represent the relation between selling price and cost in all the articles of product:

Year.	Selling price, per dozen.	Labor cost, per dozen.	Percentage of wages to cost.
1845.....	\$6 00	\$1 75	Per cent. 35
1850.....	6 00	1 75	35
1855.....	6 00	1 75	35
1860.....	6 00	1 75	35
1865.....	9 00	2 25	37½
1870.....	7 00	2 00	35
1875.....	6 00	1 65	35
1880.....	6 50	1 65	35

Lewis Thompson & Co., Philadelphia, Pennsylvania.

Classes of employes.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Foreman.....	Month..	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Machine-hand.....	Day....	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Turner.....	do....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Cabinet-maker.....	do....	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Carver.....	do....	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Finisher.....	do....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Engineer.....	do....	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Laborer.....	do....	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50

REMARKS.—This firm, manufacturing cabinet-ware and church and office furniture, has been in business since 1840.
All employes work 10 hours a day, and the works are never idle.

The wages given in the table are subject to no allowances or deductions, and are paid weekly in cash.

Moyer, Tufts & Co., Philadelphia, Pennsylvania.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Foreman.....	Month..	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$100 00	\$100 00
Machine-hand.....	Day....	1 75	1 50	1 50	1 75	1 75	2 00	2 00	2 00	2 00	2 00
Turner.....	do....	1 50	1 50	1 50	2 00	2 25	2 25	2 25	2 25	2 50	2 75
Cabinet-maker.....	do....	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 25	2 25
Carver.....	do....	3 50	3 00	2 00	2 00	3 00	3 00	3 00	3 00	3 00	3 00
Varnisher.....	do....	2 50	2 00	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50
Packer.....	do....	2 00	1 75	1 75	2 00	2 00	2 00	2 33	2 33	2 33	2 33
Engineer.....	do....	2 00	2 00	2 00	2 00	2 00	2 00	2 17	2 17	2 17	2 17
Laborer.....	do....	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Watchman.....	do....							2 00	2 00	2 00	2 00

Moyer, Tufts & Co., Philadelphia, Pennsylvania—Continued.

Classes of employes.	Unit of payment.	DATES.									
		1871.	1870.	1869.	1868.	1867.	1866.	1865.	1864.	1863.	
Foreman.....	Month....	\$100 00	\$80 00	\$80 00	\$80 00	\$75 00	\$75 00	\$75 00	\$75 00	\$75 00	
Machine-hand.....	Day.....	1 75	2 00	2 00	2 00	2 00	2 00	1 75	1 50	1 50	
Turner.....	do.....	2 50	3 00	2 75	3 00	2 75	2 75	2 50	2 25	2 25	
Cabinet-maker.....	do.....	2 00	2 25	2 25	2 00	2 25	2 25	2 50	1 75	1 75	
Carver.....	do.....	2 75	2 75	2 75	2 25	2 25	2 25	2 00	1 75	1 75	
Varnisher.....	do.....	1 50	1 50	1 50	1 50	1 75	1 75	1 00	1 00	1 00	
Packer.....	do.....	2 33	2 33	2 33	2 17	2 17	2 00	2 00	2 00	2 00	
Engineer.....	do.....	2 17	2 17	2 17	2 17	2 17	2 00	2 00	2 00	2 00	
Laborer.....	do.....	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 25	1 25	
Watchman.....	do.....	2 00	2 00								

REMARKS.—The establishment making this return has been in existence since 1860, though the proprietors whose names appear in the title of the firm did not enter the partnership until 1876, and state that the records prior to 1864 are not available. Poplar and walnut bedsteads and walnut chamber-suits are manufactured.

Turners, cabinet-makers, and carvers furnish their own tools. These vary in value, however, and it is not possible to estimate the exact amount by which they would decrease wages. From 1860 to 1875 each cabinet-maker's kit of tools, bench, etc., were worth at least \$125. Since the latter date the company has in many cases furnished the necessary implements, the cost of which is now greatly reduced, a full outfit for a cabinet-maker not being worth at present more than \$50.

Payments are made all in cash, every week.

All classes work 10 hours a day, many being paid by the piece.

From 1864 to 1873 the works were operated 12 months a year; in 1874 but 10 months; in 1875, 12 months; in 1876, 10 months; in 1877-78, 8 months; in 1878, 12 months; in 1879, 10 months, and in 1880, 12 months. The following statement is made by the proprietor: "The cause of irregularity has been over-production in nearly all cases. From 1873 to 1875 the trade suffered from the effects of the panic. From 1876 to 1878 the local market was weakened by the immense stocks thrown upon it from the temporary centennial hotels and boarding-houses."

There have been no strikes or lockouts.

In the following table the selling prices as given are averages for the years named, the goods varying greatly in grade:

Year.	SELLING PRICE.		LABOR COST.		PERCENTAGE OF WAGES TO COST.	
	Bedsteads, each.	Chamber-suits, each.	Bedsteads, each.	Chamber-suits, each.	Bedsteads.	Chamber-suits.
1860....	\$5 00				<i>Per cent.</i>	<i>Per cent.</i>
1865....	5 50					
1870....	8 00		\$0 80		35	
1875....	5 00	\$31 00	75	\$0 84	35	30
1880....	5 00	30 00	65	0 84	38	30

There has been no change in the efficiency of labor.

Since 1874 the following improved machinery has been introduced: Automatic turning-lathe, band-saw, rotary mortiser, boring, scraping and jointing machines, and a dovetailing and molding machine. These have increased output about 25 per cent., decreased the number of employes, and lessened the cost of production 10 per cent.

Phoenix Chair Company, Sheboygan, Wisconsin.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.					Classes of employes.	Unit of payment.	DATES.				
		1880.	1879.	1878.	1877.	1876.			1880.	1879.	1878.	1877.	1876.
Foreman.....	Month....	\$65 00	\$65 00	\$65 00	\$65 00	\$65 00	Varnisher.....	Day ..	\$0 75	\$0 75	\$0 75	\$0 75	\$0 75
Machine-hand.....	Day.....	1 50	1 50	1 50	1 50	1 50	Finisher.....	do.....	1 00	1 00	1 00	1 00	1 00
Turner.....	do.....	1 75	1 75	1 75	1 75	1 75	Packer.....	do.....	75	75	75	75	75
Chair-maker.....	do.....	1 25	1 25	1 25	1 25	1 25	Engineer.....	do.....	3 00	3 00	3 00	3 00	3 00
Carver, boy.....	do.....	1 00	1 00	1 00	1 00	1 00	Laborer.....	do.....	1 25	1 25	1 25	1 25	1 25

REMARKS.—The factory from which this return is received manufactures chairs, children's cradles, and settees, and has been in operation since 1875.

There are but few opportunities for over-time, the firm disapproving of it and discouraging it as much as possible. No allowances are made to the employes, except that full 10 hours' wages are paid during the winter months when but 9 hours are worked a day.

Payments are monthly and all in cash. In the winters of 1875 and 1876 store-orders were used in part-payment, on account of scarcity of money. The practice proved very unsatisfactory to the employers as well as the employes, and was abandoned at the first opportunity.

The hours of labor are 10 from spring to fall and 9 in winter.

In the opinion of the proprietor, 10 hours are not too long for adults, even though not of an unusually strong physical character. Eight hours, however, he regards as quite long enough for young boys and girls.

The works are operated 11½ months per year, stoppages occurring the first week in January and the first week in July. No labor difficulties of any kind have been experienced.

From 1875 to 1880 the average price of chairs has been \$11 50 per dozen.

The amount of the pay-roll is 45 per cent. of the total annual expenses of the manufactory, but the actual labor cost of making, finishing, and packing the goods is not more than 35 per cent., the former figures including the salaries of office-help, superintendent, and a number of other classes not directly handling the goods.

A statement showing the division of cost is given as follows:

	Per cent.
Materials.....	35
Labor cost, clerk hire, etc.....	45
Interest, rent, taxes, insurance, etc.....	20

Phoenix Chair Company, Sheboygan, Wisconsin—Continued.

There has been a slight increase in the efficiency of labor, arising from division of work and from good management.

Considerable new and improved machinery has been introduced.

The only unhealthful feature of the business is the fine dry wood-dust which, it is thought, is injurious to weak lungs. The firm states that it was formerly its custom to employ young boys in the sandpapering department, as they could be hired for one-half the

wages of grown men, and were fully as efficient in the work required. It was discovered, however, that with hardly an exception the health of these boys was injured by their occupation, when the company ceased employing them and would not allow a boy to work in the sandpapering room. Tough, healthy men, of middle age and over, it is stated, are alone able perfectly to withstand the effects of this dust.

An establishment in Wisconsin.

Classes of employes.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	
Foreman	Month..	\$83 33½	\$83 33½	\$66 66½	\$66 66½	\$66 66½	\$66 66½	\$66 66½	\$66 66½	\$83 33½	\$83 33½	\$83 33½
Machine-hand	Day ...	2 00	2 00	1 75	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00
Turner	do ...	2 00	2 00	1 75	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00
Cabinet-maker	do ...	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75
Chair-maker	do ...	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75
Carver	do ...	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75
Varnisher	do ...	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75
Finisher	do ...	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75
Packer	do ...	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75
Engineer	do ...	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75
Laborer	do ...	1 50	1 50	1 25	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50

Classes of employes.	Unit of payment.	DATES.									
		1870.	1869.	1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.
Foreman	Month..	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$50 00	\$83 33½
Machine-hand	Day ...	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 50	.....	2 00
Turner	do ...	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 50	.....	2 00
Cabinet-maker	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	.....	1 50
Chair-maker	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	.....	1 50
Carver	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	.....	1 50
Varnisher	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	.....	1 50
Finisher	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	.....	1 50
Packer	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	.....	1 50
Engineer	do ...	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	.....	1 50
Laborer	do ...	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	.....	1 25

REMARKS.—This factory, established in 1856, manufactures chairs of various kinds, pails, tubs, etc.

Very little over-time work is done, and no allowances are afforded to employes, except firewood free of charge.

There are no deductions.

Employes are paid on application, and in cash or merchandise, as they prefer. The company keeps a store for the accommodation of the men, but pays in cash cheerfully when it is desired.

All classes of employes average 10 hours a day the year round. As the works are not run by artificial light, however, the hours of labor are shortened in the winter and lengthened in the summer.

This factory is never idle except for repairs. No strikes have taken place.

There has been no change in the efficiency of labor.

A large number of labor-saving machines have been introduced. These have had no effect upon the rates of wages.

The following table gives the selling prices of some of the articles produced:

Year.	Wood chairs, per dozen.	Cane chairs, per dozen.	Large rockers, per dozen.	Cottage chairs, per dozen.	Pails, per dozen.	No. 1 tubs, per dozen.
1865...	\$6 00	\$8 00	\$20 00	\$28 00	\$1 50 to 3 00	\$7 50 to 13 00
1870...	4 00	8 00	24 00	26 00	2 00	8 50
1875...	3 75	7 50	18 00	14 00	1 10	4 75
1880...	3 75	7 00	20 00	16 00	1 05	8 00

The labor cost of pails in 1880 is given as \$1 25 per dozen, and of cane chairs as \$3 70 per dozen.

The trade is regarded as healthful, but somewhat dangerous for those operating machinery, unless great care is exercised.

SAW- AND PLANING-MILLS.

In this division of wood-working industries are included not only those establishments that are properly classed as saw- and planing-mills—that is, those that saw and dress lumber and boards—but establishments that in addition to this work up the lumber so sawed and dressed into house-, bridge-, and car-building materials, boxes, barrels, staves, etc.

Growing out of the variety of work thus included under this head it will be noticed that the classes of labor in the tabulations are reported under different departments, as sawing department, dressing department, sash-and-door department, box department, and general departments. The classes of labor in each department are few, as are also the years for which rates are given in some of the tabulations; but the industry is a widely extended and important one, and for this reason, in some localities from which but few returns were received, even schedules which otherwise might not have been tabulated have been inserted.

As to the changes in this industry, one gentleman writes: "The lumber business of this country has grown to gigantic proportions. Probably in no branch of industry has the march of improvement been more rapid. At first logs were sawed and split into the required form by hand. A saw-mill is said to have been introduced into Massachusetts in 1633, several years before it was used in England. As late as 1767 a saw-mill was destroyed by a mob because it was supposed to be detrimental to the work of the sawyers." Since 1853 there have been many important improvements in the machinery introduced, whereby the products of the mills have been much increased.

Of the 111 schedules sent out, 71 were returned and 52 tabulated. Those tabulated are divided according to states, as follows:

Alabama.....	2	Louisiana.....	2	North Carolina.....	3
Florida.....	1	Maine.....	1	Ohio.....	6
Illinois.....	1	Maryland.....	1	Pennsylvania.....	1
Indiana.....	4	Massachusetts.....	1	Tennessee.....	2
Iowa.....	1	Michigan.....	9	Texas.....	2
Kansas.....	1	Missouri.....	2	Virginia.....	1
Kentucky.....	3	New York.....	3	Wisconsin.....	5

Extra earnings or deductions.—The opportunities for over-time at the establishments reporting vary considerably. At some saw-mills work is continued night and day; at others the men work 12 or 14 hours, the time depending upon the character of demand and the state of water in the mill-ponds. At planing-mills, box factories, etc., especially those operated by steam, there are but few opportunities for over-time. The same danger of conflagration from artificial light that exists in other wood-working industries tends also to prevent over-time in this as well.

There seem to be no general allowances in this industry; such as are given depend largely upon locality. At mills in the interior and in country places, especially in the South, many of the men have free houses, gardens, pasturage, etc., and in some places free board. One schedule contains some very interesting facts as to the allowances given to slaves in the *ante-bellum* period.

As is usual, most wood-working mechanics are obliged to furnish their own tools; but the remark that is made in connection with the furniture schedules would apply here also, viz, that, owing to the improvements in machinery, the number and variety of these tools are very much reduced, consequently the cost, and expense of keeping in order, are also reduced. Judging from the schedules, a conservative estimate of the cost of these tools to those men who are compelled to purchase them would be about 1 per cent. of the wages paid.

Payments.—There is no general rule as to the method of payment in this industry. It seems to vary somewhat with the locality, merchandise payments being almost unknown in large places and in the East, while in small

places, and in the South and West, they are still in some instances retained. The following tables will show the number of establishments in each state paying all cash, and of those paying part cash :

States.	Number of establishments in each state paying part cash and part merchandise or store-orders.									Number of establishments in each state paying all cash.								
	1880.	1875.	1870.	1865.	1860.	1855.	1850.	1845.	1840.	1880.	1875.	1870.	1865.	1860.	1855.	1850.	1845.	1840.
Alabama	1	1								1	1							
Florida	1	1	1															
Illinois										1	1	1						
Indiana	1	1	1	1	1	1	1			3	3	3	1					
Iowa										1	1	1						
Kansas										1	1	1	1					
Kentucky										3	3	3	3	2	1	1	1	
Louisiana										2	2	2	2	2	1	1		
Maryland	1	1	1	1														
Massachusetts										1	1	1						
Michigan	1	1	2	2	1	1	1	1	1	8	8	6	2	2	1			
Missouri										2	2	2	1	1				
New York										3	3	3	2	1				
North Carolina	1	1	1							2	2	2	2	2	2	1	1	1
Ohio										0	6	6	3	2	1	1		
Pennsylvania										1	1	1	1					
Tennessee	1	1	1	1	1					1	1	1	1	1	1			
Texas	2	2	1	1														
Virginia										1	1	1	1	1	1			
Wisconsin	1	3	2	1	1					4	2	2	2	1	1			

Hours of labor.—The hours of labor at many of the establishments are very irregular, varying with the season. The usual time of employment per day is from 10 to 12 hours in the summer, and from 8 to 10 in the winter. As has already been intimated, some saw-mills run night and day, with two sets of hands.

Several returns commenting upon the variation in the hours of labor from winter to summer draw conclusions as to the effect which reduced hours would have upon production, the statement being that the reduction of hours in the winter causes a corresponding reduction in the amount of product, and therefore the conclusion is drawn that a reduction of hours from 12 or 10 hours a day to a less number would correspondingly reduce production. It is possible that the reduction in amount of production in the shorter working-days in the winter is not due entirely to the reduced hours, but perhaps to a want of necessity for full exertion, owing to light demand and also to circumstances arising from the cold weather. In saw-mills it is more difficult to work in winter than in summer, owing to the ice and snow that collect on the logs, and also to the openness of the mills. A similar state of affairs exists in many planing-mills and box factories, the tools being cold and difficult to use, requiring in many cases to be warmed before use, and the shops being open and cold. This reduced production in winter at these mills is not conclusive as to the effect of reduced hours on production.

Regularity of employment.—The irregularity of operations at the establishments reporting under this head is greater than in any other industry. At many saw-mills it is very difficult to perform any work in the winter, this time being devoted to cutting logs and hauling them to the mills. There was also much irregularity in the southern mills during the war; and at all mills manufacturing building-materials, for which the demand is greater at certain seasons, there is also considerable irregularity.

It should be noted, however, that at many of the saw-mills which are idle as saw-mills during the winter, the employes are not idle, their time being taken up in logging for the next season.

Relation of wages and labor to selling price and cost.—Though there are quite a number of statements regarding selling price, cost of product, etc., it is impossible to give any general statement under this head. The facilities in machinery and appliances differ so at different mills that there is nothing like regularity in amount of work or similarity of conditions, and no general basis for comparison.

One return makes a very interesting showing as to the effects of the introduction of improved machinery upon the cost of production. In 1852 a certain class of doors made by hand cost \$1 00 each for labor, and blinds the same per pair. In 1880 a similar door made by machinery cost for labor 25 cents, the blinds costing 30 cents.

Efficiency of labor and labor-saving machinery.—Much of the skill required in the operations about saw-mills has been done away with by the improvements in machinery noted below. The same is true in planing-mills, and especially in the manufacture of sashes, doors, blinds, and other mortised work.

The improvements in machinery in this industry have been very great. In saw-mills, where formerly the work of drawing the logs into the mill was very laborious, and the placing of them in proper position to be cut required considerable skill, many improvements have been introduced, such as automatic feeds, circular saws, edgers, self-adjusting head-blocks, etc. In planing-mills, sash-and-door factories, etc., the improvements also have been important. Machine-planers, mortising-machines for sashes, doors, and blinds—indeed a very great

variety of wood-working machinery—have been introduced, this variety being so great as almost to prevent enumeration. The result of all these improvements has been a greatly increased production, reduced cost, and little or no change in wages.

Healthfulness.—There is a general impression that operations about saw- and planing-mills are extremely unhealthful; but while there is some danger from exposure in saw-mills and from the dust in planing-mills, the general opinion is that the work in these establishments is not as unhealthful as has been believed.

WAGES TABLES, WITH SUPPLEMENTARY AND EXPLANATORY REMARKS.

R. B. Kyler & Co., Gadsden, Alabama.

[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.								
		1881.	1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.
<i>Sawing department.</i>										
Setter	Day	\$3 00	\$3 00	\$3 00	\$2 00	\$2 00	\$2 00	\$2 00	\$2 00	\$2 00
<i>Dressing department.</i>										
Planer	do	2 50	2 50	2 50	2 25	2 25	2 25	2 25	2 25	2 25
<i>General.</i>										
Engineer	do	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 25- 2 00	1 25- 2 00	1 25- 2 00	1 25- 2 00	1 25- 2 00	1 25- 2 00
Laborer	do	1 00	1 00	1 00	80	80	80	80	80	80

REMARKS.—This mill was established in 1873. House-building, car, and bridge materials are the products.

Employés have very few opportunities for over-time work, and the extra earnings have not been included in the above table.

Payments are monthly, half in cash and half in merchandise.

All classes work 10 hours per day in winter and 11 in summer.

The mill is operated about 10 months each year. The causes of irregularity are high water and accidents to machinery. The mill is dependent upon the river for its supply of logs, and when there is a freshet the logs can not be handled. No strikes have occurred.

The run of the mill sells at \$10 per M.; car material, from \$10 to \$58; flooring, from \$13 to \$35; dry boards, from \$12 to \$25. The cost of manufacturing lumber, after the logs are in the boom, is about \$2 per M.

There has been no change in the efficiency of labor.

All modern improvements in machinery have been introduced. Among these are gang-edger, self-adjusting head-block, log-cants, friction-feed, etc.

The business is very healthful, and as safe as any employment involving the use of steam.

A. C. Danner & Co., Mobile, Alabama.

[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.					Classes of employes.	Unit of payment.	DATES.				
		1880.	1879.	1878.	1877.	1876.			1880.	1879.	1878.	1877.	1876.
<i>Sawing department.</i>													
Sawyer	Day ...	\$1 00	\$1 00	\$1 00	\$1 00	\$1 00	<i>General—Continued.</i>						
<i>Dressing department.</i>													
Sawyer	do	1 00	1 00	1 00	1 00	1 00	Teamster	Day ...	\$1 00	\$1 00	\$1 00	\$1 00	\$1 00
<i>General.</i>													
Engineer	do	1 50	1 50	1 50	1 50	1 50	Laborer	do	1 00	1 00	1 00	1 00	1 00
							Superintendent	do	2 88½	2 88½	2 88½	2 88½	2 88½
							Fireman	do	1 00	1 00	1 00	1 00	1 00
							Blacksmith	do	2 50	2 50	2 50	2 50	2 50
							Tallyman	do	1 73	1 73	1 73	1 73	1 73

REMARKS.—This mill was established in 1878 for the resawing and dressing of lumber.

There are no opportunities for extra earnings, and no other considerations that would increase or diminish the above rates, except in the case of the lumber-tallyman, who has rent and fuel free, because his house, being situated in the yards, serves as an additional protection. These allowances, which would increase his wages about 30 per cent., have not been included in the wages given in the table.

Payments are weekly and all in cash.

All classes work 11 hours per day. During the winter the hours of labor are from 6 a. m. to 6 p. m., allowing one hour for dinner; in the summer, work is begun at 5.30 a. m. and is continued to 7 p. m., allowing an hour and a half for dinner.

Employment is constant.

There has been an occasional strike among the drivers in cold weather, but their places have always been easily filled.

The selling price of tongued and grooved flooring per 1,000 feet is given as \$18 for 1875 and 1880, the cost of labor being about \$2 50 per 1,000 feet. Wages, it is estimated, constitute 25 per cent. of the total cost.

All the modern improvements in planing machinery have been introduced. The effect of these has been a reduction in the number of employés, but no change in rates of wages.

The trade is considered by this firm as neither dangerous nor unhealthful.

Z. Swift, Milton, Florida.

[SAW-MILL.]

Classes of employes.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
<i>Sawing department.</i>												
Filer.....	Day ...	\$2 50	\$2 00	\$2 00	\$2 00	\$2 00	\$2 00					
Sawyer.....	do	2 50	2 50	2 50	2 50	3 00	3 00					
<i>General.</i>												
Engineer.....	do	3 84½	2 88½	2 88½	3 84½	4 81	4 81					
Laborer.....	do	1 25- 1 50	1 00- 1 50	1 00- 1 50	1 00- 1 75	1 25- 1 75	1 50- 2 00					

Classes of employes.	Unit of payment.	DATES.										
		1869.	1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.
<i>Sawing department.</i>												
Filer.....	Day ...					\$3 00						\$3 00.
Sawyer.....	do					4 00						4 00
<i>General.</i>												
Engineer.....	do					5 77						5 77
Laborer.....	do					1 50- 2 50						1 25- 2 00.

REMARKS.—This return is from a former lumber manufacturer, who states that the rates of wages which he gives are those ruling in the vicinity of the works which he formerly owned, and are not confined to those paid to the men in his own establishment. In addition to the rates in the above table, the following are given:

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1865.	1859.		
Blacksmith.....	Day.....	\$3 00	\$2 00	\$2 00	\$2 50	\$2 50	\$3 00	\$3 00	\$3 00.		
Boss carpenter.....	do	4 00	2 50	2 00	3 00	3 00	4 00	4 00	4 00.		
Carpenter.....	do	2 50	1 50	1 50	2 50	2 50	3 00	3 00	3 00.		
Half-carpenter.....	do	1 75	1 25	1 25	1 75	1 75	2 00	2 00	1 50.		
Clerk.....	Month.....	50 00	30 00	30 00	40 00	40 00	50 00	50 00	50 00.		
Book-keeper.....	do	75 00	50 00	00 00	75 00	75 00	75 00	100 00	75 00.		
Principal teacher.....	do	75 00	00 00	00 00	75 00	75 00	75 00	100 00	100 00.		
Assistant-teacher.....	do	40 00	30 00	30 00	30 00	40 00	40 00	50 00	40 00.		
Farm-hand.....	do	12 00	10 00	10 00	12 00	15 00	20 00	20 00	10 00.		
Iron-molder.....	Day.....	3 00	3 00	3 00	3 00	3 00	4 00	5 00	4 00.		
Pattern-maker.....	do	3 50	3 00	3 00	3 00	4 00	4 00	5 00	5 00.		

REMARKS.—Over-time is sometimes made at night. The men are paid one-quarter day's wages extra for working until 9 o'clock. This has not been included in the wages given above. The saw-mill hands receive, in addition to the wages named in the table, free house and garden with fire-wood, and the earnings of log-drivers are increased by free board. Carpenters and machinists furnish their own tools. Payments are half in cash and half in merchandise, the latter being obtainable upon application. From 1870 to 1880 the cash was paid weekly, and in 1880 monthly. The hours of labor for all classes were 12 a day from 1870 to 1875;

11 from 1875 to 1880, and 10 in 1880. When the mills are operated at night two sets of hands are sometimes employed, one set for the day and the other for the night. The works run only when there is shipping in port to carry off the lumber, and average about 8 months per year. No strikes have occurred. The selling price of lumber per 1,000 feet, board measure, were \$12 and \$14, respectively, for the years 1875 and 1880, and 13 cents and 12 cents per cubic foot for the same years. There has been no change in the efficiency of labor. The trade is regarded as very healthful.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

Alton Box Manufacturing Company, Alton, Illinois.

[SAW-MILL AND BOX FACTORY.]

Classes of employes.	Unit of payment.	DATES.										
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	
<i>Sawing department.</i>												
Foreman	Month ..	\$60 00	\$60 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00	\$80 00
Setter	Day	1 00	1 00	1 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Sawyer	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
<i>Dressing department.</i>												
Foreman	Month ..	00 00	00 00									
Sawyer	Day	1 25- 1 00	1 25- 1 00	1 25- 1 00	1 25- 2 00	1 25- 2 00	1 25- 2 00	1 25- 2 00	1 25- 2 00	1 25- 2 00	1 25- 2 00	1 25- 2 00
Planer	do	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50	1 50- 2 50
Matoler	do	2 50	2 50	2 50								
Surfacer	do	1 00	1 00	1 00								
<i>Box department.</i>												
Foreman	Month ..	00 00	00 00									
Box-nailer	Day	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00
<i>General.</i>												
Engineer	do	2 00	2 00	2 00	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25
Teamster	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Laborer	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50

REMARKS.—These works were established in 1872. The products are tobacco caddies and butts, all kind of packing-boxes, barrel-heading, and lumber.

The wages are net, there being neither extras nor deductions.

Payments are weekly and in cash.

All classes work 10 hours in summer and 9 in winter.

The saw-mill is run but 8 months in the year, the river being frozen over in the winter. The box factory is operated 11 months a year; when the trade is dull in winter the works stop for repairs. There have been no strikes or lockouts.

There has been no change in the efficiency of labor.

The following table shows the selling prices and labor cost of some of the articles of product. The boxes vary greatly in size, and the range of prices is given :

Year.	SELLING PRICE.			LABOR COST.	
	Lumber, per M.	Headings, per set.	Boxes, per 100.	Lumber, per M.	Headings, per set.
1872	\$13 00	\$0 05	\$15 00 to 35 00	\$5 00	\$0 03
1875	13 00	5	15 00 to 35 00	5 00	3
1880	13 00	5	15 00 to 35 00	5 00	3

No improved machinery has been introduced. The trade is considered healthful and free from danger.

Jacob Meyers & Brother, Evansville, Indiana.

[LUMBER.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.												
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.
<i>Sash-and-door department.</i>														
Foreman	Month ..	\$91 00	\$91 00	\$91 00	\$91 00	\$91 00	\$91 00	\$91 00	\$91 00	\$91 00				\$78 00
Machine-hand	Day	2 00	2 25	2 25	2 25	2 50	3 00	2 75	2 75	3 00				8 00
<i>General.</i>														
Engineer	do	1 50	1 50	2 00	2 00	2 00	2 00	2 00	2 00	2 00				2 00
Teamster	do	1 25	1 00	1 00	1 50	1 50	1 50	1 50	1 50	1 50				1 50
Laborer	do	1 25	1 00	1 00	1 25	1 25	1 50	1 50	1 50	1 50				1 50
Carpenter	do	1 75	1 75	1 75	1 75	1 75	2 00	2 25	2 50	2 50				2 50
Apprentice, first year	do	50	50	50	50	50	50	50	50	50				75
Apprentice, second year	do	83½	83½	1 00	1 00	1 00	1 00	1 00	1 00	1 00				1 00
Apprentice, third year	do	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50				1 50

REMARKS.—The works were established in 1852, the products being blinds, doors, sashes, and a general line of all building-material which can be made from rough lumber.

During 2 or 3 months each year the mill runs over-time 2½ hours a day, the men being paid for a quarter of a day extra. These

extra earnings have not been included in the table, and would about make up for the necessary stoppages.

Journeymen and apprentices furnish their own tools. This expense would not exceed \$10 per annum, it is thought, and has not been considered in making up the tables.

Jacob Meyers & Brother, Evansville, Indiana—Continued.

Employés are paid weekly and principally in cash. Store-orders, as usually understood, it is stated, have never been used, though occasional orders are given upon parties indebted to the firm if the men will accept them voluntarily, and perhaps 5 per cent. of the wages are paid in this way.

In 1852 the hours of labor were 12 a day for all classes, but in 1855 they were reduced to 10. The opinion is expressed that the change from 12 to 10 hours has benefited the health and increased the comfort of the employés without detriment to production. Experience in temporarily running short time, however, has shown that a further reduction in hours would be injurious both to the employer and to the employé.

The works are regarded as being in constant operation, though the necessary stoppages for repairs, taking stock, etc., such, it is remarked, as are incidental to the running of all factories, would consume about a month each year. In 1880, however, the extra work fully compensated for all stoppages. Strikes are not in vogue in the vicinity of the works, and in the establishment itself none have occurred for 15 years.

All modern improvements in wood-working machinery used by builders have been introduced at these works. These have increased twofold the production in proportion to the number of employés, and have increased wages while lessening the cost of manufacturing. The improvements in manufacturing staple products, however, as stated above, are not in any way commensurate with the advance in facilities for producing novelty work of all kinds.

Regarding the questions of selling price, labor cost, and percentage of wages to cost, the proprietor states that the most radical

changes apply to a class of work concerning which it is impossible to generalize, such as stairs, brackets, scroll-work, curves, and ornamentation. The following table, however, gives the prices of certain staple products:

Year.	Poplar flooring, per 100 feet.	Pine flooring, per 100 feet.	Doors, each.	Blinds, per pair.
1860.....				\$3 00
1865.....	\$4 00	\$7 00	\$5 00	4 00
1870.....	3 50	6 00	3 00	3 00
1875.....	3 00	5 00	2 75	2 50
1880.....	2 75	4 00	2 25	2 00

The labor cost of manufacturing doors in 1852 was \$1 each, and the same for blinds per pair made by hand entirely; the labor cost for the same articles in 1880, using machinery, was but 25 cents. The labor cost of flooring in 1880 was 20 cents; in 1852, \$1 25. In 1852 wages constituted 20 per cent. of the total cost of doors, and in 1880, 11 per cent.

There has been considerable increase in the efficiency of labor, resulting from increased intelligence and improved mental and moral character of the employés, together with intelligent training while at work.

The trade is regarded as perfectly healthful, except for those inclined to consumption; to such the dust necessarily produced in any wood-working shop, it is asserted, would be injurious. Accidents are not common, and are usually the result of gross carelessness.

Indianapolis Manufacturers and Carpenters' Union, Indianapolis, Indiana.

[SAW- AND PLANING-MILL.]

Classes of employés.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	
<i>Dressing department.</i>											
Foreman.....	Month....	\$78 00	\$71 50	\$65 00	\$65 00		\$121 42	\$121 42	\$104 00	\$104 00	
Sawyer.....	Day.....	2 00	1 50	2 00	2 00	\$2 25	2 75	2 75	2 50	2 50	
Planer.....	do.....	2 00	1 75	2 00	2 00	2 25	2 75	2 75	3 00	2 50	
Matcher.....	do.....	2 00	1 75	2 25	2 25	2 50	3 00	3 00	3 00	2 50	
Surfacer.....	do.....	2 00	1 75	2 00	2 00	2 25	2 75	2 75	3 00	2 50	
Molder.....	do.....	2 00	1 75	2 25	2 25	2 25	2 75	2 75	2 75	2 75	
<i>Sash-and-door department.</i>											
Foreman.....	Month....	78 00	71 50	58 50	58 50				104 00	104 00	
Machine-hand.....	Day.....	2 00	1 75	2 25	2 25	2 25	2 75	2 75	2 75	2 75	
Bench-hand.....	do.....	1 75	1 50	2 00	2 25	2 25	3 00	3 00	3 00	3 00	
<i>General.</i>											
Engineer.....	do.....	1 75	1 67	2 00	2 25	2 50	3 00	3 00	3 00	3 00	
Teamster.....	do.....	1 40	1 25	1 50	1 70	1 75	1 75	2 00	2 00	2 00	
Laborer.....	do.....	1 25	1 00	1 00	1 15	1 15	1 50	1 50	1 75	1 50	

REMARKS.—The works were established in 1871, and manufacture dressed lumber and building-materials, doors, sashes, blinds, etc.

There are no extras or allowances. Bench-hands are obliged to purchase their tools, which are such as are used by carpenters. The expense of keeping up the tools would amount to about 1 per cent. of their wages.

Payments have always been weekly and in cash.

All classes of employés work 8 hours per day during the 3 winter months, 9 hours during 1½ month in fall and spring, and 10 hours during the remainder of the year.

The works are operated 11 months a year, the cause of idleness being irregularity of demand. There have been no strikes or lock-outs.

There has been no noticeable change in the efficiency of labor.

Improvements have been made in the old machinery, and new machinery has been added. These have increased production, lessened cost, and reduced the number of employés.

The following statement gives the selling prices, labor cost, and percentage of wages to cost of three articles produced at these works:

Year.	SELLING PRICE.			LABOR COST.			PERCENTAGE OF WAGES TO COST.		
	Doors, each.	Sashes, each.	Blinds, each.	Doors, each.	Sashes, each.	Blinds, each.	Doors.	Sashes.	Blinds.
1872.	\$3 80	\$1 35	\$3 20	\$0 85	\$0 85	\$0 65	Pr. ct.	Pr. ct.	Pr. ct.
1875.	2 65	90	2 75	65	25	50	28	30	28
1880.	2 25	85	2 00	50	20	35	26	27	25

The trade is healthful, but somewhat dangerous on account of the rapid motion of the machinery. There have been but three serious accidents, however, in the history of the works, but one of which was fatal, and all more or less the result of carelessness.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

Clift, Williams & Co., Terre Haute, Indiana.

[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
<i>Dressing department.</i>											
Foreman	Month..	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00
<i>Sash-and-door department.</i>											
Foreman	do	78 00	78 00	78 00	78 00	78 00	78 00	78 00	78 00	78 00	78 00
Machine-hand	Day	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00	1 50- 2 00
Bench-hand	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
<i>General.</i>											
Engineer	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Laborer	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50

REMARKS.—This saw- and planing-mill, established in 1864, manufactures sashes, doors, blinds, etc., and general building-material. It will be noticed that there has been no change in wages.

No over-time is made.

Bench-hands furnish their own tools.
Payments are weekly and all in cash.

Ten hours constitute a day's labor.

The works are operated 11 months a year.

P. Kuntz, Union City, Indiana.

[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
<i>Dressing department.</i>											
Foreman	Month ..	\$80 00	\$80 00	\$80 00	\$120 00	\$120 00	\$120 00	\$120 00	\$100 00	\$100 00	\$80 00
Sawyer	Day	2 50	2 50	2 50	2 25	2 25	2 00	2 00	2 00	2 00	1 75
Planer	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 70	1 60	1 50
Matcher	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 70	1 60	1 50
Surfacer	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 70	1 60	1 50
Molder	do	1 75	1 75	1 60	1 50	1 50	1 50	1 50	1 40	1 35	1 25
<i>Sash-and-door department.</i>											
Foreman	Month ..	40 00	40 00	40 00	45 00	50 00	50 00	40 00	40 00	40 00	36 00
Machine-hand	Day	1 65	1 65	1 65	1 65	1 65	1 65	1 65	1 65	1 65	1 65
Bench-hand	do	1 75	1 75	1 65	1 75	1 75	1 75	1 60	1 60	1 50	1 50
<i>General.</i>											
Engineer	do	2 30	2 50	2 25	2 00	2 00	2 00	2 00	1 75	1 75	1 75
Teamster	do	3 00	3 60	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Laborer	do	1 50	1 25	1 00	1 50	1 50	1 50	1 25	1 00	1 25	1 25

REMARKS.—The products of this mill are doors, sashes, blinds, brackets, and finished lumber.

There are no opportunities for over-time work, and no allowances are granted to employes that would enhance their wages.

Employes are subject to a slight expense for tools. This would not exceed 1 per cent. of their wages.

Payments are monthly and in cash.

The hours of labor average 10 a day for the foreman and 9 for all other classes. In summer a day's work is somewhat longer than 10 hours, and in the short days of fall and winter it is shorter. The experience afforded by the variation of hours with the seasons has

shown that a reduction of hours decreases production, but does not affect the habits and character of the employes.

From 1871 to 1875 the works were operated 10 months per year, and from 1876 to 1880, 11 months. The causes of idleness are light demand in the winter months, holidays, and vacations. There have been no strikes or lockouts.

There has been no change in the efficiency of labor.

Improved machinery has been introduced constantly. This has effected an increase of 10 per cent. in cost, and an increase in the number of lower-priced employes.

The trade is regarded as neither dangerous nor unhealthful.

Nairn, Gillies & Co., Burlington, Iowa.
[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.											
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.
<i>Sawing department.</i>													
Foreman	Month..	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$58 33	\$58 33	\$58 33	\$58 33
Filer	Day	1 60 $\frac{1}{2}$	1 80	1 80	2 00	2 00	2 00	2 00	2 00				
Setter	do	1 60 $\frac{1}{2}$	1 80	1 80	2 00	2 00	2 00	2 00	2 00				
Sawyer	do	2 00	2 00	2 10	2 10	2 10	2 25	2 25	2 75	2 75	2 75	2 75	2 75
<i>Dressing department.</i>													
Foreman	Month..	78 00	78 00	78 00	78 00	78 00	78 00	78 00	78 00	58 33	58 33	58 33	58 33
Sawyer	Day	2 00	2 00	2 10	2 10	2 10	2 25	2 25	2 75	2 75	2 75	2 75	2 75
Planer	do	1 15	1 15	1 15	1 35	1 35	1 35	1 35	1 50	1 50	1 50	1 50	1 50
Matcher	do	1 15	1 15	1 25	1 35	1 35	1 35	1 35	1 50	1 50	1 50	1 50	1 50
Surfacer	do	1 15	1 15	1 25	1 35	1 35	1 35	1 35	1 50	1 50	1 50	1 50	1 50
Molder	do	2 00	2 00	2 00	2 00	2 50	2 75	2 75	2 75	2 75	2 75	2 75	2 75
<i>Sash-and-door department.</i>													
Foreman	Month..	78 00	78 00	78 00	78 00	78 00	78 00	78 00	78 00	58 33	58 33	58 33	58 33
Machine-hand	Day	2 00	2 00	2 25	2 25	2 25	2 50	2 50	2 75	2 75	2 75	2 50	2 50
Bench-hand	do	1 75	1 75	2 00	2 00	2 00	2 25	2 25	2 50	2 50	2 50	2 25	2 25
Glazier	do	1 16 $\frac{1}{2}$	60 $\frac{1}{2}$	1 00	83 $\frac{1}{2}$	83 $\frac{1}{2}$							
<i>General.</i>													
Engineer	do	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 50	2 50	2 25	2 25	2 25
Laborer	do	1 15	1 00	1 35	1 35	1 35	1 35	1 35	1 50	1 50	1 50	1 50	1 50
Teamster	do	1 50	1 33 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 00 $\frac{1}{2}$	1 00 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 00 $\frac{1}{2}$	1 00 $\frac{1}{2}$	1 00 $\frac{1}{2}$	1 50	1 50	1 50

REMARKS.—This factory was established in 1868, and manufactures doors, sashes, blinds, moldings, stair-work, etc. In addition to the rates in the table the following statement of average earnings from 1869 to 1880 is given:

Classes of employes.	Unit of payment.	DATES.											
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.
Carpenter	Day	\$1 81	\$1 80 $\frac{1}{2}$	\$1 80 $\frac{1}{2}$	\$1 80 $\frac{1}{2}$	\$1 90	\$2 15	\$2 18	\$2 30	\$2 41 $\frac{1}{2}$	\$2 34	\$2 37 $\frac{1}{2}$	\$2 35
Stair-builder	do	2 50	2 50	2 50	2 50	2 50	2 50	2 25	2 75	2 75	2 75	2 75	2 75
Wood-turner	do	2 50	2 50	2 50	2 50	2 50	2 50	2 25	2 75	2 75	2 75	2 75	2 75
Lumber-sorter	do	1 25	1 15	1 50	1 50	1 50	1 58 $\frac{1}{2}$	1 50	1 60 $\frac{1}{2}$	1 83	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$
Night-watchman	do	1 83 $\frac{1}{2}$	1 83 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$	1 60 $\frac{1}{2}$			
Sunday watchman	do								1 73	1 75	1 75	1 75	1 75
Bookkeeper	do	3 20	3 20	3 20	3 20	3 84	3 84	3 20	2 88 $\frac{1}{2}$	2 72 $\frac{1}{2}$			
Shipping-clerk	do	1 50	1 35	1 35	1 50	1 50	1 50						
Apprentice	do	75	75	75	60 $\frac{1}{2}$	63 $\frac{1}{2}$	59	71 $\frac{1}{2}$	80 $\frac{1}{2}$	84	75	71 $\frac{1}{2}$	79

The engineer and a boy have opportunities for over-time by cleaning the boiler on Sunday. These would increase the wages of the engineer from \$25 to \$30 per annum and the boy about half that amount, and this has not been included in the table.

Carpenters and stair-builders furnish their own tools at an expense amounting to about 1 per cent. of their wages. The payments are made in cash and every week.

All classes work 10 hours a day. The proprietor states that there has never been any special agitation of the 8-hour question at their works. All classes, it is supposed, would prefer shorter hours for the same wages that they now receive per day, and it is also true that they would be opposed to shorter hours and corresponding decrease of pay. The opinion is expressed that the 8-hour system would be as well for employers and better for employes if universally adopted.

The works were in operation 11 $\frac{1}{2}$ months a year from 1868 to 1870; 10 $\frac{1}{2}$ months from 1871 to 1875; 9 $\frac{1}{2}$ months from 1876 to 1880, and 11 $\frac{1}{2}$ months in the census year. The causes of irregularity have been uncertain demand and the running of the mill but 9 hours a day during the winter, owing to the fact that artificial light is not used. Nothing in the nature of a strike or a lockout has ever occurred.

Improved machinery has been introduced from time to time. These improvements have decreased cost of production, and increased the output in proportion to the number of hands. Wages, however, have not been affected, and it is thought that the lessening in cost of product causes increased consumption and indirectly the employment of more hands.

The following are the wholesale selling prices and estimate of the labor cost and percentage of wages to cost of four articles of product:

Year.	SELLING PRICE.				Percentage of wages to cost of product.
	Doors, 2' 8" by 6' 8", 1 $\frac{1}{2}$ " thick, each.	Windows, 12-light, 8" by 14", 1 $\frac{1}{2}$ " thick, open, each.	Windows, same, glazed, each.	Blinds, 12-light, 8" by 14", pair.	
1870	\$2 45	\$0 75	\$1 75	\$1 94	50
1875	1 89	62	1 45	1 26	50
1880	1 50	43	1 40	1 05	50

Year.	LABOR COST.				Percentage of wages to cost of product.
	Doors, each.	Windows, open, each.	Windows, glazed, each.	Blinds, pair.	
1870	\$0 92	\$0 20	\$0 65	\$0 72	50
1875	75	25	58	51	50
1880	60	17	56	42	50

There has been no noticeable change in the efficiency of labor.

There is nothing connected with the trade which is injurious to the health of the employes, and no fatal accidents have occurred. The most serious accident on record is the losing of an arm by a man operating a planing-machine. Fingers are occasionally cut, but such danger can be avoided by proper care on the part of employes.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

Munson & Burrows, Leavenworth, Kansas.

[SAW- AND PLANING MILL.]

Classes of employes.	Unit of payment.	DATES.																
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.	1864.
<i>Dressing department.</i>																		
Sawyer	Day	\$2 17	\$2 17	\$2 17	\$2 17	\$2 17	\$2 17	\$2 17	\$2 17	\$2 17	\$2 17	\$2 25	\$2 25	\$2 25	\$2 25	\$2 25	\$2 25	\$2 25
Molder	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
<i>Sash-and-door department.</i>																		
Foreman	Month	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00	75 00
Machine-hand	Day	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Bench-hand	do	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 25	2 25	2 25	2 25
<i>General.</i>																		
Engineer	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Teamster	do	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Laborer	do	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25

REMARKS.—The articles of manufacture at this mill are doors, sashes, and blinds.

There are no opportunities for over-time, and no allowances.

Some employes are obliged to pay out a part of their wages for bench-tools. This expense, however, would not exceed 2 per cent. of their wages.

Payments are in cash and weekly.

The employes work 10 hours a day in winter and 9 in summer. During a busy time in 1872, it is stated, an effort was made to work 11 hours a day in summer, but the result showed that nothing was gained by employer or employe, and after two or three weeks' trial the experiment was abandoned.

The works are in constant operation, the factory making up stock in slack times to be sold in the busy seasons.

No strikes or labor troubles of any kind have been experienced.

Care has been taken to avoid the employment of men of a turbulent character, and at times men who have undertaken to act as leaders have been discharged.

It is stated that it is not possible to give the percentage of wages to cost of goods in detail, as a large amount of the work made is on orders, and the prices would be misleading as compared with those at mills making regular stock. The average of labor cost, however, is about 33½ per cent. of total cost.

There has been no change in the efficiency of labor, except among boys.

The usual machinery has been introduced.

It is thought that work in all establishments of this character where saws are used is more or less dangerous. Strict precautions with regard to cleanliness, light, and ventilation are also necessary to the healthfulness of the occupation.

An establishment in Kentucky.

[LUMBER.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.															
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	
<i>Dressing department.</i>																	
Foreman	Month	\$75 00	\$65 00	\$75 00	\$80 00	\$80 00	\$90 00	\$100 00	\$100 00	\$100 00	\$120 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Sawyer	Day	1 75	1 75	2 00	2 00	2 00	2 25	2 25	2 40	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00
Planer	do	1 75	1 75	2 00	2 00	2 00	2 25	2 25	2 40	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00
Matcher	do	1 75	1 75	2 00	2 00	2 00	2 25	2 25	2 40	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00
Surfacer	do	1 75	1 75	2 00	2 00	2 00	2 25	2 25	2 40	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00
Molder	do	2 00	2 00	2 25	2 25	2 25	2 75	3 00	3 00	3 00	3 75	2 75	2 75	2 75	3 00	3 25	3 25
<i>Sash-and-door department.</i>																	
Foreman	Month	75 00	80 00	85 00	95 00	95 00	100 00	110 00	110 00	125 00	100 00	100 00	85 00	100 00	100 00	100 00	100 00
Machine-hand	Day	2 25	2 25	2 25	2 50	2 50	2 50	2 50	2 75	2 75	2 75	2 75	3 25	3 25	3 25	3 25	3 25
Bench-hand	do	2 00	1 80	2 00	2 25	2 25	2 25	2 25	2 50	2 50	2 60	2 60	3 00	3 00	3 00	3 00	3 00
<i>Box department.</i>																	
Foreman	Month	65 00	60 00	65 00	70 00	70 00	.....	.....	.....	80 00	80 00	80 00	.....	.....	.....	.....	.....
Box-nailer	Day	1 75	2 00	2 00	2 25	2 50	2 50	2 50	2 75	2 75	2 75	2 75	2 75	3 00	3 25	.....	.....
<i>General.</i>																	
Teamster	do	1 35	1 40	1 40	1 40	1 40	1 50	1 66½	1 66½	2 00	2 20	2 20	2 20	2 20	2 50	.....	2 00
Laborer	do	1 25	1 20	1 10	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 60	1 60	1 60
Steamboat joiner	do .....	.....	.....	1 75	2 25	2 50	2 50	2 50	2 70	2 75	2 75	3 00	2 75	2 75	3 00	3 00	3 00

An establishment in Kentucky—Continued.

Classes of employes.	Unit of payment.	DATES.															
		1805.	1804.	1803.	1802.	1801.	1800.	1850.	1858.	1857.	1850.	1855.	1854.	1853.	1852.	1851.	1850.
<i>Dressing department.</i>																	
Foreman	Month	\$100 00	\$125 00	\$80 00	\$65 00	\$50 00	\$80 00	\$80 00	\$80 00	\$80 00	\$65 00						
Sawyer	Day	3 00	2 25	1 75	1 25	1 25	1 37½	1 37½	1 25	1 25	1 60	1 60	\$1 50	\$1 50	\$1 25	\$1 25	\$1 00
Planer	do	3 00	2 25	1 75	1 25	1 25	1 37½	1 37½	1 25	1 25	1 60	1 60	1 50	1 50	1 25	1 25	1 00
Matcher	do	3 00	2 25	1 75	1 25	1 25	1 37½	1 37½	1 25	1 25	1 60	1 60	1 50	1 50	1 25	1 25	1 00
Surfacer	do	3 00	2 25	1 75	1 25	1 25	1 37½	1 37½	1 25	1 25	1 60	1 60	1 50	1 50	1 25	1 25	1 00
Molder	do	3 25	2 75	2 00	1 00	1 50	1 80	1 75	1 80	1 75	1 75	1 75	1 75	1 75	1 50	1 50	1 50
<i>Sash-and-door department.</i>																	
Foreman	Month	160 00	125 00	100 00	60 00	50 00	70 00	70 00	70 00	70 00	60 00	60 00	50 00	45 00	40 00		
Machine-hand	Day	3 25	3 00	2 75	1 50	1 40	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 50	1 40	1 40
Bench-hand	do	3 00	2 75	2 50	1 25	1 25	1 50	1 50	1 50	1 50	1 60	1 60	1 60	1 60	1 50	1 40	1 25
<i>Box department.</i>																	
Foreman	Month																
Box-maker	Day																
<i>General.</i>																	
Teamster	do	1 50	1 00	1 37½	1 00	1 00	1 00	1 25	1 25	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Laborer	do	1 75	1 75	1 75	1 50	1 25	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	00	00	80
Steamboat-joiner	do	3 25	2 75	2 00	1 75	1 50	1 00	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 60	1 50	1 50

REMARKS.—These works were established in 1846, and manufacture doors, sashes, blinds, and boxes.

There have been no extra earnings or allowances of importance. Carpenters and box-makers furnish their own tools. The expense of these has not been considered in the table, and would decrease the rates of wages given about 1 per cent.

Payments are weekly and all in cash. From 1846 to 1875 all classes worked 10 hours a day; from 1875 to 1880 the hours of labor have been 9 in the three winter months and 10 the balance of the year. The reduction to 9 hours a day during a portion of the year has produced no noticeable change in the character and habits of the employes. The amount of product is not so great in proportion to the hours in winter as in summer, but this is due to the difficulty of handling the tools in cold weather, as the shop is not heated.

The works have been operated 12 months each year except in 1861, when they ran 8 months, and in 1862, when but 6 months were made. The cause of irregularity was light demand. No strikes worthy of notice and no lockouts have occurred.

The following statement shows the selling prices and labor cost of some articles produced for certain years covered by the report:

Year.	SELLING PRICE.			LABOR COST.		
	Doors, each.	Sashes, pair.	Blinds, pair.	Doors, each.	Sashes, pair.	Blinds, pair.
1800...	\$2 72	\$0 60	\$1 95	\$0 40 to \$0 54	\$0 23 to \$0 26	\$0 68 to \$0 78
1865...	4 50	1 25	3 25	07 to 90	43 to 50	1 13 to 1 80
1880...	2 10	65	1 70	31 to 42	22 to 26	59 to 63

Regarding efficiency of labor, it is remarked that while the introduction of machinery has increased the ability of the men, stimulating their ingenuity and dexterity, the character of labor has degenerated, the men being less conscientious and ambitious than formerly and more careless when working for employers.

Numerous labor-saving and improved machines have been introduced. These have increased wages and production.

The trade is regarded as healthful. In common with a majority of the returns this schedule states that accidents, such as the loss of fingers, sometimes occur, but that these can be avoided by proper care.

An establishment in Kentucky.

[SAW- AND PLANING-MILL.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.															
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.
<i>Sawing department.</i>																	
Foreman	Month	\$65 00		\$70 20	\$70 20	\$78 00	\$78 00	\$78 00	\$78 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00
Sawyer	Day	2 50	\$2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
<i>Dressing department.</i>																	
Foreman	Month	65 00		70 20	70 20	78 00	78 00	78 00	78 00	104 00	104 00	104 00	104 00	104 00	104 00	91 00	91 00
Sawyer	Day	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Planer	do							3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Matcher	do	2 25	2 00	2 00	2 00	2 00	2 00										
Surfacer	do	1 50	1 25	1 25	1 25	1 25	1 00										
Molder	do	1 75	2 50	2 50	2 50	2 75	2 75	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
<i>Sash-and-door department.</i>																	
Foreman	Month	65 00		70 20	70 20	78 00	78 00	78 00	78 00	104 00	104 00	104 00	104 00	104 00	104 00	91 00	91 00
Machine-hand	Day	1 75	2 00	2 00	2 00	2 00	2 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Bench-hand	do	1 75	1 75	2 50	2 50	2 50	2 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
<i>General.</i>																	
Engineer	do	2 00		2 25	2 25	2 25	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Teamster	do	1 20	1 15	1 33½	1 33½	1 33½	1 50	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50		
Laborer	do	75		05	75	1 00	1 25	1 00	1 00	1 00	1 00	1 25	1 25	1 50	1 50	1 50	1 50

An establishment in Kentucky—Continued.

REMARKS.—At this mill lumber which has been already sawed is dressed and surfaced for flooring, or manufactured into sashes, doors, molding, benches, etc.

The wages given in the table are practically net, the only consideration which would affect their value being a very slight expense to some classes of employes for tools.

Payments are weekly, and have always been in cash.

Ten hours, which have constituted a day's labor for all classes at the mill, are considered as the best for the employes. Less time, it is believed, would furnish the men with more leisure than they would use to their own profit; and longer hours would tax their physical strength unduly, rendering them prematurely old and exhausting their energy.

From 1865 to 1870 the works were run 12 months a year, and since 1871, 11 months. The irregularity has resulted from over-production and the fact that the winter season is unfavorable for this business.

Improved machinery has been introduced, effecting a decrease in the number of employes and a lessening of cost without affecting wages.

Below are the selling prices of planed (two sides) 1-inch boards per 1,000 feet, and the labor cost and percentage of wages to cost of the planing:

Year.	Selling price.	Labor cost.	Percentage of wages to cost.
1865.....	\$40 00	\$1 10	<i>Per cent.</i> 3.0
1870.....	30 00	1 10	4.7
1875.....	25 00	65	2.8
1880.....	22 50	55	3.1

The fact that the largest part of the labor is put into the board before it is received by this firm as raw material makes the labor cost in the tables much below what is shown in other tables.

There has been a decrease in the efficiency of labor. This is attributed to a lack of interest of employes, to the fact that the business is not properly learned, to trades-unions, and to the pernicious idea that labor and capital are antagonistic.

The trade is considered healthful

Simmons, Ely & Hampton, Louisville, Kentucky.
[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.															
		1860.	1870.	1878.	1877.	1870.	1875.	1874.	1873.	1872.	1871.	1870.	1860.	1868.	1867.	1860.	1865.
<i>Dressing department.</i>																	
Foreman	Month..	\$65 00	\$65 00	\$65 00	\$65 00	\$65 00	\$65 00	\$65 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00	\$78 00
Filler	Day ...	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Sawyer.....	do ...	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 75	2 75	2 75	2 75	2 75	2 75	2 75	2 75	2 75
Planer	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Matcher	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Surfacer	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Molder	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 75	2 75	2 75	2 75	2 75
<i>Sash-and-door department.</i>																	
Foreman	Month..	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00
Machine-hand	Day ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Bench-hand	do ...	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	3 33½	3 33½	3 33½	3 33½	3 33½
<i>Box department.</i>																	
Box-nailer.....	do ...	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 75	2 75	2 75	2 75	2 75
<i>General.</i>																	
Engineer.....	do ...	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Teamster.....	do ...	1 33½	1 33½	1 33½	1 33½	1 33½	1 33½	1 33½	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Laborer.....	do ...	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50

REMARKS.—These works were established in 1865, and manufacture doors, sashes, blinds, frames, and packing-boxes.

There are no opportunities for over-time and no allowances.

Carpenters furnish their own bench-tools.

Payments have always been weekly and in cash.

The hours of labor have been 10 a day during most of the time covered by the report. On several occasions the working-hours have been temporarily reduced to 8 on account of dull times, and the men paid for 8 hours' work at the same rate per hour as 10 hours. This arrangement has invariably caused dissatisfaction. The hands were less prompt when working 8 than when working 10 hours.

From 1865 to 1870 the works made 11 months a year; from 1876 to the close of the census year but 8 months per year were averaged, the cause of idleness being light demand. There has never been a strike at these works.

The selling prices given are as follows:

Year.	Doors, 3 by 7 feet, each.	Sashes, 10 by 18 inches, pair.	Blinds, 10 by 18 inches, pair.	Flooring, per M.	Boxes, No. 1 dry goods, each.
1865.....	\$4 20	\$1 50	\$4 00	\$45 00	\$3 00
1870.....	3 75	1 30	3 50	37 50	2 00
1875.....	2 70	90	2 50	28 00	1 05
1880.....	2 50	1 50	2 40	30 00	1 00

The percentage of wages to total cost of product averaged 20 per cent. in 1880.

There has been no change in the efficiency of labor.

The trade is regarded as healthful and not very dangerous.

Amos Kent, Tangipahoa, Louisiana.

[SAW- AND PLANING- MILL.]

Classes of employes.	Unit of payment.	DATES.														
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.
<i>Sawing department.</i>																
Sawyer	Day....	\$2 50	\$2 00	\$2 00	\$3 60	\$3 00	\$3 00	\$4 23	\$4 23	\$4 23	\$2 86½	\$3 84½	\$1 02½	\$1 02½	\$1 02½	\$1 02½
<i>Dressing department.</i>																
Foreman	Month..	2 50	2 00	2 00	3 00	3 00	3 00	4 23	4 23	4 23	2 86½	3 84½	1 02½	1 02½	1 02½	1 02½
Sawyer	Day....	2 50	2 00	2 00	3 00	3 00	3 00	4 23	4 23	4 23	2 86½	3 84½	1 02½	1 02½	1 02½	1 02½
<i>General.</i>																
Teamster	do	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
Laborer	do	84	70	70	76	70	76	76	70	00	00	00	00	06	00	00
Boys	do	50	38	38	38	38	38	38	38	40	40					

REMARKS.—This mill, which is a small one, began the manufacture of rough and dressed lumber in 1861. The outbreak of the rebellion, however, caused it to cease operations, which were not resumed until 1866.

The employes have had a few opportunities for extra earnings on Saturday afternoons, which are counted as half holidays, and by improving these could add to the regular wages given in the table about \$2 a month.

Various allowances are granted to the operatives, among which are free house, fuel, and fencing. These have not been considered in the table.

None of the employes are subject to any expense for tools.

Payment is made monthly all in cash.

All classes work 10½ hours a day, five days in the week, and, as stated above, half a day on Saturday.

Since the close of the war the works have been operated 12 months each year. There have been no strikes or lockouts.

There has been no change in the efficiency of labor.

A locomotive has been introduced for hauling logs to the mill. This saves the labor of ten mules and four men, and performs the labor in one-third the time.

The trade is very healthful. But one accident has occurred during the last 10 years. In 1876 a man was killed by a log falling on him from the mule car.

The selling prices, labor cost, etc., are given below :

Year.	SELLING PRICE.		LABOR COST.		PERCENTAGE OF WAGES TO COST.	
	Rough lumber, per M.	Dressed lumber, per M.	Rough lumber, per M.	Dressed lumber, per M.	Rough lumber.	Dressed lumber.
1865...	\$25 00	\$45 00	\$5 00	\$8 00	Per cent. 50	Per cent. 50
1870...	15 00	25 00	4 00	7 00	50	50
1875...	10 00	18 00	3 00	6 00	50	50
1880...	8 00	15 00	3 00	6 00	60	50

As an explanation of the difference between the selling price of 1865 and that of 1880, and the comparatively smaller difference between the labor cost of these extreme dates, the following remark is made by the proprietor: "At the earliest date mentioned in the table all lumbering business in the South had been stopped for four years. Therefore the few mills that had been spared the general destruction had more than they could do, and after the war for several years lumber ruled very high, and labor comparatively low, as large numbers of men from the disbanded armies were without employment."

Roberts & Co., New Orleans, Louisiana.

[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
<i>Dressing department.</i>											
Foreman	Month..	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00
<i>Sash-and-door department.</i>											
Foreman	do	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00	104 00
<i>General.</i>											
Laborer	Day	1 00- 1 50	1 00- 1 50	1 00- 1 50	1 00- 1 50	1 00- 1 50	1 00- 1 50	1 00- 1 50	1 00- 1 50	1 00- 1 50	1 00- 1 50

REMARKS.—These works were established in 1852. Doors, blinds, sash-moldings, and other articles peculiar to the sash business are produced.

The opportunities for over-time are not sufficient to warrant notice, and have not been considered in making up the table.

There are no allowances or deductions.

Payments have always been every two weeks and all in cash.

In 1870 the hours of labor were 9 a day. Since 1875 the employes have been paid by the hour, 10 hours being considered a day's work, and the company regards this method as much more satisfactory than payment by the day. The employes lose only the time they are actually absent, and the employer is less annoyed by complaints of long hours, etc

The works have run 12 months each year since 1865, no strikes or lockouts having taken place.

The following selling prices are for 1880 :

- Panel-doors, each \$2 00 to \$5 00
- Plain sashes, pair 35 to 2 20
- Blind-doors, each 3 75 to 5 05

Labor averages about 25 per cent. of total cost of product.

There has been no change in the efficiency of labor.

Advantage is taken of all improvements in machinery which have reduced cost of manufacture.

The number of employes remains the same, however, owing to the increase of business.

The trade is not considered dangerous or unhealthful.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

J. M. Haynes, Augusta, Maine.

[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.														
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1860.	1808.	1867.	1866.
<i>Sawing department.</i>																
Foreman.....	Month..	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$75 00	\$75 00	\$75 00	\$75 00	\$75 00	\$75 00	\$50 00	\$50 00	\$50 00	\$50 00
Filer.....	Day....	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 00	2 00	2 00	2 00
Sawyer.....	do.....	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 00	2 00	2 00	2 00
<i>General.</i>																
Engineer.....	do.....	2 00	2 00	2 00	2 00	2 00	2 50	2 50	2 50	2 50	2 50	2 50	2 00	2 00	2 00	2 00
Teamster.....	do.....	1 50	1 50	1 50	1 50	1 50	2 00	2 00	2 00	2 00	2 00	2 00	1 50	1 50	1 50	1 50
Laborer.....	do.....	1 25	1 00	1 00	1 25	1 25	1 75	1 75	1 75	1 75	1 75	1 75	1 25	1 25	1 25	1 25

REMARKS.—The mill giving the above rates of wages manufactures planks, boards, laths, pickets, shingles, etc.

The wages given in the table are subject to no deductions or allowances.

All classes of employes work 11 hours a day.

The works have been operated 8 months each year, the idleness being occasioned by ice and snow. There have been no strikes or lockouts.

Improved saws have been introduced. These have lessened cost and increased output, but have not reduced the number of employes.

Below are selling prices of some of the articles manufactured:

Year.	Planks, per 1,000 feet.	Boards, per 1,000 feet.	Laths, per 1,000.	Shingles, per 1,000.	Clapboards, per 1,000 feet.
1865.....	\$16 00	\$15 00	\$2 00	\$4 00	\$30 00
1870.....	16 00	15 00	2 00	4 00	30 00
1875.....	11 00	11 00	1 00	2 00	25 00
1880.....	12 00	12 00	1 50	3 00	25 00

The trade is not unfavorable to health.

H. G. Davis & Co., Deer Park, Maryland.

[SAW-MILL.]

Classes of employes.	Unit of payment.	DATES.																
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1860.	1868.	1867.	1866.	1865.	1864.
<i>Sawing department.</i>																		
Foreman.....	Month..	\$35 10	\$35 10	\$32 50	\$32 50	\$32 50	\$32 50	\$32 40	\$32 40	\$32 40	\$42 00	\$42 00	\$42 00	\$45 50	\$45 50	\$45 50	\$52 00	\$45 50
Sawyer.....	Day....	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 25	2 25	2 25	2 50	2 00
<i>General.</i>																		
Teamster.....	do.....	1 25	1 25	1 15	1 15	1 15	1 30	1 40	1 40	1 30	1 05	1 05	1 05	1 75	1 75	1 75	2 05	1 65
Laborer.....	do.....	1 10	1 10	1 00	1 00	1 00	1 15	1 25	1 25	1 25	1 50	1 50	1 50	1 60	1 60	1 60	1 90	1 50
Carpenter.....	do.....	1 75	1 60	1 50	1 50	1 50	1 75	2 00	2 00	2 00	2 25	2 25	2 25	2 50	2 50	2 50	2 50	2 50

REMARKS.—There are no opportunities for extra earnings at this establishment.

Men with families are furnished with free house and garden.

No employes are under any expense for implements, etc., except mechanics, who purchase and keep in order their own tools.

Employes are paid in merchandise on application, or in cash at the end of the month, as they prefer.

All classes work 11 hours.

The works are idle about 2 months each year, as the lumber is brought 10 miles over a tram-road which it is not profitable to keep clear of snow during a portion of the winter. No strikes or lockouts have taken place.

There has been no change in the efficiency of labor.

The following are the selling prices and labor cost of lumber per 1,000 feet:

Year.	Selling price.	Labor cost.
1865.....	\$20 00	\$7 50
1870.....	18 00	6 70
1875.....	15 00	5 02
1880.....	18 00	6 75

The firm has introduced no labor-saving machinery. The trade is neither dangerous nor unhealthful.

Glendon Company, Boston, Massachusetts.
[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.											
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.
<i>Dressing department.</i>													
Foreman	Month..	\$07 50	\$78 00	\$78 00	\$78 00	\$78 00	\$84 50	\$07 50	\$07 50	\$07 50	\$07 50	\$07 50	\$07 50
Sawyer	Day	2 00	1 63	1 63	1 63	1 63	2 15	2 37	2 37	2 37	2 37	2 37	2 37
Planer	do	1 87	1 50	1 50	1 50	1 50	2 00	2 25	2 25	2 25	2 25	2 25	2 25
Matcher	do	1 87	1 50	1 50	1 50	1 50	2 00	2 25	2 25	2 25	2 25	2 25	2 25
Surfacer	do	1 75	1 37	1 37	1 37	1 37	1 80	2 00	2 00	2 00	2 00	2 00	2 00
Molder	do	2 87	2 62	2 50	2 50	2 50	2 87	3 00	3 25	3 25	3 00	3 00	3 00
<i>Sash-and-door department.</i>													
Foreman	Month..	97 50	78 00	78 00	78 00	78 00	84 50	97 50	97 50	97 50	97 50	100 00	.....
Machine-hand	Day	2 00	1 75	1 75	1 75	1 87	2 50	2 75	2 83	2 83	2 83	2 83	.....
Bench-hand	do	1 83	1 50	1 50	1 62	1 62	2 25	2 50	2 50	2 50	2 50	2 50	.....
<i>General.</i>													
Engineer	do	2 75	2 50	2 50	2 50	2 50	3 00	3 25	3 50	3 50	3 50	3 50	3 50
Teamster	do	1 62	1 33	1 33	1 33	1 33	1 75	2 00	2 17	2 17	2 17	2 00	2 00
Laborer	do	1 25	1 12	1 12	1 12	1 25	1 50	1 75	1 83	1 83	1 83	2 00	2 00

REMARKS.—Doors, sashes, moldings, and window- and door-frames, are the products of these works, established in 1868. There are occasional opportunities for over-time and holiday-work, which would add about 1 per cent. to the rates given in the table. Carpenters and door-and-sash makers furnish their own tools, an expense which would amount to about 1 per cent. of their wages.

Employes are paid all in cash every two weeks. The hours of labor are 10 a day during 9 months, and 9 the remainder of the year. Employment is uninterrupted. There have been no strikes or lockouts. The following selling prices, labor cost, etc., are given:

Year.	SELLING PRICE.				LABOR COST.			PERCENTAGE OF WAGES TO COST.		
	Doors, each.	Sashes, each.	Molding per 1,000 feet, average width.	Pine shelving, per 1,000 feet.	Doors, each.	Sashes, each.	Molding per 1,000 feet, average width.	Doors, Per cent.	Sashes, Per cent.	Molding, Per cent.
1870...	\$2 50	\$0 50	\$7 50	\$48 00	\$0 30	\$0 20	\$2 00	13	50	10
1875...	2 25	42	7 00	45 00	27	17	1 80	11	50	10
1880...	2 25	40	6 50	40 00	25	15	1 80	12	50	10

Planing per 1000 feet cost \$2 50 in 1870, \$2 25 in 1875, and \$2 in 1880. There has been no change in the efficiency of labor, except that when labor is scarce and wages are high less efficient help has to be employed.

Improvements have been made in wood-working machinery. These have decreased cost of labor about 10 per cent., but have not changed rates of wages.

Charles Merrill & Co., Carrollton, Michigan.
[SAW-MILL.]
[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.											
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.
<i>Sawing department.</i>													
Foreman	Month..	\$117 00	\$104 00	\$100 75	\$97 50	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$01 00	.....	.....
Filler	Day	2 62½	2 50	2 50	2 50	3 75	3 75	4 00	4 00	4 00	3 50	\$3 75	\$4 00
Setter	do	2 75	2 50	2 25	2 75	2 75	2 50	3 25	3 25	2 50	.....	.....	.....
Sawyer	do	1 62½	1 50	1 50	1 50	1 50	1 87½	2 00	2 25	2 00	2 00	1 90	2 00
		3 62½	3 50	3 00	3 75	2 75	3 50	4 75	4 75	4 50	3 25	3 25	3 33½
<i>General.</i>													
Engineer	do	3 00	2 75	2 75	2 87½	3 00	3 75	4 00	4 00	3 75	3 75	3 71	3 71
Teamster	do	1 62½	1 50	1 50	1 50	1 75	1 75	2 25	2 25	2 00	2 00	1 90	1 90
Laborer	do	1 50	1 37½	1 37½	1 25	1 50	1 75	1 75	2 00	2 00	1 75	1 75	2 00

Charles Merrill & Co., Carrollton, Michigan—Continued.

Classes of employes.	Unit of payment.	DATES.											
		1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.
<i>Sawing department.</i>													
Foreman	Month					\$01 00	\$05 00						
Filer	Day	\$3 50	\$3 50	\$3 50	\$3 50	3 05	2 37	\$2 00	\$2 00	\$2 00	\$2 00	\$1 94	
Setter	do												
Sawyer	do	2 00- 3 00	2 00- 3 02½	2 10- 3 33	1 75- 3 15	1 84- 3 00	1 50- 2 25	1 06- 2 00	1 00- 1 75	04- 1 75	04- 1 53	00- 1 07	
<i>General.</i>													
Engineer	do	3 50	3 50	3 50	3 50	3 50	2 00	1 75	2 37	2 37	2 37	2 33	
Teamster	do	2 00	2 00	2 00	2 00	2 25	1 50	1 00	04	1 00	04	00	
Laborer	do	2 00	2 00	1 87½	1 75	2 00	1 50	1 00	1 00	1 00	04	87	

REMARKS.—At this saw-mill lumber is prepared from white and Norway pine logs. There are no opportunities for extra earnings and no allowances worthy of consideration.

Engineers, who furnish a few of their own tools, are the only class of employes from whose wages any deductions are made.

Prior to 1860 it was the practice of the company to pay at the end of each week as much of the wages earned as the men asked for, the balance being paid at the end of the season. Since 1880 payment has been made in full every two weeks.

The hours of labor per day were 12 from 1860 to 1865, when they were reduced to 11½, and a further reduction to 11¼ was made in 1875. All classes work the same time except the watchman, who is on duty when the mill is shut down. The reduction in hours has proved beneficial to the married men, as it has given them more time with their families. It has not, however, perceptibly benefited single men. As much work is accomplished in the 11¼ hours now ruling as was formerly done in from 12 to 14 hours.

The works are run only about 7 months each year, as it is not profitable to carry on the business in winter. But one strike is recorded. In 1872 the men struck for a reduction in hours. After two

weeks they returned to work on the old conditions. It is thought that the strike may not have been without effect, however, as the next year the hours of labor were reduced from 11½ to 11¼ hours.

The firm states that its lumber is sold in quantities, an inspector being agreed upon by the parties, who designates the quality and determines the quantity. The price varies greatly according to quality. The price of sawing has averaged about \$2 25 per 1,000 feet during the past three or four years. Sawing, however, is but part of the labor.

There has been no change in the efficiency of labor. The firm remarks that it has never had any difficulty in finding capable and skillful men to do its work.

Improvements have been made in machinery and new machines introduced, including parallel edgers with adjustable saws, live rollers and lifting cranes, and the improved circular saw. The effect of these has been an increase in cutting capacity and a reduction in cost, labor, and number of employes, but no change in wages.

There is nothing in the trade which is detrimental to health, and no more risks attend it than exist in the running of any machinery.

But one fatal accident has occurred in the history of the works, and that could have been avoided by ordinary prudence.

William M. Dwight & Co., Detroit, Michigan.

[LUMBER.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.				Classes of employes.	Unit of payment.	DATES.			
		1880.	1879.	1878.	1877.			1880.	1879.	1878.	1877.
<i>Dressing department.</i>											
Foreman	Month	\$104 00	\$78 00	\$78 00	\$78 00	Surfacer	Day	\$1 75	\$1 75	\$1 50	\$1 50
Sawyer	Day	2 00	1 75	1 75	1 75	Molder	do	1 75	1 75	1 50	1 50
Planer	do	1 50- 1 75	1 25- 1 75	1 25- 1 50	1 25- 1 50	<i>General.</i>					
Matcher	do	1 50- 1 75	1 25- 1 75	1 25- 1 50	1 25- 1 50	Engineer	do	1 00½	1 50	1 50	1 50
						Teamster	do	1 00½	1 50	1 50	1 33½
						Laborer	do	1 10- 1 20	1 00- 1 10	1 00- 1 10	1 00- 1 10

REMARKS.—At this establishment pine and hard-wood flooring, siding, ceiling, and boards are dressed.

During the fall some over-time is made, amounting in busy seasons to from 2 to 4 hours per day. Price and a half is paid for over-time work. The over-time earnings have not been considered in the table.

There are no allowances or deductions.

Employes are paid cash in full. Payments were weekly in 1877 and fortnightly in 1880.

All classes of day-hands work 10 hours a day and night-hands 13 hours. Ten hours is considered a reasonable day's work.

That the men are not overtaxed by these hours of labor is indi-

cated by the fact that they readily stand over-time work for a month or more at a time. Night-men are less reliable, and either tire of their work or wear out and leave oftener than day-men. The opinion is expressed that shorter hours are a disadvantage both to employes and to employer, as they foster idleness and proportionately reduce production.

The works have been operated 12 months each year.

No strikes have occurred at this mill. Wages have been increased in accordance with the demands of the times and the merits of the workmen.

The selling prices and labor cost of some of the articles produced are as follows:

William M. Dwight & Co., Detroit, Michigan—Continued.

Year.	SELLING PRICE.				LABOR COST.			
	Pine flooring and ceiling.		Dressed pine boards.		Pine flooring and ceiling.		Dressed pine boards.	
	1st qual.	Com. qual.	1st qual.	Com. qual.	1st qual.	Com. qual.	1st qual.	Com. qual.
	M.	M.	M.	M.	M.	M.	M.	M.
1877.....	\$25 00	\$15 00	\$30 00	\$14 00	\$1 00	\$1 00	\$0 50	\$0 50
1880.....	35 00	10 00	45 00	10 00	1 00	1 00	50	50

It is stated that the cost of mill-work is higher at this establishment than at other western mills, as a high class of work only is done, the goods being marketed in the large cities of the seaboard; excellence rather than quantity of work is required of the men working at this establishment.

Labor has increased in efficiency as the result of training and careful supervision.

No new machinery has been introduced since the works were started.

The trade is not unhealthful, but is attended with some risk incidental to the operation of machinery. The accidents which have occurred, however, such as injury to fingers, etc., have usually been the result of carelessness. On one occasion a boy was killed by putting his hand on a resaw and being drawn into the saw.

The Kirby Carpenter Company, Menominee, Michigan.
[SAW-MILL.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
<i>Sawing department.</i>											
Foreman	Month..	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Filer	Day ...	3 46	3 27	3 08	2 69	2 60	2 31	2 50	2 50	2 69	2 69
Sawyer.....	do ...	2 88½	2 50	2 31	2 11½	2 11½	1 92½	1 92½	2 11½	2 11½	2 11½
<i>General.</i>											
Engineer.....	do ...	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½
Teamster	do ...	1 40½	1 40½	1 38½	1 38½	1 38½	1 38½	1 30½	1 30½	1 23	1 23
Laborer	do ...	1 34½	1 31	1 23	1 15½	1 08	1 15½	1 15½	1 23	1 23	1 23
Blacksmith	do ...	2 50	2 31	2 31	2 00	1 92½	1 73	1 73	2 00	2 00	2 00
Carpenter	do ...	2 50	2 50	2 25	2 25	2 00	2 00	2 00	2 00	1 75	1 75

REMARKS.—This saw-mill, established in 1861, manufactures lumber, laths, and sawed pickets.

The opportunities for extra earnings are not worthy of consideration, and there are no allowances or deductions.

Employés are paid wholly in cash on application.

Carpenters and mechanics work 10 hours a day, and all other classes 11½ hours.

There has been no increase in the efficiency of labor.

The saw-mill is operated but 7 months a year, the balance of the time being spent in getting out logs.

Prescott's steam feed and gang ranks foremost among the improved machinery which has been introduced at these works. The effects of this have been increased output and lessened cost of manufacture.

The trade is very healthful, and is not dangerous except through carelessness.

Ryerson, Hills & Co., Muskegon, Michigan.
[SAW-MILL.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
<i>Sawing department.</i>												
Foreman.....	Month..	\$125 00	\$125 00	\$125 00	\$125 00	\$110 00	\$110 00	\$100 00	\$83 33½	\$88 33½	\$83 33½	\$104 00
Filer	Day ...	4 50	4 50	4 50	4 50	4 50	4 50	4 75	2 50	2 50	2 25	2 50
Setter	do ...	2 75	2 75	2 75	2 50	2 50	2 25	2 50	2 50	2 50	2 25	2 50
Sawyer.....	do ...	3 00	3 00	3 00	3 00	3 50	3 50	3 50	3 50	3 75	3 00	3 50
<i>General.</i>												
Engineer.....	do ...	4 23	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 20½
Teamster	do ...	2 00	1 87½	1 87½	1 75	1 02½	1 50	1 02½	1 75	1 75	1 50	1 02½
Laborer.....	do ...	1 87½	1 87½	1 75	1 02½	1 50	1 75	1 75	1 02½	1 75	1 50	1 50

Ryerson, Hills & Co., Muskegon, Michigan—Continued.

REMARKS.—This saw-mill was established in 1841, but, owing to the destruction of the books by fire, figures can be given as far back as 1870 only.

From the closing of the mills in November until their opening about the middle of April most of the men are employed in the woods.

There are no opportunities for extra earnings.

The employes receive house-rent and fuel free. These allowances would increase their wages somewhat, but have not been included in the table.

There are no expenses which would reduce wages.

Since 1870 the payments have been monthly and in cash, the use of store-orders having been abandoned, because it was found that better workmen could be hired for cash and that it was more satisfactory to both employer and employe. Prior to 1870 it was the custom to pay the men on account as their necessities required, settlements in full being made every spring and fall.

All classes have worked 12 hours since the establishment of the works.

The mill is operated about 7½ months each year, or from April 15 to November 20. The freezing of the lakes makes it impossible for mills in this vicinity to obtain logs in the winter. The employes, however, find work in the woods.

The following figures for labor cost include the cost of cross-piling as well as manufacturing the lumber per 1,000 feet:

1871	\$1 57	1875	\$1 60	1878	\$1 06
1872	1 79	1876	1 46	1879	1 08
1873	1 67	1877	1 09	1880	1 10
1874	1 70				

There has been no change in the efficiency of labor.

In the past ten years great improvements have been made in saw-mill machinery. Among the new machines are log-turner, steam feeding apparatus, "gang-edgers," "frictional blocks," and automatic saw-sharpener. These have effected a great increase in capacity with a slight decrease in cost.

The trade is reported to be neither dangerous nor unhealthful.

Dering & Sons, Kalamazoo, Michigan.
[PLANING-MILL AND SASH-AND-DOOR FACTORY.]

Classes of employes.	Unit of payment.	DATES.											
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.
General foreman	Month..	\$71 50	\$65 00	\$65 00	\$65 00	\$65 00	\$65 00	\$65 00	\$65 00	\$71 50	\$71 50	\$78 00	\$78 00
<i>Dressing department.</i>													
Foreman	do	52 00	52 00	52 00	52 00	52 00	52 00	52 00	58 50	65 00	65 00	65 00	65 00
Filer	Day	1 50	1 50	1 50	1 50	1 50	1 50	1 50	2 00	2 25	2 25	2 25	2 25
Sawyer	do	1 35	1 35	1 35	1 25	1 25	1 25	1 25	1 50	1 75	1 75	1 75	1 75
Planer	do	1 35	1 35	1 35	1 35	1 35	1 35	1 35	1 50	1 75	1 75	1 75	1 75
Matcher	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 00
Surfacer	do	1 35	1 25	1 25	1 25	1 35	1 35	1 35	1 50	1 75	1 75	1 75	1 75
Molder	do	1 75	1 50	1 50	1 50	1 75	1 75	1 75	2 00	2 25	2 25	2 25	2 25
<i>Sash-and-door department.</i>													
Foreman	Month..	58 50	52 00	52 00	52 00	52 00	58 50	58 50	65 00	71 50	71 50	78 00	78 00
Machine-hand	Day	1 75	1 50	1 50	1 50	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 00
Bench-hand	do	2 00	1 75	1 50	1 50	1 75	1 75	1 75	2 00	2 25	2 25	2 25	2 25
<i>General.</i>													
Engineer	do	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Teamster	do	1 35	1 25	1 25	1 25	1 25	1 35	1 35	1 35	1 50	1 50	1 50	1 50
Laborer	do	1 25	1 12	1 00	1 00	1 00	1 12	1 12	1 25	1 40	1 40	1 40	1 40

REMARKS.—The firm making this report manufactures doors, sashes, blinds, moldings, frames, etc.

Rates of wages are given since 1869, the date of the establishment of the works.

No over-time is made.

The only deduction is in the case of bench-hands, who furnish their own tools. These are not expensive, however, being hardly as many as an ordinary carpenter would have, and would not affect wages appreciably.

Employes are paid cash in full every week.

The hours of labor were 9 in winter and 10 in summer until 1879 or 1880, when gas was introduced into the factory, enabling the men to work 10 hours in winter also. The increase in hours has benefited the men by increasing their wages, and has increased product by about 5 per cent.

The works are never idle except on legal holidays.

There has never been a general strike or lockout.

There has been a slight increase each year in the efficiency of labor, arising from competition among workmen and endeavors of employers to meet orders by increasing output.

The following statement of selling prices and labor cost is given:

Year.	SELLING PRICE.			LABOR COST.		
	Doors, each.	Sashes, per pair.	Blinds, per pair.	Doors, each.	Sashes, per pair.	Blinds, per pair.
1875.....	\$0 82½	\$0 28	\$0 70	\$0 20	\$0 18	\$0 25
1880.....	1 32	40	1 00	25	22	40

More or less new and improved machinery has been introduced each year, increasing output. The increase in production, however, has not been more than the growth in population and extended scope of territory to which goods are shipped would demand, and consequently wages have not suffered.

The trade is considered healthful, except for those employes operating sandpapering machines, and this work is not injurious to health to any great extent. Some danger of accident to the hands of persons operating machinery exists, but this can be avoided by care.

Hannah, Lay & Co., Traverse City, Michigan.
[SAW-MILL.]

Classes of employes.	Unit of payment.	DATES.													
		1860.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1860.	1868.	1867.
<i>Sawing department.</i>															
Foreman	Month ..	\$246 15½	\$230 77	\$230 77	\$230 77	\$230 77	\$230 77	\$230 77	\$230 77	\$230 77	\$230 77	\$158 83	\$158 83	\$158 83	\$158 83
Filer	Day	3 20½	3 20½	3 84½	3 84½	3 84½	3 84½	2 88½	2 88½	2 50	2 01	2 01	2 01	2 01	2 01
Setter	do	2 00	2 00	2 00	2 00	1 73	1 73	1 73	1 92	1 54	1 54	1 54	1 54	1 54	1 54
Sawyer	do	2 00	2 00	2 00	2 00	1 73	1 73	1 73	1 92	1 54	1 54	1 54	1 54	1 54	1 54
<i>General.</i>															
Engineer	do	9 40½	8 87½	8 87½	8 87½	8 87½	8 87½	8 87½	8 87½	8 87½	8 87½	5 81½	5 81½	5 81½	5 81½
Teamster	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 15½	1 15½	1 15½	1 15½	1 15½	1 15½	1 15½
Laborer	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 15½	1 15½	1 15½	1 15½	1 15½	1 15½	1 15½

Classes of employes.	Unit of payment.	DATES.													
		1860.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.
<i>Sawing department.</i>															
Foreman	Month ..	\$158 83	\$158 83	\$158 83	\$158 83	\$158 83	\$158 83	\$100 00	\$75 00	\$75 00	\$75 00	\$75 00	\$75 00	\$70 00	\$70 00
Filer	Day	2 61	1 73	1 50	1 00	1 00	1 00	1 00	77	1 54	1 50	1 50	1 95	1 25	1 00
Setter	do	1 54	1 34½	1 00	77	77	77	77	58	1 16	1 16	1 16	1 00	88	88
Sawyer	do	1 54	1 84½	1 00	77	77	77	77	58	1 16	1 16	1 16	1 00	88	88
<i>General.</i>															
Engineer	do	5 81½	5 81½	5 81½	5 81½	5 81½	5 81½	3 85	3 85	3 85	3 21	3 21	3 21	3 21	3 21
Teamster	do	1 15½	1 00	77	54	40	38½	38	38	77	77	77	77	69	62
Laborer	do	1 15½	1 00	77	54	40	38½	38	77	77	77	77	77	69	62

REMARKS.—Since 1875 the wages of all employes include board. This was true only of foreman and engineer prior to that date. This allowance has averaged from 35 to 50 cents per day.

From the closing of the mills in November until the opening in May most of the men are employed in the woods at the following wages:

Classes of employes.	Unit of payment.	1860.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1860.	1868.	1867.	1866.
Foreman	Month ..	\$83 33½	\$83 33½	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$75 00	\$75 00	\$75 00	\$70 00	\$70 00	\$70 00	\$70 00	\$70 00
Laborer	do	18 00	18 00	18 00	18 00	20 00	20 00	20 00	30 00	30 00	30 00	35 00	35 00	35 00	35 00	35 00

Classes of employes.	Unit of payment.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.
Foreman	Month ..	\$70 00	\$55 00	\$40 00	\$35 00	\$26 00	\$20 00	\$20 00	\$20 00	\$40 00	\$35 00	\$35 00	\$35 00	\$30 00	\$26 00	.....
Laborer	do	35 00	30 00	20 00	16 00	14 00	10 00	10 00	8 00	20 00	18 00	20 00	20 00	18 00	16 00	.....

Payments are wholly in cash. From 1852 to 1880 employes were paid once a month; in 1880 the interval was changed to weekly payments.

The hours of labor were 11½ per day from the establishment of the works until 1880, when they were reduced to 10½. The reduction has proved beneficial to the men.

The mill is operated but 6½ months each year. The winter months are occupied in getting out the logs for lumber, and the men are given employment at this work while the mill is idle. There have been no strikes or lockouts.

Among the improved machinery that has been introduced are a circular saw with steam-feed attachment, improved gang-edgers, and upright gangs. The effect of these has been to increase the production by about 500 per cent., to increase the number of employes, and to cause a marked improvement in quality.

Regarding the percentage of wages to cost in the following table, it is stated that the ratio has varied greatly, and, as will be seen

from inspection of the tables, in 1855 the firm were making no profit; in 1860 money was being lost; and since 1865 there has been an improvement in prices:

Year.	Selling price, per 1,000 feet.	Labor cost.	Percentage of wages to cost.
1855....	\$6 00	\$5 00	Per cent. 83.33
1860....	4 50	4 00	80.00
1865....	10 00	7 00	82.33
1870....	8 00	6 00	75.80
1875....	8 00	5 00	69.00
1880....	7 75	3 00	42.80

There has been no change in the efficiency of labor. The trade is healthful.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

An establishment in Michigan.
[PLANING-MILL AND SASH-AND-DOOR FACTORY.]

Classes of employes.	Unit of payment.	DATES.						
		1880.	1879.	1878.	1877.	1876.	1875.	1874.
<i>Dressing department.</i>								
Foreman	Month	\$60 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00
Sawyer	Day	2 00	1 75	1 00	1 50	1 50	1 40	1 50
Planer	do	2 00	1 75	1 60	1 50	1 50	1 40	1 50
Matcher	do	2 00	1 75	1 60	1 50	1 50	1 40	1 50
Surfacer	do	2 00	1 75	1 00	1 50	1 50	1 40	1 50
Molder	do	2 00	1 75	1 00	1 50	1 50	1 40	1 50
<i>Box department.</i>								
Foreman	Month	60 00						
Box-nailer	Day	1 50	1 50	1 50	1 25	1 25	1 12	1 25
<i>General.</i>								
Engineer	do	3 00	2 00	1 75	1 75	1 00	1 50	1 60
Teamster	do	1 75	1 00	1 00	1 50	1 37	1 37	1 25
Laborer	do	1 25	1 12	1 12	1 00	1 00	90	90

REMARKS.—The firm from which this return is received operates a planing-mill and manufactures dressed lumber in all its varieties, including clapboards, coiling, flooring, and moldings.

There are some opportunities for over-time work, which are paid for at the regular rates and have been included in the wages table.

Payments since 1872 have been all in cash, the use of store-orders having been discontinued, as cash was found to be more satisfactory and involved no risk. From 1867 to 1875 payments were monthly; since 1875 they have been every two weeks.

All classes work 10 hours a day in summer and from 8 to 9 in winter.

The mill has been in operation an average of 11 months a year, the irregularity being caused by short stoppages for repairs, short time in winter, and light demand caused by the panic of 1873. No strikes or lockouts have occurred since the custom of paying in store-orders was discontinued. Prior to that time they were frequent.

The following are the selling-prices, labor cost, etc., per 1,000 feet of lumber:

Year.	Selling price.	Labor cost.	Percentage of wages to average cost.
1867.....	\$10 00 to \$60 00	\$5 00	20
1870.....	10 00 to 60 00	5 00	20
1875.....	8 00 to 50 00	4 00	15
1880.....	10 00 to 60 00	5 00	20

There has been an increase in the efficiency of labor, arising from systematic management.

Various improved machines have been introduced. These have effected a saving of 25 per cent. in amount of labor, but have increased wages, consequently cost of manufacture has remained about the same.

The trade is healthful. The machinery is well guarded, so as to be safe with reasonable care, yet a few accidents, such as cutting off hands by saws or planing-machines, do occur.

E. F. Ward & Co., Grand Rapids, Michigan.

[SAW- AND PLANING-MILL.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.								
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.
<i>Sawing department.</i>										
Foreman	Month	\$65 00	\$65 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00
Setter	Day	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 00	2 00
Sawyer	do	3 75	3 75	5 00	5 00	5 00	5 00	5 00	4 00	4 00
<i>Dressing department.</i>										
Foreman	Month		54 00	54 00	54 00	54 00				
Sawyer	Day		1 50	2 00	2 00	2 00				
Planer	do		1 50	1 50	1 02½	1 02½				
Matcher	do		1 50	1 50	1 02½	1 02½				
Surfacer	do		1 25	1 25	1 50	1 50				
Molder	do		1 60	1 00	2 00	3 00				
<i>Sash-and-door department.</i>										
Foreman	Month		52 00	52 00	52 00	52 00				
Machine-hand	Day		1 50	1 50	1 50	1 50				
Bench-hand	do		1 50	2 00	2 00	2 00				
<i>General.</i>										
Engineer	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Teamster	do	1 25	1 25	1 25	1 25	1 50	1 50	1 75	1 75	1 50
Laborer	do	1 25	1 25	1 25	1 25	1 50	1 50	1 75	1 75	1 50

E. F. Ward & Co., Grand Rapids, Michigan—Continued.

REMARKS.—This company saws and dresses lumber and manufactures doors and sashes.

There are no opportunities for extra earnings, and no allowances or deductions.

Employés are paid cash on application.

All classes work 10 hours a day.

The saw-mill is usually run from April to November only, the hands being employed the remainder of the year in getting out timber. In this way the employés were enabled to make full time each year.

There have been no strikes or lockouts.

The trade is not considered dangerous or unhealthful.

An establishment in Michigan.

[SAW-MILL.]

Classes of employés.	Unit of payment.	DATES.					Classes of employés.	Unit of payment.	DATES.				
		1880.	1879.	1878.	1877.	1876.			1880.	1879.	1878.	1877.	1876.
<i>Sawing department.</i>						<i>General.</i>							
Foreman	Month ..	\$100 00	\$100 00	\$100 00	\$80 00	\$75 00	Engineer	Day	\$2 50	\$2 50	\$2 00	\$2 00	\$2 00
Filer	Day	3 25	3 00	2 50	2 25	2 12½	Teamster .....	...do ...	1 02½	1 50	1 37½	1 25	1 25
Setter .....	...do ...	2 25	2 25	2 00	2 00	1 75	Laborer .....	...do ...	1 50	1 50	1 37½	1 25	1 25
Sawyer .....	...do ...	3 00	3 00	2 75	2 75	2 50							

REMARKS.—At this mill there are some opportunities for overtime work. The extra earnings would increase the wages given in the table by about 16 per cent.

The employés who live in the company's houses are provided with free wood, a consideration worth about \$1 per week, and which has not been included in rates given.

No employés are obliged to pay out any part of their wages for tools, except millwrights, who purchase their own tools and are paid accordingly.

The employés are paid monthly, and oftener if desired. Cash is paid in full if preferred, and store-orders or merchandise are never given unless at the desire of the men.

The saw-mill is operated but 7½ months a year. Six months are consumed in getting out timber. Steady employment, however, is given all the year round to some hands. Strikes have been infre-

quent and never successful. They have usually been occasioned by outside agitators, and have invariably resulted in loss of money to the men.

All classes work 11¼ hours a day in the sawing season, and 10 hours when the saw-mill is not running. A reduction in hours of labor, with a corresponding decrease in wages, would, as a rule, not be satisfactory to the men.

The average selling price of lumber per 1,000 feet was \$10 in 1876 and \$11 in 1880.

There has been an increase in the efficiency of labor, resulting from experience.

New and improved machinery is constantly being introduced, and has brought about an increase in production, wages, and number of hands.

The trade is not unhealthful, and but few accidents occur.

G. C. Hixon & Co., Hannibal, Missouri.

[SAW-MILL.]

Classes of employés.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	
<i>Sawing department.</i>											
Foreman	Month ..	\$104 00	\$104 00	\$104 00	\$104 00	\$117 00	\$104 00	\$130 00	\$104 00	\$104 00	\$104 00
Filer	Day	3 50	3 50	4 00	4 00	4 00	4 00	4 00	4 00	4 00	4 00
Setter .....	...do ...	1 00	1 67	1 50	1 67	1 67	1 50	1 75	1 75	1 75	1 75
Sawyer .....	...do ...	3 50	3 00	3 00	3 00	3 00	2 50- 4 00	2 50	2 50	2 50	2 50
<i>General</i>											
Engineer .....	...do ...	2 00- 3 00	2 00- 3 00	4 00	4 00	4 00	4 00	4 00	4 00	4 00	4 00
Laborer .....	...do ...	1 35- 1 50	1 50	1 35	1 50	1 50	1 50	1 65	1 65	1 65	1 65

REMARKS.—There have been no opportunities for extra earnings and no allowances or deductions.

Payments are weekly and wholly in cash.

The hours of labor, which are 10, have been unchanged.

From 1865 to 1876 the works were operated 6 months each year; 8 months have been averaged since 1870. There have been no strikes.

Labor has not increased in efficiency.

The trade is not regarded as dangerous or unhealthful.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

Schulenburg & Boeckler Lumber Company, Saint Louis, Missouri.
[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.																			
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.
<i>Sawing department.</i>																					
Sawyer.....	Day ..	\$2 50	\$2 50	\$1 75	.....	\$2 25	\$2 25	\$2 50	\$2 50	.....	\$2 50	.....	\$2 50	.....	\$2 50	.....	\$1 75	.....	.....	.....	\$1 50
<i>Dressing department.</i>																					
Sawyer.....	do ..	2 50	2 50	1 75	.....	2 25	2 25	2 50	2 50	.....	2 50	.....	2 50	.....	2 50	.....	1 75	.....	.....	.....	1 50
Planer.....	do ..	2 50	2 50	2 50	.....	3 00	3 50	4 00	4 00	.....	4 00	.....	4 00	.....	4 00	.....	3 25	.....	.....	.....	3 00
<i>General.</i>																					
Engineer.....	do ..	3 00	3 00	3 00	.....	3 00	3 50	4 00	4 00	.....	4 00	.....	4 00	.....	4 00	.....	2 75	.....	.....	.....	2 50
Laborer.....	do ..	1 75	1 50	1 50	.....	1 02½	1 75	1 75	1 75	.....	1 75	.....	1 75	.....	1 75	.....	1 25	.....	.....	.....	1 00
Teamster.....	do ..	3 50	3 00	3 00	.....	3 25	3 50	4 00	4 00	.....	00	.....	4 00	.....	5 00	.....	2 50	.....	.....	.....	2 25

REMARKS.—This firm began business in 1850, manufacturing lumber, laths, shingles, and pickets.

There are numerous opportunities for extra earnings. During about 4 months of the busiest season about one-fourth of a day over-time is made, for which regular rates of wages are paid. The extra earnings have not been included in the rates given above.

Teamsters furnish their own teams, which would reduce their wages about 65 per cent.

Payments are weekly and all in cash.

All classes work 10 hours a day.

The works are in operation an average of 12 months per year, the over-time in spring and fall compensating for the loss of time in winter.

The following are the selling prices of the various articles of products:

Year.	White pine, 1 and 2, clear, per 1,000 feet.	White pine, 3d, clear, per 1,000 feet.	White pine, common, per 1,000 feet.	White pine shingle, per 1,000.	White pine lath, per 1,000.	Yellow pine flooring, per 1,000 feet.	Poplar, per 1,000 feet.	Cedar, per 1,000 feet.
1870..	\$50 00	\$40 00	\$20 00	\$4 00	\$3 25	\$40 00	\$30 00	\$40 00
1875..	47 50	37 50	14 00	3 00	2 50	30 00	22 50	32 50
1880..	47 50	40 00	15 00	3 00	2 50	30 00	27 50	35 00

There has been a decrease in the efficiency of labor. The cause of this is ascribed by the company to the workings of unions and to the communistic spirit engendered by labor agitation, in consequence of which labor does not look out for the interests of capital as formerly.

Joseph Churchyard, Buffalo, New York.
[PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
<i>Sash-and-door department.</i>											
Machine-hand.....	Day ..	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$2 00	\$2 00	\$2 25	\$2 25	\$2 25
<i>General.</i>											
Teamster.....	do ..	1 25	1 25	1 25	1 25	1 25	1 25	1 50	1 75	1 75	1 75
Laborer.....	do ..	1 50	1 00	1 00	1 00	1 00	1 00	1 25	1 50	1 50	1 50

REMARKS.—At this establishment every thing in wood-work needed for building is manufactured, as well as bellows of every variety, farm gates, cisterns, and a number of other articles. The works were established in 1854.

There are no opportunities for extra earnings.

Payments have always been in cash, and weekly since 1870.

All classes work 10 hours a day for 9 months, and 8 hours for 3 months. This firm favors a decrease in hours, and thinks the result would be an increase in production. This has been verified by the change from the hours from sunrise to sunset to average time now ruling, 10 hours, which has greatly increased production. It is stated as a reason for this that when men are employed very long hours they work mechanically, not having time to reflect upon the best means for obtaining results, and that physical exhaustion renders mental activity impossible.

There have been no strikes or lockouts, and the works have been operated continuously.

No general statement of selling price and labor cost can be given, as the work done is for special uses and there are no standard products. Wages, however, constitute about 33¼ per cent. of the total cost.

Labor has increased in efficiency as the result of the employment of good men, keeping them steadily for years and training them carefully.

Numerous labor-saving machines have been added during the last few years. The output has been largely increased, and the cost lessened without any reduction in wages. These results, however, are not so much the effects of labor-saving machinery as of the increased efficiency of labor.

Experience would indicate that the trade is healthful. Though the dust encountered by machine-hands has been regarded as productive of pulmonary diseases, the result has not shown this to be the case. A few slight accidents have occurred as the result of the incautious use of machinery.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

G. V. Selden, Rome, New York.
[PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.													
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.
<i>Dressing department.</i>															
Sawyer	Day	\$2 00	\$1 75	\$1 75	\$2 00	\$2 00	\$2 00	\$2 25	\$2 25	\$2 00	\$2 00	\$2 12½	\$2 00	\$2 00	\$2 00
Plumer	do	1 50	1 50	1 50	1 60	1 75	1 75	1 75	2 00	2 00	2 00	1 50	1 75	2 25	2 25
Matcher	do	2 00	2 00	2 00	2 20	2 20	2 20	2 50	2 50	2 25	2 50	2 50	2 50	2 25	2 25
Surfacer	do	1 75	1 75	1 75	1 00	2 00	2 00	2 25	2 00	2 00	2 50	2 50	2 50	2 25	2 25
Molder	do	2 00	2 00	2 00	2 25	2 50	2 50	2 75	2 75	2 50	2 50	2 25	2 25	2 25	2 25
<i>Sash-and-door department.</i>															
Bench- and machine-hands	do	1 25- 2 00	1 25- 2 00	1 50- 2 00	1 50- 2 25	2 00- 2 50	2 00- 2 50	2 00- 2 75	2 00- 2 75	2 00- 2 75	2 00- 2 75	2 00- 2 50	2 00- 2 50	2 00- 2 50	2 00- 2 50
<i>General.</i>															
Engineer	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	1 75	1 75	1 75	1 62½
Teamster	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 37½
Laborer	do	1 12½	1 00	1 00	1 00	1 25	1 50	1 50	1 50	1 37½	1 50	1 50	1 37½	1 37½	1 25

REMARKS.—There are few opportunities for extra earnings at these works, and these have not been considered in the table. Regular price is paid for over-time.

Carpenters furnish their own tools.

Payments are all in cash, and were weekly up to 1880, when the interval was changed to two weeks.

All classes work 10 hours a day. The works are operated continuously except for about a week at Christmas and three or four days at the 4th of July. Strikes and lockouts have been unknown.

There has been no change in the efficiency of labor.

A door-planer, polisher, and sash-machine have been introduced.

The following are selling prices of some of the articles produced, and the percentage of wages to cost:

Year.	SELLING PRICE.				PERCENTAGE OF WAGES TO COST.	
	Plain-rail sash windows.	Doors, each.	Window-frames, each.	Door-frames, each.	Plain-rail sash win-dows.	Doors.
1875..	\$0 54 to \$1 50	\$1 50 to \$5 00	\$1 00 to \$1 65	\$2 25 to \$3 00	30	25
1880..	54 to 1 50	1 50 to 5 00	1 00 to 1 65	2 25 to 3 00	30	25

The trade is considered healthful, and very few accidents have occurred.

Charles C. Kellogg & Co., Utica, New York.

[PLANING-MILL AND SASH-AND-DOOR FACTORY.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.												
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.		
<i>Dressing department.</i>														
Foreman	Month	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½
Sawyer	Day	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Planer	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Matcher	do	2 25	2 25	2 25	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Surfacer	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Molder	do	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
<i>Sash-and-door department.</i>														
Foreman	Month	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½
Machine-hand	Day	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Bench-hand	do	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25
<i>General.</i>														
Engineer	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Teamster	do	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75
Laborer	do	1 25	1 00	1 25	1 25	1 25	1 50	1 50	1 25	1 25	1 25	1 25	1 25	1 25

Charles C. Kellogg & Co., Utica, New York—Continued.

Classes of employes.	Unit of payment.	DATES.										
		1869.	1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.
<i>Dressing department.</i>												
Foreman	Month ..	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½	\$83 33½
Sawyer	Day	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75
Planer	do	1 75	1 75	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75
Matcher	do	2 00	2 00	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75	1 75
Surfacer	do	1 75	1 75	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75	1 75
Molder	do	1 75	1 75	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75	1 75
<i>Sash-and-door department.</i>												
Foreman	Month ..	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½	83 33½
Machine-hand	Day	1 75	1 75	1 50	1 50	1 50	1 50	1 75	1 75	1 75	1 75	1 75
Bench-hand	do	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25	1 50- 2 25
<i>General.</i>												
Engineer	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Teamster	do .....	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75	1 50- 1 75
Laborer	do	1 25	1 25	1 12½	1 12½	1 12½	1 12½	1 25	1 25	1 25	1 25	1 25

REMARKS.—The products of this mill are flooring, ceiling, molding, brackets, sashes, blinds, and turned work. The establishment has been in existence since 1830, but under the management of different firms.

Very little over-time is made and there are no allowances. Bench-hands are the only employes who pay out any part of their wages for tools.

Payments are weekly and in cash, store-orders never having been used.

All classes work 10 hours a day.

The works have been in operation the year round, though in winter, owing to short days, but three-fourths time has been made. There have been no strikes or lockouts.

Wages average about 33½ per cent. of the total cost of product. There has been no change in the efficiency of labor.

There has been a general improvement in planing, sawing, and wood-working machines, the effect of which has been greater uniformity in work and increased production and durability of goods.

The business is perfectly healthful, and the danger only such as is always incidental to the use of machinery, unless care is exercised.

Metrah L. Makeley, Makelyville, North Carolina.

[SAW-MILL.]

Classes of employes.	Unit of payment.	DATES.									
		1881.	1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.
<i>Sawing department.</i>											
Foreman	Month ..	\$50 00- 75 00									
Filer	Day	1 92½- 2 88½									
Setter	do	80	75	75	75	75	75	75	75	75	75
Sawyer	do	2 25	2 00	1 75	1 50	1 50	1 75	1 75	2 00	2 00	2 00
<i>General.</i>											
Teamster	do	80	75	75	75	75	75	75	75	75	75
Laborer	do	80	75	75	75	75	75	75	75	75	75

REMARKS.—This mill manufactures lumber for the northern markets.

There have been very few opportunities for over-time work, and the extra earnings have not been included in the wages.

Houses, gardens, and firewood are furnished to those who desire them. These allowances would increase the wages given in the table.

There are no deductions.

Employes are paid weekly, part in merchandise and part in cash, and are sometimes permitted to overdraw their accounts.

The hours of labor average 10 a day, varying somewhat with the seasons. The firm state that they would not advocate a reduction in hours, as most of their help are colored and do not work hard, and would not improve any more leisure than they now have.

It is stated that the works are usually operated but about 10 months a year, bad weather, want of help, and irregularity of demand causing the stoppage, but that the men could work nearly all the year if they would. There have been no strikes.

The following are given as the selling prices of lumber per 1,000 feet: 1872, \$12; 1875, \$10, and 1880, \$8.

There has been a decrease in the efficiency of labor, which has arisen from the scarcity of white help, which makes it necessary to employ negroes. These are in demand for all kinds of labor, and are thereby rendered less efficient, having little desire to excel in any particular branch.

No changes have been made in mill machinery.

The trade is considered healthful, and free from risk of accidents. But one fatal accident has occurred in 14 years.

J. T. Weybrecht, Alliance, Ohio—Continued.

REMARKS.—At this mill doors, sashes, blinds, brackets, moldings, and other building materials are manufactured.

During 1869, 1870, and 1871 there were some opportunities for extra time at night, which was paid for at regular rates, and has not been considered in the table.

There are no allowances.

No employes, except carpenters, are obliged to pay out any part of their wages for tools. A set of carpenter's tools costs from \$30 to \$100.

Employes are paid monthly in cash.

From 1867 to 1875 carpenters worked from 10 to 16 hours a day and all other classes 10 hours. Since 1875 the hours of labor for all classes have been 9 for 5 months and 10 hours for the balance of the year.

This manufacturer believes 10 hours to be a fair day's work, and thinks a reduction would be to the disadvantage of both employer and employe. He says: "I know of no advantage a decrease in the present hours of labor would be to a majority of workingmen. Men can not expect or get 10 hours' pay for 8 hours' work, a reduction of time means a reduction of wages, and most workingmen want to get in as much time as possible, as they get more money for it. I have found in my experience, also, that it favors the men to give them extra time in preference to hiring more hands, which would be necessary if I curtailed their hours of labor.

"It may be that other arguments may be presented that would prove it [a reduction] to be advantageous to workingmen, but it certainly is not profitable, as a rule, to employers. In this age of machinery the longer a machine can be kept running, the greater results can a manufacturer realize on the amount invested in the business.

"I do not think 10 hours' work too much."

From 1867 to 1870 the works were operated 12 months each year, from 1871 to 1875, 11½ months, and from 1876 through the census year, 11½ months. The cause of idleness has been irregularity of demand for product. This business, it is stated, is briskest in the

summer months. During the winter the works run on standard-sized articles for stock. There have been no strikes or lockouts.

In the following table of selling prices, labor cost, etc., the figures for percentage of wages to cost are only approximates:

Year.	SELLING PRICE.			LABOR COST.			PERCENTAGE OF WAGES TO COST.		
	Doors, each.	Sashes, each.	Blinds, per foot.	Doors, each.	Sashes, each.	Blinds, per foot.	Doors.	Sashes.	Blinds.
1867....	\$3 65	\$0 00	\$0 50	\$0 00	\$0 25	\$0 25	Per ct. 25	Per ct. 25	Per ct. 40
1870....	3 50	80	45	00	20	25	25	25	40
1875....	2 50	70	40	05	20	25	25	25	50
1880....	2 00	00	28	40	15	15	25	25	50

The proprietor states that on doors and sashes he is compelled to compete with manufacturers in the West who employ boys. For this reason the percentage of labor on these articles is and always has been necessarily less. This, however, is not the case with blinds, frames, &c., which are usually made in the home market.

There has been a marked increase in the efficiency of labor arising from experience. Most of the men at this mill have been with the firm since the establishment of the works.

Among the labor-saving machinery which has been introduced are a power-mortiser, a shaper, and a panel-raiser. The former has reduced the labor at least one-half. While introduction of machinery has lessened the cost of production, it has caused no reduction in wages or number of employes, as the business has increased.

The machinery, it is stated, is generally considered dangerous. The dust which settles on the lungs often leads to disease, but it is thought this could be partially avoided by the introduction of fans which carry the dust away from the machines.

An establishment in Ohio.

[SAW- AND PLANING-MILL.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.											
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.
<i>Sawing department.</i>													
Foreman	Month ..	\$130 00	\$130 00	\$130 00	\$130 00	\$130 00	\$130 00	\$130 00	\$130 00	\$130 00	\$130 00	\$130 00	\$130 00
Sawyer.....	Day	2 50	2 75	2 75	3 00	3 25	3 25	3 25	3 50	3 50	3 50	3 50	3 50
<i>Dressing department.</i>													
Foreman	Month ..	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00
Sawyer.....	Day	2 50	2 75	3 00	3 00	3 25	3 25	3 25	3 50	3 50	3 50	3 50	3 00
Planer	do	2 25	2 25	2 50	2 50	2 50	2 50						3 00
Matcher.....	do	2 75	2 75	3 00	3 00	3 25	3 50	3 50	3 50	3 50	3 75	3 75	3 75
Surfacer.....	do												
Molder.....	do	2 50	2 75	3 00	3 00	3 25	3 50	3 50	3 75	3 75	4 00	4 00	4 00
<i>Sash-and-door department.</i>													
Foreman	Month ..	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00	130 00
Machine-hand.....	Day	2 50	2 75	2 75	3 00	3 25	3 25	3 25	3 50	4 00	4 00	4 00	4 00
Bench-hand	do	2 25	2 25	2 25	2 25	2 50	2 75	2 75	3 00	3 25	3 25	3 50	3 50
<i>General.</i>													
Engineer.....	do	3 50	3 50	3 50	3 50	3 50	3 50	3 50	3 50	3 50	3 50	3 50	3 50
Teamster	do	1 75	1 75	1 75	1 75	1 75	2 00	2 00	2 00	2 00	2 25	2 25	2 50
Laborer	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75	2 00	2 00

An establishment in Ohio—Continued.

Classes of employes.	Unit of payment.	DATES.											
		1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.
<i>Sawing department.</i>													
Foreman	Month ..	\$130 00	\$130 00	\$130 00	\$130 00	\$130 00	\$104 00	\$91 00	\$78 00	\$65 00	\$65 00	\$65 00	.....
Sawyer	Day	4 00	4 00	4 00	4 00	3 50	2 50	2 00	1 75	1 75	1 75	1 75	.....
<i>Dressing department.</i>													
Foreman	Month ..	130 00	130 00	130 00	130 00	130 00	104 00	91 00	78 00	65 00	65 00	65 00	.....
Sawyer	Day	3 00	3 00	3 00	3 00	3 00	2 50	2 00	1 75	1 50	1 50	1 50	.....
Planer	do	3 00	3 00	3 00	3 00	3 00	2 50	2 00	1 50	1 50	1 50	1 50	.....
Matcher	do	3 75	3 75	3 75	3 50	3 00	2 50	2 00	1 50	1 50	1 50	1 50	.....
Surfacer	do											1 75	.....
Molder	do	4 00	4 00	4 00	3 50	3 00	2 50	2 00	2 00	1 75	1 75	1 75	.....
<i>Sash-and-door department.</i>													
Foreman	Month ..	130 00	130 00	130 00	130 00	104 00	91 00	65 00	65 00	65 00	65 00	65 00	.....
Machine-hand	Day	4 00	4 00	4 00	4 00	3 50	2 50	2 00	1 75	1 75	1 50	1 50	.....
Bench-hand	do	3 50	3 50	3 50	3 50	2 75	2 00	1 75	1 50	1 50	1 50	1 50	.....
<i>General.</i>													
Engineer	do	3 50	3 50	3 00	3 00	2 50	2 00	1 75	1 75	1 75	1 75	1 75	.....
Teamster	do	2 50	2 50	2 50	2 50	2 50	1 75	1 25	1 25	1 25	1 25	1 25	.....
Laborer	do	2 00	2 00	2 00	2 00	2 00	1 50	1 00	1 00	1 00	1 00	1 00	.....

REMARKS.—These works, established in 1858, produce sashes, doors, blinds, and all manufactured work in pine and hard woods for buildings.

The hours of labor are 10 a day. The firm states that from 1864 to 1866 the mill was operated over-time for a portion of the year, and it was found that the men did not accomplish as much during the regular 10 hours as they had done when no over-time was made. Since this experiment 10 hours a day have been the rule.

The works have been operated 12 months each year.

But three strikes have occurred. As the result of one of these, the men having struck for an advance returned to work at a reduction. The other two did not amount to any thing.

There has been a decrease in the efficiency of labor since 1863, arising from the unwillingness of American boys to learn trades, and the consequent employment of Germans. Prior to 1863 the employes were exclusively Americans, who are said to be much more rapid in their movements than Germans.

Payments have always been weekly and in cash.

The trade is not considered dangerous or unhealthful.

The following selling prices are for the average sizes of the articles named :

Year.	Doors.	Sashes.	Blinds.	Average percentage of wages to cost.
1860.....	\$3 25	\$0 00	\$3 00	60
1865.....	6 00	1 75	5 00	60
1870.....	6 00	1 75	5 00	60
1875.....	4 00	1 25	3 00	40
1880.....	3 00	1 00	2 50	33½

New machinery is constantly being introduced, the effect of which is to lessen labor cost, though increased wages are paid in some branches; the number of hands has not been lessened.

There are no opportunities for extra earnings and no allowances. The only expenses necessary are in the case of bench-hands, who furnish their own tools, worth about \$25.

Door, Sash, and Lumber Company, Columbus, Ohio.

[PLANING-MILL AND SASH-AND DOOR FACTORY.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
<i>Dressing department.</i>											
Foreman	Month ..	\$65 00	\$65 00	\$60 00	\$50 00	\$50 00	\$50 00	\$50 00	\$60 00	\$60 00	\$60 00
Sawyer	Day	2 00	2 00	2 00	1 75	1 75	1 75	1 75	2 00	2 00	2 00
Planer	do	2 00	2 00	2 00	1 75	1 75	1 75	1 75	2 00	2 00	2 00
Matcher	do	2 00	2 00	2 00	1 75	1 75	1 75	1 75	2 00	2 00	2 00
Surfacer	do	2 00	2 00	2 00	1 75	1 75	1 75	1 75	2 00	2 00	2 00
Molder	do	2 25	2 25	2 25	2 25	2 25	2 50	2 50	2 75	3 00	3 00
<i>Sash-and-door department.</i>											
Foreman	Month ..	60 00	60 00	60 00	50 00	50 00	50 00	50 00	60 00	60 00	60 00
Machine-hand	Day	2 00	2 00	2 00	1 75	1 75	1 75	1 75	2 00	2 00	2 00
Bench-hand	do	2 00	1 50	1 50	1 75	1 75	2 00	2 25	2 50	2 50	2 50
<i>General.</i>											
Engineer	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Teamster	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 75	1 75	1 75
Laborer	do	1 25	1 00	1 00	1 00	1 00	1 00	1 25	1 50	1 50	1 50
Mechanic	do	2 00	1 50	1 50	1 75	1 75	2 00	2 25	2 50	2 50	2 50
Carpenter	do	2 00	1 50	1 50	1 75	1 75	2 00	2 25	2 50	2 50	2 50
Boys	do	75	75	00	60	60	00	75	75	75	75

Door, Sash, and Lumber Company, Columbus, Ohio—Continued.

REMARKS.—Doors, sashes, flooring, etc., are made at these works. There were opportunities for extra earnings during three months of 1880, and these have not been considered in the table.

No allowances are given, and there are no deductions. Payments are weekly and all in cash.

All classes work 10 hours, and the works are in constant operation. There have been no strikes.

There has been an increase in the efficiency of labor, arising from experience and careful training.

Improvements in old machinery and new labor-saving devices have been introduced.

The trade is healthful, but somewhat dangerous. Accidents involving the loss of fingers or of a hand sometimes occur.

The following table gives selling prices and labor cost of common boards and doors:

Year	SELLING PRICE.		LABOR COST.	
	Common boards per M. feet.	Doors, each.	Common boards per M. feet.	Doors, each.
1870.....	\$25 00	\$2 00	\$3 00	\$0 50
1875.....	14 00	1 50	2 00	25
1880.....	16 00	1 75	2 50	25

Western Manufacturing Company, Toledo, Ohio.
[PLANING-MILL AND SASH-AND-DOOR FACTORY.]

Classes of employes.	Unit of payment.	DATES.								
		1860.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.
<i>Dressing department.</i>										
Foreman.....	Month.....	\$52 00- 58 50	\$50 00	\$50 00	\$50 00	\$50 00	\$65 00	\$65 00	\$65 00	\$65 00
Sawyer.....	Day.....	2 00	1 37½	1 37½	2 00	2 00	2 25	2 25	2 25	2 25
Planer.....	do.....	2 00	1 50	1 50	2 00	2 00	2 25	2 25	2 25	2 25
Matcher.....	do.....	1 50	1 37	1 37	1 50	1 50	1 75	1 75	1 75	1 75
Surfacer.....	do.....	1 50	1 37	1 37	1 50	1 50	1 75	1 75	1 75	1 75
Molder.....	do.....	2 00	1 37	1 37	1 50	1 50	1 75	1 75	1 75	1 75
<i>Sash-and-door department.</i>										
Foreman.....	Month.....	52 00- 58 50	45 00	45 00	45 00	45 00	50 00	50 00	50 00	50 00
Machine-hand.....	Day.....	1 50	1 37	1 37	1 37	1 37	1 50	1 50	1 50	1 50
Bench-hand.....	do.....	2 00	1 50	1 50	2 00	2 00	2 25	2 25	2 25	2 25
<i>General.</i>										
Engineer.....	do.....	2 12½	2 12½	2 12½	2 12½	2 12½	2 12½	2 12½	2 12½	2 12½
Teamster.....	do.....	1 50	1 12½	1 12½	1 25	1 25	1 25	1 25	1 25	1 25
Laborer.....	do.....	1 12½	1 12½	1 12½	1 25	1 25	1 25	1 25	1 25	1 25

REMARKS.—This mill manufactures doors, sashes, blinds, and ordinary moldings for house-furnishing and building purposes, and was established in 1869.

The wages given in the table are net, there being neither extras nor deductions.

Payments are monthly and in cash.

All classes work 8 hours a day in winter and 10 in summer. There has been but one strike; that occurred in 1877, and was caused by the railroad rioters, who forced the men to quit work.

There has been no change in the efficiency of labor.

Machinery for smoothing doors has been introduced.

The following statement of selling prices and labor cost is given:

Year.	SELLING PRICE.				LABOR COST.		
	Doors, each.	Sashes, each.	Blinds, pair.	Molding, foot.	Doors, each.	Sashes, each.	Blinds, pair.
1870.....	\$1 62	\$0 50	\$1 35	\$0 00½ to \$0 00	\$0 24	\$0 11	\$0 20
1875.....	1 50	50	1 25	½ to 0	20	10	20
1880.....	1 50	50	1 25	½ to 0	20	10	20

The trade is healthful.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

W. H. H. Smith, Toledo, Ohio.
[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.						
		1880.	1879.	1878.	1877.	1876.	1875.	1874.
<i>Sawing department.</i>								
Foreman.....	Month....	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00
Setter.....	Day.....	1 50	1 50	1 50	1 50	1 50	1 75	1 75
Sawyer.....	do.....	4 00	4 00	4 00	4 00	4 00	4 50	4 50
<i>Dressing department.</i>								
Foreman.....	Month....	104 00	104 00	104 00	104 00	104 00	104 00	104 00
Sawyer.....	Day.....	4 00	4 00	4 00	4 00	4 00	4 50	4 50
<i>General.</i>								
Engineer.....	do.....	4 00	4 00	4 00	4 00	4 00	4 00	4 00
Teamster.....	do.....	1 75	1 50	1 50	1 50	1 50	1 75	1 75
Laborer.....	do.....	1 25	1 00	87½	87½	87½	-----	-----
Millwright.....	do.....	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Fireman.....	do.....	1 75	1 50	1 50	1 50	1 50	1 75	1 75
Watchman.....	do.....	1 50	1 50	1 50	1 50	1 50	1 75	1 75
Boys.....	do.....	87½	75	62½	62½	62½	-----	-----

REMARKS.—This mill manufactures lumber, laths, and shingles, and bridge, car, and dimension timbers. The works were established in 1860.

There are no extras or deductions.
Payments are weekly and in cash.
All classes work 8 hours a day in winter and 10 in summer.

The works are in operation from April 1 to December 1. The nature of the business is such that it can not be carried on the remainder of the year.

Prescott's steam-feed for moving the saw-carriage has been introduced. This has increased the production 30 per cent., and has also increased the number of hands. Wages have been unchanged.

The selling prices and percentage of wages to cost of all kinds of lumber, laths, and shingles are as follows:

Year.	SELLING PRICE.			Average percentage of wages to cost.
	Lumber, per 1,000 feet.	Laths, per 1,000.	Shingles, per 1,000.	
1870.....	\$21 25	\$2 30	-----	Per cent. 17
1875.....	17 00	1 80	\$2 72	17
1880.....	18 00	2 00	2 25	17

There has been a decrease in the efficiency of labor, arising, as it is alleged, from the natural tendency of men to become lazy as their condition in life improves.

Herdman, Harris & Co., Zanesville, Ohio.
[PLANING-MILL AND SASH-AND-DOOR FACTORY.]

Classes of employes.	Unit of payment.	DATES.					
		1880.	1879.	1878.	1877.	1876.	1875.
<i>Dressing department.</i>							
Foreman.....	Month....	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Sawyer.....	Day.....	1 50	1 50	1 50	1 50	1 50	1 50
Planer.....	do.....	1 25	1 25	1 25	1 25	1 25	1 25
Matcher.....	do.....	2 00	2 00	2 00	2 00	2 00	2 00
Molder.....	do.....	2 25	2 25	2 25	2 25	2 25	2 25
<i>Sash-and-door department.</i>							
Foreman.....	Month....	52 00	52 00	52 00	52 00	52 00	52 00
Machine-hand.....	Day.....	2 00	2 00	2 00	2 00	2 00	2 00
Bench-hand.....	do.....	1 75	1 75	1 75	1 75	1 75	1 75
<i>General.</i>							
Engineer.....	do.....	1 50	1 50	1 50	1 50	1 50	1 50
Teamster.....	do.....	1 25	1 25	1 25	1 25	1 25	1 25
Laborer.....	do.....	1 25	1 25	1 25	1 25	1 25	1 25

REMARKS.—This mill was established in 1851.
There are no extra earnings or allowances.
The only deductions are in the case of bench-hands, who furnish their own tools.
Employes are paid weekly and in cash.
Artificial light is not used. Employes work 10 hours during the

long days and from 8 to 9 hours from November to April, being paid in proportion to the time worked.
The mill is idle only for about two weeks each year. There have been no strikes or lockouts.
No change has been observed in the efficiency of labor.
No labor-saving machinery has been introduced.

Beaver Falls Planing-Mill Company, Beaver Falls, Pennsylvania.

[PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
<i>Dressing department.</i>											
Foreman	Month..	\$52 00	\$52 00	\$45 50	\$45 50	\$30 00	\$30 00	\$52 00	\$05 00	\$05 00	\$05 00
Planer	Day	2 00	2 00	1 75	1 75	1 50	1 50	2 00	2 40	2 40	2 40
Matcher	do	2 00	2 00	1 75	1 75	1 50	1 50	2 00	2 40	2 40	2 40
Surfacer	do	2 00	2 00	1 75	1 75	1 50	1 50	2 00	2 40	2 40	2 40
Molder	do	2 00	2 00	1 75	1 75	1 50	1 50	2 00	2 50	2 50	2 50
<i>Sash-and-door department.</i>											
Machine-hand	do	2 00	2 00	1 75	1 75	1 50	1 50	2 00	2 50	2 50	2 50
Bench-hand	do	2 00	1 75	1 75	1 75	1 50	1 50	1 75	2 00	2 00	2 00
<i>General.</i>											
Teamster	do	1 25	1 25	1 25	1 00	1 00	1 00	1 25	1 75	1 75	1 75
Laborer	do	1 25	1 25	1 25	1 00	1 00	1 00	1 25	1 75	1 75	1 75

REMARKS.—This mill was established in 1867, though there are no records of wages available prior to 1871. Its products are doors, sashes, blinds, scroll-work, flooring, siding, and building material generally.

There are no opportunities for extra earnings and no allowances.

Employes furnish their own tools, but as few of these are required, the expense would not decrease regular wages materially, and has not been considered in making up the wages tables.

Payments are in cash, and are made once in four weeks.

All classes work ten hours a day.

Employment is constant, the only stops being for occasional repairs.

It is stated that the prices given below are for the average size No. 1 pine doors, sashes, and blinds, and also the average No. 1 pine

flooring. These articles vary greatly, ranging from a common pine door at \$1.50 to a walnut door as high as \$40. Flooring ranges from \$20 to \$40 per 1,000 feet.

Year.	Doors, each.	Sashes, per window.	Blinds, per pair.	Flooring, * per 1,000 feet.
1867.....	\$3 00	\$0 75	\$2 00	\$40 00
1870.....	3 00	75	2 00	40 00
1875.....	2 00	40	1 50	30 00
1880.....	2 50	50	1 75	40 00

New machinery has been added from time to time. This has had no apparent effect upon wages.

W. R. McFarland, Nashville, Tennessee.

[PLANING-MILL.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
<i>Dressing department.</i>												
Foreman	Month..	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00	\$50 00
Sawyer	Day	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Planer	do	1 00- 2 25	1 00- 2 25	1 00- 2 25	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 5 50	1 25- 2 50	1 25- 2 50	1 25- 2 50
Matcher	do	1 00- 2 25	1 00- 2 25	1 00- 2 25	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50
Surfacer	do	1 00- 2 25	1 00- 2 25	1 00- 2 25	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50
Molder	do	1 00- 2 25	1 00- 2 25	1 00- 2 25	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50	1 25- 2 50
<i>Sash-and-door department.</i>												
Foreman	Month..	50 00	50 00	50 00	50 00	50 00	50 00	50 00	50 00	50 00	50 00	50 00
Machine-hand	Day	1 00- 2 25	1 00- 2 25	1 00- 2 25	1 25- 1 50	1 25- 2 50	1 25- 2 50	1 25- 2 50				
Bench-hand	do	1 25- 3 25	1 25- 3 25	1 25- 3 25	1 25- 3,25	1 25- 3 25						
<i>General.</i>												
Engineer	do	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Teamster	do	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25
Laborer	do	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Bookkeeper	do	1 92½	1 92½	1 92½	1 92½	1 92½	1 92½	1 92½	1 92½	1 92½	1 92½	1 92½
Carpenter	do	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50	2 50
Machinist	do	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00	2 00
Watchman	do	1 00½	1 00½	1 00½	1 00½	1 00½	1 00½	1 00½	1 00½	1 00½	1 00½	1 00½

REMARKS.—The chief articles produced at this establishment are yellow pine and poplar flooring and ceiling. Doors, sashes, blinds, moldings, window-frames, etc., including all kinds of building ma-

terials, are also manufactured. The mill has been operated as a steam saw- and planing-mill since 1855. Wages have not changed since 1860.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

W. R. McFarland, Nashville, Tennessee—Continued.

Carpenters furnish their own tools.

Payments are weekly and in cash.

The hours of labor are 10 for all classes. Sometimes during extremely cold weather but 9 hours are made.

The works are operated about 11 months per year. There have been no strikes or lockouts.

Below is a statement of the selling price and labor cost of some of the articles of product since 1870:

Year.	SELLING PRICE.					LABOR COST.				
	Pine and poplar flooring, 1,000 feet.	Ceiling, per 1,000 feet.	Doors, each.	Sashes, per pair.	Blinds, per pair.	Pine and poplar flooring, 1,000 feet.	Ceiling, per 1,000 feet.	Doors, each.	Sashes, per pair.	Blinds, per pair.
1870.....	\$20 00 to 27 50	\$20 00	\$2 00	\$1 00 to 4 00	\$1 50 to 5 00	.....	.....	.....	.....	.....
1875.....	20 00 to 27 50	20 00	2 00	1 00 to 4 00	1 50 to 5 00	\$1 30	\$1 20	\$0 80	\$0 40	\$1 00
1880.....	20 00 to 27 50	20 00	2 00	1 00 to 4 00	1 50 to 5 00	1 30	1 20	80	40	1 00

There has been no change in the efficiency of labor.

Molding and jig-sawing machinery and a double-headed surfacer have been introduced. These have doubled production, the work being done with more ease and rapidity. The introduction of machinery has had no effect upon wages.

The business is not unhealthful, but is somewhat dangerous for those operating machinery. The most serious accident that ever happened at this mill was in 1877, and resulted in the loss by one of the men of the fingers on his left hand.

Buffat & Son, Knoxville, Tennessee.

[SAW-MILL.]

Classes of employes.	Unit of payment.	DATES.													
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.
<i>Sawing department.</i>															
Setter, boy	Day.....	\$0 22	\$0 22	\$0 22	\$0 25	\$0 22	\$0 22	\$0 22	\$0 22	\$0 22	\$0 25	\$0 22	\$0 25	\$0 25	\$0 25
Sawyer	do					1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50
<i>General.</i>															
Engineer.....	do	65	65	75	75	75	75	75	75	75	75	1 00	1 00	1 00	1 00
Teamster.....	do	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Laborer	do	65	65	75	75	75	75	75	75	75	75	85	85	1 00	1 00

REMARKS.—A member of the firm states that as he is himself capable of performing the duties of miller, sawyer, or engineer, and personally supervises the work of these classes of labor, the wages paid for them are not so high as they would be were more responsible hands required, and are not a fair representation of the rates usually paid. It is also remarked that the mill being situated in the country, the rates are somewhat lower than those in the city.

Teamsters are furnished free houses and cow-pasture, which would increase their regular wages about \$5 per month, and have not been included in the table.

Employes are paid three-fourths in cash and one-fourth in the products of the mill at wholesale rates. Wages are drawn as needed on account, and settlement in full is made monthly.

The hours of labor average about 10; employes usually work from nearly sunrise to sunset, less one hour at noon, the year through.

The mill was in operation about 8 months a year from 1867 to 1875, and has been run from 4 to 6 months a year since 1876, inability to procure logs causing the idleness.

Regarding the selling prices, it is stated that the figures for 1870 to 1875—\$16 and \$12 per M. for lumber—are given from the aggregate of sales for each of those years. The average price for 1880—\$10 per M.—is the result of averaging prices by data from sales of different dates. Regarding labor cost, it is explained that as these mills are run at times partly by steam, sometimes altogether by steam, and at other times altogether by water, it is difficult to give very exact figures, the cost of labor varying with the manner of running the mill.

Considerable danger attends the running of the saws. Accidents can be avoided only by great prudence on the part of the operatives.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

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D. R. Wingate, Orange, Texas.

[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.						
		1880.	1879.	1878.	1877.	1876.	1875.	1874.
<i>Sawing department.</i>								
Foreman	Month..	\$104 00	\$91 00	\$91 00	\$78 00	\$78 00	\$65 00	\$65 00
Filler	Day	4 00	4 00	3 50	3 50	3 50	3 00	3 00
Setter	do	3 00	2 50	2 25	2 25	2 00	1 75	1 75
Sawyer	do	4 00	3 00-	3 00	3 00	3 00	2 50	2 50
			4 00					
<i>Dressing department.</i>								
Foreman	Month..	100 00	100 00	60 00	60 00			
Sawyer	Day	4 00	3 00-	3 00	3 00	3 00	2 50	2 50
			4 00					
Planer	do	3 00	3 00	2 25	2 25			
Matcher	do	3 00	3 00	2 25	2 25			
<i>General.</i>								
Engineer	do	2 75	2 50	2 50	2 50	2 00	2 00	2 00
Teamster	do	1 50	1 50	1 50	1 30	1 30	1 25	1 25
Laborer	do	2 00	1 75	1 50	1 30	1 30	1 25	1 25

REMARKS.—This mill was established in 1874, and manufactures yellow-pine lumber.

Very few opportunities for extra earnings have existed, and these have not been included in the table.

There are no allowances and no deductions.

About two-thirds of the wages are paid monthly in cash. All the employes have running accounts at the company's store, the amounts of which are deducted from their wages.

The hours of labor were 12 a day for all classes in 1875, and 10 in 1880. It is stated that as the hours have been reduced, labor has become more independent and demoralized.

Employment is constant, the works stopping only a few days each year for repairs, and no strikes or lockouts have taken place.

An apparatus for conveying lumber slabs and sawdust, and also oven furnaces, have been introduced. These have decreased the number of men employed but require a better class of men, at higher wages.

The following statement of selling price and labor cost of yellow pine is given :

Year.	SELLING PRICE.		LABOR COST.	
	Rough, per 1,000 feet.	Dressed, per 1,000 feet.	Rough, per 1,000 feet.	Dressed, per 1,000 feet.
1875.....	\$10 00	\$12 00	\$2 50	\$3 00
1880	{ 8 00 10 00	{ 13 00 14 00 16 00	{ 2 00	{ 2 00

There has been an increase in the efficiency of labor, resulting from immigration.

The trade is very healthful. Accidents resulting from carelessness sometimes occur, though there have been none at this mill.

C. Amster & Brother, Prismoid, Texas.

[SAW- AND PLANING-MILL.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.														
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.
<i>Sawing department.</i>																
Sawyer	Day	\$2 25- 4 00	\$2 00- 3 50	\$2 00- 3 50	\$2 00- 3 50	\$2 00- 3 50	\$2 25- 4 00									
<i>Dressing department.</i>																
Planer	do	1 75- 2 25	2 00- 2 50													
Matcher	do	1 75- 2 25	2 00- 2 50													
Surfacer	do	1 75- 2 25	2 00- 2 50													
Molder	do	1 75- 2 25	2 00- 2 50													
<i>General.</i>																
Engineer	do	2 25- 4 00	1 75- 3 00	1 75- 3 00	1 75- 3 00	1 75- 3 00	2 00- 2 50									
Laborer	do	1 25- 2 00					75- 1 50			1 00- 1 75	75- 1 25	\$0 80- 1 20	\$0 60- 1 10		\$1 25- 2 00	\$0 75- 1 50

REMARKS.—This mill began operations in 1866.

There have been some opportunities for extra earnings from overtime, but the employes have seldom taken advantage of them and they have not been considered in the table.

Employes have free houses, gardens, and wood, and the privilege

of keeping horses and cows, which would increase wages about 15 per cent., and have not been included in the rates given above.

There are no deductions.

Payments are monthly, 80 per cent. in cash and 20 per cent. in merchandise. Store-orders have never been used.

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

C. Amsler & Brother, Prismoid, Texas—Continued.

Skilled laborers work 10 hours per day; common laborers, 11 in summer and 9 in winter.

The mill was operated an average of 10½ months per year from 1866 to 1875, and 9½ months from 1876 to 1880. The idleness has been caused by hot weather, the works sometimes stopping during August and September. Strikes have been infrequent and unimportant.

There has been a decrease in the efficiency of labor which has arisen from the great demand for the same brought about by the variety of new enterprises.

New machinery has been introduced.

The employment is healthful and is not dangerous. There has never been a serious accident at these works.

The following statements of selling price and of labor cost are given:

Year.	SELLING PRICE.		LADOR COST.	
	Rough lumber, per 1,000 feet.	Dressed lumber, per 1,000 feet.	Rough lumber, per 1,000 feet.	Dressed lumber, per 1,000 feet.
1866.....	\$18 00	\$22 00 to 24 00	\$0 00	\$0 00
1870.....	12 00	15 00 to 17 00	3 50	4 75
1875.....	10 00	13 00 to 16 00	4 00	5 50
1880.....	7 00	10 00 to 13 00	4 00	5 50

R. J. & W. Neely, Franklin, Virginia.

[SAW- AND PLANING-MILL.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.													
		1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1860.	1868.	1867.
<i>Sawing department.</i>															
Foreman.....	Month..	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00
Filer.....	Day...	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54
Sawyer.....	do....	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31
<i>Dressing department.</i>															
Foreman.....	Month..	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00
Sawyer.....	Day...	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31
<i>General.</i>															
Engineer.....	do....	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31	2 31
Laborer.....	do....	46-61½	32-40	32-40	32-40	32-40	32-40	32-40	32-40	32-40	32-40	32-40	32-40	32-40	32-40
Green hands.....	do....	77	48-50	48-50	48-50	48-50	48-50	48-50	48-50	48-50	48-50	48-50	48-50	48-50	48-50
Raftmen.....	do....	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Logging.....	do....	75	75	75	75	75	75	75	75	75	75	75	75	75	75

Classes of employes.	Unit of payment.	DATES.													
		1860.	1865.	1864.	1868.	1862.	1861.	1860.	1850.	1858.	1857.	1856.	1855.	1854.	1853.
<i>Sawing department.</i>															
Foreman.....	Month..	\$30 00-50 00	\$30 00-50 00				\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00	\$30 00-50 00
Filer.....	Day...	1 00-1 54	1 00-1 54				1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54	1 00-1 54
Sawyer.....	do....	2 31	2 31				1 02½	1 02½	1 02½	1 02½	1 02½	1 02½	1 02½	1 02½	1 02½
<i>Dressing department.</i>															
Foreman.....	Month..	30 00-50 00	30 00-50 00				30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00	30 00-50 00
Sawyer.....	Day...	2 31	2 31				1 02½	1 02½	1 02½	1 02½	1 02½	1 02½	1 02½	1 02½	1 02½
<i>General.</i>															
Engineer.....	do....	2 31	2 31				1 02½	1 02½	1 02½	1 02½	1 02½	1 02½	1 02½	1 02½	1 02½
Laborer.....	do....	32-40	32-40				46-61½	46-61½	46-61½	46-61½	46-61½	46-61½	46-61½	46-61½	46-61½
Green hands.....	do....	48-50	48-50				77	77	77	77	77	77	77	77	77
Raftmen.....	do....	1 00	1 00				1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Logging.....	do....	75	75				75	75	75	75	75	75	75	75	75

REMARKS.—At the mill for which wages are given above, lumber, laths, and palings are sawed, and flooring, ceiling, weather-boarding, etc., are dressed. The slight fluctuation in wages will be noted.

Sufficient over-time has been made in loading cars and rafting

and floating logs to compensate for the loss from idleness. Regular rates are paid for over-time.

There have been some allowances given to employes. They are houses, wood, and gardens free to sawyers, engineers, and a few others, boarding in a few cases, and low house-rent, wood, and

STATISTICS OF WAGES—SAW- AND PLANING-MILLS.

Eau Claire Lumber Company, Eau Claire, Wisconsin—Continued.

Classes of employes.	Unit of payment.	DATES.							
		1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.
<i>Sawing department.</i>									
Foreman	Month ..	\$125 00	\$125 00	\$115 00	\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Filer	Day	3 50	3 25	3 00	2 75	2 75	2 50	2 50	2 50
Setter	do	2 00	1 75	1 75	1 75	1 75	1 50	1 50	1 50
Sawyer	do	3 50	3 25	3 00	2 75	2 75	2 50	2 50	2 50
<i>Dressing department.</i>									
Foreman	Month ..								
Sawyer	Day								
Planer	do								
Matcher	do								
Surfacer	do								
Molder	do								
<i>General.</i>									
Engineer	do	3 75	3 50	3 00	3 50	3 50	3 00	3 00	3 00
Teamster	do	1 00	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Laborer	do	1 45	1 45	1 40	1 40	1 40	1 40	1 40	1 40
Watchman	do	1 00	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Millwright	do	2 25	2 00	2 00	2 00	2 00	2 00	2 00	2 00

REMARKS.—At this establishment mechanics occasionally earn extra wages by making repairs.

Payments are made every two weeks. The use of store-orders was abandoned in 1878, since which time cash has been paid in full.

The hours of labor are from 10½ to 12 per day.

Among the improved machinery introduced are log-canterns, automatic feeding apparatus, a hollow saw mandrel to admit water to surface of saw, and an interlocking dog.

David McCartney, Medford, Wisconsin.
[SAW- AND PLANING-MILL.]

Classes of employes.	Unit of payment.	DATES.						
		1880.	1879.	1878.	1877.	1876.	1875.	1874.
<i>Sawing department.</i>								
Foreman	Month ..	\$71 50	\$71 50	\$65 00	\$65 00	\$65 00	\$65 00	\$65 00
Filer	Day	3 50	3 50	3 50	3 50	3 50	3 50	3 50
Setter	do	2 50	2 50	2 25	2 25	2 25	2 25	2 25
<i>Dressing department.</i>								
Foreman	Month ..							05 00
Matcher	Day							1 75
Surfacer	do							1 50
Molder	do							1 50
<i>General.</i>								
Engineer	do							3 00
Laborer	do							1 50
Teamster	do							1 50

REMARKS.—The products of this mill are all kinds of dressed lumber, shingles, pickets, and laths.

The above rates are the net earnings of the employes, there being neither extras nor deductions.

Payments are monthly, half in cash and half in merchandise.

All classes work 11 hours per day.

The works are in constant operation, and no strikes or lockouts have occurred.

There has been no change in the efficiency of labor, and no labor-saving machinery has been introduced.

Regarding the selling prices in the following table, it is stated that the prices for lumber are the average prices of different classes; those for shingles for first-class only:

Year.	SELLING PRICE.				LABOR COST.			
	Rough and dressed lumber, per 1,000 feet.	Shingles, per 1,000.	Laths, per 1,000.	Pickets, per 1,000.	Rough and dressed lumber, per 1,000 feet.	Shingles, per 1,000.	Laths, per 1,000.	Pickets, per 1,000.
1875	\$11 00 to 14 00	\$2 50	\$1 50	\$12 00	\$2 50	\$1 00	\$0 75	\$1 50
1880	10 00 to 13 00	2 25	1 50	12 00	2 50	1 00	75	1 50

The trade is healthful, and accidents are rare.

The Knapp, Stout & Co.'s Company, Menomonee, Wisconsin.

[SAW-MILL.]

Classes of employes.	Unit of payment.	DATES.												
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.
<i>Sawing department.</i>														
Foreman.....	Month.....	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00	\$104 00
Filer.....	Day.....	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 00	3 50	3 50
Setter.....	do.....	2 00	1 78	1 78	1 78	1 54	1 54	1 54	1 54	1 54	1 54	1 70	1 70	1 70
Sawyer.....	do.....	3 50	3 50	3 00	3 00	3 00	2 75	2 75	2 75	2 75	2 75	2 50	2 50	2 50
<i>General.</i>														
Engineer.....	do.....	3 00	3 00	3 00	3 00	3 00	3 00	2 75	2 75	2 75	2 75	2 75	2 75	2 50
Teamster.....	do.....	1 30	1 15	1 15	1 30	1 35	1 35	1 35	1 50	1 50	1 50	1 65	1 65	1 70
Laborer.....	do.....	1 08	1 00	1 00	1 08	1 15½	1 15½	1 15½	1 23	1 23	1 23	1 31	1 31	1 38½

Classes of employes.	Unit of payment.	DATES.												
		1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.
<i>Sawing department.</i>														
Foreman.....	Month.....	\$104 00	\$104 00											
Filer.....	Day.....	3 50	3 50	\$3 50	\$3 50	\$3 00	\$3 00	\$3 00						
Setter.....	do.....	1 70	1 70	2 00	2 00	1 40	1 50	1 50						
Sawyer.....	do.....	2 50	2 50	2 50	2 50	2 00	2 00	2 00						
<i>General.</i>														
Engineer.....	do.....	2 50												
Teamster.....	do.....	1 70	1 70	1 00	1 00	1 00	1 43	1 35	\$1 30	\$1 30	\$1 30	\$1 45	\$1 50	\$1 50
Laborer.....	do.....	1 38½	1 38½	1 02	1 02	1 38	1 23	1 15	1 08	1 08	1 08	1 23	1 31	1 31

REMARKS.—This mill was established in 1846, and manufactures lumber, laths, and pickets.

There have been no opportunities for extra earnings from over-time. Those hired by the month work 26 days per month, holidays and over-time, if necessary, without any increase in regular wages.

To some of the employes board is furnished by the company, which would increase regular wages \$10 per month, and has been included in the table.

The employes are paid either in cash or in merchandise, as they prefer, and receive partial payments on application, final settlements being made at the end of the term for which they are hired. The use of store-orders was abandoned in 1879.

All classes work 11 hours a day in winter and 11½ hours in summer.

The saw-mill is operated but 8 months a year, the cause of idleness being the freezing of the river. Employment does not cease with the closing of the mills, however, as some of the men go into the woods to cut and get out the next season's supply of

logs, and others stay and repair mills, etc. Strikes and lockouts have been unknown.

The following statement of selling prices is given :

Year.	Lumber, per 1,000 feet.	Shingles, per 1,000.	Laths, per 1,000.	Pickets, per 1,000.
1865..	\$20 00	\$3 00	\$2 50	\$20 00
1870..	20 00	3 00	2 50	20 00
1875..	16 00	2 50	2 00	16 00
1880..	12 00	2 50	2 00	12 00

There has been no noticeable change in the efficiency of labor. Improved machinery is being constantly added.

The trade is healthful. There is some danger if men are careless, and unavoidable accidents sometimes occur from the breakage of machinery. These, however, have not been frequent.

C. N. Beck, Milwaukee, Wisconsin.

[SAW- AND PLANING-MILL.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.					
		1880.	1879.	1878.	1877.	1876.	1875.
<i>Sawing department.</i>							
Foreman.....	Month.....	\$58 50	\$58 50	\$52 00	\$52 00	\$52 00	\$52 00
Filer.....	Day.....			1 62	1 50	1 50	
Setter.....	do.....			1 62	1 50	1 50	
Sawyer.....	do.....	1 87½	1 75	1 62½	1 50	1 50	1 62½
<i>Dressing department.</i>							
Foreman.....	Month.....	58 50	58 50	52 00	52 00	52 00	52 00
Sawyer.....	Day.....	1 87½	1 75	1 62½	1 50	1 50	1 62½
Planer.....	do.....	1 62½	1 50	1 37½	1 50	1 50	1 75
Matcher.....	do.....	1 75	1 62½	1 50	1 50	1 62½	1 87½
Surfacer.....	do.....	1 75	1 62½	1 50	1 50	1 62½	1 87½

C. N. Beck, Milwaukee, Wisconsin—Continued.

Classes of employes.	Unit of pay- ment.	DATES.					
		1880.	1879.	1878.	1877.	1876.	1875.
<i>Box department.</i>							
Foreman	Month.....	\$58 50	\$58 50	\$52 00	\$52 00	\$52 00	\$52 00
Box-nailer	Day	1 73	1 02	1 50	1 50	1 50	1 75
<i>General.</i>							
Engineer .....	...do	1 02½	1 73	1 54	1 35	1 35	1 35
Teamster .....	...do	1 50	1 37	1 25	1 25	1 50	1 50
Laborer .....	...do	1 25	1 12	1 00	1 00	1 12	1 25

REMARKS.—This mill, established in 1853, is engaged in manufacturing merchants' and pork-packers' boxes, trunk-boxes, and planing, matching, and resawing lumber for the lumber-yards. There are no extra earnings or allowances. Box-nailers furnish their own tools. Payments are monthly and all in cash. The hours of labor are 9 a day from December 1 to April 1, and 10 the remainder of the year.

Employment is constant. There have been neither strikes nor lockouts. Wages constitute about 35 per cent. of the entire cost of product. There has been no change in the efficiency of labor. Greatly improved machines have been introduced, which have effected an increase in production of from 30 to 50 per cent. There is some danger incidental to the running of saws and other machinery, and great care is necessary on the part of the employes.

An establishment in Wisconsin.

[SAW- AND PLANING-MILL.]

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.										
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
<i>Sawing department.</i>												
Foreman	Month..	\$91 00	\$78 00	\$68 00	\$78 00	\$104 00	\$104 00	\$130 00	\$130 00	\$130 00	\$78 00	\$78 00
Filler	Day	3 50	3 00	2 75	2 75	4 00	4 00	5 00	5 00	3 75	3 00	3 00
Setter .....	...do	2 25	2 00	2 00	1 50	1 50	1 50	2 00	2 00	2 00	1 75	1 75
Sawyer .....	...do	3 00	2 50	2 50	3 00	3 00	3 00	3 75	4 00	3 00	2 50	2 50
<i>Dressing department.</i>												
Foreman	Month..	65 00	52 00	52 00	52 00	65 00	65 00	78 00	104 00	104 00	.....	.....
Sawyer	Day	1 25	1 12½	1 00	1 00	1 25	1 25	1 50	1 50	1 00	.....	.....
Planer .....	...do	1 25	1 12½	1 00	1 00	1 25	1 25	1 50	1 50	1 00	.....	.....
Matcher .....	...do	1 25	1 12½	1 00	1 00	1 25	1 25	1 50	1 50	1 00	.....	.....
Surfacer .....	...do	1 25	1 12½	1 00	1 00	1 25	1 25	1 50	1 50	1 00	.....	.....
Molder .....	...do	1 50	1 50	1 25	1 25	1 50	1 50	1 75	1 75	2 00	.....	.....
<i>General.</i>												
Engineer .....	...do	2 50	2 00	1 75	2 00	2 50	2 00	2 00	2 50	3 00	3 50	3 50
Teamster .....	...do	1 25	1 25	1 00	1 00	1 25	1 25	1 50	1 50	1 00	1 50	1 50
Laborer .....	...do	1 25	1 12½	1 00	1 00	1 25	1 25	1 50	1 50	1 00	1 50	1 50

Classes of employes.	Unit of payment.	DATES.										
		1869.	1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.
<i>Sawing department.</i>												
Foreman	Month..	.....	.....	\$104 00	\$104 00	\$104 00	\$78 00	\$65 00	\$52 00	\$52 00	\$52 00	.....
Filler	Day .....	.....	.....	3 00	3 00	3 00	2 25	2 00	1 50	1 50	1 50	.....
Setter .....	...do .....	.....	.....	2 00	2 00	2 00	1 50	1 50	1 25	1 25	1 25	.....
Sawyer .....	...do .....	.....	.....	3 00	3 00	2 75	2 25	2 00	1 50	1 50	1 50	.....
<i>Dressing department.</i>												
Foreman	Month..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sawyer	Day .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Planer .....	...do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Matcher .....	...do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Surfacer .....	...do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Molder .....	...do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>General.</i>												
Engineer .....	...do .....	.....	.....	2 50	2 50	2 50	2 25	1 75	1 50	1 50	1 50	.....
Teamster .....	...do .....	.....	.....	1 50	1 75	1 50	1 50	1 12½	1 00	1 00	1 00	.....
Laborer .....	...do .....	.....	.....	1 50	1 75	1 50	1 50	1 12½	1 00	1 00	1 00	.....

An establishment in Wisconsin—Continued.

REMARKS.—At this mill lumber, shingles, laths, pickets, and moldings are manufactured, and lumber of all kinds is dressed and matched.

There have been no opportunities for extra earnings worthy of mention. Such as there are have been included in the wages tables.

There are no allowances or deductions.

Employés are paid in cash. The use of store-orders was abandoned in 1865, because it was more satisfactory to employés to receive all cash. From 1860 to 1870 payments were weekly, and from 1870 to 1880 monthly. The firm states that in 1881, when the return was made, it was paying semi-monthly, and found that method less troublesome than either of the others.

From 1860 to 1870 all classes in the saw-mill worked 11½ hours a day, and from 1875 to 1880, 11 hours. The proprietor states that most of the saw-mills in the vicinity ran 11½ hours per day, and in 1875 it was concluded by the firm to try 11 hours, with no reduction in wages. The result proved that the output was as great as it had been in longer hours. The hours of labor in the planing-mill are 10 a day most of the year. The opinion is expressed that if it could be mutually agreed between the manufacturers of the northwest to reduce time of running to 10 hours per day, sufficient lumber would be made for the ordinary demands of the trade, and the men would be greatly benefited.

The works were operated an average of 7 months per year from 1871 to 1875; 6 months from 1876 to 1880; and 6¼ months in the census year. The freezing of the river prevents the running of the

mill more than 6 or 7 months per year, and want of demand sometimes causes irregularity. The firm reports that it has never had a strike.

The following statements are made regarding selling prices and labor cost:

Year.	SELLING PRICES.		LABOR COST.	
	Common lumber, per 1,000 feet.	Shingles, per 1,000.	Lumber, per 1,000 feet.	Shingles, per 1,000.
1860.....	\$7 00	\$1 25	\$1 50	\$0 50
1865.....	13 00	4 00	2 50	1 00
1870.....	11 00	3 50	2 00	1 00
1875.....	9 00	2 50	1 50	75
1880.....	10 00	2 25	1 50	75

No change in the efficiency of labor has been observed.

Improved machinery has been introduced. This has not decreased the number of employés to any great extent, but has permitted the accomplishment of more work with less manual labor, and has lessened cost of output.

The business is not regarded as unhealthful, but accidents are liable to occur, owing to the carelessness of men in operating circular saws.

SHIP-CARPENTRY.

There was no systematic effort made to secure returns of wages in this industry, but, as in several others, some returns were obtained by special agents which are deemed of sufficient importance to tabulate. It will be noticed that the returns represent various developments of this industry. One is from a ship-yard on the North Atlantic coast, one from the lakes, one from the Ohio at Cincinnati, and the fourth from the Mississippi at Saint Louis.

The division of labor in ship-building is not very minute, and there are therefore but few classes of employes given. A careful investigation into the wages paid in this industry, and the conditions under which it has been carried on for the past 50 years, would be exceedingly interesting, marking, as it does, the change from wooden ships to iron, and the decadence of the industry.

Extra earnings or deductions.—There are some opportunities for over-time, but it is evident that, as the work is largely outdoor work, opportunities for over-time are not so many as where work is carried on in buildings.

There are no allowances. Carpenters, joiners, and calkers furnish their own tools.

Payments are all in cash, and in every case weekly.

Hours of labor.—Ten hours seems to be the usual length of a day's labor.

Regularity of employment.—There is considerable irregularity in the running of ship-yards, chiefly growing out of the state of the weather.

It will be readily understood that there is great difficulty in making any statement as to the cost of product and percentage of wages to cost.

Efficiency of labor and labor-saving machinery.—No change in the efficiency of labor is reported.

As in other wood-working industries, considerable labor-saving machinery has been introduced.

WAGES TABLES, WITH SUPPLEMENTARY AND EXPLANATORY REMARKS.

An establishment in Massachusetts.

[Continued on next page.]

Classes of employes.	Unit of payment.	DATES.															
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.	1865.
First class	Day	\$1 75	.....	\$1 50	.....	\$1 75	.....	\$2 25	.....	\$2 50	.....	\$2 75	.....	.....	.....	\$3 00	.....
Second class	do	1 50	.....	1 25	.....	1 50	.....	1 75	.....	2 00	.....	2 25	.....	.....	.....	2 50	.....
Third class	do	1 12	.....	1 12	.....	1 25	.....	1 50	.....	1 50	.....	1 75	.....	.....	.....	2 00	.....
Fourth class	do	1 00	.....	1 00	.....	1 00	.....	1 00	.....	1 00	.....	1 25	.....	.....	.....	1 50	.....

Classes of employes.	Unit of payment.	DATES.															
		1864.	1863.	1862.	1861.	1860.	1858.	1855.	1850.	1848.	1843.	1840.	1838.	1836.	1835.	1833.	1830.
First class	Day	\$3 00	\$2 50	\$2 00	\$1 50	\$1 75	\$2 00	\$1 75	\$1 02	\$1 02	\$1 50	\$1 25	\$1 00	\$1 25	\$1 00	\$1 00	\$1 00
Second class	do	2 50	2 00	1 75	1 25	1 50	1 75	1 50	1 42	1 42	1 25	1 00	90	1 00	90	90	90
Third class	do	2 00	1 75	1 50	1 00	1 25	1 50	1 35	1 25	1 25	1 00	90	75	90	75	75	75
Fourth class	do	1 50	1 50	1 25	75	1 00	1 12	1 00	1 00	1 00	90	75	60	75	60	60	60

REMARKS.—The firm making this return entered the business of ship-building in 1830, and gives wages from that date.

The hours of labor for all classes were 12 until 1845, when they were reduced to 10, and it is stated that the amount of labor done in the 10 hours now ruling is about equal to that formerly performed in 12 hours.

Employes are paid all in cash. From 1830 to 1840 payment was made at the completion of a piece of work; from 1840 to 1855, monthly, and from 1855 to 1880, weekly.

The employes are subject to an expense for tools amounting to about 3 per cent. of their wages. This has not been considered in making up the wages table.

An establishment in Massachusetts—Continued.

There have been no opportunities for extra earnings, and no allowances.

The regularity with which work has been carried on is shown in the following tabular statement:

Periods.	Months per year.
1830 to 1835	10
1836 to 1840	10
1841 to 1845	11
1846 to 1850	11
1851 to 1855	12
1856 to 1860	12
1861 to 1865	11
1866 to 1870	12
1871 to 1875	10
1876 to 1880	9
Year ending June 1, 1880	9

Below are the selling prices of vessels per ton, and the percentage of wages to total cost for the years named:

Year.	Selling price.	Percentage of wages to cost.
		<i>Per cent.</i>
1830.....	\$35 00	50
1835.....	38 00	50
1840.....	40 00	50
1845.....	42 00	45
1850.....	48 00	45
1855.....	50 00	50
1860.....	48 00	40
1865.....	80 00	40
1870.....	75 00	45
1875.....	60 00	45
1880.....	60 00	40

There have been no strikes worthy of mention.

The trade is neither dangerous nor unhealthful.

Saint Louis Sectional Dock Company, Saint Louis, Missouri.

Classes of employes.	Unit of payment.	DATES.												
		1881.	1880.	1870.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1860.
Ship-carpenter.....	Day	\$3 00	\$3 00	\$3 00	\$2 50	\$2 50	\$2 50	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00	\$3 00
Calker.....	do	3 00	3 00	3 00	2 50	2 50	2 50	3 00	3 00	3 00	3 00	3 00	3 00	3 00
Laborer.....	do	1 25	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50	1 50	1 50
Engineer.....	do	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½	3 84½

Classes of employes.	Unit of payment.	DATES.												
		1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.
Ship-carpenter.....	Day	\$3 00- 8 50	\$3 50- 4 00	\$4 00- 5 00	\$5 00	\$3 50- 5 00	\$3 00	\$3 00	\$3 00	\$2 50	\$2 50	\$2 50	\$2 50	\$2 50
Calker.....	do	3 00- 3 50	3 50- 4 00	4 00- 5 00	5 00	3 50- 5 00	3 00	3 00	3 00	2 50	2 50	2 50	2 50	2 50
Laborer.....	do	1 50- 1 75	1 75- 2 00	2 00- 2 50	2 50	1 50- 2 50	1 25	1 25	1 25	1 00	1 00	1 00	1 00	1 00
Engineer.....	do	5 77	5 77	5 77	5 77	4 80½	3 84½	3 84½	2 88½	2 88½	2 88½	2 88½	2 88½	2 88½

REMARKS.—This firm builds and repairs steamboats and barges, and began business in 1840.

Regarding opportunities for over-time work, it is stated that during the war, and until 1868, the extra earnings of ship-carpenters would increase the regular wages given in the table 10½ per cent. Since 1868 the extra time has only about compensated for the time lost.

There have been no allowances.

Ship-carpenters and calkers furnish the tools necessary to their work. The expense of these would not decrease their wages appreciably.

Employes are paid weekly and all in cash.

The hours of labor are 10 a day for all classes.

Regarding regularity of employment, it is stated that work is always carried on when the Mississippi river is open for navigation, the number of men employed varying with the condition of the business. In 1859, 1860, and 1877 there was little business done. The depression in the two earlier years is ascribed to the unsettled condition of the country, and in 1877 it was caused by the strikes

of the year. The following account of a strike is given: In 1864 the carpenters and calkers, who were getting \$5 a day, struck for an advance of 50 cents; after being out about a month they resumed work at the old rates. During the strike the firm was obliged to apply for military protection for the men who accepted the company's terms. There have been a number of other strikes, but none of them serious. Although in 1877 the men at these works did not strike, they were obliged by outside pressure to suspend work for about two weeks.

Wages average about one-third of total cost of building and one-half of total cost of repairing boats and barges. Before the introduction of machinery the percentage was greater.

No change in the efficiency of labor has been observed.

The latest improvements in sawing and planing machinery have been introduced from time to time. These have doubled production in proportion to hands employed, rendered the labor of the men less arduous, and decreased cost about 50 per cent.

The business is healthful, and the risk of accidents only that which is incidental to the use of tools and machinery.

STATISTICS OF WAGES—SHIP-CARPENTRY.

Union Dry Dock Company, Buffalo, New York.

Classes of employes.	Unit of payment.	DATES.									
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.
Foreman.....	Day....	\$5 91 $\frac{3}{4}$	\$4 10 $\frac{3}{4}$	\$4 10 $\frac{3}{4}$	\$4 10 $\frac{3}{4}$	\$5 00	\$8 00	\$8 00	\$8 00	\$8 00	\$8 00
Joiner.....	do....	2 25	2 00	2 00	2 00	2 00	2 50	2 50	3 50	3 00	3 00
Calker.....	do....	2 25	2 00	2 00	2 00	2 00	2 50	2 50	3 50	3 00	3 00
Laborer.....	do....	1 25	1 00	1 00	1 00	1 25	1 50	1 50	1 75	1 50	1 50
Blacksmith.....	do....	3 16 $\frac{3}{4}$	3 83 $\frac{3}{4}$	3 16 $\frac{3}{4}$	3 16 $\frac{3}{4}$	3 33 $\frac{3}{4}$	3 33 $\frac{3}{4}$	3 33 $\frac{3}{4}$	3 33 $\frac{3}{4}$	3 33 $\frac{3}{4}$	3 33 $\frac{3}{4}$
Helper.....	do....	1 50	1 33 $\frac{3}{4}$	1 33 $\frac{3}{4}$	1 33 $\frac{3}{4}$	2 00	2 00	2 00	2 00	2 00	2 00
Engineer.....	do....	2 50	2 50	2 50	2 50	3 00	3 00	3 33 $\frac{3}{4}$	3 33 $\frac{3}{4}$	2 66 $\frac{2}{3}$	2 00 $\frac{2}{3}$
Carpenter.....	do....	2 25	2 00	2 00	2 00	2 00	2 50	2 50	3 50	3 00	3 00

REMARKS.—This company builds ships and repairs vessels of all kinds.

During the summer season there are frequent opportunities for over-time work, for which regular wages are paid. These extra earnings would increase the regular wages of the employes 50 per cent.

There are no privileges or allowances, except that the watchman has room rent free; this would increase his wages about \$5 per month, and has not been included in the table.

Carpenters, joiners, and calkers buy their own tools, but this expense has been taken into consideration in making up the above rates.

All classes work 10 hours a day. This time, it is stated, is satisfactory both to employer and to employe, and no change of hours is recommended.

Employes are paid weekly and in cash.

The work is carried on uninterruptedly.

One strike is reported. In 1872 the men struck for an increase in wages, and were idle 8 weeks. The men finally resumed work, having lost 8 weeks' wages.

There has been no change in the efficiency of labor.

Improved planing-mills, saw-mills, and derricks have been introduced. The effect of these has been an increase in output, and decrease in cost and number of hands in proportion to output. The actual number of hands, however, has increased in consequence of the enlarged demand for vessels, and wages have remained unchanged.

The occupation is healthful, and, with proper care on the part of the workman, not to be considered more dangerous than any other mechanical trade.

An establishment in Ohio.

[DRY-DOCKS COMPANY.]

Classes of employes.	Unit of payment.	DATES.														
		1880.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.	1866.
Ship-carpenter.....	Day....	\$2 25	\$2 00	\$2 00	\$2 00	\$2 00	\$2 50	\$2 75	\$3 00	\$3 00	\$3 00	\$3 50	\$3 50	\$3 50	\$3 50	\$3 50
Dock-hand.....	do....	2 50	2 00	2 00	2 00	2 00	2 75	3 00	3 25	3 25	3 25	3 75	3 75	3 75	3 75	3 75
Sawyer.....	do....	2 25	2 00	2 00	2 00	2 00	2 50	2 75	3 00	3 00	3 00	3 50	3 50	3 50	3 50	3 50
Laborer.....	do....	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 50	1 50	1 50	1 50	1 50
		1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 66	1 66	1 66	1 66	1 66

Classes of employes.	Unit of payment.	DATES.															
		1865.	1864.	1863.	1862.	1861.	1860.	1859.	1858.	1857.	1856.	1855.	1854.	1853.	1852.	1851.	1850.
Ship-carpenter.....	Day....	\$3 50	\$3 50	\$2 50	\$2 50	\$2 50	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	\$1 75	.....
Dock-hand.....	do....	3 75	3 75	2 50	2 50	2 50	2 00	2 00	2 00	2 00	1 05	2 00	2 00	2 00	2 00	2 00	.....
Sawyer.....	do....	3 50	3 50	2 50	2 50	2 50	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	2 25	.....
Laborer.....	do....	1 50	1 50	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	.....
		1 66	1 66	1 50	1 66	1 50	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	1 25	.....

REMARKS.—This company began business in 1845, and builds and repairs steamboats, barges, and other water-craft.

The occasions on which over-time is made are very rare, and no allowances or privileges are given to employes.

Carpenters furnish their own tools.

Employes are paid weekly and in cash.

All classes work 10 hours a day in summer and 7 $\frac{1}{2}$ in winter.

Operations are carried on about 10 months in the year, the periods of idleness occurring in the winter and being occasioned by ice and snow.

The firm has never been troubled with strikes.

Various kinds of improved saws have been introduced, which have affected a great saving in labor.

The trade is not considered dangerous or unhealthful.