

quantities of cloth were purchased; cutting was done in multiple layers with tailor's shears. Since many seamstresses were needed, the garments were farmed out to the girls in their homes. The manufacture of garments in quantity meant that the profit on each garment was larger than a tailor could make on a single custom-made item. The appeal of increased profits influenced many to enter the new industry and, due to the ensuing competition, the retail cost of each garment was lowered. Just as the new businesses were getting underway, the Panic of 1837 ruined most of them. But the lower cost and the convenience of ready-made clothing had left its mark. Not only was the garment-manufacturing business re-established soon after the Panic had subsided, but by 1841 the value of clothing sold at wholesale in New York was estimated at \$2,500,000 and by 1850—a year before sewing machines were manufactured in any quantity—there were 4,278 clothing manufacturing establishments in the United States. Beside New York City, Cincinnati was also one of the important ready-made clothing centers. In 1850 the value of its products amounted to \$4,427,500 and in 1860 to \$6,381,190. Boston was another important center with a ready-made clothing production of \$4,567,749 in 1860. Philadelphia, Baltimore, Louisville, and St. Louis all had a large wholesale clothing trade by 1860. Here was the ready market for a practical sewing machine.⁷³

Clothing establishments grew and began to have agencies in small towns and the sewing work was distributed throughout the countryside. The new, competing sewing-machine companies were willing to deliver a machine for a small sum and to allow the buyer to pay a dollar or two a month until the full amount of the sale was paid. This was an extension of the hire-purchase plan (buying on credit) initiated by Clark of the Singer Company. The home seamstresses were eager to buy, for they were able to produce more piecework with a sewing machine and therefore earn more money. An example of the effect that the sewing machine had on the stitching time required was interestingly established through a series of experiments conducted by the Wheeler and Wilson company. Four hand sewers and four sewing-machine operators were used to provide the

average figures in this comparative time study, the results of which were published in 1861;⁷⁴

NUMBER OF STITCHES PER MINUTE

	<i>By Hand</i>	<i>By Machine</i>
Patent leather, fine stitching	7	175
Binding hats	33	374
Stitching vamped shoes	10	210
Stitching fine linen	23	640
Stitching fine silk	30	550

TIME FOR GARMENTS STITCHED

	<i>By Hand</i>	<i>By Machine</i>
Frock coats	16 hrs. 35 min.	2 hrs. 38 min.
Satin vests	7 hrs. 19 min.	1 hr. 14 min.
Summer pants	2 hrs. 50 min.	0 hr. 38 min.
Calico dress	6 hrs. 37 min.	0 hr. 57 min.
Plain apron	1 hr. 26 min.	0 hr. 9 min.
Gentlemen's shirts	14 hrs. 26 min.	1 hr. 16 min.

The factory manufacturer, with the sewing work done at the factory, was also developing. In 1860, Oliver F. Winchester, a shirt manufacturer of New Haven, Connecticut, stated that his factory turned out 800 dozen shirts per week, using 400 sewing machines and operators to do the work of 2,000 hand sewers. The price for hand sewing was then \$3 per week, which made labor costs \$6000 per week. The 400 machine operators received \$4 per week, making the labor cost \$1600 per week. Allowing \$150 as the cost of each machine, the sewing machines more than paid for themselves in less than 14 weeks, increased the operators pay by \$1 a week, and lowered the retail cost of the item.⁷⁵ The greatest savings of time, which was as much as fifty percent, was in the manufacture of light goods—such items as shirts, aprons, and calico dresses. The Commissioner of Patents weighed the monetary effect that this or any invention had on the economy against the monetary gain received by the patentee. When he found that the patentee had not been fairly compensated, he had the authority to grant a seven-year extension to the patent.⁷⁶

⁷³ *Eighth Census, 1860, Manufactures, Clothing* (United States Census Office, published Government Printing Office: Washington, D.C., 1865).

⁷⁴ *Eighty Years of Progress of the United States* (New York, 1861), vol. 2, pp. 413-429.

⁷⁵ GEORGE GIFFORD, "Argument of [George] Gifford in Favor of the Howe Application for Extension of Patent" (New York: United States Patent Office, 1860).

⁷⁶ *Op. cit.* (footnote 34).