A VAST AND WONDERFUL ORGANIZATION.

THE HISTORY OF THE SEWING MACHINE.

It is doubtful if the history of the entire world can furnish an example of such dogged perseverance, unremitting hard work, and stupendous results, as is evidenced in the career of the Singer Manufacturing Company. The history of this organization is also the history of the sewing machine, the late Isaac Merritt Singer being undoubtedly the first individual to produce a sewing machine that was ever practically successful.

The idea of sewing by machinery, however, had been cherished for a hundred years before the first successful machine was built. The earliest attempt at sewing by machinery of which we have any authentic record was that by Charles F. Weisenthal in England, who, on July 24, 1755, patented a machine having a needle with two points and an eye at mid-length. The first patent issued in America for a sewing machine was that of a man named Lye, in 1826. His device, however, could hardly have contained any useful or striking features, for when the fire of 1836 destroyed all the Patent Office records it consumed all that remained of this machine.

Many other machines, of greater or less merit, were constructed before Mr. Singer made his, but all fell short of being practical and useful. The nearest approach to success prior to 1850 was made by Walter Hunt, of New-York City, in 1832-4. His machine had a curved needle, with an eye near the needle point, which was operated on the end of a vibrating arm. He soon became associated with a blacksmith named Arrowsmith, but from some cause or other a patent was not taken out, resulting in momentous consequences a few years later, not only to them, but to the entire sewing machine trade and the world at large.

Up to the year 1850 the idea of a successful substitute for woman's hand at sewing had come to be regarded much as the member of Parliament viewed the project of an ocean steamship when he offered to "eat the first ship that should cross the Atlantic by steam." The sewing machine had been a bitter disappointment to those who purchased it for use in the household. It had bankrupted those who engaged in its manufacture. The machines would not work, and the only money to be made out of the business was in selling "territorial rights." Deep-seated distrust pervaded the public mind, and well deserved odium had settled upon the entire invention.

Such was the state of affairs when Isaac M. Singer turned his versatile mind toward the sewing machine. Persistent efforts have been made by interested parties to create an impression upon the public mind that it was Mr. Elias Howe who first evolved order out of the chaotic essentials of the sewing machine and brought it into practical use. But let any one note the features that are still preserved in every successful sewing machine, and those which have been abandoned as practically worthless, and little difficulty will be found in deciding upon the respective claims of Howe and Singer. None of the devices of the former, who claims to have "invented the sewing machine," can be found in any successful shuttle machine to-day. Thirty years or more of actual service have swept away every vestige of Howe's original machine, except the eye-pointed needle (invented 12 years previously by Walter Hunt.) Upon the other hand, nearly every feature of Singer's original machine has been adopted by every successful machine builder.

In the clear light of such facts it is not difficult to understand to whom the world is really indebted for the inestimable boon of the sewing machine. Mr. Singer started with a borrowed capital of $40. Discouragements and disappointments met him at every turn. Still he struggled on in poverty, resolved to force an unwilling public to recognize the fact that a successful sewing machine could be and actually had been made.

Elias Howe, Jr., who in 1845 had obtained a patent upon the same features which were in Hunt's machine in 1834, then commenced legal proceedings against him, claiming the modest sum of $25,000 as damages for an infringement on his patent. At about this time Mr. Singer called in the aid of Mr. Edward Clark, who became an equal partner, and the business was then conducted under the firm name of I. M. Singer & Co.

From the very outset the new firm resisted, at great expense, the demands and pretensions of Howe, fighting single-handed the battle of the inventors and the great world which was waiting for cheap machines.

At length, in May, 1854, self-preservation dictated a withdrawal from such a contest, and an agreement was made by which Singer & Co. were to pay Howe a royalty upon each machine manufactured by them. By the year 1863 the annual sales of the Singer machines amounted to 21,000, and agencies were established in all the chief cities of the United States. In the same year, too, the firm was merged into an incorporated company, bearing the title of "The Singer Manufacturing Company," and both the original partners retired from the active management of the business, though they remained the heaviest stockholders, and had seats on the Board of Directors.

In four years' time the yearly sales of machines had more than doubled, and by the year 1882 the world was purchasing annually the immense number of over 600,000 Singer sewing machines. At the present day the Singer Company's system of agencies embraces the entire civilized world, and even pushes its outposts across the boundaries into semi-civilized lands.

All of the United States and Canada are covered with this great network of agencies. Mexico, the West Indies, and South America are familiar with the name of "Singer." An immense business is done in Africa, Asia, Australia, China, Japan, and the islands of the Indian Ocean.

In the United States there are no less than 1,500 offices, the principal one in New-York being finely located, overlooking Union-square, and from here the general transactions are directed all over the world. The American business is transacted from 22 centres, located in the larger cities, the territory controlled often embracing an entire State, and in some cases several States.

The Canadian business is similarly managed from two central offices—one at Montreal and the other at Toronto. The London (England) office has immense interests confided to its care, the South American business being managed from here. Middle and Northern Europe and Western Asia are attended to from the Hamburg office. The total number of the company's own offices throughout the world is over 4,500.

The Singer factory in this country is located at Elizabethport, N. J., and is four stories high, the upper one having a mansard roof. The building is of brick, iron, and slate, with iron beams and girders. The factory yard is some 15 or 20 acres in extent, with asphalt walks connecting the various buildings that skirt the yard with each other and with the dock at its foot. Up and down run railroad tracks from the main gate to the dock, together with branch tracks to each shop door—aggregating over five miles in length.

To run this immense establishment six stationary steam engines are required, which have a combined strength of 1,000 horse power. It takes 22 boilers, averaging 75 horse power each, to furnish the steam for running these engines and heating the buildings.

The floors of the buildings have a combined area equal to 13 acres of ground, and every square foot of the entire area is in constant use. The whole premises, including the docks, cover no less than 32 acres. It is, in fact, the most complete, systematic, and best-equipped factory in the world, giving employment to about 3,000 men and women.

But one of the most striking examples of the rapid strides made by the Singer Manufacturing Company is to be found in the factory recently erected at Kilbowie, near Glasgow, Scotland. With their gasworks and cooling ponds they occupy an area of no less than 46 acres of land, while the factory proper has a floorage area of 954,597 square feet, or 21.87 acres.

When fully at work they will employ not far from 5,000 hands, and their output will be 10,000 sewing machines per week. This magnificent establishment is situated on the banks of the Clyde, about nine miles from Glasgow, and its erection was rendered necessary from the fact that the company's old establishment at Bridgeton had become totally inadequate to their requirements.

Ample room has been given for carrying on every operation. The raw materials—iron, steel, and wood—enter at one end of the building and, after traversing in sequence the 22 acres of floor area, find their way out at the other end a perfect and delicately adjusted machine.

The office buildings are 110 feet long by 80 wide, with 6,600 feet of floor space. The foundry, which is fitted with powerful traveling and hydraulic cranes, is equal to turning out 125 tons of castings per day, and has an area of 137,696 square feet. Here are four cupolas of the latest design, the "changing" platforms being carried on wrought iron girders and cast-iron columns.

The main engine furnishing the motive power is a horizontal, compound condensing engine of 250 horse power, made by Messrs. D. Adamson, of Manchester, and is fitted with Wheelock's automatic expansion gear. From the foundry the castings are taken to the "rumbling" and annealing department, which is 352 feet long by 62 wide. The main buildings are two in number, connected by means of three wings. Each of these buildings is 800 by 50 feet. Over one is a fine clock tower 200 feet high and 50 feet square, in the Scottish baronial style of architecture.

One special feature requires mention—the company manufactures, from first to last, all its needles, and this involves the use of a large number of special machines.

The wire from which the needles are to be made is first cut into blanks, which are then reduced to the proper gauge and size by means of milling machines, being pointed at the same time. Then they are grooved and "eyed," tempered, rumbled, and finished.

But the Singer Company have a new process in which they employ a highly ingenious automatic machine, which effects a number of the primary operations. This machine cuts, mills, points, reduces, grooves, and straightens the wire, lifting out each piece and placing it in order in a receiving box. It does the work of three hands, and four machines can be tended by one operative. Some idea of the extent to which the production of needles it carried may be inferred from the fact that in 1884 no less than 20,000,000 were turned out.

In addition to the two vast establishments already mentioned there is another large establishment at South Bend, Ind., which is devoted to the making of woodwork, such as tables, covers, cabinets, &c., there being also a similar one at Cairo, Ill.

At Montreal, Canada, there is a complete factory where all machines for Canadian customers are manufactured. And still another factory is in the course of being established at Vienna, Austria, which will be used to supply the heavily increasing trade in Germany, Russia, Turkey, and Eastern Asia. Altogether it takes about 10,000 operatives to manufacture the Singer machines; 30,000 more to sell and deliver them, besides 10,000 horses, 8,000 wagons, five locomotives, and one steamer. Such is a necessarily brief review of the phenomenal progress made by the Singer Manufacturing Company.

Mr. George R. McKenzie is the President of the organization and Mr. William F. Proctor the Vice-President, and they are the only two of the original incorporators now living. The other members of the board of management are as follows: Secretary—Frederick G. Bourne; Treasurer—Hugh Cheyne; Directors—George R. McKenzie, William F. Proctor, Frederick G. Bourne, Hugh Cheyne, Alfred C. Clark, and James Meehan.

It has been claimed by many that the Singer is not a "family" machine, but this is far from the truth. Over 6,000,000 machines have been thus far sold to families, and three-fourths of the whole number of sewing machines sold are Singers. This should be a sufficient refutation even to the minds of the most skeptical. They have been awarded the first premium over all others more than fifteen hundred times at fairs and exhibitions all over the world, which indicates more than anything else their invariable excellence of both material and workmanship.

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