

company, but until electricity was commonly found in the household there was no great demand for the machine. The manufacturing machines were designed with special driving attachments so that they could be belted to the main source of power, whatever that might be. The wide variety of manufacturing machines included machines for harness and leather work, machines with two needles and two shuttles for canvas belting, bag machines, hat machines, overedge machines, buttonhole machines, and automatic button sewers. There were machines to stitch tents and wagon covers, to sew elastic banding, glove machines, special machines for darning and patching laundry nets, book and pamphlet machines, hemstitch machines, and long-arm and short-arm machines. The variety is endless. The major factories in the early decades of the 20th century were in Elizabeth, New Jersey, and Bridgeport, Connecticut, which was the old Wheeler and Wilson factory. The "Class 1w" machine produced in Bridgeport as late as 1925 was the same style as the Wheeler and Wilson sewing machine manufactured as early as the 1860s. It was still recommended for "fine lock stitching in the manufacture of shirts, collars, cuffs . . ." The Singer company remains a very active one. Although many of their current machines are manufactured in foreign plants, some are still produced in the United States.

INDUSTRIAL SEWING MACHINES

From the beginning, sewing machine companies produced heavy-duty machines for manufacturing purposes. These machines were frequently similar in style and type to the light-weight family machines, but constructed to withstand constant daily use. As the specialized stitching potential of the sewing machine continued to expand, and after the basic patents had expired, companies were organized that confined their interests to the manufacture of sewing machines for industrial use. These machines became exceedingly specialized, some to the extent that only a few of one type were ever made. The machines were engineered to do a specific task for a specific manufacturer. This phase of industrial manufacture, as contrasted with the sewing machine as a consumer product, continues to thrive in the United States. Over fifty companies are actively engaged in producing sewing machines of all types essential to modern industry. Two of these companies began in the 19th century and have continued in business for almost one hundred years.

Union Special Machine Company. This company started in 1880 when R. G. Woodward was employed to build the improved bag machine originated by Jasper W. Corey. Called the Union Bag Machine, it reportedly "will last from two to three years in constant use run at a speed of 800 to 1000 stitches per minute." Corey had worked in the sewing-machine repair shop of Lorenz Muther who joined the Union Bag Machine Company at its inception in 1881. He designed the two-needle vamping machines used extensively in the manufacture of shoes in the early part of the 20th century. Another early contribution was made by John W. Dewees, the inventor of the trimming device—patented October 31, 1882—applied to the Union machines. Dewees' trimmer was considered the most effective and durable device introduced for this type of work. Lansing Onderdonk, who patented special attachments such as one for ruffling in 1883, joined the company now known as the Union Special Machine Company in 1888. He proceeded to make special machines for stitching carpets, a cylinder vamping machine for the shoe trade, and machines to work at higher speeds. By 1907 they had machines that were capable of attaining up to 4,000 revolutions per minute. Many of the machines in the 20th century were overedge machines related to the hosiery and knitted-wear industry and machines for specialized tasks in the clothing industry such as belt-loom machines that folded, stitched, cut, and counted the belts; the machine for setting in gathered sleeves; and one that stitched in the neckband facing in one operation. Bag and filled-bag closing machines continued to be a specialty of the company. The Union Special Machine Company continues to fill the needs of industry today.

Merrow Machine Company. In 1877 J. M. Merrow patented a machine in the class called "crochet," because it imitated the handwork done on the edges of fabric, especially knitted ones. Later, the machine was improved and placed on the market in 1889 by the Merrow Machine Company. Upon these fundamental machines, numerous additions and improvements were made in the 20th century. In the mid-1920s, they were making a variety of high-speed machines. The notable types were two-thread plain-crochet machines, single-thread blanket-hemming machines, two-thread shell-stitch machines, two-thread overedge machines, and two- and three-thread trimming and overseaming machines. The company still is in active operation in Hartford, Connecticut.