



Figure 66.—JONES "ELECTRO MOTOR" PATENT MODEL of 1871 on a Bartlett sewing machine. (Smithsonian photo P-63104.)

sewing machines did not become common until the 20th century, several 19th-century inventors considered the possibility of attaching a type of motor to the machine. One was the 1871 patent of Solomon Jones, who added an "electro motor" to an 1865 Bartlett machine (fig. 66). The attachments that were developed during the latter part of the 19th century numbered in the thousands; many of these were superfluous. Most of the basic ones in use today were developed by the 1880s and remain almost unchanged. Even the recently popular home zigzag machine, an outgrowth of the buttonhole machine, was in commercial use by the 1870s.

Sewing-machine improvements have been made from time to time. Like other mechanical items the machine has become increasingly automatic, but the basic principles remain the same. One of the more recent developments, patented⁸⁴ in 1933 by Valentine Naftali et al., is for a manufacturing machine that imitates hand stitching. This machine uses a two-pointed "floating needle" that is passed completely through the fabric—the very idea that was attempted

⁸⁴ U.S. patent 1,931,447, issued to Valentine Naftali, Henry Naftali, and Rudolph Naftali, Oct. 17, 1933. The Naftali machines are manufactured by the American Machine and Foundry Company and are called AMF Stitching Machines.



Figure 67.—SIX-CORD cabled thread.

over one hundred years ago. The machine is currently used by commercial manufacturers to produce decorative edge-stitching that very closely resembles hand stitching.

THREAD FOR THE MACHINE

The need for a good thread durable enough to withstand the action of machine stitching first created a problem and ultimately another new industry in this country. When the sewing machine was first developed the inventors necessarily had to use the sewing thread that was available. But, although the contemporary thread was quite suitable for hand sewing, it did not lend itself to the requirements of the machine. Cotton thread, then more commonly a three-ply variety, had a glazed finish and was wiry. Silk thread frequently broke owing to abrasion at the needle eye. For the most part linen thread was too coarse, or the fine variety was too expensive. All of the thread had imperfections that went unnoticed in the hands of a seamstress, but caused havoc in a machine.