

or small hooked needle soon became known as a tambour needle.

In 1755 a new type of needle was invented for producing embroidery stitches. This needle had to pass completely through the fabric two times (a through-and-through motion) for every stitch. The inventor was Charles F. Weisenthal, a German mechanic living in London who was granted British patent 701 for a two-pointed needle (fig. 4). The invention was described in the patent as follows:

The muslin, being put into a frame, is to be worked with a needle that has two points, one at the head, and the other point as a common needle, which is to be worked by holding it with the fingers in the middle, so as not to require turning.

It might be argued that Weisenthal had invented the eye-pointed needle, since he was the first inventor to put a point at the end of the needle having the eye. But, since his specifically stated use required the needle to have two points and to be passed completely through the fabric, Weisenthal had no intention of utilizing the very important advantage that the eye-pointed needle provided, that of *not* requiring the passage of the needle through the fabric as in hand sewing.

While no records can be found to establish that Weisenthal's patent was put to any commercial use during the inventor's lifetime, the two-pointed needle with eye at midpoint appeared in several 19th-century sewing-machine inventions.

The earliest of the known mechanical sewing devices produced a chain or tambour stitch, but by an entirely different principle than that used with either needle just described. Although the idea was incorporated into a patent, the machine was entirely overlooked for almost a century as the patent itself was classed under wearing apparel. It was entitled "An Entire New Method of Making and Completing Shoes, Boots, Splatterdashes, Clogs, and Other Articles, by Means of Tools and Machines also Invented by Me for that Purpose, and of Certain Compositions of the Nature of Japan or Varnish, which will be very advantageous in many useful Applications." This portentously titled British patent 1,764 was issued to an English cabinetmaker, Thomas Saint, on July 17, 1790. Along with accounts of several processes for making various varnish compositions, the patent contains descriptions of three separate machines; the second of these was for "stitching, quilting, or sewing." Though far from practical, the machine incorporated



Figure 2.—PRIMITIVE NEEDLE. Bronze. Egyptian (Roman period, 30 B.C.—A.D. 642). (Smithsonian photo 1379-A.)

several features common to a modern sewing machine. It had a horizontal cloth plate or table, an overhanging arm carrying a straight needle, and a continuous supply of thread from a spool. The motion was derived from the rotation of a hand crank on a shaft, which activated cams that produced all the actions of the machine.

One cam operated the forked needle (fig. 5) that pushed the thread through a hole made by a preceding thrust of the awl. The thread was caught by a looper and detained so that it then became enchained in the next loop of thread. The patent described thread tighteners above and below the work and an adjustment to vary the stitches for different kinds of material. Other than the British patent records, no contemporary reference to Saint's machine has ever been found. The stitching-machine contents of this patent was happened on by accident in 1873.<sup>5</sup> Using the patent description, a Newton Wilson of London attempted to build a model of Saint's machine in 1874.<sup>6</sup> Wilson found, however, that it was necessary to modify the construction before the machine would stitch at all.

<sup>5</sup> *Sewing Machine News* (1880), vol. 1, no. 7, p. 2.

<sup>6</sup> This model of Saint's machine was bequeathed by Mr. Wilson to the South Kensington Museum, London, England.