

Less-Expensive Machines

WHILE THE "COMBINATION" was attempting to solve the problems of patent litigation, another problem faced the would-be home users of this new invention. The budget limitations of the average family caused a demand for a less-expensive machine, for this first consumer appliance was a most desirable commodity.⁶⁷

There were many attempts to satisfy this demand, but one of the best and most successful grew out of a young man's curiosity. James E. A. Gibbs' first exposure to the sewing machine was in 1855 when, at the age of 24, he saw a simple woodcut illustration of a Grover and Baker machine. The woodcut represented only the upper part of the machine. Nothing in the illustration indicated that more than one thread was used, and none of the stitch-forming mechanism was visible. Gibbs assumed that the stitch was formed with one thread; he then proceeded to imagine a mechanism that would make a stitch with one thread. His solution was described in his own statement:

As I was then living in a very out of the way place, far from railroads and public conveyances of all kinds,

⁶⁷ *Scientific American* (Jan. 29, 1859), vol. 14, no. 21, p. 165. In a description of the new Willcox and Gibbs sewing machine the following observation is made: "It is astonishing how, in a few years, the sewing machine has made such strides in popular favor, and become, from being a mechanical wonder, a household necessity and extensive object of manufacture. While the higher priced varieties have such a large sale, it is no wonder that the cheaper ones sell in such tremendous quantities, and that our inventors are always trying to produce something new and cheap."

modern improvements seldom reached our locality, and not being likely to have my curiosity satisfied otherwise, I set to work to see what I could learn from the woodcut, which was not accompanied by any description. I first discovered that the needle was attached to a needle arm, and consequently could not pass entirely through the material, but must retreat through the same hole by which it entered. From this I saw that I could not make a stitch similar to handwork, but must have some other mode of fastening the thread on the underside, and among other possible methods of doing this, the chainstitch occurred to me as a likely means of accomplishing the end.

I next endeavored to discover how this stitch was or could be made, and from the woodcut I saw that the driving shaft which had the driving wheel on the outer end, passed along under the cloth plate of the machine. I knew that the mechanism which made the stitch must be connected with and actuated by this driving shaft. After studying the position and relations of the needle and shaft with each other, I conceived the idea of the revolving hook on the end of the shaft, which might take hold of the thread and manipulate it into a chainstitch. My ideas were, of course, very crude and indefinite, but it will be seen that I then had the correct conception of the invention afterwards embodied in my machine.⁶⁸

Gibbs had no immediate interest in the sewing machine other than to satisfy his curiosity. He did not think of it again until January 1856 when he was visiting his father in Rockbridge County, Virginia. While in a tailor's shop there, he happened to see a

⁶⁸ *Op. cit.* (footnote 53), pp. 129-131.