(No Model.)

W. S. CLARK & M. H. WILLIS.

SEWING MACHINE.

No. 525,885. Patented Sept. 11, 1894.

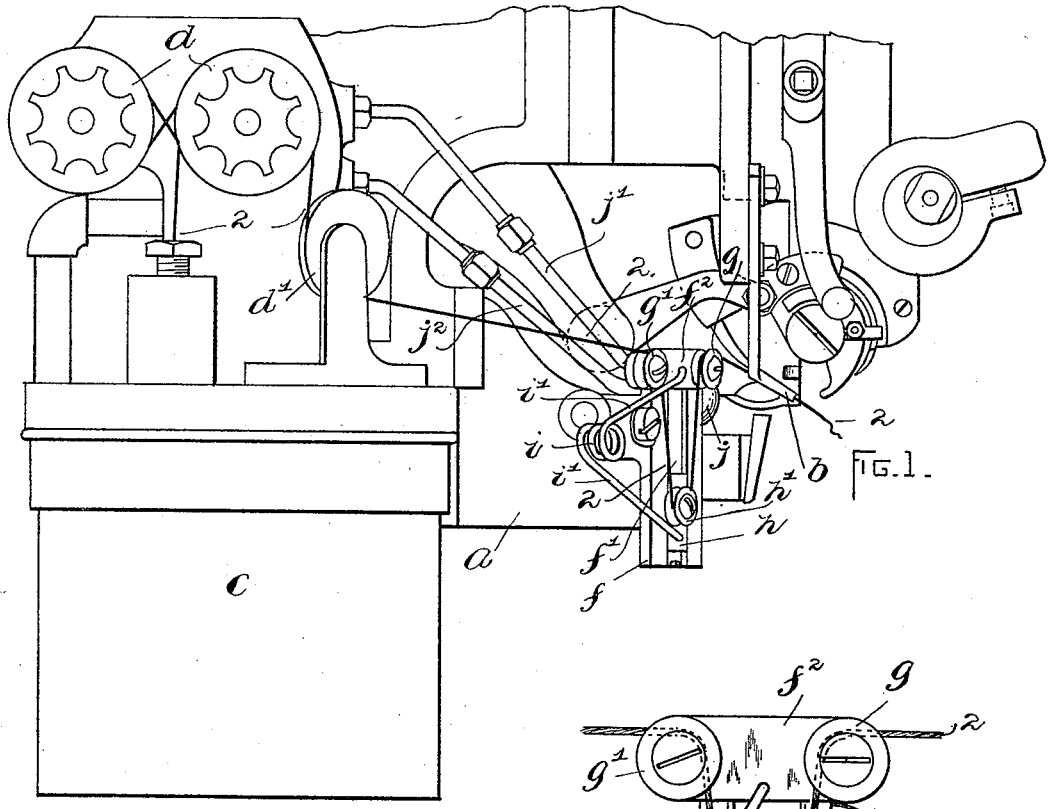

FIG. 1.

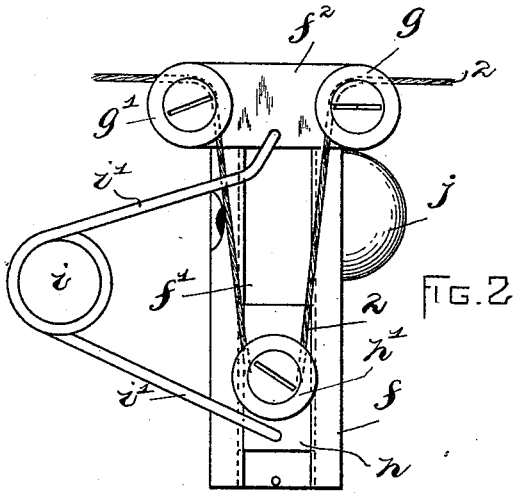

FIG. 2.

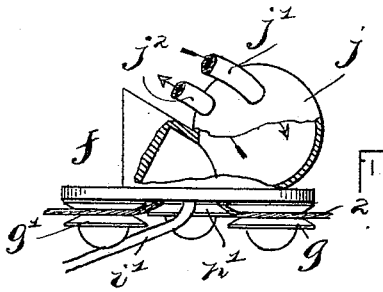

FIG. 3.

WITNESSES:

A. D. Harrison

J. P. Davis.

INVENTORS

W. S. Clark

M. H. Willis

by Wright Brown Quinby & Atty

UNITED STATES PATENT OFFICE.

WILLIAM S. CLARK AND MARTIN H. WILLIS, OF EASTON, MASSACHUSETTS.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 525,885, dated September 11, 1894.

Application filed January 15, 1894. Serial No. 497,004. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM S. CLARK and MARTIN H. WILLIS, of Easton, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Attachments for Shoe-Sewing Machines, of which the following is a specification.

The object of the present invention is to provide an improved take-up attachment for that class of sewing machines employed in stitching welts to boot and shoe uppers.

A further object is to provide improved means for heating the looper through which the waxed thread passes.

To the above ends, the invention consists in the novel features of construction and combinations of parts hereinafter described and claimed.

The invention is illustrated in the accompanying drawings, of which—

Figure 1 shows a side elevation of a portion of a shoe sewing machine equipped with my improved attachment. Fig. 2 shows an enlarged detail of the attachment. Fig. 3 shows a top plan view of the same, represented as partly broken away.

The same letters of reference indicate the same parts in all the figures.

Heretofore it has been customary in this class of machines to employ a take-up mechanism acting on the waxed thread between the wax-pot and the tension-devices, and the stretch of thread extending between the tension-devices and the looper of the machine has not generally been directly affected. We propose to locate the take-up mechanism immediately behind the looper of the machine, to act upon the stretch of thread between the tension-devices and the looper, whereby we are enabled to obtain a more effective action of the take-up mechanism.

The heat which keeps the looper at a proper temperature has generally been supplied heretofore by a gas jet, but this has been found objectionable for many reasons, and we have therefore devised means for heating the looper by steam.

Referring to the accompanying drawings, the letter *a* designates the frame of the sewing machine, which supports the usual stitch-forming devices, including a looper *b*.

c designates the wax-pot, through which the thread 2 is passed; and *d* designates tension-disks, suitably supported above the wax-pot, and around which the thread is passed in the usual way. The thread passes from said tension-disks under a pulley *d'*, and thence to the looper *b*.

The improved take-up mechanism comprises the following parts: A suitable support *f* is constructed for attachment to the frame *a*, at a point behind the looper, and is formed with a vertically-extending slide-way *f'*, and at the upper end with a cross piece f^2, in which are fastened studs forming bearings for pulleys *g* and *g'* respectively. These pulleys *g* and *g'* are located on opposite sides of the slide-way *f'*, and a slide *h*, engaging said way, carries a third pulley *h'*. A spiral spring *i*, having divergent arms *i'* fastened to the cross-piece f^2 and slide *h* respectively, impels the slide and its roller toward the lower end of the slide-way and thus in a direction away from the pulleys *g* and *g'*. The slide is prevented from leaving the slide-way by a suitable stop at the end of the latter. The thread 2 passes over the pulley *g'*, the thread engaging portion of whose periphery is directly in line with the opening through the looper and thence under the pulley *h'* and over the pulley *g*, and from the latter to the looper *b*.

It will be seen that the spring *i* exerts a constant tension on the thread and will take up the loops of the stitches when they are released from the needle.

On the rear side of the support *f*, a globular receptacle *j* is formed, and pipes *j'* and j^2 enter the same, one of said pipes being designed to conduct steam into the receptacle and the other to provide exit for steam from said receptacle. The receptacle projects in front of the support *f*, and is in proximity to the looper *b*, so that the heat radiating from the said receptacle enters the looper and keeps the same at the desired temperature. The pipe *j* may connect with any suitable source of steam-supply.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

A take-up attachment for sewing machines comprising an elongated support having a longitudinally extending slide-way, pulleys

at one end of the support on opposite sides of the slide-way, a slide in said way and carrying a pulley, an expanding spring having its ends in engagement with the support and the slide respectively, and a chamber on the back of the support constructed for circulation of steam.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 27th day of December, A. D. 1893.

WILLIAM S. CLARK.
MARTIN H. WILLIS.

Witnesses:
JOHN M. SMITH,
WEBSTER C. FILTON.