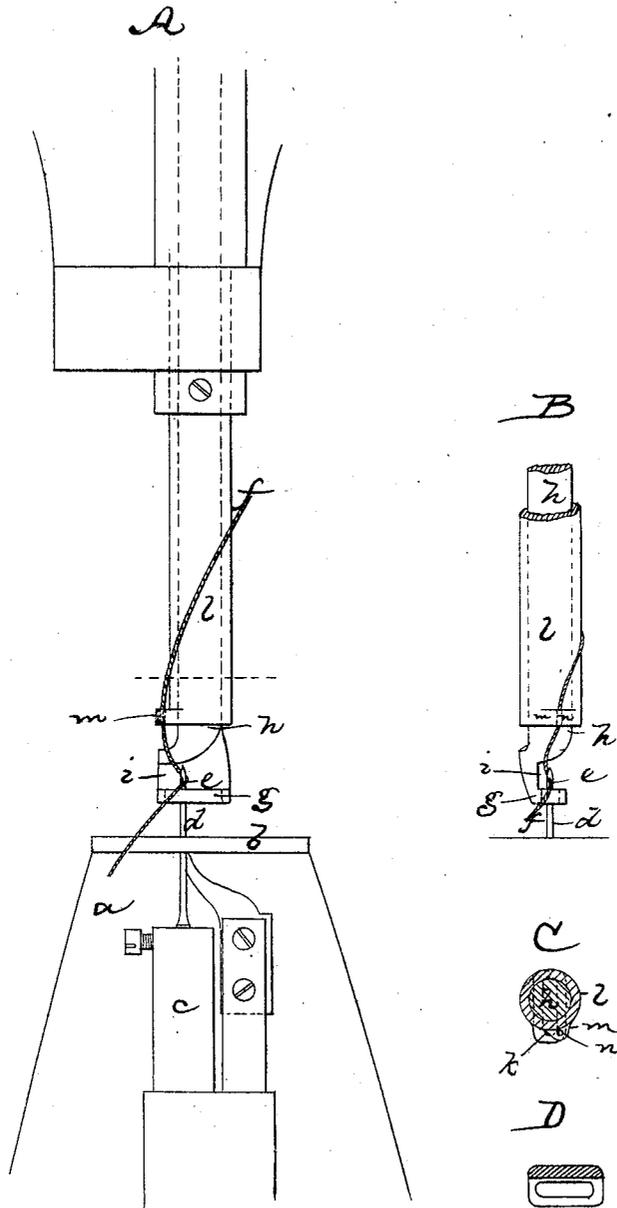


GEORGE A. RICHARDSON.
Sewing-Machine.

No. 128,172.

Patented June 18, 1872.



Witnesses,
 M. W. Frothingham,
 J. B. Kidder.

Inventor,
 George A. Richardson,
 By his Attys.
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UNITED STATES PATENT OFFICE.

GEORGE A. RICHARDSON, OF READING, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 128,172, dated June 18, 1872.

To all whom it may concern:

Be it known that I, GEORGE A. RICHARDSON, of Reading, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Sewing-Machines; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In the manufacture of shoes similar to what is shown in United States Letters Patent No. 124,084, granted to me, an ordinary wax-thread sewing-machine mechanism is used, or a mechanism having a vertically-reciprocating needle-bar below the work-supporting plate, the hook-needle affixed to which plays vertically through the work-plate. Such machines usually employ an awl, working down from above the plate, and always, or nearly always, employ a long thread-guiding arm, which swings around the needle-shank (when the needle is above the work) and lays the thread against the shank, so as to insure its being caught by the hook in its descent. For sewing shoes by the method invented by me, and for analogous uses, in which the needle passes through a tubular structure, or in close proximity to an upright piece like the quarter of a shoe, this thread-guide is in the way and cannot be used, although some device is necessary for laying the thread in position to be caught by the needle-hook.

The primary object of my invention has been to provide a means for thus laying or guiding the thread by some device which would not exceed, or materially exceed, in size the diameter of the awl-bar or presser-foot.

To accomplish this, I use a sleeve that closely encompasses the awl or presser-foot bar, and has at its foot a slightly-projecting lateral piece, through which runs an eye, this sleeve having a reciprocating rotative movement around said bar, by which movement the eye or guide lays the thread against the shank of the needle (at each ascent of the needle and previous to its descent) in position to be caught by the needle-hook as it descends.

My invention consists, primarily, in combin-

ing with a sewing-machine employing a hook-needle, the hook of which rises through the work-plate to receive the thread, a sleeve which encompasses the presser-foot bar or needle-bar, and has a reciprocating rotative movement thereupon to cause a thread-receiving eye at the foot of the sleeve to lay the thread against the needle-shank in position to be seized by the needle-hook. The invention also consists in combining with such sleeve and hook-needle a bar having a presser-foot extending from its lower end, in the shank of which foot is a thread-receiving recess, the bar being in vertical line with the needle, and the needle-point playing through said recess in the presser-foot.

The drawing represents part of a sewing-machine mechanism embodying my invention.

A shows the mechanism in front elevation. B is a side view of the presser-foot bar and thread-guide sleeve. C is a section on the line *x x*. D is a section on the line *y y*.

a denotes the post, on top of which is the needle-plate or work-supporting plate *b*. *c* denotes the needle-bar; *d*, the needle; *e*, the needle-hook; *f*, the thread. *g* is the presser-foot. Said foot is formed at the bottom of a vertical and cylindrical shaft or shank, *h*, and has above it a recess, *i*, into which the needle-hook passes, as seen at A, the foot being made with an oblong slot, *k*, and the thread being drawn across the recess *i* so that the hook seizes it in the recess *i*, as seen at A. Encompassing the needle-shank is the sleeve *l*, having at its foot the projection *m*, through which is made the eye *n* for passage of the thread. The sleeve has a reciprocating rotative movement imparted to it by any suitable mechanism, and by such movement the thread is laid across the needle-shank at each rise of the needle, and so as to be caught by the needle-hook in its descent.

It will be obvious that by thus arranging the mechanism I can sew up to the quarter and vamp of a shoe, using the hook-needle, working up from beneath the plate, and a thread-guide over the plate, the thread-guide offering no obstruction, and the shoe permitting free play of the guide.

I claim—

1. The rotatively-reciprocating thread-guide sleeve *l*, encompassing the presser-foot bar or needle-bar, and having an eye, *m*, in combination with the needle and work-plate, arranged as described.

2. Also, the presser-foot *g* formed with the recess *i*, in combination with the needle and

thread-guide, arranged to operate substantially as shown and described.

GEORGE A. RICHARDSON.

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