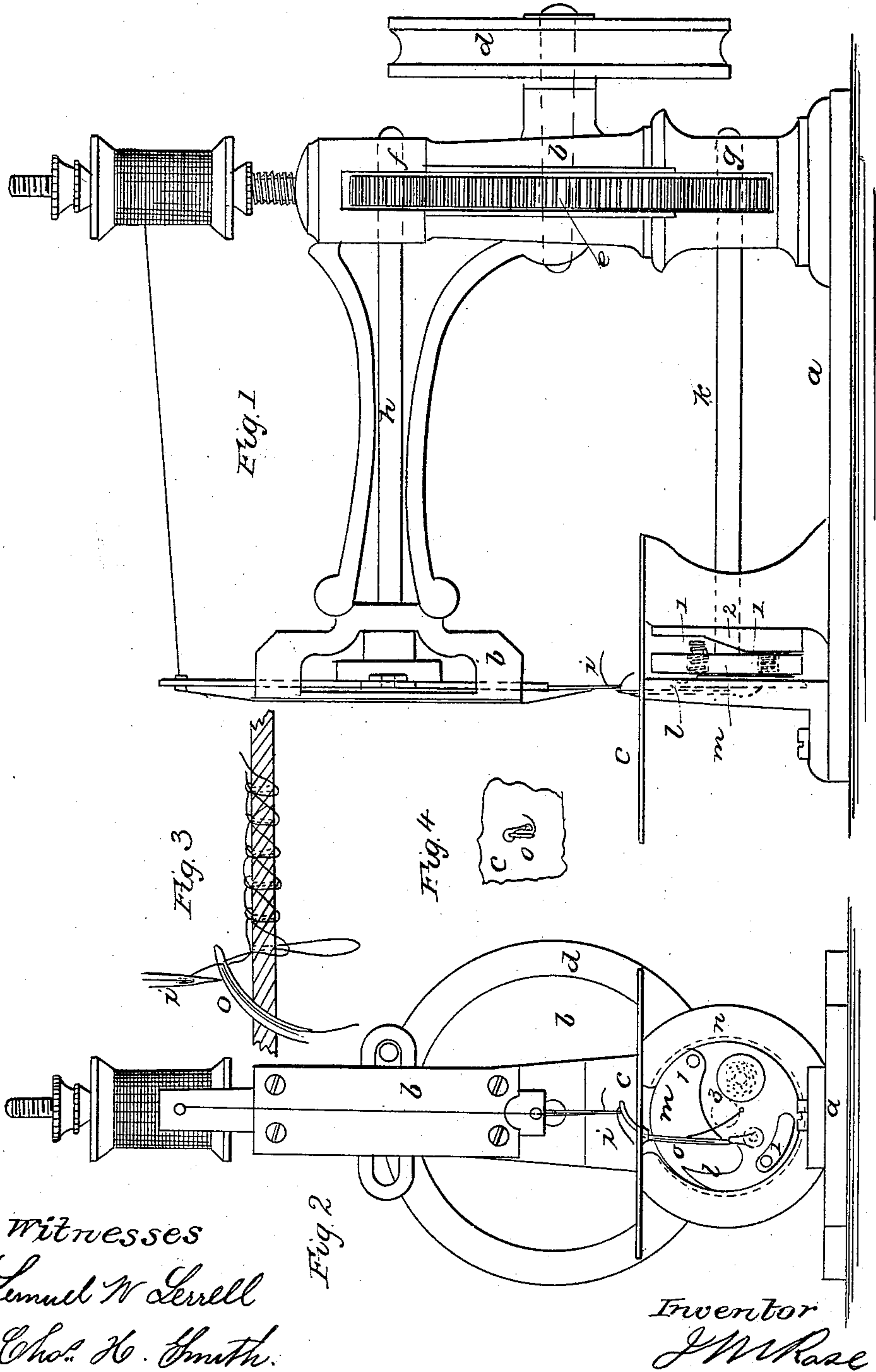


I. M. ROSE.
Sewing Machine.

No. 28,814.

Patented June 19, 1860.



Witnesses
Samuel W. Serrell
Chas. H. Smith.

Inventor
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UNITED STATES PATENT OFFICE.

I. M. ROSE, OF NEW YORK, ASSIGNOR TO JNO. R. MORRELL, OF BROOKLYN, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 28,814, dated June 19, 1860.

To all whom it may concern:

Be it known that I, ISRAEL M. ROSE, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Sewing-Machines for Button-Holes, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a side view of my improved machine. Fig. 2 is an end elevation, and Fig. 3 represents the manner of forming the stitch.

Similar marks of reference denote the same parts.

The nature of my said invention consists in the combination of a revolving hook, bobbin, and reciprocating needle with an eye-pointed needle that perforates the cloth in such a manner that the under thread is interlaced or concatenated with needle-thread at the surface of the goods, and the loop of the needle-thread being passed around the bobbin of second thread prevents the loop of needle-thread drawing up through the cloth, so that I perform the operation of working a button-hole by the combined shuttle and double-loop stitch, or in any similar operation to that of making a button-hole may be performed in my said machine.

In the drawings, *a* is the base of my machine. *b* is the fixed arm, and *c* is the table. *d* is a fly-wheel, by which the gears *e* and *f* and *g* are revolved. The gear *f* is on the shaft *h*, that communicates a reciprocating motion to the needle-bar and needle *i*, and the gear *g* is on the shaft *k*, that gives motion to the revolving hook and lower needle. These parts thus far may be of any desired or usual character.

The hook *l* is revolved by pins 1 1 on a disk, *m*, at the end of the shaft *k*, and said pins are pressed back to pass the loop of needle-thread by springs and forward to take the shuttle by coming against the incline 2. The hook *l* is made to travel in a circular raceway, *n*, and carries a bobbin, 3, of shuttle or lower thread, and to the said revolving hook *l* the lower needle, *o*, is attached by a pin eccentric to said hook, so that this needle *o* is projected above and retracted below the bed *c*, and also has an oscillating motion as it moves

through an opening in the bed *c*. This needle *o* in making button-holes passes up through the slit cut in the cloth; but if said slit is not made the said needle may perforate the cloth, the operation being the same in both cases.

The concatenation of the stitch is as follows: The movement of the parts being properly timed and proportioned, the needle *o* rises through the cloth, carrying with it the second thread that passes through an eye near its point. In rising the needle *o* oscillates past the needle *i*, which, descending to perforate the cloth, takes a loop of second thread. The eye-pointed needle *i* passes through the cloth, and the revolving hook *l* takes a loop of needle-thread, and in revolving with the needle *o* connected thereto, passes said needle *o* and the entire bobbin and hook through said loop of needle-thread, which consequently draws off around the second thread as the stitches tighten, thus forming a shuttle-stitch on the under side of the cloth and a double-looped stitch on the upper side, for the loop of under thread interlocks with the loop of the upper thread and tightens with the same near the edge of the button-hole, as represented in Fig. 3, wherein the upper thread is shown in red lines and the lower thread in blue.

The means for regulating tension and taking up the slack thread may be of any desired character, and the curvature given to the lower needle, *o*, must depend upon the extent of motion and the position in which it rises through the bed; and it becomes necessary that an opening or slit be provided, as seen in Fig. 4, between the perforations for the respective needles, in order that the loop of needle-thread may easily draw off the second or lower needle.

Having thus described my said invention, what I claim, and desire to secure by Letters Patent, is—

The revolving hook *l*, carrying the bobbin 3 and lower needle, *o*, in combination with the perforating eye-pointed needle *i*, substantially as specified, whereby the threads are concatenated, as set forth.

In witness whereof I have hereunto set my signature this 18th day of April, 1860.

I. M. ROSE.

Witnesses:

LEMUEL W. SERRELL,
CHAS. H. SMITH.