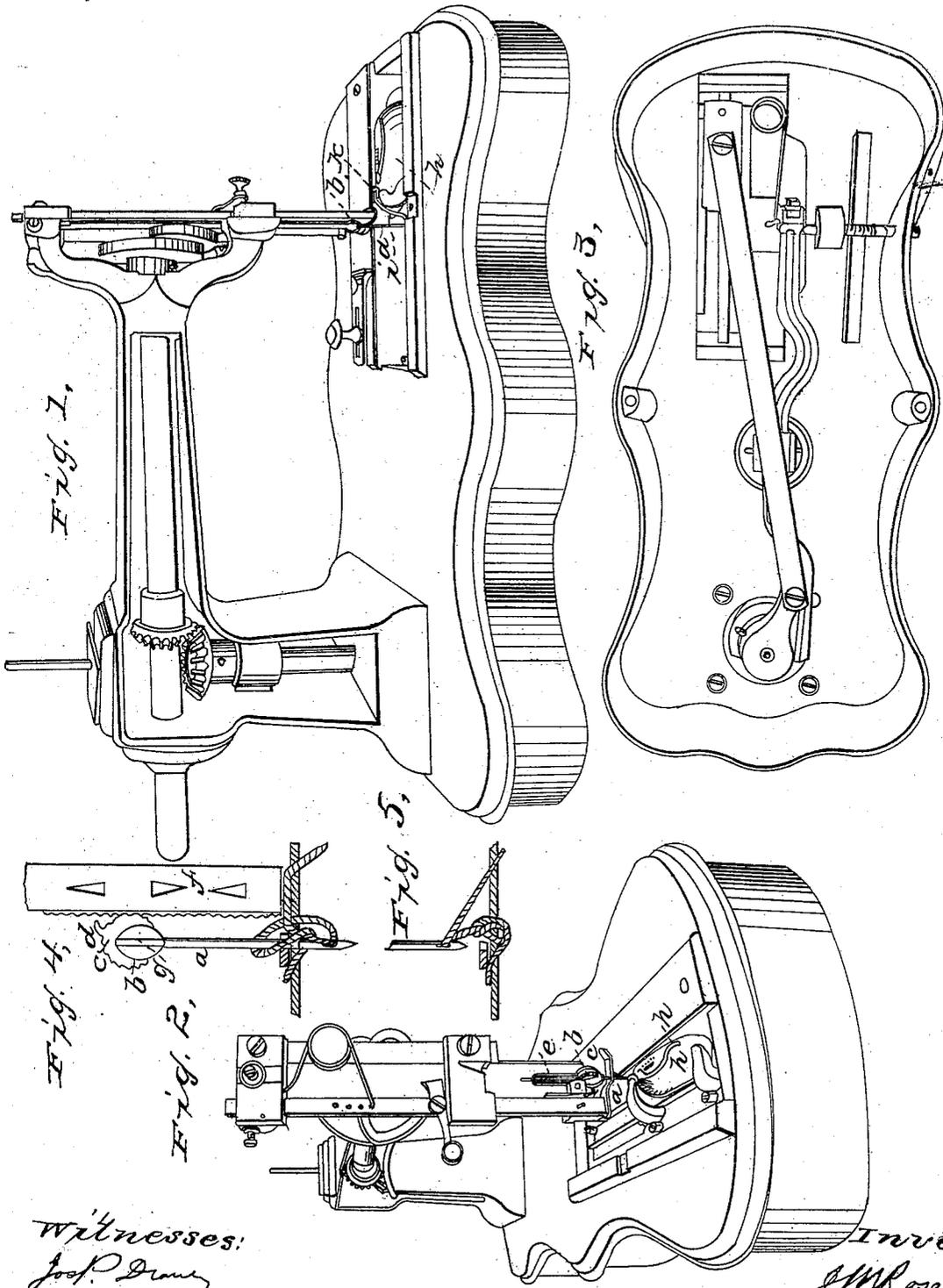


I. M. ROSE,
Sewing Machine.

No. 31,628.

Patented March 5, 1861.



Witnesses:
J. P. Dams
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ISRAEL M. ROSE, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 31,628, dated March 5, 1861.

To all whom it may concern:

Be it known that I, ISRAEL M. ROSE, of the city, county, and State of New York, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference made therein.

My invention relates to such a modification of the common sewing-machine as to enable the operator, by means thereof, to work a button-hole in cloth with the ordinary hand-sewing button-hole stitch made with a single thread. The contrivance can readily be attached to many of the machines now generally in use.

In the accompanying drawings, Figures 1 and 2 are perspective views of a sewing-machine with this contrivance attached. Figs. 4 and 5 are enlarged views, showing the construction and operation of some of the most important parts of the invention more fully.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

a is the needle, having a smooth globular head, *b*, with a groove, *g*, on its opposite sides, which enables the spring-clamp *e*, Fig. 2, to hold it in place. Through the center of this globular head *b* is constructed a slot, in which plays the wheel *c*, having its edges milled, and a small hook, *d*, which is shown larger in the drawings than in its proper proportion.

f is a clamp, made fast to the machine in any suitable way, holding a sheet of rubber of sufficient thickness, presenting a corrugated edge, so as to press against the milled edge of the wheel *c*, causing that wheel to revolve backward and forward as the needle plays upward and downward with the movement of the machine.

h is the ordinary shuttle, and *i* is an arm pivoted at *k*, which is thrown upward by the forward movement of the shuttle and falling backward as the shuttle recedes. When the movement of the machine is intended to be rapid a spring will be necessary to draw this arm downward and otherwise control its motion. The forward end of the arm *i* is made forked, and the whole is so arranged that as the shuttle moves forward the loop of the thread at the side of the needle will be seized

by this fork and carried upward, so as to be caught by the hook *d* and carried around the globular head *b* of the needle, when it slides down between the globular head and the spring-holder *e* into the position shown in Figs. 4 and 5, thus forming the button-hole stitch desired. The arm *i* must not be allowed to fall down behind the shuttle, so as to interfere with its backward motion. For this purpose a guard may be attached to the arm itself; or a small plate or shelf may be made to follow the shuttle, which shall receive and sustain the arm after the shuttle shall have passed and while it is returning; or some other device may be contrived for that purpose.

The spring-holder *e* is attached to the needle-bar of the machine in any suitable way, and is so proportioned and adjusted that, while it holds the needle sufficiently firm, it allows the thread to glide down between it and the smooth globular head of the needle in the manner already shown.

Where there is but a single hook *d* attached to the wheel *c*, as shown in the drawings, its motion must be regulated with great accuracy in order that it should always be at the right point to seize the loop at the proper moment and carry it around the head of the needle, as above described. To avoid the necessity of such accuracy, and to prevent the machine from being frequently out of proper working order on that account, I prefer to place several such points around the circumference of this wheel, so that some one of them shall always be in proper position to seize the loop at the proper time. Other modes of causing the wheel *c* to revolve may easily be contrived, and many equivalents for the arm *i* and the mode of operating it will readily suggest themselves to the practiced mechanic. The head *b*, instead of being globular shaped, may also be of any other form which will permit the thread, when brought up by the wheel *c*, to slide down over the same and between it and the spring-holder *e*. Other contrivances may also be used as the equivalents of the wheel *c*, with its points *d*. The wheel *c* may have points upon its edges, or other contrivances, instead of the milling shown in the drawings. I do not therefore intend to limit myself to any of these specific contrivances. The needle above described, with its head *b*, groove *g*, and spring-holder *e*, may also be used for plain sewing, in

the same manner as the ordinary needle, without the use of the other contrivances above mentioned; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A needle with a globular head, *b*, wheel *c*, and hooks *d*, constructed and arranged as above described, and for the purpose stated.

2. The clamp *f*, with the sheet of rubber contained therein, when used for the purpose of giving rotation to the wheel *c*, for the purpose above set forth.

3. The arm *i*, in combination with the needle *a* and wheel *c*, when used in the manner and for the purpose above specified.

4. The wheel *c*, with its hooks *d*, in combination with the spring-holder *e* and head *b*, for the purposes above shown.

5. The spring-holder *e*, with the head *b* and groove *g*, when used and combined for the purpose of holding the needle in place, and at the same time permitting the thread to pass over the head *b* and between it and the spring-clamp *e*, in the manner and for the purpose shown.

I. M. ROSE.

Witnesses:

JOS. P. DEANE,
CHAS. MASON.