I. M. ROSE.

Tucking Device for Sewing Machines.

No. 40,084. Patented Sept. 22, 1863.

Fig. 1.

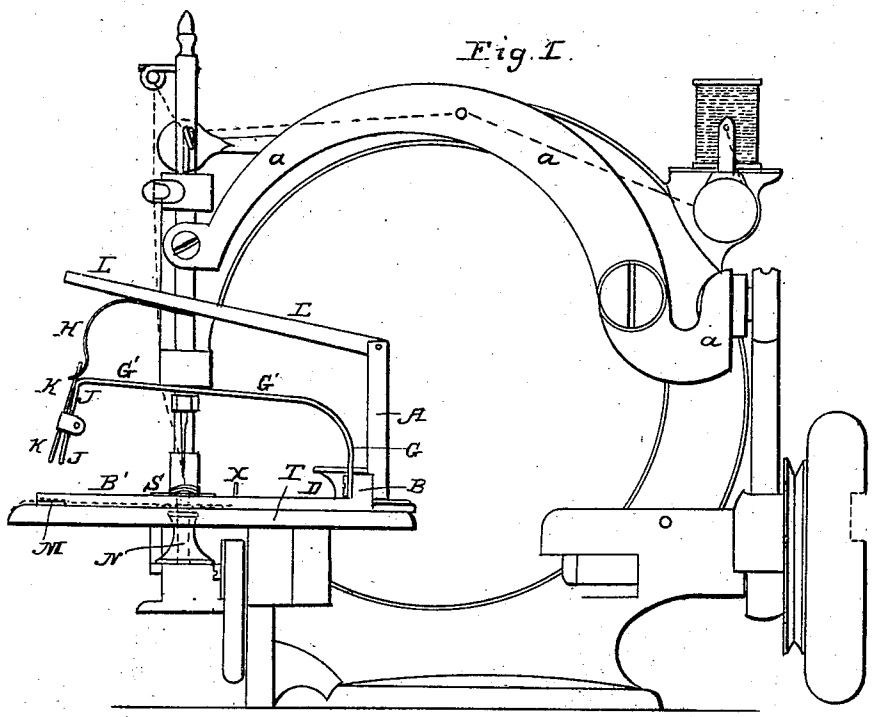


Fig. 4.

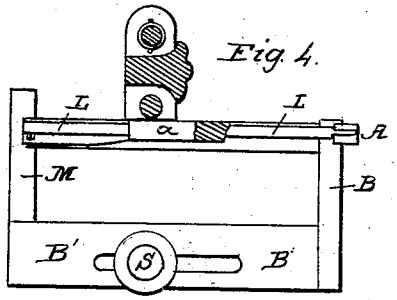


Fig. 2.

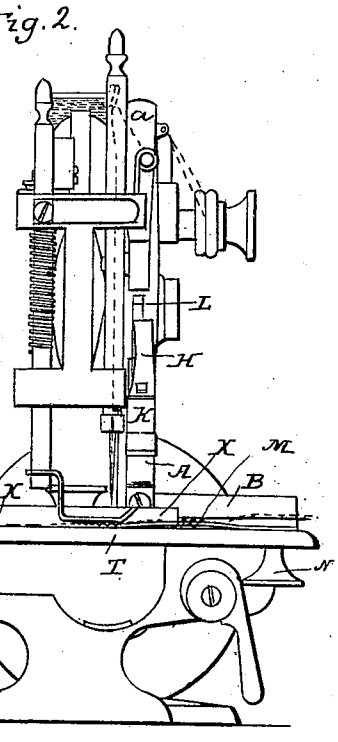
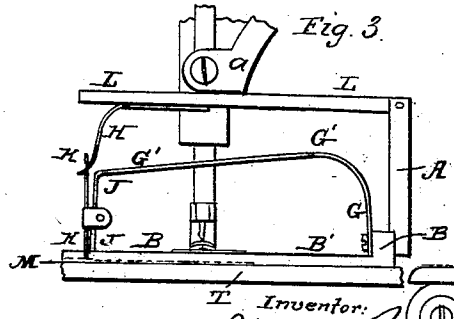


Fig. 3.



Witnesses:
Wm. H. Harrison
Wm. F. Brooks

Inventor:
I. M. Rose
by A. Roth
his atty.

UNITED STATES PATENT OFFICE.

ISRAEL M. ROSE, OF NEW YORK, N. Y., ASSIGNOR TO J. WILCOX.

IMPROVEMENT IN TUCKING DEVICES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **40,084**, dated September 22, 1863.

To all whom it may concern:

Be it known that I, ISRAEL M. ROSE, of New York, in the county and State of New York, have invented certain new and useful Improvements in Mechanism used as an Attachment to Sewing-Machines for Marking Tucks; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents in side elevation a sewing-machine having attached to it the implement or apparatus subject-matter of this patent. Fig. 2 is a front view of the same. Fig. 3 is a side view of the apparatus for marking tucks, with fragment of a sewing-machine, showing the needle-bar, or arm, and the action of either on the said apparatus when the machine is operated. Fig. 4 is a plan view of the parts represented in Fig. 3.

Tucks were heretofore determined on sewing-machines by some piercing or marking instrument vibrated or held to bear with constant pressure upon the cloth in a line adjustable at the pleasure of the operator. The objections to the former were that the cloth was either injured by the large holes made by the piercing-needle or the holes were so small as to leave almost imperceptible marks, and that in either instance it was necessary carefully to crimp and fold the cloth by following the trace of the holes. Fine fabrics were particularly liable to injury by this mode of marking tucks, and it had to be abandoned. The objections to the marking of tucks by means of an instrument constantly pressing on the material are still more serious. It will be understood that the pressure to produce a pencil-mark on or a permanent depression or crease in the cloth is by no means inconsiderable. Now, if the material to be operated upon be limber, the tendency is to drag it by the feed and cause a tuck-mark to be produced, which will not be in a line parallel with the seam.

To obviate these and other defects in tucking-gages heretofore in use is the object of my invention; and it consists in a mechanism actuated by the sewing-machine, intermittent in its operation, and pinching the cloth at regular intervals and in unison with the action of the machine, so as to leave a perfect ridge, in conformity with which the cloth will naturally fold to form a tuck.

To enable others skilled in the art to make and use my improvement, I shall now proceed to describe an apparatus constructed and operating in conformity with my invention. It consists of a pair of jaws having their ends sharp and serrated. One of the jaws is permanently fixed to the end of an arm or spring, which is fastened by any suitable device to the machine, and when at rest remains clear of the cloth, but is capable of being sprung down to touch it. The other jaw is hinged to the first, and both jaws are made to descend and close tightly, and in so doing take hold of the cloth and pinch a ridge in it parallel to the action of the feed of the machine, by being operated during every descent of the needle by the needle-arm or other working part of the machine. Attached to the apparatus and forming part of the same is a piece of metal, which projects parallel to and in front of the permanently fixed jaw, and lies close to the cloth-plate of the machine. Upon it the movable jaw presses the cloth, enabling it to gather the cloth up preparatory to pinching it between itself and the stationary jaw. The whole apparatus is capable of being moved at right angles to the action of the feed to adjust it to different widths of tucks.

In the accompanying drawings, A is an upright standard, firmly secured to a base-plate, B, at right angles with which is an extension, B′, whereby the whole apparatus may be attached to the sewing-table T by means of a set-screw, S, whose shank passes down through slots in the base-plate extension B′ and sewing-table, and is drawn taut by a nut, N.

To the upper end of the standard and in the plane of motion of the needle-arm *a* of the sewing-machine is jointed a lever, L, which, receiving motion from the needle-arm, imparts it to and actuates the other moving parts of the tucking-machine. It will be understood that it is not absolutely necessary for the operation of the apparatus that the lever should be located in the plane of motion of the needle-arm. It may be placed at some distance therefrom, provided there be a piece projecting either from the needle-arm, to come during its descent in contact with the lever, or, vice versa, from the lever, to be struck or moved by the

needle-arm while being operated. This lever is held away from off the cloth when the needle of the sewing-machine is withdrawn therefrom by two springs, G and H, one of which (the former) is fast to the base-plate B, while the other is secured to the lever. The spring G G′ is an elastic blade whose flexibility at or near its attachment to the base-plate produces a tendency to elevate the branch G′, the end of which is bent at an angle of one hundred degrees, more or less, in relation to the branch, and is provided with a serrated surface and gripping-edge, constituting one of the jaws hereinbefore referred to. To this jaw, at or near the middle portion thereof, is hinged another jaw, K, similarly serrated and sharp-edged, whose upper end, however, is buckled with the spring H in such manner as to cause the jaws to open, unless compressed, in which case the two jaws are caused to close and grip any intervening material.

Immediately underneath the two jaws, and directly in front of the rear jaw, J, when depressed so as to be in contact with the sewing-table, there is a strip of metal, M, soldered or otherwise attached to the base-plate B′, and the two jaws are so arranged that when depressed by the needle-arm actuating the lever L, the two jaws are brought down open until the jaw J on the one hand impinges on the table against the interior edge of the metal strip M, while the jaw K on the other hand impinges on the cloth lying on the strip. Then, by the resistance offered by the table, and by the further descent of the needle-arm, the spring H is compressed, forcing the upper end of the jaw K to move away from the upper end of the jaw J, and thereby causing the lower ends to approach and firmly grasp the cloth that may be between them. In Figs. 1 and 3 the extreme positions of the parts are indicated and their action on the cloth illustrated.

To enable any one to use the device herein described, the following directions for its use are now given: A fold having first been made in the cloth by hand the "gage" is fixed by means of set-screw S to make a seam the proper distance from the edge for the required tuck. The "tucker" is then adjusted so that the distance between the needle and the interior edge of the metal strip M and jaws that form the ridge on the cloth is at least double the distance between the needle and the gage. Then, keeping the folded edge of the cloth against the gage, it is fed through the machine, when a clear and well-defined ridge will be made in the cloth by the action of the tucker at the same time that a seam has been sewed in the folded cloth, forming a tuck. The cloth is next removed from the machine and folded upon the ridge. The work is thus proceeded with, and each time a tuck is sewed the ridge for the succeeding one is made.

Now, having fully described my invention, I claim—

1. The mechanism herein described, to be used as an attachment to sewing-machines for marking tucks, said mechanism being constructed and arranged so that when actuated by the needle-arm or other moving part of the sewing-machine it shall form a well-defined ridge on the face of the cloth opposite that in contact with the table, substantially in the manner hereinafter shown and described,

2. As a sewing-machine attachment, the device or mechanism for marking tucks, said mechanism consisting of jaws arranged in pairs, closing and opening at regular intervals to seize and release the cloth in the manner and for the purposes herein set forth.

3. So combining the parts of a sewing-machine attachment for marking tucks for action, substantially as set forth, as that the jaws are brought down in contact with to impinge upon the cloth while yet open, and are closed by the resistance then offered to the farther descent of the jaws, substantially as herein shown and described.

4. Combining with the jaws, acting substantially as hereinbefore described, a metal strip arranged in line parallel with the feed and operating in conjunction with the jaws, substantially in the manner and for the purposes set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

I. M. ROSE.

Witnesses:
ED. B. WILLCOX,
JAMES KILNER.