I. M. ROSE.

Feeding Device for Sewing-Machine.

No. 166,302. Patented Aug. 3, 1875.

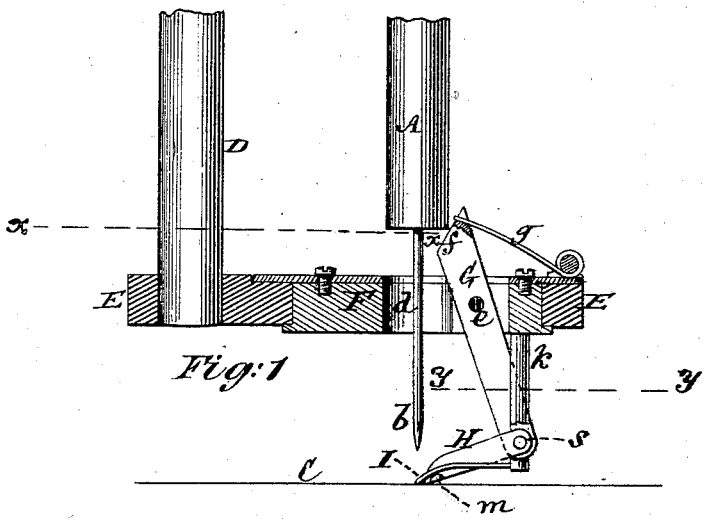


Fig: 1

Fig: 2

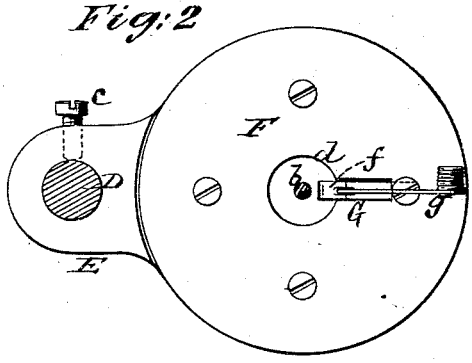
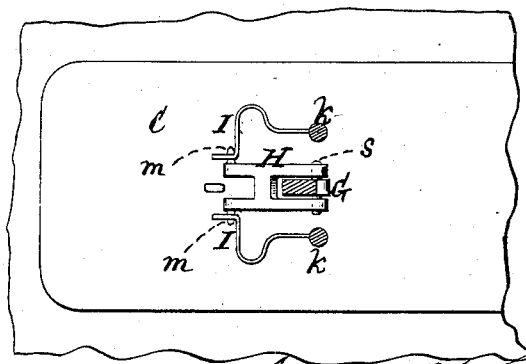


Fig: 3



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UNITED STATES PATENT OFFICE.

ISRAEL M. ROSE, OF BROOK HAVEN, ASSIGNOR TO JOSEPH I. WEST, OF NEW YORK, N. Y.

IMPROVEMENT IN FEEDING DEVICES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **166,302**, dated August 3, 1875; application filed November 19, 1874.

To all whom it may concern:

Be it known that I, ISRAEL M. ROSE, of Brook Haven, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Feeding Devices for 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 drawing forming part of this specification, and in which—

Figure 1 represents a sectional elevation of my improved feeding device in its relation with the needle; Fig. 2, a horizontal section, mainly on the line *x x;* and Fig. 3, a horizontal section on the line *y y*.

This invention relates to what are known as "top feeds;" and consists in a feeding device which is operated by the needle-bar, and is made capable of universal adjustment by rotating it around the needle-bar, to feed the fabric in any desired direction. The invention also consists in certain combinations of parts, whereby said feeding device has its efficiency insured, and a certain yielding presser, which controls the feeding-dog, also serves to hold the cloth during the back motion of the feed.

A is the needle-bar of a sewing-machine, and *b* its needle. C is the top surface of the cloth-table, and D the presser-foot bar. Attached to the lower end of the bar D, in an adjustable manner up or down by a screw, *c*, is a plate, E, constructed to form a ring, to which the axis of the needle is concentric. This ring-plate carries the feed, or rather a carrier, F, to which the feeding devices are attached. Said feed-carrier F is fitted to turn within the ring-plate E, the same rotating or being capable of adjustment around the needle-bar, and having a hole, *d*, through its center, to allow of the needle-bar passing through it. G is a lever arranged on one side of the hole *d*, and having its fulcrum *e* in or on the feed-carrier, and so that said lever, which extends both above and below such carrier, is free to rock within the latter. The upper portion of this lever G is beveled, as at *f*, and is projected forward by a spring, *g*, toward the needle-bar, and is forced backward or outward by the needle-bar in its descent, or a projection on said bar, coming in contact with the beveled portion *f* of the lever. H is the feeding-dog, which is pivoted at *s* to the lower end of the lever G, and is held down to its hold on the cloth, when feeding or moving forward, by an elastic or yielding presser, I. Said dog is moved forward, to effect the feed of the cloth, by the downward action of the needle-bar on the beveled portion *f* of the lever G.

The yielding presser I is here represented as formed of springs attached at their one end to projections K on the under side of the feed-carrier F, and from thence are bent and spread laterally, so as to have an extended bearing on the cloth when not resting on the dog, and so that when the dog is making its feed or forward stroke the front bent ends of the yielding presser bear down on ears *m m* of the dog, to give the latter its hold on the cloth.

As the feeding-dog H reaches the end of its forward or feeding stroke, the ears *m m* pass from under and in front of the forward bent ends of the yielding presser I, which latter then bears directly on the cloth, to hold it from moving, while the dog, by its ears *m m*, freely rides over the bent front ends of the presser, and, so soon as said ears clear such forward bent ends of the yielding presser, the dog drops down onto the cloth again, to, in due course, make another feed, by passing under the forward ends of the presser.

The yielding presser I, as thus combined with the feeding-dog, not only controls the hold of the dog on the cloth when feeding, and provides for its release when moving backward, but it virtually forms a spring presser-foot, that is automatically controlled by the dog, and always in line with it, no matter in which direction the feed works.

An independent presser-foot, however, may be used in addition, if desired; also, the control of the dog, as regards its hold on and release from the cloth, may be otherwise obtained without affecting the universality of the feed, to work in any desired direction, by suitably rotating or adjusting the feed-carrier F around the needle-bar.

I claim—

1. The combination, with the feed-carrier F, constructed to rotate in a horizontal plane around the needle-bar, of the lever G, pivoted to the feed-carrier, the dog H, and the yielding presser I, substantially as and for the purpose described.

2. The combination of the dog H, pivoted to the rocking lever G, and having the ears *m*, with the spring-presser I, constructed of springs attached at one end to the projections K on the carrier, substantially as and for the purpose described.

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