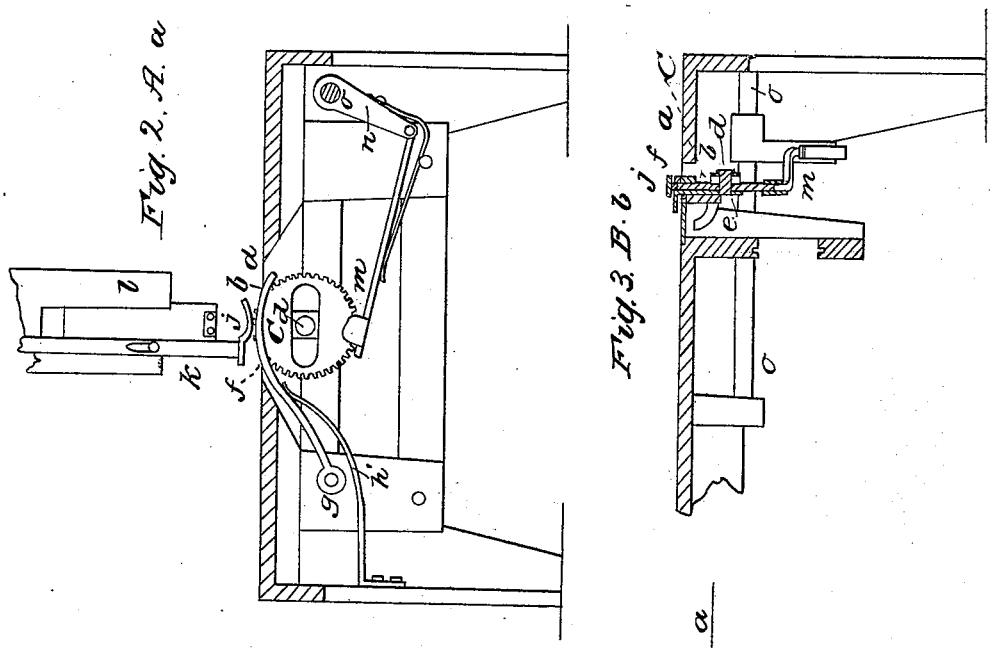
I. M. SINGER.

Sewing Machine.

No. 13,065. Patented June 12, 1855.



Witnesses
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UNITED STATES PATENT OFFICE.

ISAAC M. SINGER, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **13,065**, dated June 12, 1855.

To all whom it may concern:

Be it known that I, ISAAC M. SINGER, of the city, county, and State of New York, have invented a new and useful Improvement in Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of the table or bench of the machine, and Figs. 2 and 3 vertical sections taken at the lines A *a* and B *b* of Fig. 1.

The same letters indicate like parts in all the figures.

My invention relates to the feeding apparatus for moving the cloth or other substance to be sewed, and to determine the space between the stitches; and my said invention consists in hanging the feeding-wheel—that is, the wheel that moves the cloth resting on it—in such manner that it shall make pressure by spring or weight against the under side of the cloth and grip it against the surface of a pad or plate above, the pressure thus made being self-adapting to the varying thickness of the substances to be sewed.

In the accompanying drawings, *a* represents the table or bench of the machine, with a slot, *b*, cut through it, in which the feeding apparatus plays. The feeding-wheel *c*, with the periphery toothed, is hung and turns on a stud, *d*, projecting from the face of a plate, *e*, forming part of a lever or arm, *f*, hung on a fulcrum-pin at *g*, and forced upward by the tension of a spring, *h*, attached to the frame. The upper surface of this arm *f* is of a curvature greater than the periphery of the feed-wheel, and slotted, as at *i*, to permit the periphery of the wheel to project above the surface of the arm to act on the cloth or other substance to be sewed when placed on it. As the arm is forced up with the feed-wheel the cloth is gripped between the periphery of the wheel and the under face of a pad or plate, *j*, on the lower end of a rod, *k*, secured to the standard *l* of the frame which carries the needle-carrier. The feed-wheel is turned by a ratchet hand or pawl, *m*, connected with the arm *n* of a rock-shaft, *o*, operated in the usual manner, and not necessary to be described, as this makes no part of my invention; and the feed motion may be given in any other suitable manner.

From the foregoing it will be seen that the cloth or other substance is held between the pad and the periphery of the feed-wheel by the tension of the spring acting on the arm, and that the arm and wheel will move toward and from the pad or plate above to follow the varying thickness of the cloth or other substance interposed.

The surface of the periphery of the feed-wheel may be prepared in any suitable manner to act on and give the required feed motion to the cloth.

It will be obvious that instead of hanging the feed-wheel in a vibrating arm it may be hung in a sliding frame and effect the same purpose, and, also, that a weight may be substituted for a spring.

I am aware that the cloth in sewing-machines has been held to the periphery of the feed-wheel by yielding pressure, and therefore I wish it to be understood that I make no claim to this mode of operation.

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

Feeding the cloth or other substance in sewing-machines by means of a wheel hung on a vibrating lever, or equivalent therefor, and borne upward by a spring, or its equivalent, against the under surface of and in combination with a fixed pad above, substantially as described.

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Witnesses:

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