

I. M. SINGER.
Sewing Machine.

No. 8,876.

Patented April 13, 1852.

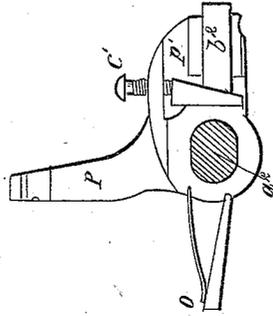


Fig. 7.

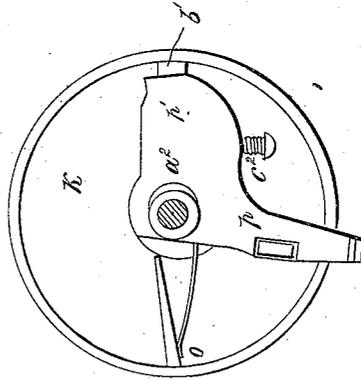
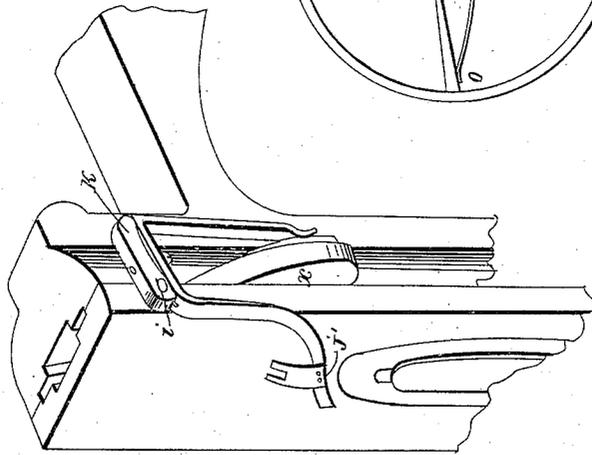


Fig. 1.



UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 8,876, dated April 13, 1852.

To all whom it may concern:

Be it known that I, ISAAC M. SINGER, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Machinery for Sewing Cloth and other Substances; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes them from other things before known, and of the usual manner of making, modifying, and using the same.

My improvement consists, first, in so constructing and operating the pad j' as to cause it to press upon thread when required, and then to be relieved while the needle is passing through the cloth, to prevent the thread from being unnecessarily worn. Figure 7 represents this portion of the improvement. The pad j' , instead of being permanently fixed, has an arm projecting up from it to a fulcrum, i' , whence it bends off at right angles for the distance of two inches, more or less, and thence the arm descends by another bend at right angles, parallel with the part on the other side of the fulcrum, making it a U-formed figure, the end opposite the pad reaching down behind the cam-wheel x' , that moves the needle-bar, said wheel, by means of a cam on the face of it, next the end of the pad-lever, being so formed as to cause the pad to be pressed against the thread and relieved at intervals. To adjust the pressure of the pad-lever, there is a block, k' , placed over that portion of it which extends from the fulcrum horizontally backward, concaved on the under side, so as to rest on its ends, and a screw passing through the lever enters said block at its center, so that when it is screwed up it will cause the ends of the lever to approach each other, and thereby increase the pressure upon the thread. The operation of this part is as follows: When the needle-bar commences to descend, the pad is brought firmly upon the thread with due pressure, thus holding it and preventing its looping or tangling. This continues till the needle has pierced the article to be sewed within three-eighths of an inch of the eye, more or less. The pad then relaxes its pressure slightly, so as to permit the thread to render a little, by means of the peculiar form of the cam, till the eye of the needle comes nearly down to the pressing-plate l . It is then raised and relieves the thread from its friction during the time the needle is carrying the thread through the cloth or other material to form the loop, thus saving

it from the chafing process it would otherwise be liable to on account of the pad, that would at that time be injurious, although at the time it is brought into action it is absolutely necessary, to insure good work; and this alternate seizing and releasing the thread at proper intervals constitutes my present improvement.

The second improvement is upon the feeding apparatus—a most important feature to work accurately, as the least play in the joints of the feed would cause the stitch to be irregular; but by the following mechanism I am enabled to produce the desired accuracy when the stitches are ever so fine, which is constructed as follows, reference being had to Fig. 8, in which k is the feeding-wheel, as described in the original patent. p and p' is a bent lever whose fulcrum is formed by the hub of the wheel k , on which it rests, and when in action forms a solid connection with the wheel. The hole in the bent lever is a little oblong, as shown at a^2 , so as to slide backward in a line with the arm p' . This arm p' has a groove in it, in which there is a sliding pawl, b^2 , that can be set out to any required distance by means of the wedge and set-screw c , or other analogous device, affording a solid bearing. Opposite to this sliding pawl (which bears against the inside of the rim of the feed-wheel) there is a spring-knuckle, o , precisely like the one figured and described in the original specification, and acting in the same way, except that it causes a bearing against the rim of the wheel on both sides through the intervention of the pawl b^2 , forming a more permanent and sure action than any former devices, and enabling me to compensate for the wear by the adjusting-wedge—a matter of great importance to insure a perfect feed, as the wear on these parts is very great—and bring the bearing of the crank wholly upon the hub and rim of the wheel, by which all spring and yielding are prevented.

Having thus fully described my additional improvements, what I claim therein as new, and for which I desire to secure Letters Patent, is—

1. The cut-off friction-pad, constructed and operating substantially in the manner and for the purpose set forth.
2. The construction and arrangement of the feeding apparatus as above described.

ISAAC M. SINGER.

Witnesses:

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