J. L. FOLLETT.

TAKE-UPS FOR SEWING-MACHINES.

No. 183,757. Patented Oct. 31, 1876.

Fig. 1.

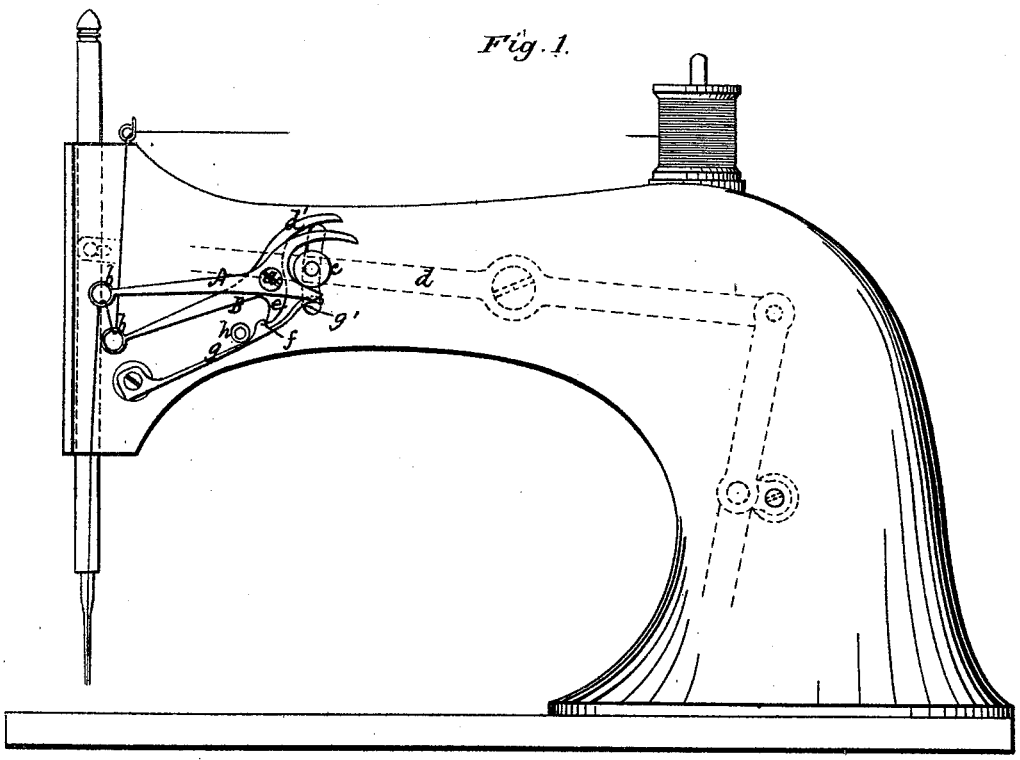


Fig. 2.

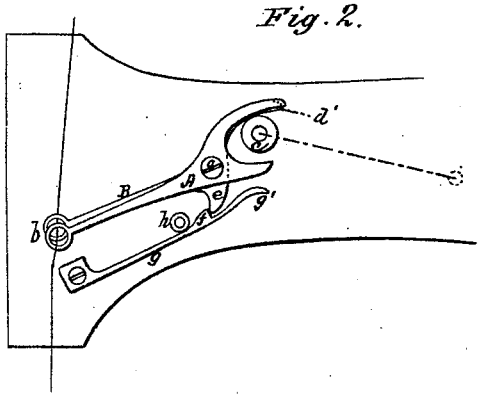
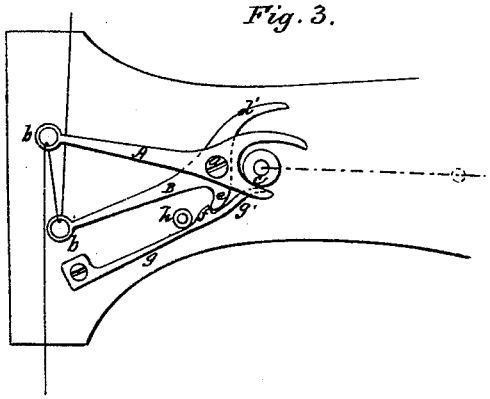


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH L. FOLLETT, OF NEW YORK, N. Y.

IMPROVEMENT IN TAKE-UPS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **183,757**, dated October 31, 1876; application filed May 13, 1876.

To all whom it may concern:

Be it known that I, JOSEPH L. FOLLETT, of the city, county, and State of New York, have invented certain new and useful Improvements in Take-Ups for Sewing-Machines, of which the following is a specification:

My invention relates to that portion of a sewing-machine known as the "take-up." The take-up in which my invention is comprised consists, essentially, of two parts, viz., a moving member, which may be termed the "take-up lever," and a member which may be termed the "thread-holder," which is stationary during a portion of the movement of the lever, so as to afford a fixed bearing, in conjunction with which the lever may operate to take up the thread, but which at the proper time during the stroke of the needle is released and left free to move so as to give up freely the thread that before was taken up by the action of the lever.

The mechanism constituting the preferred form in which I embody my invention is shown in the accompanying drawing.

Figure 1 is a side elevation of the said mechanism, with so much of a sewing-machine as needed to enable me to illustrate my invention. Figs. 2 and 3 are diagrams representing different positions of the take-up.

The moving member or take-up lever above referred to is marked A. The other member is marked B. The lever A and thread-holder B are mounted on the same axis *a*. Each is a lever, whose longer arm is provided at the outer end with a thread-eye, *b*, or its equivalent. The two are side by side, and are practically of the same length. The shorter arm of the take-up lever A is forked, and in the fork works a pin or roller-stud, *c*, which preferably is covered with leather or some other sound-deadening material. This stud is on a vibrating arm, *d*, (indicated by dotted lines,) which is connected with and operated by the driving-shaft of the machine in any suitable way. The thread-holder B has its shorter arm *d'* formed somewhat like the upper prong of the forked shorter arm of the take-up lever A. It has no lower prong, but in lieu thereof has a projection or finger, *e*, which is adapted to engage a detent, *f*, carried by or formed on a spring, *g*, the free end *g'* of which lies under and in the path of the stud *c*. The finger *e* normally engages the detent *f*, and thus serves to maintain the thread-holder immovable until the proper time, (during the descent of the needle,) when the stud *c*, coming in contact with the end *g'* of the spring, forces back the spring, consequently removing the detent from the finger *e*, and thus releasing the thread-holder. The thread passes from the spool C through the tension, (not shown,) thence through an eye on the head or neck of the machine, through the eyes *b* of the holder and take-up lever, and to the needle.

The operation is as follows: Suppose the needle to be at its highest point, and about to descend; at this time the take-up will be in the position indicated in Fig. 2, the roller-stud *c* in its highest position. With the descent of the needle the stud also descends. It does not, however, commence to operate the take-up until it reaches the lower prong of the forked arm of the lever A. When this point is reached, then, as the stud continues to descend, the longer arm of the take-up lever is elevated. Inasmuch, however, as the thread-holder B is retained by the spring-detent *f*, its eye affords a bearing or fixed point, against which the take-up lever pulls, and so takes up the thread, as indicated in Fig. 3. The take-up action continues until the stud *c* in its descent bears on and depresses the spring *g*. This lowers the detent away from the finger *e*, and thus releases the thread-holder, which, consequently, is entirely free, and, by the draft of the thread, is brought at once to a position where it will give up all the thread needed—in other words, its longer arm rises, so that its eye will practically coincide with the eye on the corresponding arm of the take-up lever. After the completion of the down movement the stud *c* rises. In so doing it bears against the upper prong of the forked shorter arm of the lever A, and the arm *d* of the holder B. The two parts A B, therefore, are forced to reassume the position from which they started. In so doing the beveled rear of the finger *e* rides over the beveled face of the spring-detent *f*, and the two parts again engage one another. The snap of the spring, when re-

leased from the pressure of the overriding finger *e*, is deadened by the stop *h*, which is covered with leather or equivalent material.

It will, of course, be understood that the movement of the take-up bears the usual relation to that of the needle.

The take-up, thus organized, may be placed on the front, back, or inside of the machine. It is entirely effective in its operation, is simple in construction, and can be readily and cheaply applied to the machine. It is applicable to any of the kinds of machines now in the market.

I have described what I deem to be on the whole the best way of giving effect to my invention; but the mechanism can be modified in various ways without departure from the principle of my invention.

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

1. The described combination of the take-up lever and the thread-holder, operating together substantially as set forth.

2. The take-up lever, in combination with the thread-holder and the detent which maintains the thread-holder stationary while the thread is to be taken up, and releases the thread-holder when slack is required, substantially as set forth.

3. The take-up lever and thread-holding lever, movable on the same axis of vibration, in combination with the spring-detent, operated to hold and release the thread-holding lever at the times substantially as set forth.

4. The combination of the thread-holding lever, the take-up lever, the stud or its equivalent for operating the same, and the spring-detent, substantially as set forth.

In testimony whereof I have hereunto signed my name this 12th day of May, A. D. 1876.

JOSEPH LEONARD FOLLETT.

Witnesses:
M. DEICHTEULRITT,
OSCAR W. ANGEL.