

(No Model.)

C. F. LITTLEJOHN.

TAKE-UP DEVICE FOR SEWING MACHINES.

No. 363,656.

Patented May 24, 1887.

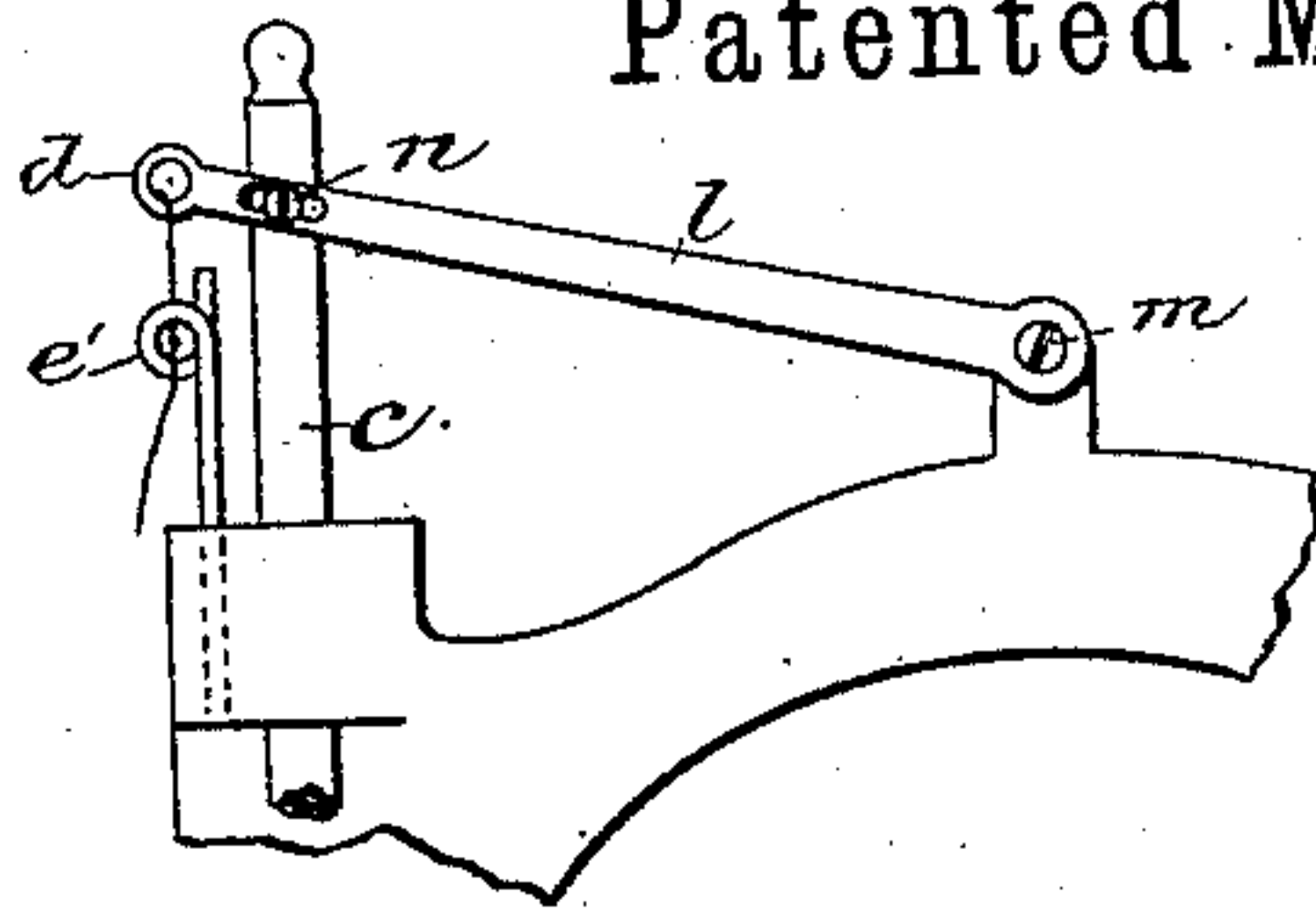


Fig. 3.

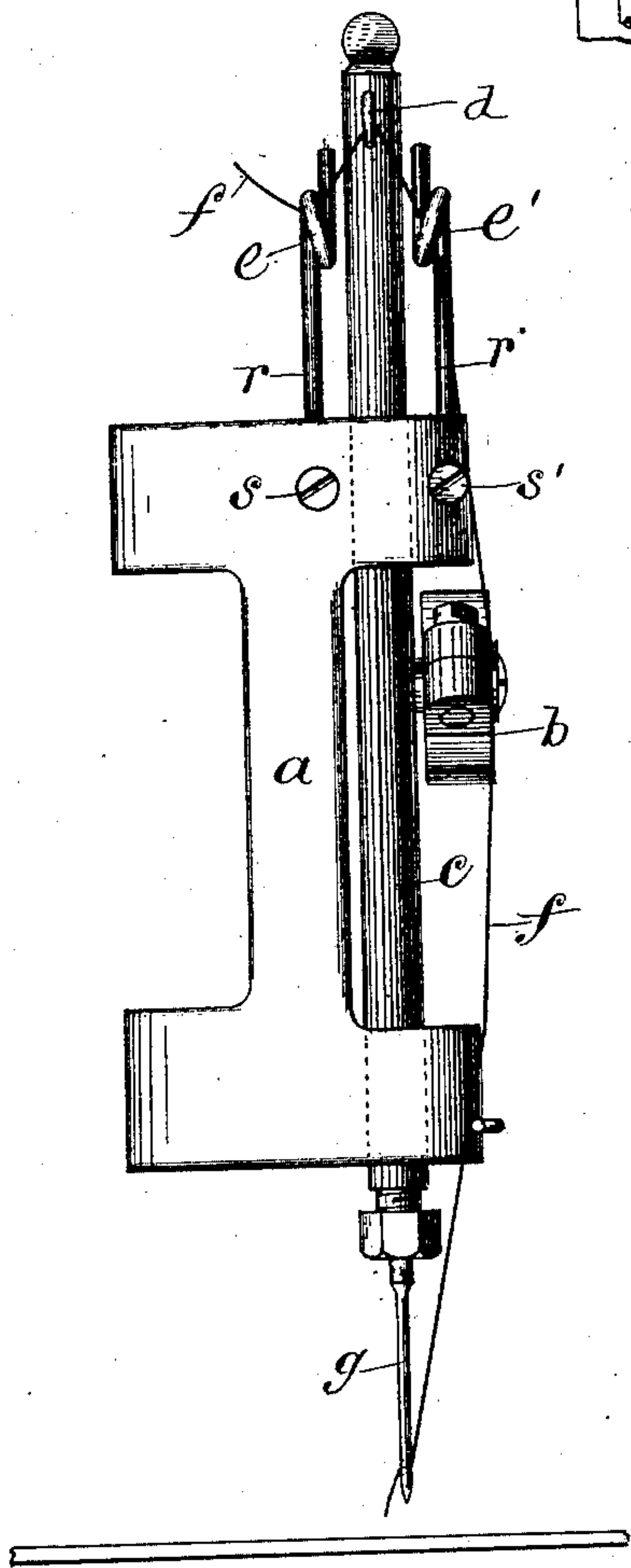


Fig. 1.

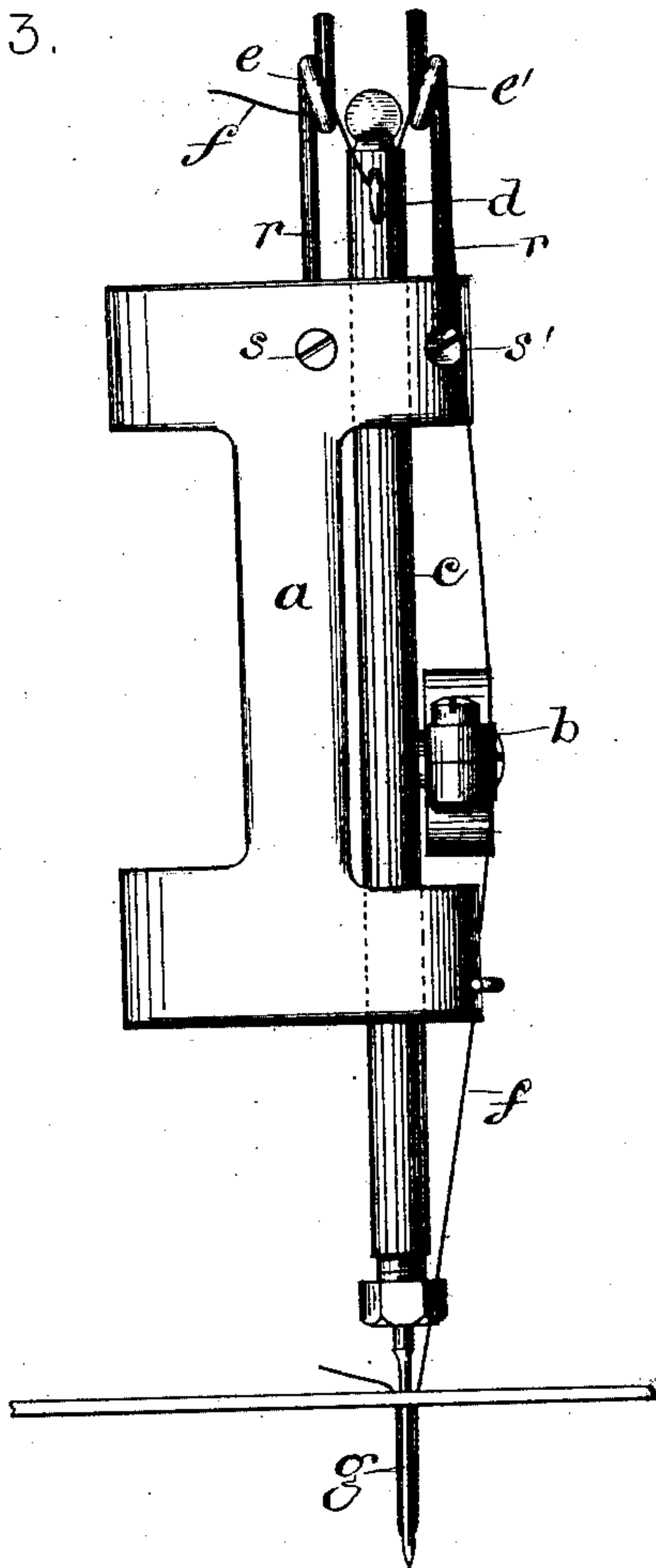


Fig. 2.

WITNESSES:
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UNITED STATES PATENT OFFICE.

CHARLES F. LITTLEJOHN, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF
ONE-HALF TO E. B. WELCH, OF CAMBRIDGE, MASSACHUSETTS.

TAKE-UP DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 363,656, dated May 24, 1887.

Application filed November 19, 1885. Serial No. 183,272. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. LITTLEJOHN, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Take-Up Devices for Sewing-Machines, of which the following is a specification.

This invention has for its object to provide a simple and effective take-up for the needle-thread of a sewing-machine; and it consists in an eye on the needle-bar above the top of the head of the end of the arm or goose-neck and two eyes adjustably mounted on the upperside or end at opposite sides of the needle-bar, the arrangement being such that, while but a single guiding loop or eye is employed on the needle-bar, the said eye will move away from the adjustable eyes and exert an upward pull on the thread during both the upward and downward strokes of the needle, the extent of which can be varied proportionate with the adjustment, as I will proceed to describe.

Another feature of my invention is its ready applicability to the existing forms of machines.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents an end view of the head or arm of a sewing-machine, showing the needle-bar, needle-lever, and take-up devices, the needle-bar being at the upper end of its stroke. Fig. 2 represents a similar view showing the needle-bar at the lower end of its stroke. Fig. 3 represents a modification.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the head or the end of the arm or goose-neck of a sewing-machine.

b represents the needle-lever, and *c* represents the needle-bar, actuated by said lever in the usual manner.

In carrying out my invention I secure to the upper portion of the needle-bar an eye, *d*, and to the head or arm *a* two eyes, *e e'*, one at each side of the needle-bar, the eyes *e e'* being fixed, while the eye *d* moves vertically with the needle-bar between the eyes *e e'*. The needle-thread *f* passes from the usual supplying-spool and tension device of the sewing-machine first through the fixed eye *e*, then

through the eye *d* on the needle-bar, then through the other fixed eye, *e'*, and from thence downwardly to the needle *g*.

The eye *d* is located at such a point on the needle-bar relatively to the fixed eyes *e e'* that it passes above said eye during the upward stroke of the needle-bar, as shown in Fig. 1, and below them during the downward stroke of the needle-bar, as shown in Fig. 2. It will be seen that when the eye *d* on the needle-bar moves away from the fixed eyes *e e'* in either direction it will alone exert an upward pull on the thread extending from the fixed eye *e'* to the needle and the line of stitches in the work, and will thus tighten or take up the loops of the needle-thread at each end of the stroke of the needle-bar.

This take-up device is extremely simple and durable, and adds but a trifle to the cost of the machine, while at the same time it is very effective in its operation.

The fixed eyes *e e'* are preferably formed on rods *r r'*, which are secured in sockets in the head or arm *a* by set-screws *s s'*, so that they may be adjusted vertically, and thus conveniently regulated as to their position with relation to the eye on the needle-bar.

My improved take-up device was devised for use in the sewing-machine described in my application for Letters Patent of the United States filed March 18, 1885, No. 159,249, said machine forming a double chain-stitch and using a thread-hook of peculiar construction to interlock the lower with the upper or needle thread. My improvement is, however, capable of use in connection with several other stitch-forming mechanisms in which a reciprocating needle-bar is employed.

If desired, the eyes *e e'* may be so adjusted that the eye *d* at one end of the stroke of the needle-bar will be farther from the eyes *e e'*, and will therefore take up more thread than at the end of the opposite stroke.

I do not limit myself to securing the eye *d* directly to the needle-bar, but may apply it to a movable support which is moved by or with the needle-bar to produce the described result. For example, the eye *d* may be attached to the swinging end of a lever, *l*, Fig. 3, which is pivoted at *m* to the fixed arm or goose-neck of the machine, and is connected at *n* to the needle-

bar, so that the movements of the latter will oscillate said lever and cause the eye *d* to alternately rise above and fall below the eyes *ee'*.

I am aware of the construction disclosed in 5 the patent to Newell, No. 253,222, dated February 7, 1882, and I do not claim, broadly, any feature set forth in said patent. My invention will be readily distinguished from the said patented construction by reason of the fact that 10 I locate my needle-bar loop and side adjustable loops above and on the upper side of the head or end of the arm. By this arrangement I do away with the extra eye or loop in the needle-bar, thereby decreasing the liability of 15 binding and breakage of the thread, while the thread is lead directly from the spool to the central take-up eye. Moreover, the construction disclosed in said Newell patent necessitates the employment of a special head or end face of 20 the latter, while my invention may be readily applied to the upper side of the head of existing machines without any alteration in the construction thereof.

A further advantage secured by locating the parts as above described consists in the fact 25 that the adjustable loops are readily accessible for the purpose of adjustment.

I claim—

The combination, with the head or end of the arm and needle-bar reciprocating vertically 30 thereon, of an eye affixed to the needle-bar above the upper side of said head or end, and eyes *ee'*, adjustably secured to the upper side of said head or arm at opposite sides of the needle-bar and independent thereof, substan- 35 tially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 12th day of November, 1885.

CHARLES F. LITTLEJOHN.

Witnesses:

CHAS. SHULZ,
WALTER NICHOLS.