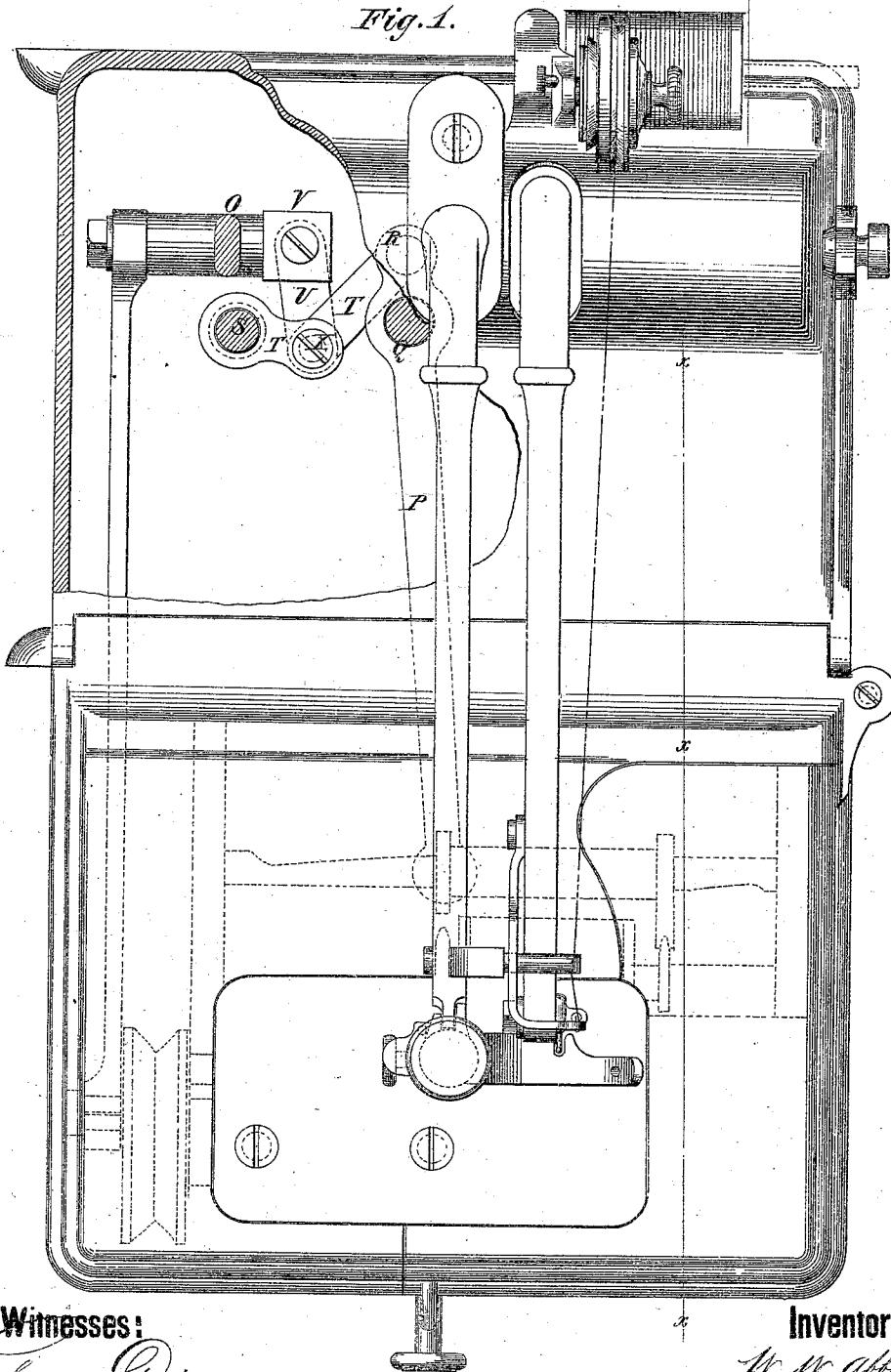


W. W. ABBOTT.
Sewing-Machines.

No. 152,589.

Patented June 30, 1874.

Fig. 1.



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Fig. 2.

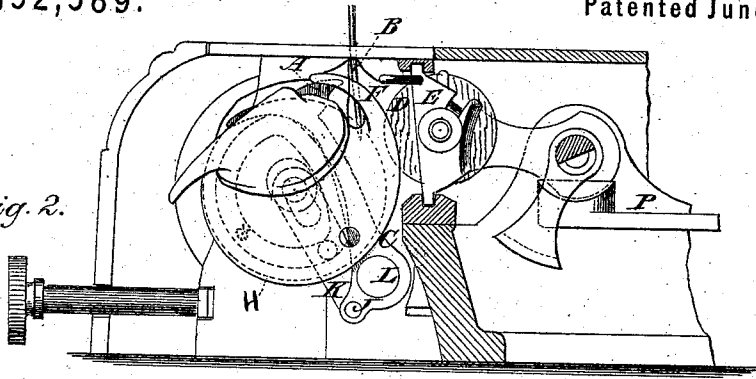


Fig. 3.

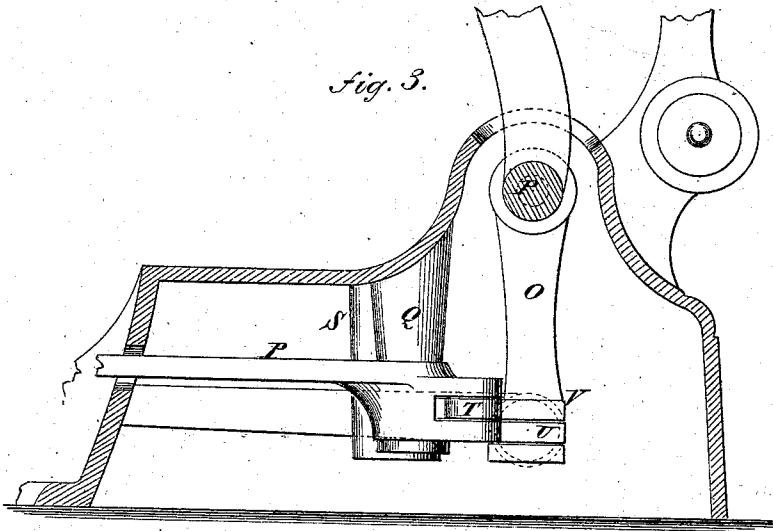
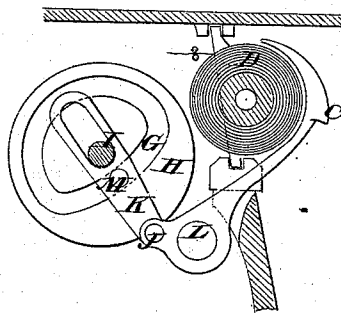


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM W. ABBOTT, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **152,589**, dated June 30, 1874; application filed February 14, 1874.

To all whom it may concern:

Be it known that I, WILLIAM WARREN ABBOTT, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Sewing-Machine, of which the following is a specification:

The first part of my invention consists of a guard attachment on the bulged take-up plate used in connection with the rotary looper of a machine in which a commercial spool is used for the under thread, to prevent the said looper from hooking into the old loop, which it has been liable to do as these machines have been heretofore constructed. The second part consists of an improved arrangement of devices for actuating the loop-spreader; and the third part consists of an improved arrangement of devices for operating the under-thread spool-carrier.

Figure 1 represents a sewing-machine, partly in plan view and partly in horizontal section, showing the arrangement of devices for actuating the spool-carrier. Fig. 2 is a longitudinal sectional elevation of part of the machine on the line *x x* of Fig. 2, showing the guard on the bulged plate for preventing the looper from taking the old loop; it also shows the devices for actuating the loop spreader, partly in full lines and partly in dotted lines. Fig. 3 is also a longitudinal sectional elevation of part of the machine on the line *x x*, showing the arrangement of the devices for working the spool-carrier; and Fig. 4 is a detail, showing the devices for operating the loop-spreader in full lines.

Similar letters of reference indicate corresponding parts.

In Fig. 2, A represents the point of the looper, which passes between the needle B and the thread, to engage the latter and carry it down to form the loop for the binding-thread to pass through, the loop being extended to the right by the spreader C, and the binding-thread being carried through it by the spool D on the spool-carrier E. The loop being very large for the spool to pass through, it is not wholly taken up until about the time the point A comes around again, at which time it escapes off the bulged plate, so that it is liable, as these machines have been heretofore arranged, to be again taken by the hook A.

Now, I propose to make use of a long curved guard, F, on this bulged plate at the point

where the loop escapes, and extending backward beyond the point A, also inclining spirally to the front of the hook, so as to effectually prevent the looper from engaging the old loop.

For actuating the loop-spreader C, I propose to make use of a cam-groove, G, in a cam, H, on the driving-shaft I, with a slotted connecting-rod, K, fixed on said shaft, so as to slide endwise, and jointed at J to a short arm of the spreader, which is pivoted at L, and said rod has a stud-pin, M, on one side extending into the groove, so that the shaft serves for the guide and support for the connecting-rod while the cam-groove works it up and down. The arrangement is very simple and cheap to construct, and is very reliable and accurate in operation.

To provide a simple and efficient connection of the lever N, which works the spool-carrier, with the arm O of the rock-shaft P, by which the needle-arm is worked, I pivot it to a stud, Q, projecting downward from the under side of the plate of the machine, and connect the short arm R with another stud, S, extending down from the plate in the same manner by a couple of links, T, which are jointed together at or about the middle of the space between arm R and stud S, and connected at said joint by a bar, U, with the head V at the lower end of arm O, so that it swings the joint X, by which links T are connected together, toward and from the right line between arm R and stud S, in a manner calculated to afford a simple and durable arrangement.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the guard F with the looper A, substantially as specified.

2. The slotted rod K, pivoted to the loop-spreader C, and the disk H, having a cam-groove, G, arranged with the driving-shaft I, substantially as specified.

3. The arm R of the spool-carrier lever, connected to the stud S by links T, and said links connected to the rock-arm head V, substantially as specified.

W. W. ABBOTT.

Witnesses:

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ALEX. F. ROBERTS.