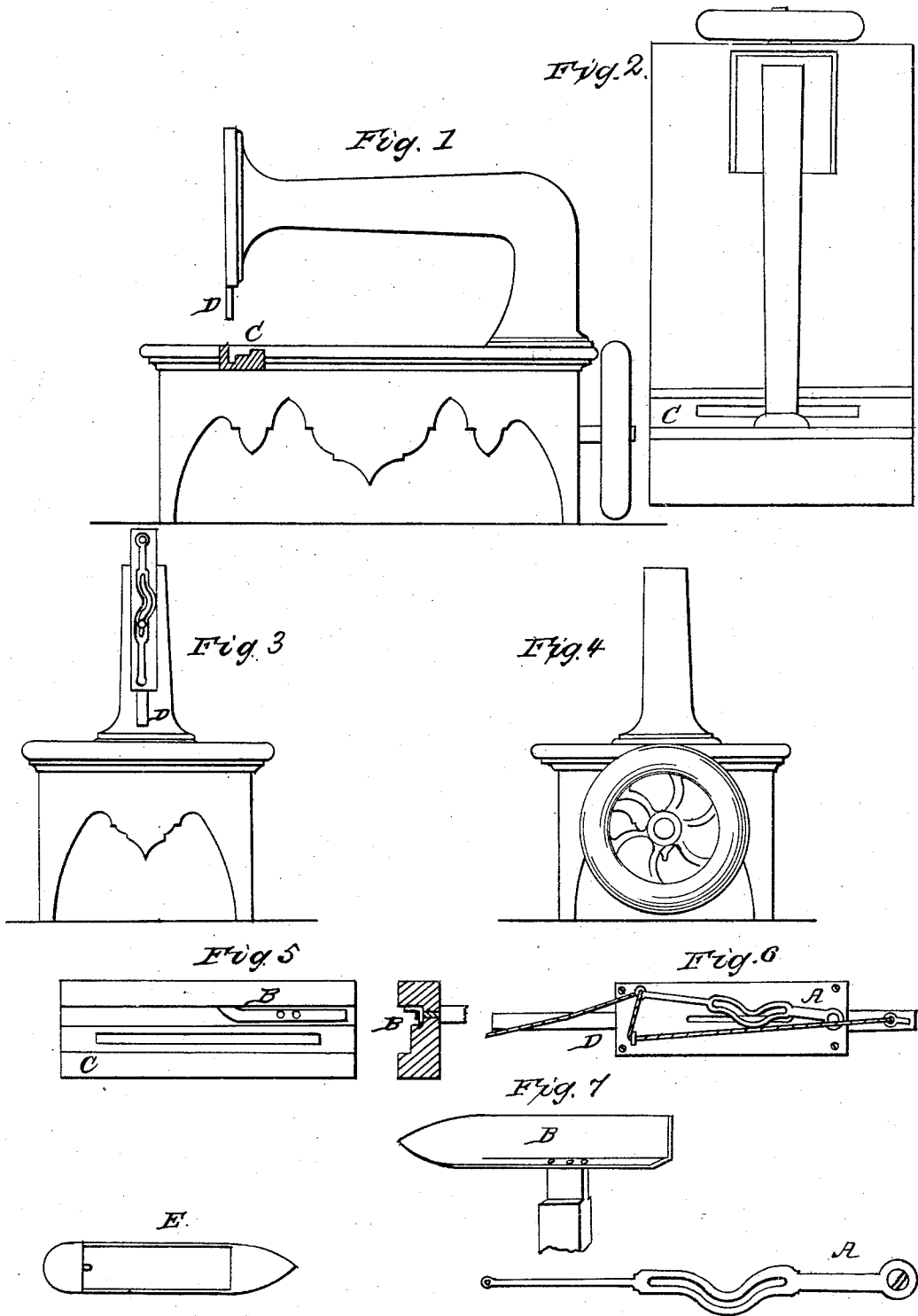


M. FINKLE.
Sewing Machine.

No. 16,382.

Patented Jan. 13, 1857.



UNITED STATES PATENT OFFICE.

MILTON FINKLE, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **16,382**, dated January 13, 1857.

To all whom it may concern:

Be it known that I, M. FINKLE, of the city and county and State of New York, have invented a new and useful Improvement in Sewing-Machines; and I hereby declare that the following is a full and exact description thereof.

To enable others to make and use my invention, I proceed to describe its construction and operation, reference being had to the drawings hereunto annexed and making part of this specification.

Figure 1 is a side elevation of the machine to which the improvements are applied; Fig. 2, plan of the same; Fig. 3, front elevation; Fig. 4, rear elevation; Fig. 5, the bed of the spreader or loop-former B; Fig. 6, the apparatus of the thread-controller A; Fig. 7, the loop-former B, drawn enlarged.

The thread-controller A is also shown enlarged; also the shuttle E.

The purpose of this improvement is to make (by means of the loop-former) a sure loop for the shuttle, and to protect the needle so that it will be scarcely possible to break it.

The loop-former B, made of a piece of thin metal, bent longitudinally to an angle, has a sharp shuttle-like point. It is set in the rabbet of the shuttle-race C, (see Fig. 5,) and is moved from beneath by a lever (one end of which connects with it by a hinge-joint) reaching it through a slot in the bottom of the bed or shuttle-race. It moves close against the side, and with its point forms the loop, ready for the shuttle. The needle passes down close behind it. This loop-former, by the perfection of its operation, effectually prevents missing stitches or breaking needles, both cases very frequent in all the shuttle-machines in use at present. The loop-former is let into the shuttle-race so as to be even with its face. In its operation it is made to pass just forward of the shuttle, and it forms and enters the loop first and then stops. By this means the shuttle can enter and pass through the loop with ease. As soon as the shuttle gets nearly through the loop-former is drawn back. Then, when the needle is going down, the shuttle is separated from it by the thickness of the

loop-former, and therefore the needle is in no danger of being broken.

The thread-controller A is a lever, of peculiar form, attached to the face of the machine (see Fig. 3) by a pivot. The central portion of it has a curved slot somewhat in the segment of a circle, except that the lower end of the slot for nearly three-eighths of an inch is straight with the general line of the lever. The lower portion is slender, so that it will spring with the tension of the thread, and there is an eye at the lower end through which the thread passes. This thread-controller receives its motion from a pin made fast in the needle-bar D. There is a perpendicular straight slot made through the face-plate upon which the thread-controller is hung, and the pin passes through this and into the curved slot of the thread-controller. As the needle-bar is worked up and down this pin moves in the curved slot and causes the thread-controller to vibrate to one side and back to a perpendicular. In this movement the slack is made at the proper moment for the loop-former B and the shuttle E to act. It is also to be remarked concerning the thread-controller that while the needle-bar rises a quarter of an inch the pin is in the straight part of the slot, and does not, therefore, vibrate the thread-controller. During that time the loop is formed and then the motion begins by the pins passing through the curved slot. There is an eye upon the face-plate, through which the thread passes to the eye which is at the end of the thread-controller. It should also be observed that the flange shown on the bottom of the loop-former, Fig. 7, is to spread the threads apart, so that the shuttle will not ride the loop and thereby miss the stitch.

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

The construction and use of the loop-former for the purpose of parting the thread from the needle, so that the shuttle will be certain to enter, in the manner above described.

MILTON FINKLE.

Witnesses:

OWEN G. WARREN,
CHARLES E. FINKLE.