W. W. WADE.

Sewing Machine.

No. 22,833. Patented Feb. 1, 1859.

Fig. 5,

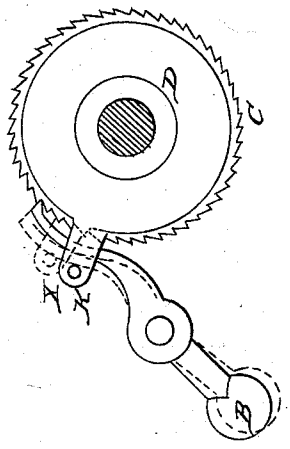


Fig. 1,

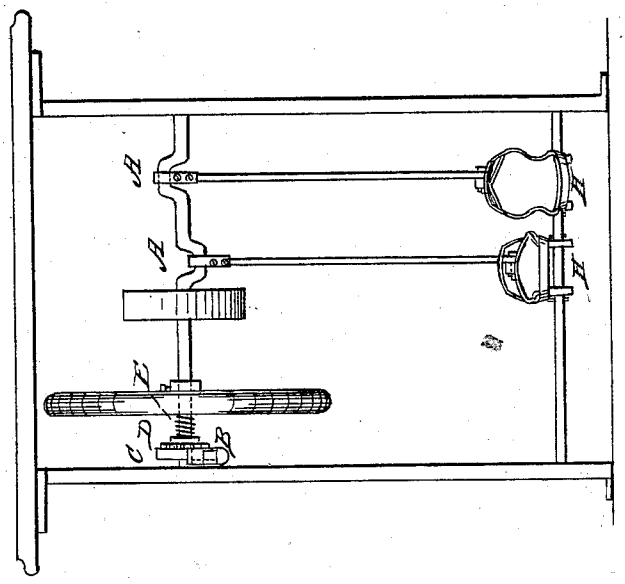


Fig. 4,

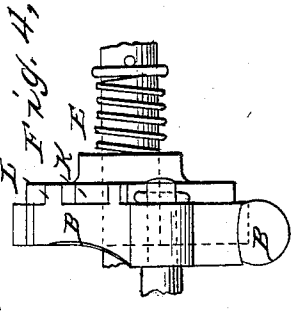


Fig. 3,

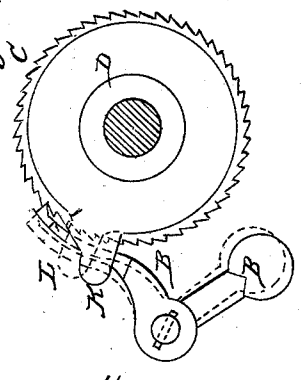
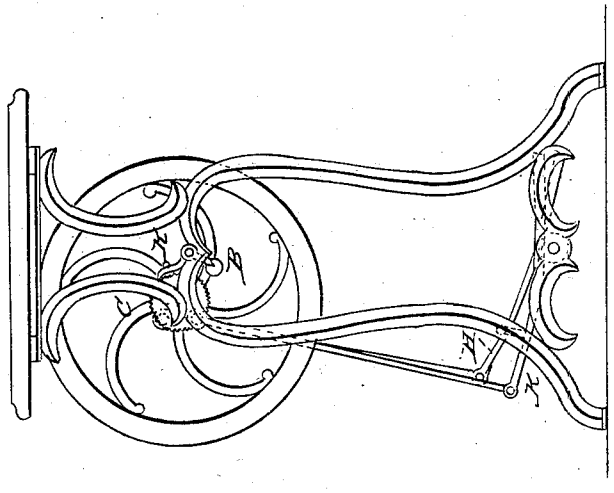


Fig. 2,



Witnesses:

A. L. Soule

C. C. Chaffee.

Inventor:

William M. Wade.

UNITED STATES PATENT OFFICE.

WM. W. WADE, OF LONG MEADOW, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **22,833**, dated February 1, 1859.

To all whom it may concern:

Be it known that I, WILLIAM W. WADE, of Long Meadow, in the county of Hampden and State of Massachusetts, have invented certain Improvements in Sewing-Machines; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists, first, in applying the motive power to the machine by two cranks working at right angles to each other, each crank being driven by one foot of the operator, so that the machine can be started at any point by the feet and kept in constant motion at whatever rate of speed may be desired; second, in providing one end of the shaft with a ratchet or corrugated wheel, into which works a pawl, preventing the machine from going backward at starting. When the machine is running this pawl is raised from the wheel by a friction-cam, or its equivalent, which elevates it enough to avoid the noise which would be caused by the end of the pawl striking the corrugated wheel when revolving.

To enable others to make and use my invention, I describe its construction more fully by reference to the accompanying drawings.

Figure 1 is a front elevation of the machine, showing the cranks A A, driven each by one foot of the operator at H H. B is the pawl. C is the ratchet or corrugated wheel. D is the friction-cam, which depends for its motion upon being pressed against the ratchet or corrugated wheel by a spring, as at E, or by some other device. If at starting the machine inclines to go backward, it is stopped by the pawl falling into the ratchet, and when the machine starts forward the pawl is lifted from the ratchet by the projection K, Figs. 3 and 4, coming in contact with the projection L, Fig. 4, of the pawl. When the machine starts backward the cam starts back with the corrugated wheel, the projection K of the cam leaves the pawl and allows it to drop into the ratchet and stop the machine. When the machine starts forward the cam starts with and moves with the corrugated wheel till projection K strikes projection L, lifting the pawl above the corrugated wheel, and the pawl and cam remain held, the one by the other, as long as the machine is in motion, while it is at rest, and till it attempts to start backward.

Fig. 2 is a side elevation of the machine.

Fig. 3 is the corrugated wheel with the pawl and ratchet.

Fig. 4 shows the pawl B B with the friction-cam, and a portion of the shaft with the spring E. Fig. 5 is the same with Fig. 3, except that it shows a pawl so balanced as to stand, when the machine is at rest, out from the ratchet, and when the machine starts backward the pin X in the cam presses down upon the back of the pawl, brings the end of the pawl into the ratchet and stops the machine. This is shown only as one of several modes in which the action of the pawl may be produced.

The pawl, ratchet, and cam may be applied to any other revolving part of the sewing-machine, and need not be applied, as in the above description, at the end of the shaft. I have applied them there as being the most convenient arrangement.

The value of my invention consists in preventing the machine from starting backward, and enabling the operator to start it at any point with his feet and without the aid of his hands, and to run it by his feet alone at as slow a speed as he chooses. The alternate or opposite motion of the feet renders the labor of driving the machine lighter, and the operator has both his hands at liberty to control and arrange his work. The ordinary machine is quite as likely to start backward as forward, and must be started by the hand in order to start correctly. When it starts backward it breaks the thread, loses a stitch, breaks the needle, or otherwise damages the work.

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

The application to sewing-machines of the ratchet or corrugated wheel and pawl, the pawl being kept in place by a friction-cam, or its equivalent, as above described, and the motion being communicated to the machine either by a double crank, as above described, or by a single crank or other appropriate means.

I do not claim a pawl and ratchet operated by a lever moved by the limb of the person using the machine.

WM. W. WADE.

Witnesses:

A. L. SOULE,

C. C. CHAFFEE.