

V. D. BEACH.

TREADLES FOR SEWING-MACHINES.

No. 176,580.

Patented April 25, 1876.

Fig. 1.

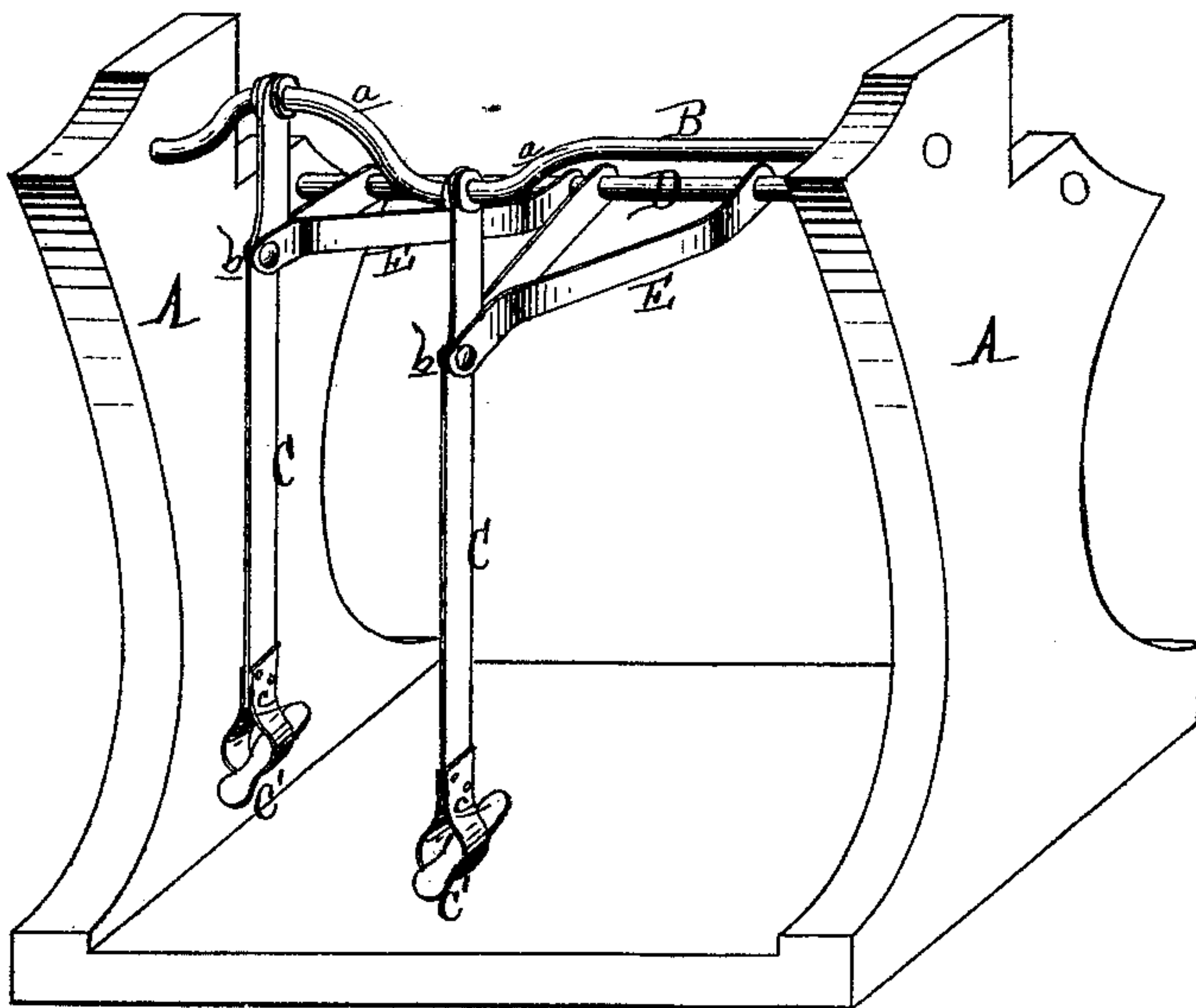
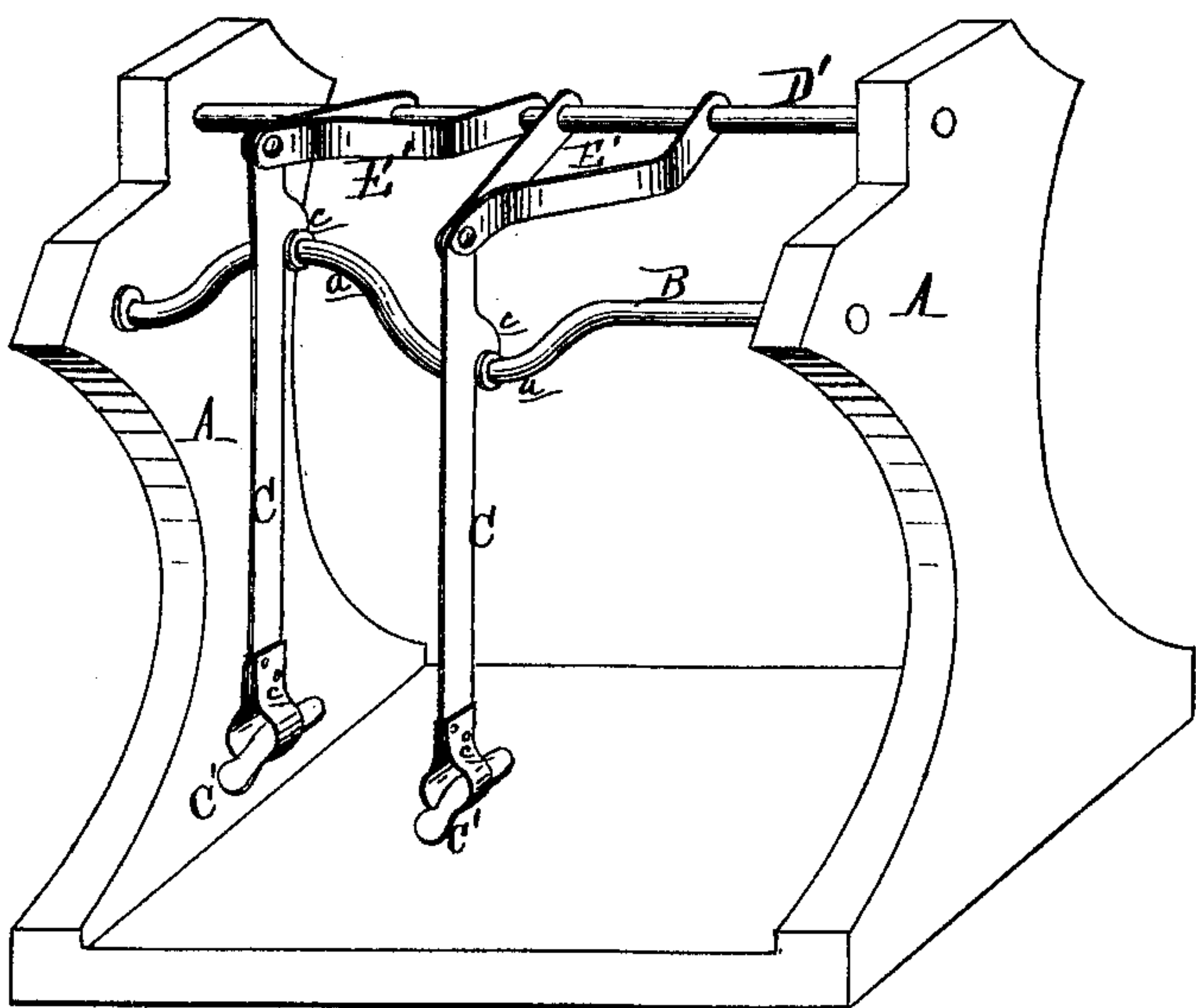


Fig. 2.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN TREADLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **176,580**, dated April 25, 1876; application filed October 9, 1875.

*To all whom it may concern:*

Be it known that I, VERTOT D. BEACH, of Battle Creek, in the county of Calhoun and State of Michigan, have invented an Improvement in Treadles for Sewing-Machines, of which the following is a specification:

My invention has for its object to provide a pair of treadles by means of which the driving-shaft of a sewing-machine may be rotated with great ease and comfort to the operator, whose feet move as in walking.

The invention consists in two treadles, hung to the driving-shaft of the machine, having a two-throw crank turned in it, and each treadle pivoted to a vibrating fulcrum, either above or below the driving-shaft, according to whether the latter is to be rotated to or from the operator.

Figure 1 is a perspective view, showing the treadles arranged to rotate the shaft toward the operator. Fig. 2 is a similar view, showing the treadles arranged to operate the shaft in the opposite direction.

In the drawing, A represents the stand of a sewing-machine, across which is journaled the driving-shaft B, in which two cranks, *a*, are bent, their throws being opposite each other.

If the shaft B is to rotate toward the operator, I strap the upper ends of two treadles, C C, to the cranks, as seen in Fig. 1. Below and beyond the shaft B I place a counter-shaft, D, transversely in the standard, on which to mount two radius-levers, E, each of which is made double to prevent swaying of the treadle laterally. The treadle is pivoted to or between the ends of each radius-bar at *b*.

Pendent from the lower end of each treadle is a pedal, *c'*, rigidly secured thereto by an open stirrup, *c*.

By pivoting the treadles to the vibrating fulcrum, the pedals, in operating the machine,

will move in, or describe ellipses alternately, precisely as in walking, so that the machine can be driven by an easy and natural motion of the lower limbs, and with the least fatigue to the operator.

Where the driving-shaft requires to be rotated away from the operator, I place the counter-shaft D' above and behind driving-shaft, and sleeve on it the radius-bars E', to whose ends I pivot the treadles, as seen in Fig. 2. The treadles are engaged with the cranks of the shaft B by hooks *c*, forged on the back edges of the latter, the foot motion being the same in both cases.

In operating a sewing-machine with the ordinary treadle and pitman it is found in practice that the operator experiences less fatigue if she sits on a seat that is inclined slightly forward.

In operating a machine fitted with these treadles the seat may be inclined slightly backward, so as to support the body and limbs, as less movement of the upper half of the limb is required.

The machine can be started from any position, and in the right direction, by the natural motion of the feet, while it can, if necessary, be reversed.

These treadles can be in like manner applied to organs, small lathes, and other instruments that are operated by foot-power.

What I claim as my invention is—

The combination, with a double-cranked driving-shaft, of two treadles, each of which is pivoted to a vibrating fulcrum, and to one of the cranks, substantially as shown and set forth.

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Witnesses:

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