M. M. Barnes,

Treadle.

No. 51,541. Patented Dec. 19, 1865.

Fig: 2.

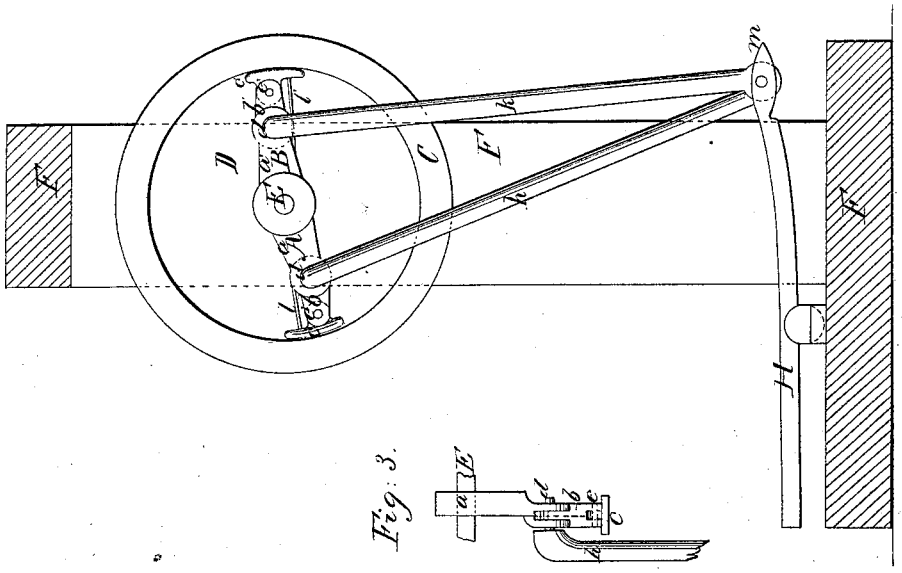
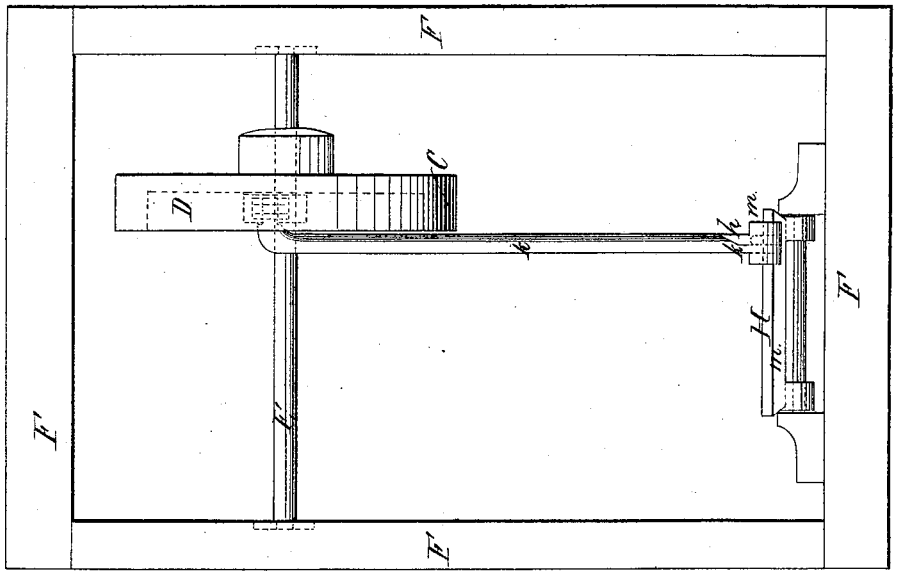


Fig: 3.

Fig: 1.



Witnesses;
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W. D. Stevens.

Inventor;
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UNITED STATES PATENT OFFICE.

MERRICK M. BARNES, OF EAST HAMPTON, MASSACHUSETTS.

IMPROVED TREADLE-MOTION FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **51,541**, dated December 19, 1865.

To all whom it may concern:

Be it known that I, MERRICK M. BARNES, of East Hampton, Hampshire county, Commonwealth of Massachusetts, have invented a new and Improved Treadle-Motion; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to letters of reference marked thereon.

In the drawings, Figure 1 is a front view; Fig. 2, a vertical section. Fig. 3 is a detail view of the arm A.

This invention consists of a new arrangement of a treadle in connection with a revolving shaft, for the purpose of turning the same, in the manner hereinafter described.

Its construction I will first describe.

I attach a rim, C, to a fly-wheel, D, hung on the shaft E in a suitable frame, F. Inside of this rim C, I arrange two arms, A B, constructed in every respect alike, and differing only in their application to the shaft and treadle.

I will now describe the construction of the arm A, which description will apply alike to the arm B. It consists of three parts, *a b c*, connected together by the joints *d e*. The part *a* is connected to the shaft, and is jointed to the part *b* at *d*. The part *b* is attached to *a* at *d*, and to *c* by means of the joint *e*. The part *c* is attached to the part *b* at *e*, and spreads out into a foot at the other end, which fits inside of the rim C. On the back of this arm I place the spring *l*, fastened to the part *a* and pressing against the part *c*. Connected to these arms A and B, at *d*, are the two rods *h* and *k*, which at the other end are connected to the treadle H.

I will now describe the operation of my invention.

We will suppose the end M of the treadle H to be moving upward. This will cause the rod *h* to straighten out the arm A, so that the foot *c* presses against the rim C, thus forcing the wheel around in the direction of the arrow. The treadle being moved in an opposite direction, so as to pull the rod *h* downward, this rod acts on the arm A in a manner contrary to one just described, and bends it at the joint *d*, so that it is shortened, and the foot *c* is relieved from contact with the rim of the wheel. The rod *k* acts on the arm B in a similar manner, only it is so placed that the motion of the treadle, which straightens the arm A, bends the arm B, and vice versa, so that each motion of the end *m* of the treadle, either up or down, acts directly to turn the wheel in the direction of the arrow.

The springs *l l'* keep the foot *c c'* in contact with the rim C, so that they may act promptly when operated by the rods *h k*.

Some of the peculiarities of this invention, which render it advantageous in some situations, are—

First, it has no "dead-point," like a crank, and consequently is always ready to start.

Second, from the peculiar arrangement of the parts it can be turned only in one direction, thus adapting it to sewing-machines, &c.

Third, it can be operated with any length of stroke by a small movement of the treadle as well as a greater, thus adapting it to different persons, as, for instance, in a sewing-machine many persons, particularly children, have great difficulty in acquiring and keeping the length of stroke required by the crank, thus making the operation of running the machine very tiresome.

Although this invention is represented in the drawings and has been before described as a treadle-motion, I do not wish to confine myself entirely to this arrangement, but can attach any other moving power, as, for instance, the piston of a steam-engine, and in fact this invention can be applied in nearly any situation where a crank is now used.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the wheel D, arms A B, rods *h k*, and a treadle or other motive power when arranged and operating in the manner and for the purpose herein set forth.

MERRICK M. BARNES.

Witnesses:

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