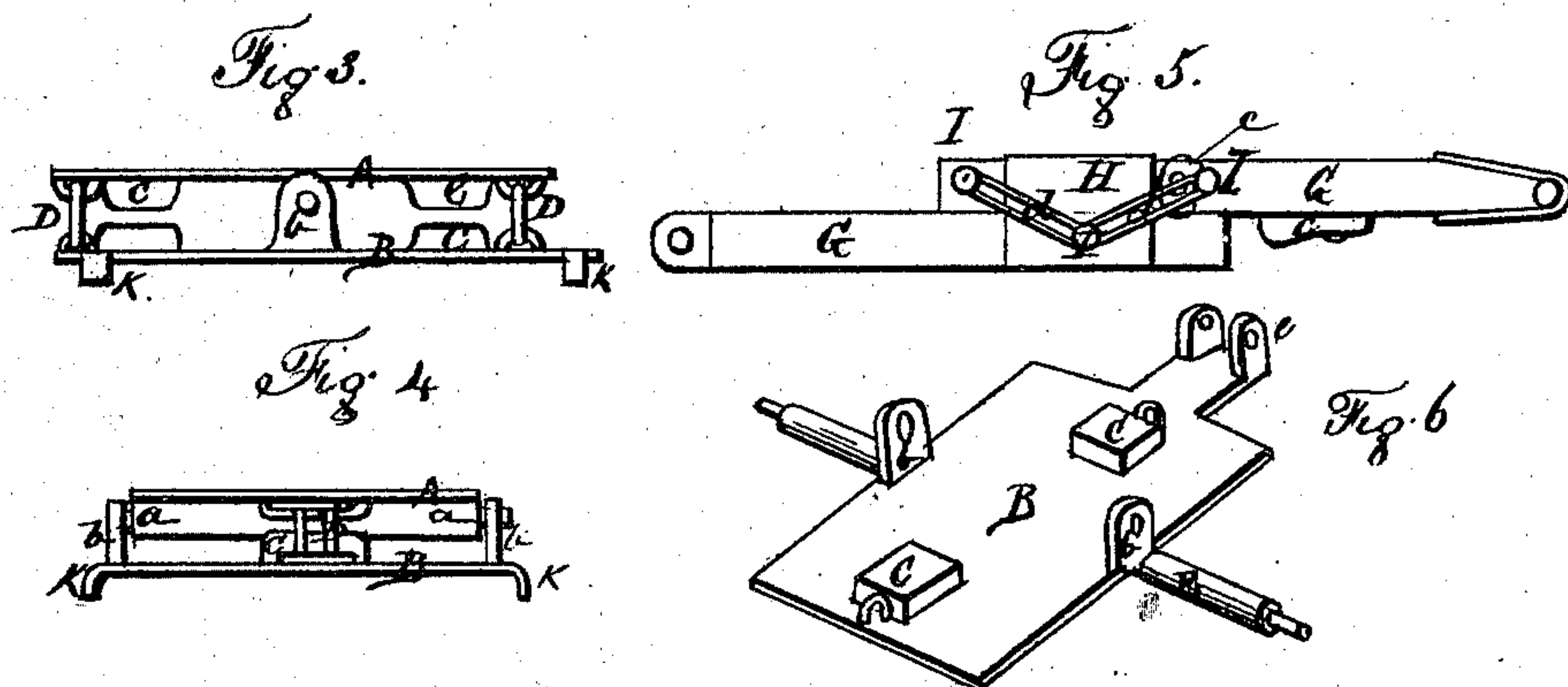
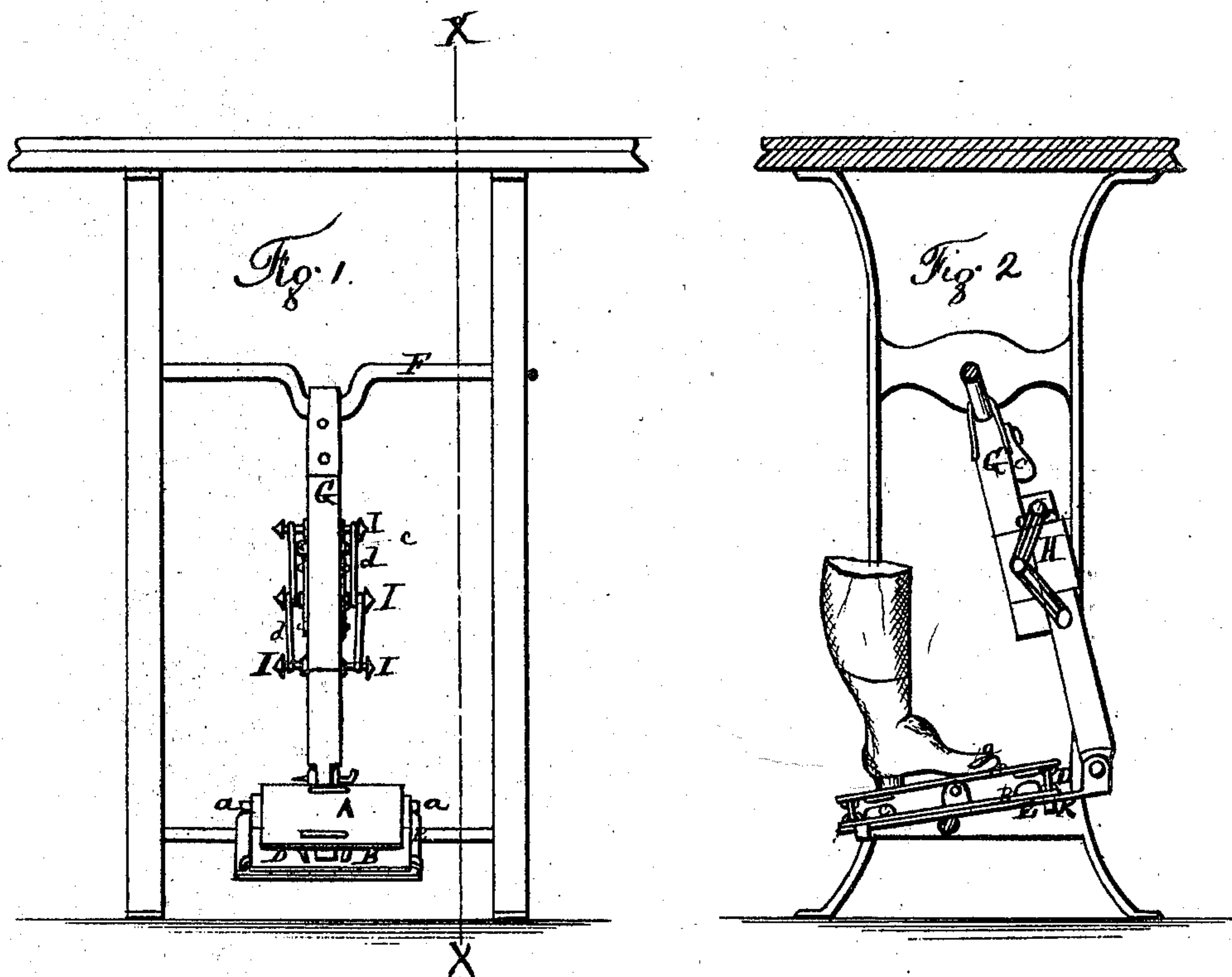


B.C. Pole,

Treadle.

No. 107,717.

Patented Sep. 27. 1870.



Witnesses
Thomas Chase
Thomas C. Connolly

Inventor.
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By

United States Patent Office.

BENJAMIN CHARLES POLE, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 107,717, dated September 27, 1870.

IMPROVEMENT IN TREADLES FOR SEWING AND OTHER MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, BENJAMIN CHARLES POLE, of the city of Washington, District of Columbia, have invented a new and useful Improvement in Sewing and other Machines, for the purpose of doing away with all direct concussion and vibration consequent upon operating sewing and other machines by treadles; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, in which—

Figure 1 is a side view of a machine with my improvement attached.

Figure 2 is a side view on line *x x*.

Figure 3 is a side view of the vibrating elastic treadle.

Figure 4 is an edge view on end of the vibrating elastic treadle.

Figure 5 is an elastic connecting-rod.

Figure 6 is an isometrical view of the under plate of the vibrating elastic treadle.

In all, the same letters refer to the same parts.

A represents the upper vibrating plate for foot of operator.

a a represent the pivots for upper vibrating plate.

B represents the bed-plate carrying upper vibrating plate.

b b represent ears on bed-plate B.

C represents elastic stops on bed-plate B.

c c represent elastic stops on connecting-rod.

D represents elastic connection between bed-plate B and upper vibrating plate A.

d d represent elastic connection on connecting-rod G.

E represents ordinary treadle of machine and shaft.

F represents crank.

G represents elastic connecting-rod.

H represents straps for elastic connecting-rod.

I represents pins, holding elastic connection *d d* on connecting-rod G.

K represents small ears, to connect bed-plate B with ordinary treadle E.

The nature of my invention consists in providing or adjusting a vibrating elastic treadle and connecting-rod to treadle-worked machines, in order that the shocks and vibrations consequent upon operating the treadles may be done away with, thereby relieving the operator of all injurious effects therefrom.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct of suitable material the plate A, which is provided with the small projecting pivots *a a*, as vibrating points, in ears *b b* provided to receive the same.

Beneath the plate A are suitable fastenings for the purpose of holding springs or elastics D, whose tension shall be brought to a uniform regular strain, this holding the plate A parallel to that which carries the ears *b b*.

I construct the bed-plate B, with its attachments for holding the springs or elastics, as in plate A. These, upon the upper side of B, between the parallels of the plates A and B, are the elastic stops C, placed at distances apart so as to allow the plate A to be pressed down and use the elastic tension of the spring D. The one opposite the direction of that which receives the strain is compressed, the elastic stops receiving the whole, full strain. If the tension in the springs D should not be sufficiently strong, small catches or ears, K, are provided.

To enable this vibrating foot-treadle to be adjusted to the ordinary one now in use, the lower plate B can be constructed so as to carry the shaft E and connection *c c* for the connecting-rod, and not require the ordinary treadle, this said plate B and attachment answering in its place.

I now proceed to construct the connecting-rod G, and make, of suitable size and material, two lengths, one being provided with a fixed head or strap, H, through which the other section can work.

Attached to the fast section and head or strap H is the center pin I', and from this are two elastic or spring connections, *d d*.

On the moving section of G are two other pins, I, from which the elastics or springs *d d* are carried to the center pin I', this allowing the sliding section of G to move, but with spring resistance from either direction.

Stops *c c*, of an elastic nature, are provided over either end of the connecting-rod G, to prevent too great a thrust.

The connecting-rod is connected to ordinary treadle E, and to the crank F, forming an elastic medium between the crank F and foot of operator on the vibrating elastic plate A.

The motion of the foot of the operator is increased, so far as the revolution of the crank is concerned, but, that the power may be the same, the stops C and c, of an elastic nature, are provided.

The whole increase of the motion of the foot is about one-fourth more than on the ordinary crank.

The whole can be suitably ornamented, and one or both can be used at pleasure.

I do not claim any particular material or spring.

Having thus described the construction and operation of my improvement,

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

1. The vibrating elastic treadle A, and springs D, stops C C, pivots *a a*, with its bed-plate B, ears

b b, springs *D D*, stops *O O*, and attachments *K*, all combined and operating substantially as and for the purposes described.

2. The elastic connecting-rod *G*, the pins *I*, the fixed head or strap *H*, the elastic spring *d d*, and stops *c c*, all combined and operating substantially as and for the purposes described.

3. The bed-plate *B*, with the rotating shaft *E*, and attachment for the connecting-rod *G*, the stops *O O*, springs *D D*, and ears *b b* to receive pivot, forming

the lower plate, all combined and operating substantially for the purpose described.

4. The whole combination between the rotating shaft *E* and crank *F*, operating substantially as and for the purposes described.

BENJAMIN CHARLES POLE.

Witnesses:

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