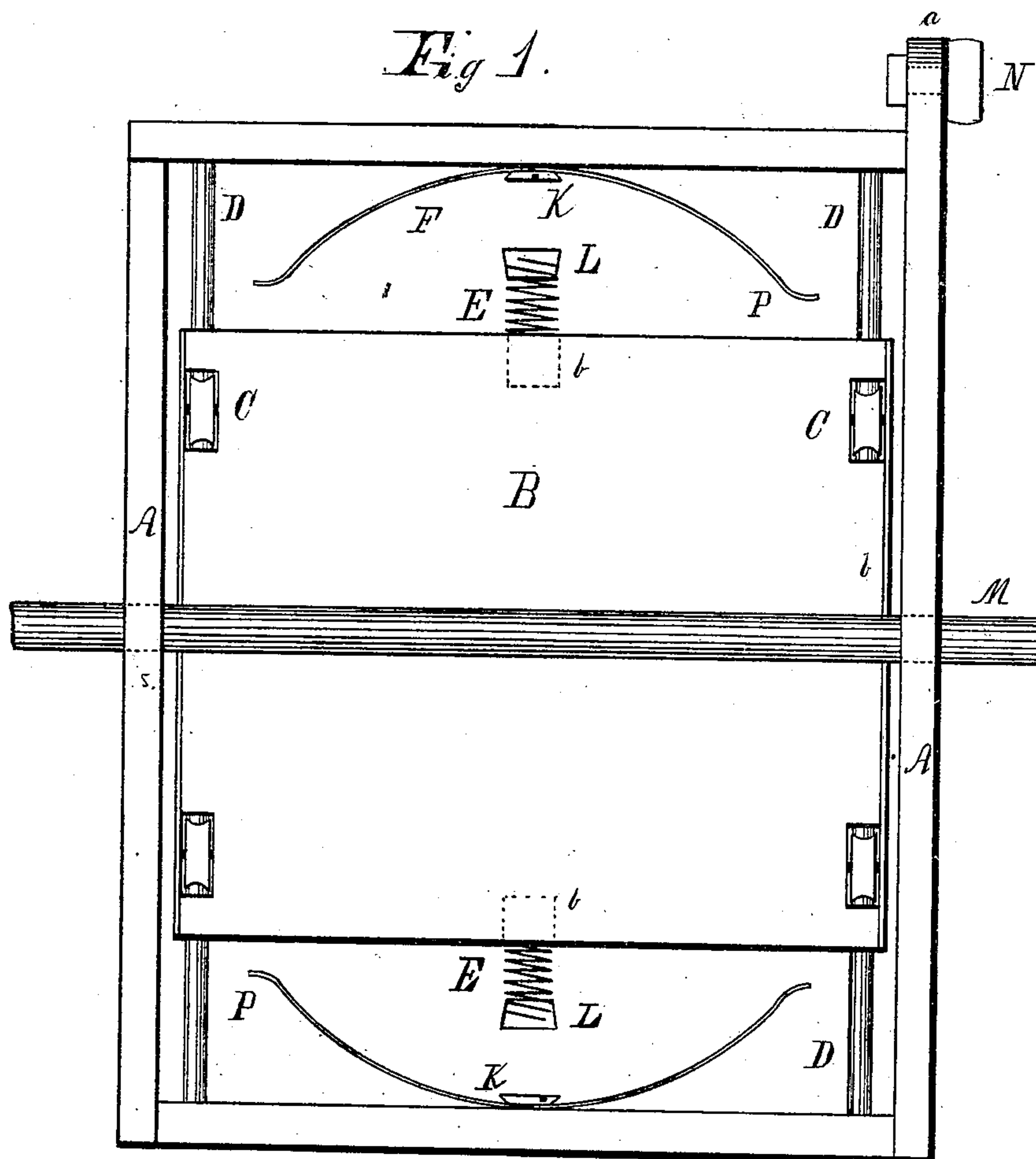


2 Sheets—Sheet 1.

# MECHANICAL MOTOR.

Patented Jan. 16, 1883.



Witnesses:  
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Edward Ratzky

Inventors:  
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David L. McKittrick, Jr.  
by F. D. Swett,  
Attorney.

(No Model.)

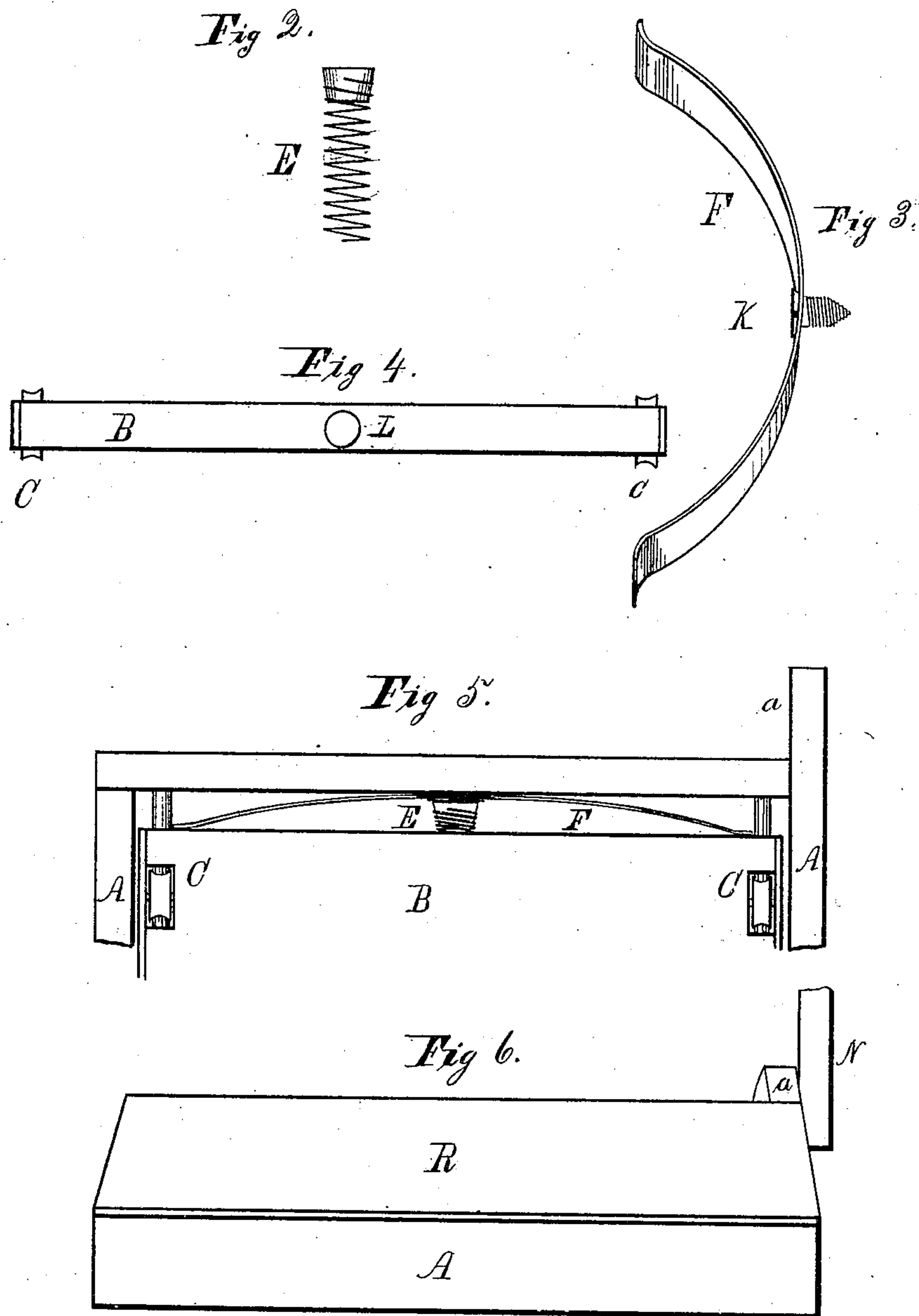
2 Sheets—Sheet 2.

R. M. ODELL & D. L. MCKITRICK, Sr.

MECHANICAL MOTOR.

No. 270,688.

Patented Jan. 16, 1883.



Witnesses:

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# UNITED STATES PATENT OFFICE.

RISDON M. ODELL AND DAVID L. MCKITRICK, SR., OF BATON ROUGE, LA.

## MECHANICAL MOTOR.

SPECIFICATION forming part of Letters Patent No. 270,688, dated January 16, 1883.

Application filed October 28, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, RISDON M. ODELL and DAVID L. MCKITRICK, Sr., citizens of the United States, residing at Baton Rouge, in the parish of East Baton Rouge and State of Louisiana, have invented certain new and useful Improvements in Mechanical Motors; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in the driving-power of machinery, and is designed to be used as an auxiliary to the power already employed. It is especially applicable to machines driven by foot-power, and of these particularly to the sewing-machine.

In connection with sewing-machines we prefer to combine our improvement with the treadle of the machine, and while we do not confine ourselves to this particular application of our improvement, nor to this manner of applying or combining the principles of the invention, yet we have preferred in this specification to exhibit this specific application of it. When used with sewing machines, then, we attach to the under side of the ordinary treadle, which should be set high enough from the floor to admit it, a shallow box or frame about the length and breadth of the treadle. The foot-piece of the treadle serves as a cover to the frame, and a bottom may be used or not. This frame is of wood or any desired material, but is preferably made of cast metal and ornamented. Within this frame is a movable weight, which oscillates forward and backward with a movement corresponding in frequency to the strokes of the pitman, gliding upon the inclined plane formed by the alternate elevation and depression of the ends of the treadle. The weight is borne upon small grooved wheels running upon tracks provided for them. Suitable springs of any desired shape are attached to the ends of the weight, or the opposite ends of the inside of the frame, or both, and are so placed as to ease the force of the stroke of the weight against the frame, and also at the proper time to throw the weight back toward the opposite end of the frame. Now, since the machine is worked by pressure alternately applied to the ends of the treadle, upon opposite

sides of its middle support or fulcrum, it is evident that this weight, which is adjusted to apply its gravity and impetus to these parts of the treadle in precisely this manner, will add to the working-power exactly in proportion to these forces. Moreover, as the tendency of this weight is to perfect regularity in its motion, its actuating-power is also uniform, so that in this respect its effect is similar to a large balance-wheel, driving the machine steadily on against varying resistance.

The better to understand the nature of our invention, reference is made to the accompanying drawings, which form a part of this application, in which—

Figure 1 represents a plan view of our improved treadle-motor, the cover or foot-piece being removed. Fig. 2 is an enlarged vertical view of the buffer-spring. Fig. 3 represents the curved spring in perspective. Fig. 4 is a plan view of an end of the treadle lowered as in use and the weight against the spring. Fig. 5 is a vertical end view of the movable weight and Fig. 6 is a vertical end view of the treadle-frame covered by the foot-piece.

Similar letters refer to corresponding parts throughout the several views.

In Fig. 1, the letters A A indicate the frame or box of the treadle. At the lower part of this frame we extend from front to back the parallel tracks D D, arched to fit the grooves in the peripheries of the wheels C C, and firmly attached to the frame A. The wheels C C are properly attached to the weight B, and bear it to and fro upon the tracks D D. The weight B is furnished with recesses at either end to receive and hold the buffers E E. These recesses are indicated by dotted lines and the letters b b. The curved springs F F are secured at their central convex sides to the inside of the frame by bolts or screws K K, so as to receive the weight B upon their ends P P. The buffers, composed of spiral springs E and having rubber heads L, work against the screw or bolt heads K K.

M is the support or fulcrum upon which the treadle works. The drawings show M to be above the weight B and the other parts of the motor; but this arrangement may be reversed. In some instances the motor seems most effective when placed above the fulcrum. We



extend one side of the frame A to connection  
a with the pitman N. This connection may be  
made with any part of the treadle as well.

In operating this treadle, on depressing the  
5 toe or connected end of it the weight B on its  
wheels C C moves down the inclined tracks D  
D, striking the spring F and driving the buffer-  
head L against the bolt-head K. The springs  
F and E yield until the table takes the posi-  
10 tion indicated in Fig. 5, when it is thrown  
back by the reaction of the said springs, and  
the parts are so adjusted that this is done just  
before the toe-point rises. As the weight re-  
bounds the toe rises and the heel of the treadle  
15 sinks. The weight rolls down the incline thus  
made to the heel-point, where it is acted upon  
in a similar manner by the springs placed  
there, and is forced again toward the toe-point  
just as that end sinks again, and this oscillatory  
20 movement continues while the treadle is in  
motion. As the weight falls to either end of  
the treadle, it has the effect to force it down  
more quickly by its weight and momentum,  
and, having accomplished this, is thrown back  
25 by the springs. The weight B is thus made  
to deliver its force upon the sinking end of the  
treadle, and receives its impulse to return at

the instant when the treadle is motionless,  
taking little or nothing from the tendency of the  
treadle to rise from the impetus of the ma- 30  
chine with which it is connected.

What we claim as our invention, and desire to  
secure by Letters Patent, is—

1. An auxiliary mechanical motor for foot-  
power, consisting of the combination, with the 35  
treadle, of a suitable frame, a movable weight  
furnished with buffers, springs properly placed  
within the said frame to act upon the said  
weight, and a trackway and wheels for bear-  
ing said weight, substantially as set forth. 40

2. In a treadle-motor, the combination of the  
frame A, foot-piece R, weight B, buffers E  
E, with heads L L, wheels C C, tracks D D, re-  
cesses b b, and springs F F, all arranged sub-  
stantially in the manner and for the purposes 45  
herein set forth.

In testimony whereof we affix our signatures  
in presence of two witnesses.

RISDON M. ODELL.

DAVID L. MCKITRICK, SR.

Witnesses:

JOHN JASTRENNKI,

SAMUEL G. LAYCOCK, Jr.