

J. B. HOWELL.

Improvement in Spring Motive-Power.

No. 131,614.

Patented Sep. 24, 1872.

Fig. 1

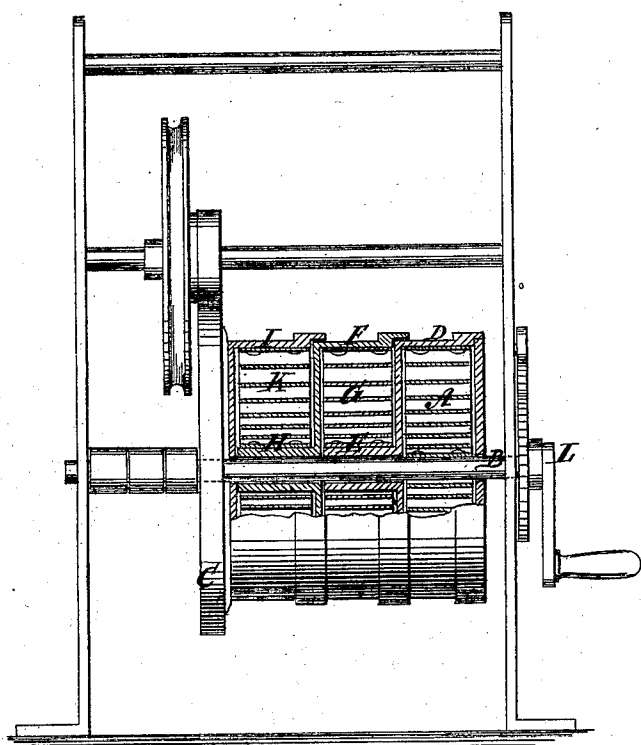
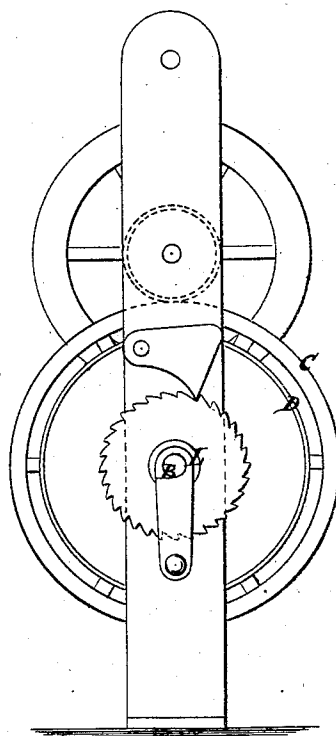


Fig. 2



Witnesses:

E. Woff
C. Sedgwick

Inventor:

J. B. Howell
PER *Munnell*
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN B. HOWELL, OF WILKESBARRE, PENNSYLVANIA.

IMPROVEMENT IN SPRING MOTIVE-POWERS.

Specification forming part of Letters Patent No. 131,614, dated September 24, 1872.

To all whom it may concern:

Be it known that I, JOHN BEATTY HOWELL, of Wilkesbarre, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Spring Motive-Power, of which the following is a specification:

My invention consists of a series of coiled springs and cases or drums therefor, arranged side by side on a shaft, and combined together and with the winding-up mechanism and transmitting mechanism in such manner as to constitute in effect one spring of great length but in separate coils, which gives much better results in practice than a single spring of the same length in a single coil will.

Figure 1 is partly a front elevation and partly a sectional elevation of my improved power apparatus, and Fig. 2 is a side elevation.

Similar letters of reference indicate corresponding parts.

The first spring, A, is attached at the inner end of the coil to the winding-up shaft B, which also serves for mounting the spring-drums or cases and the transmitting-wheel C. At the outer end of said coil this spring A is attached to the hollow drum or case D mounted loosely on the shaft. This drum has a central hub, E, extending along the shaft B within the second drum F, and the spring G in said drum is attached to said hub at its inner end, the outer end being attached to the drum F. This drum F also has a hub, H, extending into drum I, and the spring K therein is attached

to it and to the drum as the others are. This arrangement may be extended with as many springs and drums as required, but in this example the drum I is attached to the transmitting-wheel C. All the springs will be wound up by the crank L one after another, beginning with the first one, A, and they will all act together in like manner in transmitting the power, beginning with K. A friction-brake of any approved kind will be used in connection with any of the transmitting-wheels for controlling the speed of the parts set in motion by the springs. This arrangement is believed to be better than one spring as long as the aggregate length of the series here used, because in practice coiled springs are found not to work well, if so long as to require to be coiled many times round to get the tension and the full sweep.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A spring motive-power, consisting of the series of drums D F I, hubs E H, and a series of springs, A G K, combined and arranged with shaft B, as described, so that each spring will be wound up by the said shaft B, and caused to give out its tension successively.

JOHN BEATTY HOWELL.

Witnesses:

V. C. CAMPBELL,
JOHN P. IJAMS.