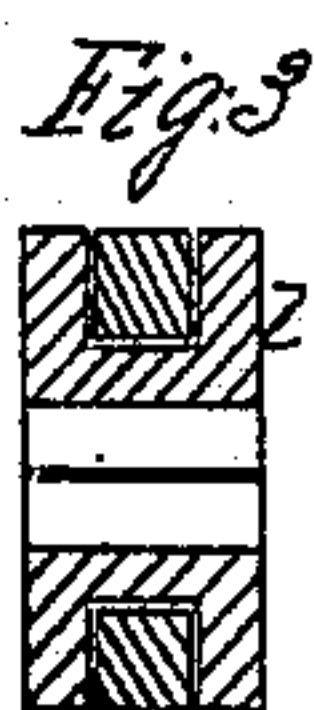
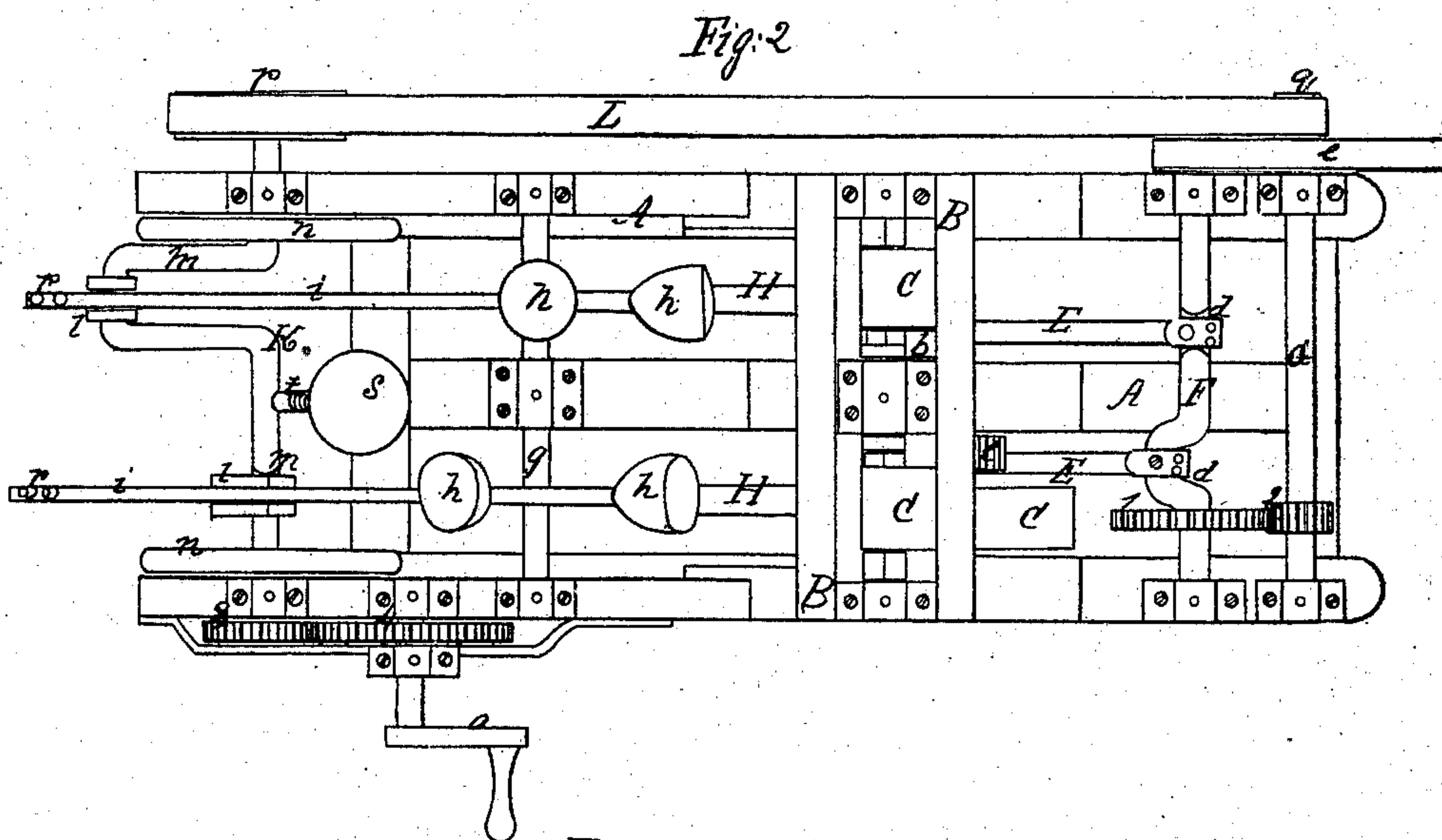
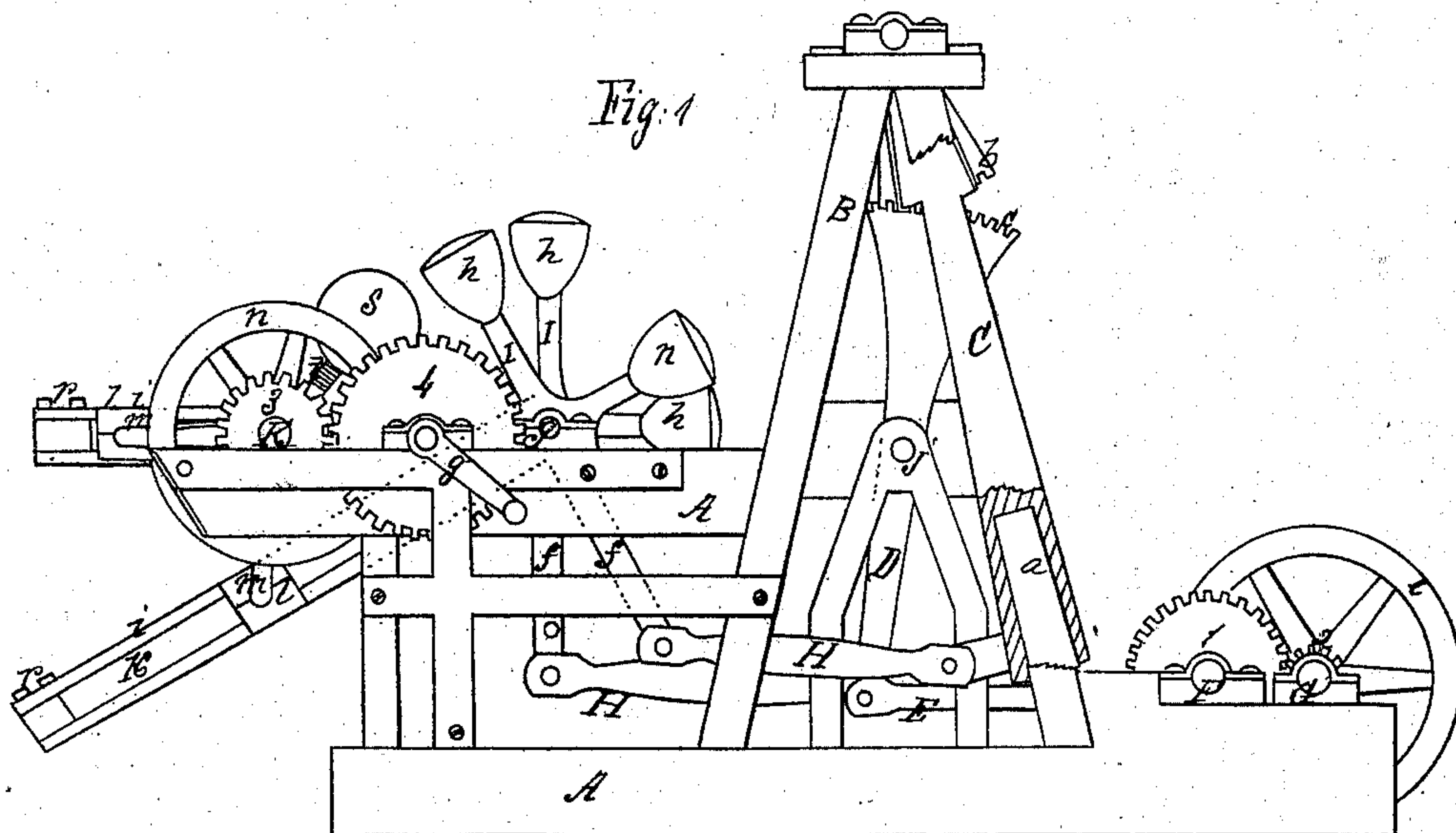


N. Tripp.

Vibrating-Lever Power.

Nº 74732

Patented Feb. 18, 1868.



Witnesses

J. R. Doull
Geo. H. Matt

Inventor

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United States Patent Office.

NICHOLAS TRIPP, OF NIAGARA FALLS, NEW YORK.

Letters Patent No. 74,732, dated February 18, 1868.

IMPROVEMENT IN VIBRATING-LEVER POWER.

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, NICHOLAS TRIPP, of Niagara Falls, in the county of Niagara, and State of New York, have invented a certain new and useful Improvement in Vibrating-Lever Power; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a side elevation.

Figure 2, a plan.

Figure 3, a section of one of the sliding boxes of the cranks.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists in a vibrating self-acting lever-power, having duplicate sets of weighted pendulum-levers, fly-balls, cranks, &c., combined together to act upon a single shaft, from which the augmented power is transferred to any machinery to be driven.

In the drawings, A indicates any suitable framework for supporting the working parts. From a central tower, B, of this frame, are hung two pendulum-levers, C C, which are weighted at their lower ends by any heavy metal, such as iron, as shown at *a*, by which means, as they are swung, a power is transmitted to the connecting parts. With the pendulum-levers are connected cog-segments *b b*, to swing with them, and with these cog-segments gear similar segments, *c c*, forming part of double-acting levers, D D. The levers D D are pivoted at *j*, fig. 1, and to their lower ends are joined connecting-rods E E, which extend to double cranks, *d d*, of a shaft, F. Gears 1 2 connect said shaft with another shaft, G, from which the power is transferred by pulley *e*, or any suitable gear. Connecting-rods H H, fig. 1, connect the lower ends of pendulum-levers C C, with the arms *f f* of fly-plates I I. These fly-plates turn on an axis, *g*, and have balls, *h h*, projecting, as shown; and also arms *i i*, extending backward, with slots *k k* therein. In the slots rest boxes *l l*, which connect with double cranks, *m m*, of a shaft, K. Said shaft has, preferably, two fly-wheels, *n n*, and is driven by gears 3 4, with crank *o*, or in some equivalent manner. A band, L, connects a pulley, *p*, on shaft K, with pulley *q* on shaft G. The boxes *l l* are usually made in two parts, which enables them to be easily inserted in or removed from the slots *k k*. If desired, also, the arms *i i* may be so constructed as to be separated or to be opened for the insertion and removal of the boxes, as shown at *r*. A ball, *s*, is attached at the end of a screw-bolt, *t*, connected with shaft K. This ball may be adjusted out or in at pleasure, to vary its power upon the shaft. Thus arranged, it will be seen that the whole apparatus is so constructed and combined as to act in unity upon the shaft G, from which the power is transferred. Both sets of the pendulum-levers C and fly-balls *h* are connected with the one driving-shaft, K, and the one receiving-shaft, F; and the shafts K and G are likewise connected by band L. Therefore, the power is economized by this unity of action in the best manner to be applied at one point.

It will be noticed that the pendulum-lever and the fly-balls are so relatively arranged in each set as to act in unison; that is, when the said pendulum-lever falls from the extreme of the stroke, the said balls act with it in meeting the resistance to be overcome. Also, the two sets of those respective parts act relatively with each other to secure the above-named result. Thus, there is secured an equality and uniformity of action which is very effective in applying power, and which has the effect to increase the power at one end and lessen the application at the other. This uniformity is much better effected than in the application of ordinary balance-wheels for the purpose. The levers C are self-acting in falling from the extremes.

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

The duplicate sets of pendulum-levers C C, weighted at *a*, the duplicate fly-plates I I, armed with balls *h h*, and connected by arms *i i* and boxes *l l* with the double crank-shaft K, the adjusting-ball *s*, and the double-acting levers D D, receiving motion by cog-segments *b c*, and transmitting motion to the one crank-shaft, F, the whole constructed and arranged as described, and operating in the manner and for the purpose herein set forth.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

NICHOLAS TRIPP.

Witnesses:

H. C. YOUNG,

J. R. DRAKE,