

(No Model.)

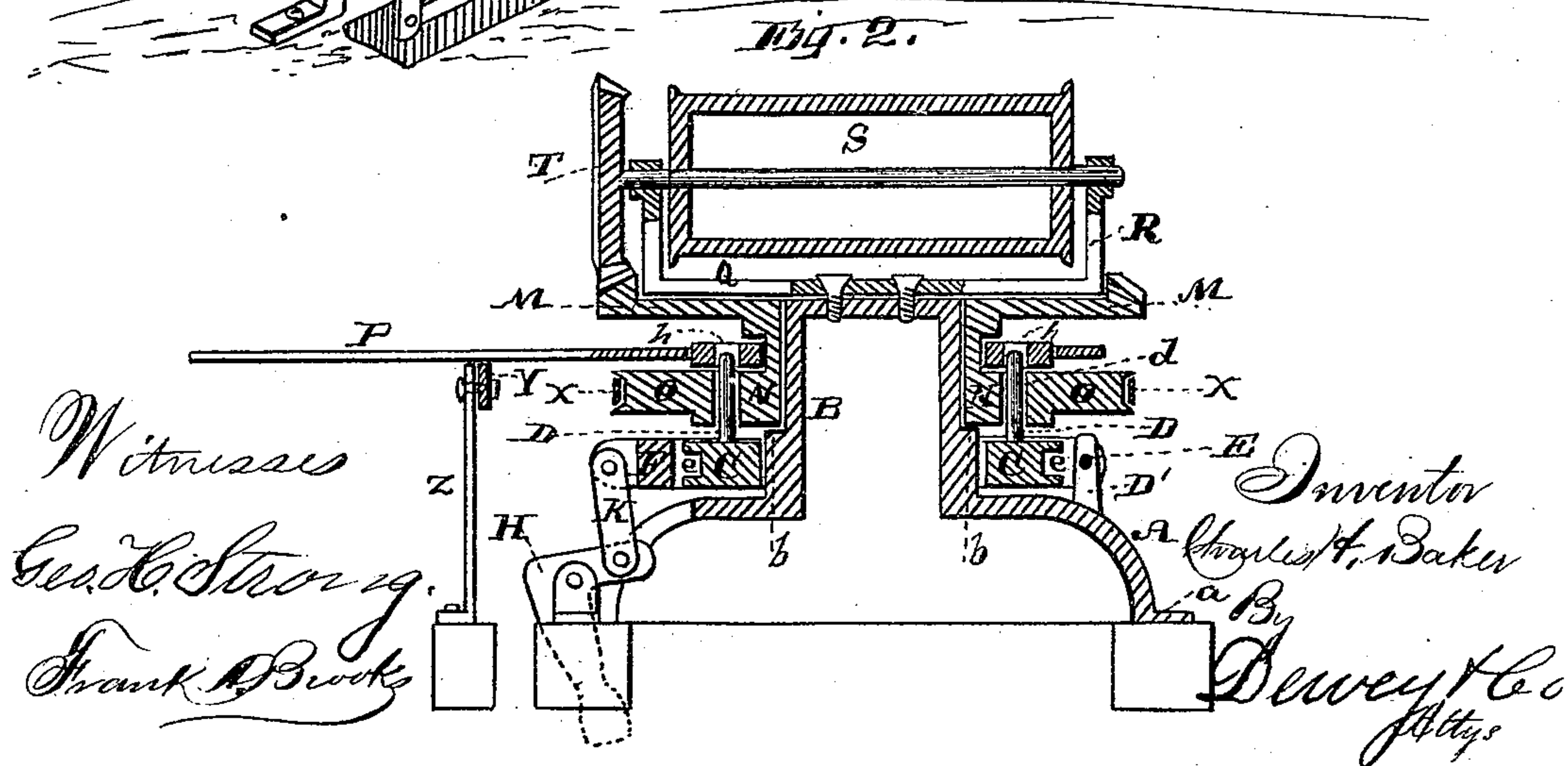
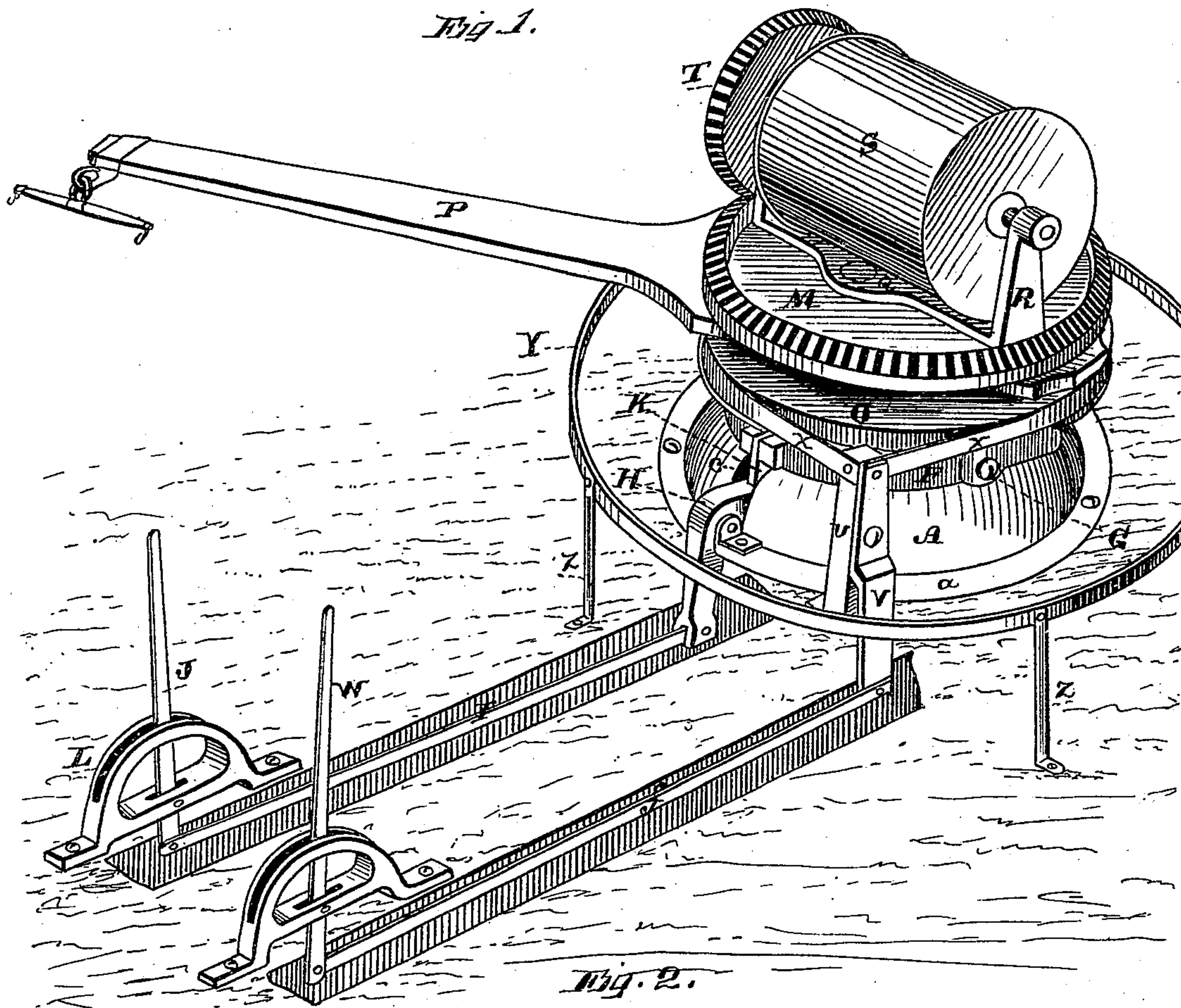
2 Sheets—Sheet 1.

C. H. BAKER.

HORSE POWER.

No. 248,906.

Patented Nov. 1, 1881.



(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

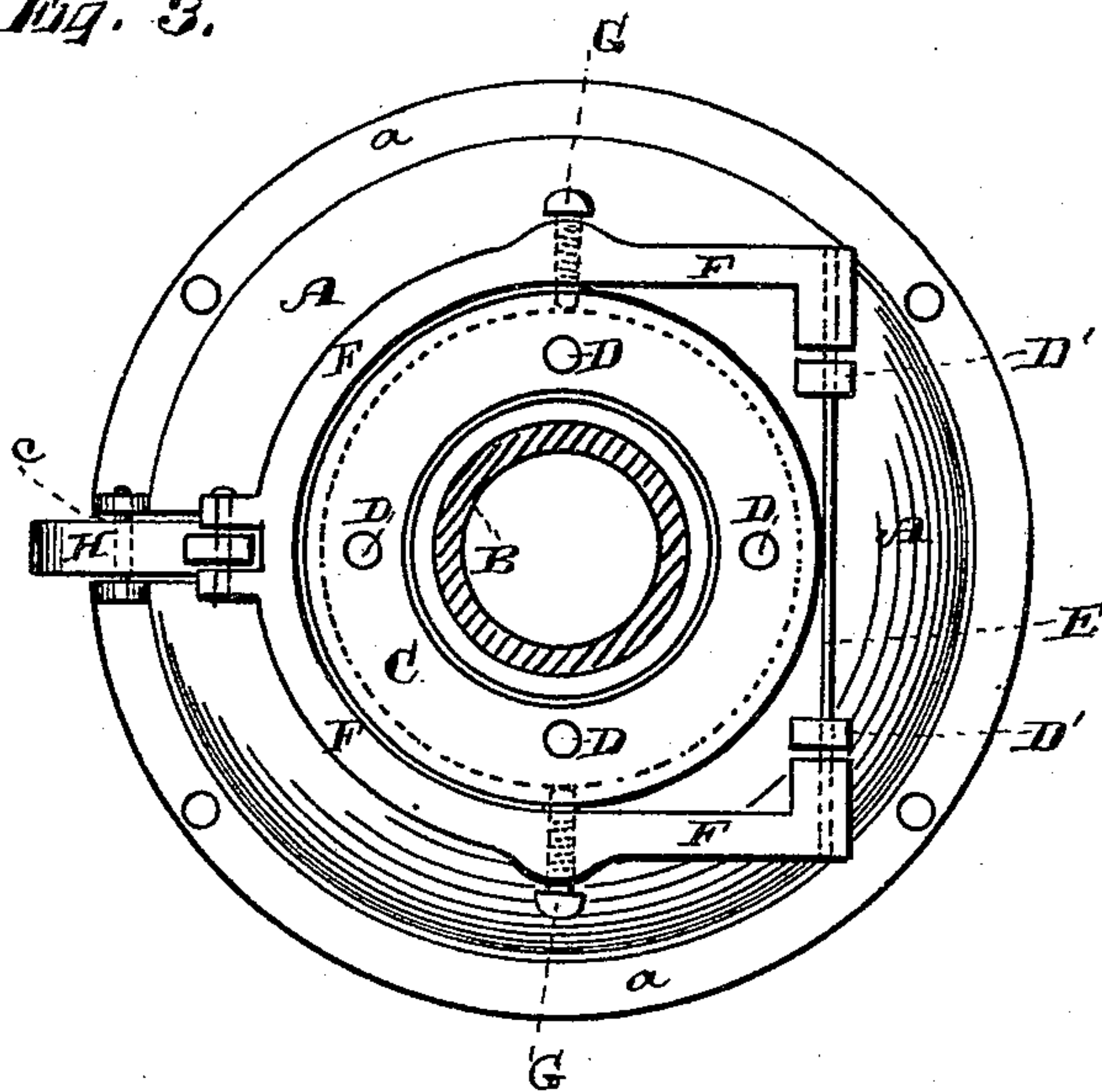
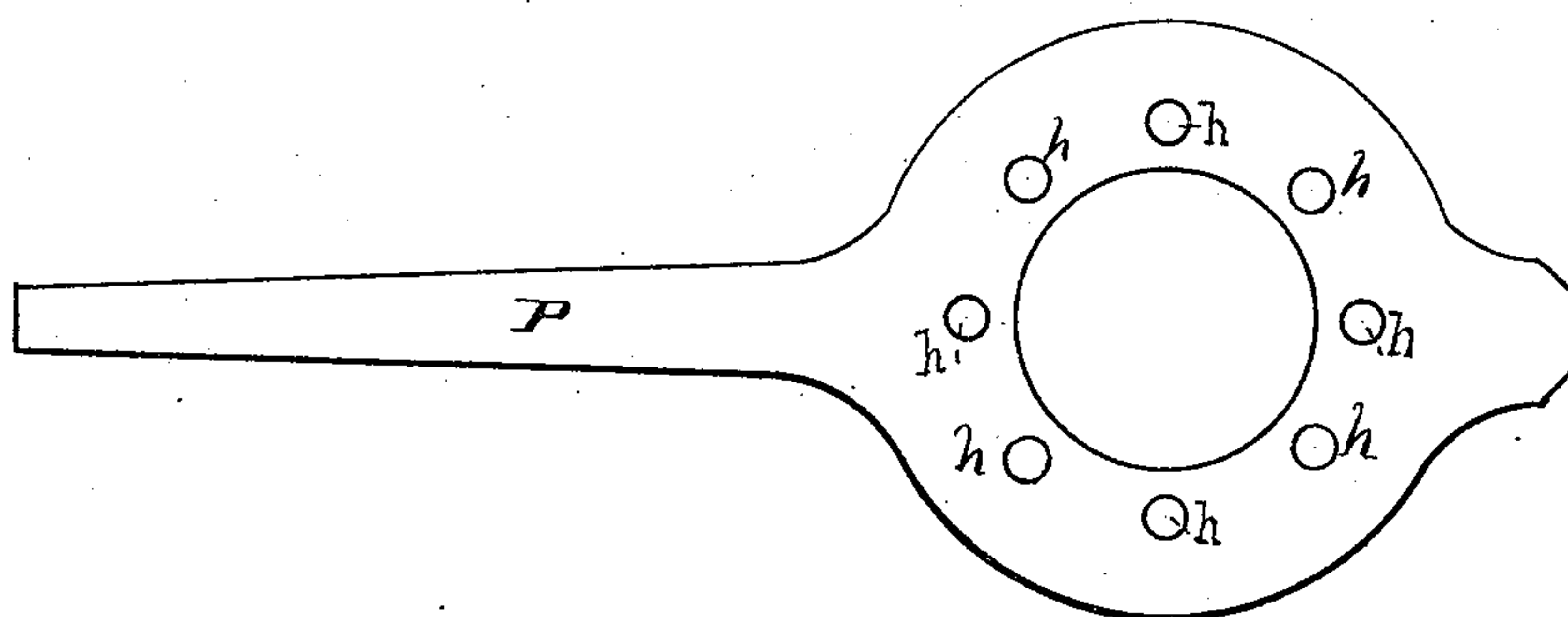


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES H. BAKER, OF SAN FRANCISCO, CALIFORNIA.

HORSE-POWER.

SPECIFICATION forming part of Letters Patent No. 248,906, dated November 1, 1881.

Application filed September 2, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. BAKER, of the city and county of San Francisco, State of California, have invented an Improved Horse-
5 Power; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an apparatus for applying horse-power; and it consists in a horizontal drum revolved by a vertical gear-wheel
10 engaging with a gear crown-plate, the latter being operated by an extended lever or tongue, which is connected with or disconnected from said crown-plate by means of certain devices operated by a lever.

15 It further consists in the details of this construction, together with a braking mechanism by which the drum may be prevented from slipping back or stopped when necessary. A more particular description of this will herein-
20 after fully appear.

The object of my invention is to provide a horse-power for lifting purposes or for driving machinery, or for both combined, as when
25 used to hoist ore from a mine, and at the same time operate a stamp-mill.

Referring to the accompanying drawings, Figure 1 is a perspective view of my device. Fig. 2 is a vertical section. Fig. 3 is a horizontal section. Fig. 4 is a view of the tongue
30 or lever.

Let A represent the base, having a flange, *a*, on its lower edge, whereby it is secured to the ground or to appropriate frame-work. From its center projects upward the king-post
35 B, rigidly secured thereto, or, if desirable, the king-post and base may be cast in one piece. The king-post has a larger circumference at its base than above, thus forming an extended rim or ledge, *b*. Around the base of the king-
40 post B loosely fits a clutch ring or band, C, provided with upwardly-projecting vertical pins or lugs D. This clutch-ring C lies upon the rounded top of the base A, and is loose enough to move around the king-post. In the
45 periphery of the clutch-ring C is a circumferential groove or channel, *e*.

In the rear of the base A are the standards D', having a connecting-rod, E, to the projecting ends of which are journaled the ends of the
50 curved clutch-lever F, said lever passing forward, as shown. On each side of the clutch-

lever F are screws or bolts G, passing through into the channel *e* of the clutch-ring C.

The front of the base A is slotted, as shown at *c*, to receive the upper arm of the bell-crank
55 lever H, which is connected by a rod, I, to the vertical lever J. The upper arm of the bell-crank lever H has pivoted thereto a pitman or rod, K, the upper end of which is pivoted to the front of the clutch-lever F.
60

A vertical curved rack-bar, L, retains the lever J in place. When the lever J is pulled back the bell-crank lever H raises the clutch-lever F about its pivoted ends as a fulcrum, which thus raises the clutch-ring C evenly by
65 means of the side screws, G.

Let M represent the crown-plate, provided on its outer rim with gear-teeth, as shown. It has a perforated hub, N, having at its base a circular flange or plate, O, the outer edge of
70 which has a channel or groove, as shown, and is provided around the hub N with holes *d*. The crown-plate, with its lower plate, O, fits over the king-post B, the lower surface of the plate resting upon the ledge *b* of the king-post,
75 and the holes *d* fitting over the vertical lugs D. The perforated hub N is grooved between the crown-plate M and the lower plate, O, to receive the main lever or tongue P, which is jour-
80 naled about the said hub so as to turn loosely thereon. The lever P is provided with a series of holes or sockets, *h*, ranged around in a circle to correspond with the holes *d* in the plate O.

Around the whole device are standards or
85 posts Z, upon the top of which is a track ring or tire Y. The tongue P slides up this as it revolves. It furnishes a support and bearing for said tongue and prevents it from cramping or producing great friction upon the clutch-
90 ring as it is moved when released. When the ring C, with its vertical lugs D, is raised the said lugs pass through the holes *d* in the plate O and into the holes or sockets *h* in the main lever P, thus locking the said lever to the
95 plate O and perforated hub N, whereby, when the lever is turned, the crown-plate M will be removed.

On top of the crown-plate M, extending across and covering its perforated hub N, is a bracket,
100 Q. This is secured to the top of the king-post B by screws or bolts. This plate holds the

crown-plate down on its plate upon the hub. It has the side vertical standards, R, in the tops of which is journaled the horizontal drum S. On one end of the projecting shaft of the drum S is keyed the vertical gear-wheel T, engaging with the gear crown-plate M, so that when the latter is turned the said drum will be revolved. By appropriate connections with this drum motion may be transmitted to desired points. In order to prevent the drum S from slipping or turning back, I apply the following braking device:

On one side, toward the front of the base A, is secured the vertical standard U, to the side of which is pivoted the lever-arm V, which is connected by a rod, f, with the vertical lever W, provided with a rack-bar, as shown.

To the upper end of the standard U is secured the strap X, which passes around in the grooved edge of the lower plate, O, and is fastened to the top of the lever-arm V. Thus when the lever W is pulled back the lever-arm V is so moved about its pivot-point as to tighten the strap X about the plate O, and to hold it firmly to prevent it from reversing its revolution.

The operation of the whole device is as follows: When the lever J is forward the ring C rests upon the base A, and the vertical lugs D do not project to engage with the main lever P, so that, being thus unlocked, it can turn without operating the device. When the lever J is drawn back it raises the ring C so that its vertical lugs project through the holes d in the lower plate, O, and engage with the holes h in the main lever P, which so secures it that the lower plate, O, and crown-plate M will be caused to revolve together and transmit motion to the horizontal drum S. When it is desired to hold the drum in one place the braking-strap X may be drawn tight around the plate O by the lever W. The horse power is to be applied to the end of the main tongue-lever P, and the connections of the machinery with the drum S so made as to allow the line of travel to be clear. The track Y supports the tongue P and prevents it from cramping. By releasing the lever J the ring C will drop and withdraw its pins D, unlocking the main lever P; so that the horse may continue his draft without working the device. This will be useful in stopping the power without stopping the horse.

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

1. The combination of the king-post B, cogged crown-plate M, having a perforated hub, N, and lower plate or flange, O, the main lever or tongue P, secured to said hub N, and the horizontal drum S, journaled in a bracket, Q, secured to the king-post, said drum carrying a vertical gear-wheel, T, engaging with the cogged crown-plate M, substantially as and for the purpose herein described.

2. The king-post B, crown-plate M, having a channeled or grooved perforated hub, N, lower

plate, O, having holes d, main lever or tongue P, fitting said hub and having holes or sockets h, and the horizontal drum S, journaled upon a bracket secured to the king-post, in combination with the clutch ring or band C, loosely fitting the base of the king-post B, and provided with the vertical points, lugs, or pins D, substantially as and for the purpose herein described.

3. In a horse-power apparatus having a central king-post, B, cogged crown-plate M, grooved perforated hub N, lower plate, O, having holes d, main lever or tongue P, having holes or sockets h and loosely fitting around said hub N and the horizontal drum S, the lever or tongue clutching or locking device consisting of the clutch ring or band C, provided with vertical pins, bolts, or lugs D, said band C loosely fitting the king-post B, substantially as and for the uses and purposes herein set forth.

4. In a horse-power apparatus consisting of the king-post B, cogged crown-plate M, grooved perforated hub N, lower plate, O, having holes d, main lever or tongue P, having holes or sockets h, and loosely encircling said hub, and the horizontal drum S, and in combination therewith, the clutch ring or band C, having vertical lugs D, said ring having a grooved or channeled periphery, e, the curved lever F, pivoted in the rear of the king-post B, and provided with side screws or bolts, G, penetrating into the grooved periphery e of the ring C, said curved lever F being connected by the bell-crank lever H and rod I to the lever J, substantially as and for the purpose herein described.

5. In a horse-power apparatus having a king-post, B, and a crown-plate, M, the lower flange or plate, O, having a grooved or channeled periphery, in combination with the braking-strap X, supported as shown, said strap being tightened or loosened around said plate O by the operation of the lever W, connected with the pivoted lever-arm V, to which one end of the strap is attached, substantially as and for the uses and purposes herein described.

6. In a horse-power apparatus having an operating lever or tongue, P, adapted to engage and disengage with the operating parts and to be moved around, as herein shown, and in combination with said lever or tongue, the circular track, ring, or tire Y, forming a bearing for said tongue, substantially as and for the purpose herein described.

7. In a horse-power apparatus, the combination and arrangement of the king-post B, gear crown-plate M, brackets Q, secured to the top of the king-post, and drum S, with its gear T, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

CHARLES H. BAKER.

Witnesses:

S. H. NOURSE,
FRANK A. BROOKS.