

No. 610,811.

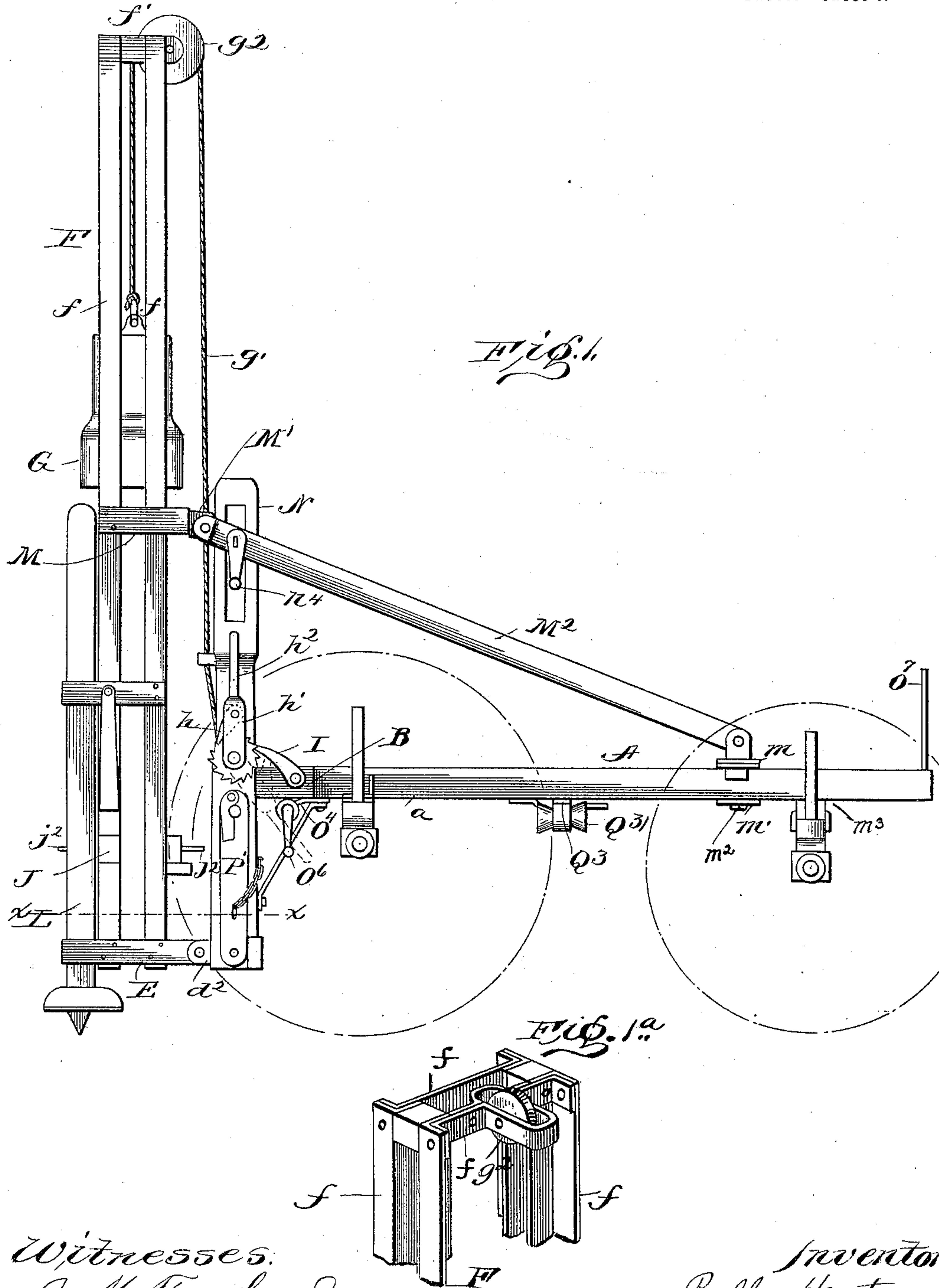
Patented Sept. 13, 1898.

R. HEATON.
POST DRIVER.

(Application filed Dec. 15, 1896.)

(No Model.)

4 Sheets—Sheet 1.



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Fig. 2.

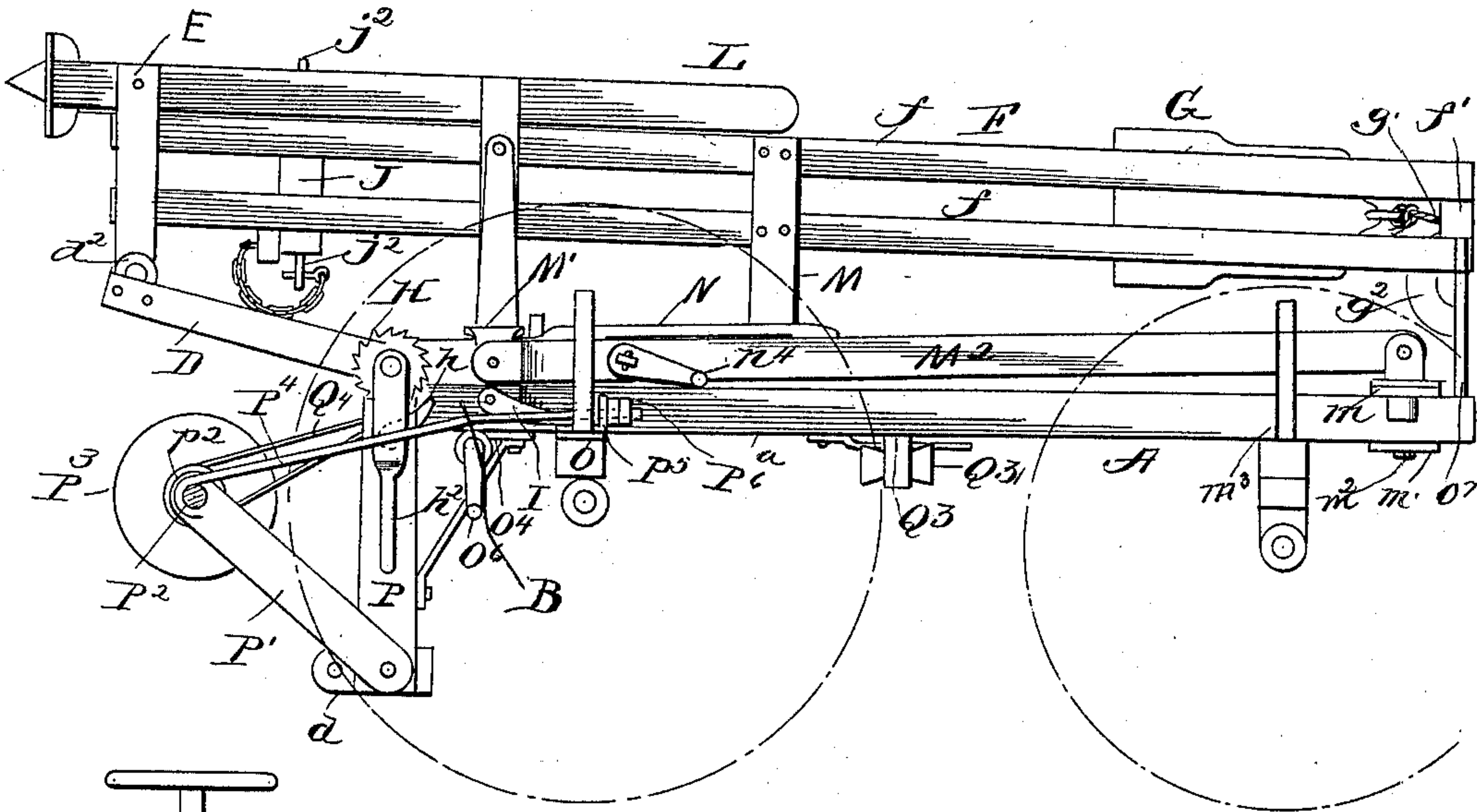
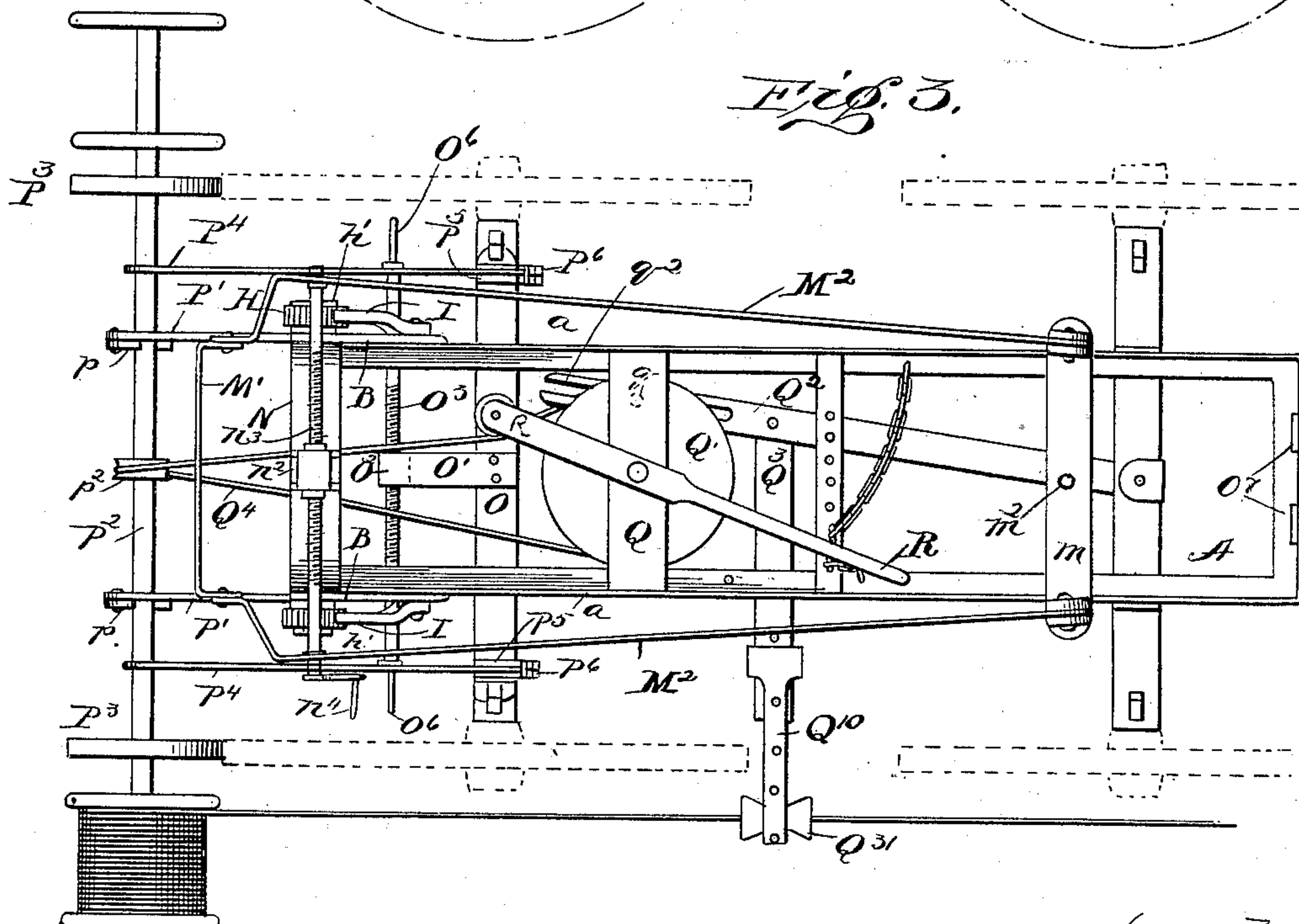


Fig. 3.



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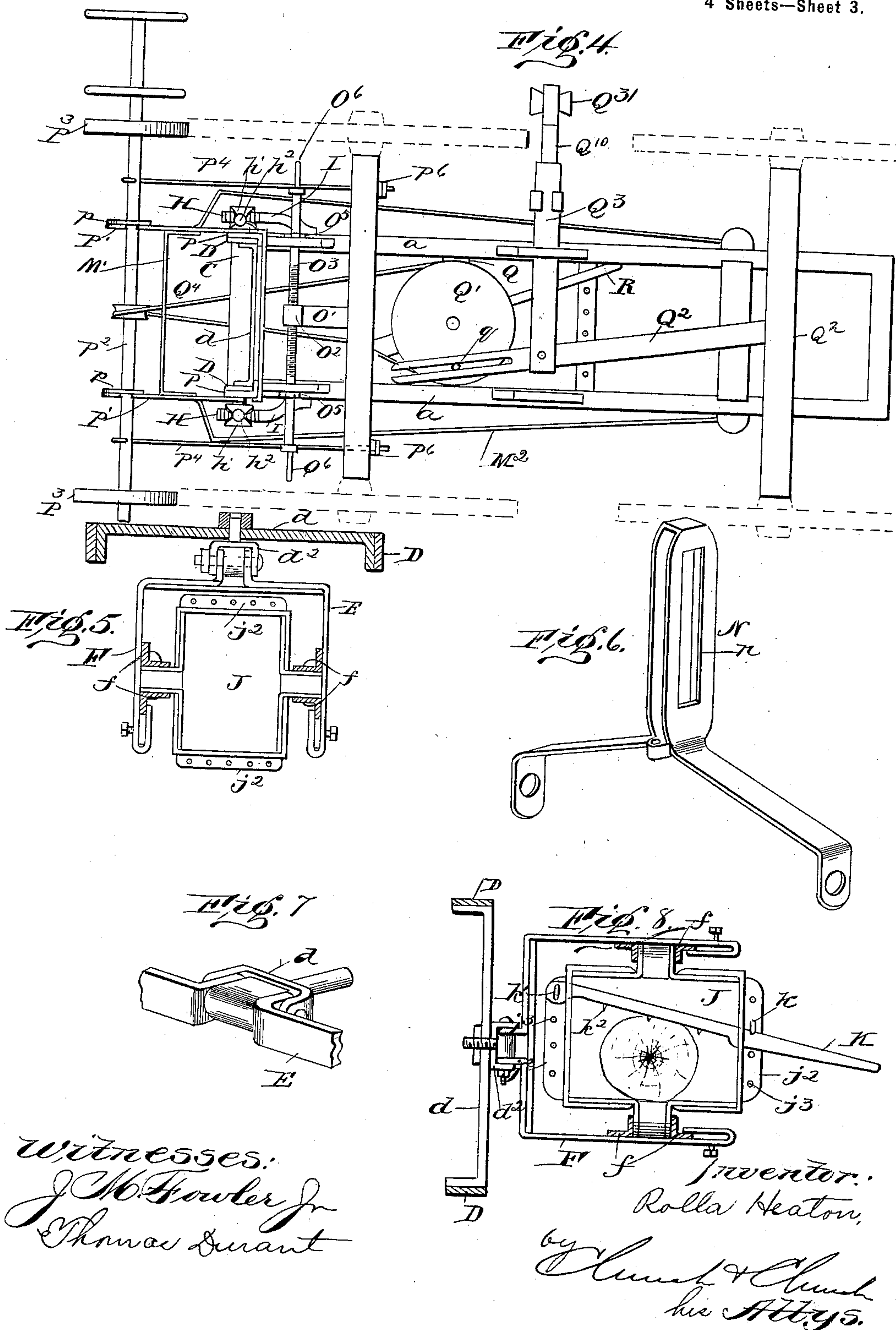
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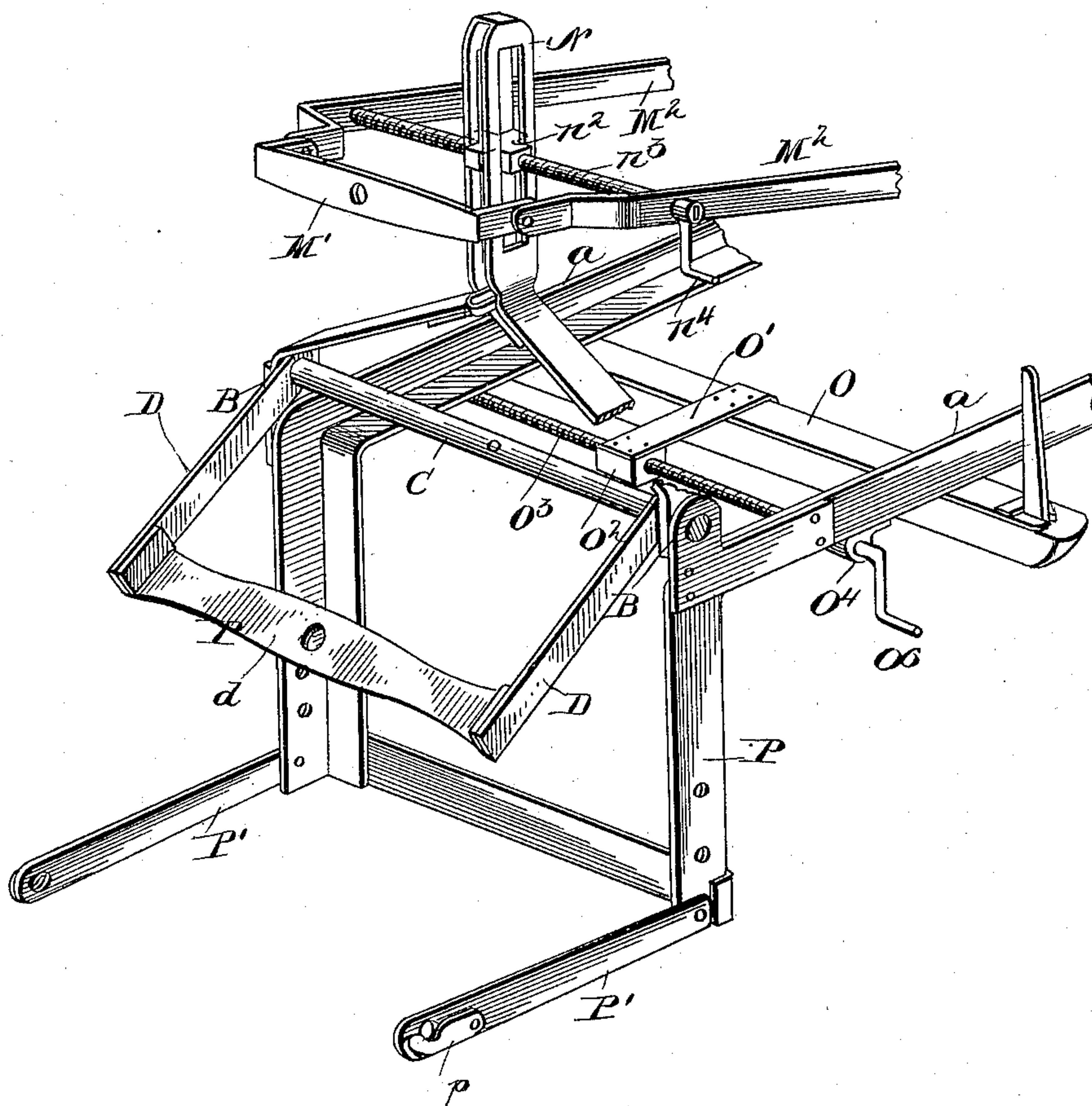
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4 Sheets—Sheet 4.

Fig. 9.



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UNITED STATES PATENT OFFICE.

ROLLA HEATON, OF MARCELLINE, ILLINOIS.

POST-DRIVER.

SPECIFICATION forming part of Letters Patent No. 610,811, dated September 13, 1898.

Application filed December 15, 1896. Serial No. 615,812. (No model.)

To all whom it may concern:

Be it known that I, ROLLA HEATON, of Marcelline, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Post-Drivers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates particularly to improvements in devices for building fences, especially wire fences, and has for its object to provide a device constructed entirely of metal and which can be mounted on a wagon for driving the posts; and it consists in certain novel details of construction and combinations and arrangements of parts, all as will now be described, and pointed out particularly in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of the machine mounted on a wagon with wheels shown in dotted lines. Fig. 1^a is a detail perspective view of the upper portion of the slideways. Fig. 2 is a similar view showing the slideways folded down and the wire-reel in position. Fig. 3 is a top plan view, and Fig. 4 is a bottom plan view, of the frame of the machine. Fig. 5 is a section on the line *x x*, Fig. 1. Fig. 6 is a detail perspective view of the yoke. Fig. 7 is a detail view showing the connection between the slideways and supporting-bracket. Fig. 8 is a detail view of post-clamp and lever. Fig. 9 is a detail perspective view with parts removed and broken away.

In carrying the invention into practice I form a rectangular frame A of metal, which is secured to the front bolster of the running-gear of a wagon in any suitable or preferred manner. Bolted to the rear ends of the sides *a a* of the frame are the extensions or ears B B, in which are journaled the ends of the shaft of the winding or hoisting drum C. Suspended upon the drum-shaft at each end, so as to turn thereon, are the arms D D, the lower ends of which are connected by the cross-piece *d*, bolted or otherwise secured thereto, and to this cross-piece, at or near the middle thereof, is swiveled the U-shaped piece *d*², to which is pivotally connected the frame E, to which are bolted the lower ends of the

slideways F. It will thus be seen that the connection between the slideways and this support is in effect a universal joint, from which it results that the slideways may be tilted forward, backward, or to either side for a purpose to be presently explained. The slideways in the present construction are formed of four angle-irons *f f*, secured at the top to cross-pieces *f' f'* and at the lower end to the frame E, as described, and in the slideways reciprocates the weight G, adapted to strike the top of the post located between the ways and drive it into the ground. The weight is elevated by means of a rope *g'*, passing over a pulley *g*² at the top of the ways, and thence down to the winding or hoisting drum C.

Fast upon each end of the hoisting-drum shaft are the ratchet-wheels H, with the teeth of which engage the swinging pawls *h*, pivoted between the bifurcated ends *h'* of the ratchet-handles *h*² when the handle is moved in the direction to wind up the rope, and pivoted to the side of the frame are the holding-pawls I, which also cooperate with the teeth of the ratchet-wheels H to lock the winding-drum shaft to hold the weight at any point, as will be understood. When the weight has been raised to the proper height, it may be released by simply disengaging the pawls *h* from the teeth of the ratchet-wheel H on the drum-shaft and giving the handle *h*² a throw sufficient to carry it to the position shown in dotted lines in Fig. 1, when the swinging pawl *h* will strike the pawl I and lift it out of engagement with the teeth of the ratchet-wheel H and the weight permitted to descend. In order that the post being driven may be held in position during the driving operation, a clamp J is provided moving in the slideways and adapted to fit over the post and to descend with the post as it is driven in the ground. This clamp consists of a square metal rim formed with slots or openings in opposite sides and with the flanges *j*². In order that the clamp may be used on posts of different sizes, a lever K is passed through the openings in the sides of the clamp and held against the post, being held in position by means of pins *k*, passing through one of the series of holes *j*³, formed in the flanges *j*² on one side of the clamp and through a hole

the lever abutting against the pin in the opposite flanges, all as shown in Fig. 8. The lever may, if desired, be formed with teeth k^2 to still further insure the holding of the post.

Sliding on the sides of the slideways are the supports L, pointed at their lower ends, which are adapted to be driven into the ground to steady the slideways and relieve the machine and wagon of strain, as will be readily understood.

In building fences on uneven ground and on hillsides it becomes necessary that the slideways be tilted sidewise or forward or backward, or that they be moved bodily from side to side in order that the weight may be caused to fall directly on the top of the post, and these various movements are accomplished by the following mechanism: To enable the slideways to be tilted backward and forward, there is secured to the slideways a brace or frame M, to which is swiveled a plate M' , to the ends of which are pivoted braces $M^2 M^2$, which are pivotally connected at their opposite ends to a slide consisting of the upper and lower plates $m m'$, embracing between their ends the side pieces $a a$, which latter constitute ways upon which the slide reciprocates and adapted to be held at any point of adjustment on the side piece by being clamped tightly thereon by means of the screw m^2 , as will be understood.

Mounted on the hoisting-drum shaft so as to turn thereon is a yoke N, formed of a metal plate bent to the form shown and in the upwardly-extending portion of which are formed slots $n n$, in which is adapted to slide a block n^2 , through which passes a screw-threaded shaft n^3 , whose ends are journaled in bearings in the braces $M^2 M^2$, one end of the shaft being provided with the crank-handle n^4 for turning it.

In order to tilt the slideways backward or forward, it is only necessary to move the clamp-plates $m m'$ backward or forward along the side pieces of the frame and to clamp them tightly thereto when the desired inclination is reached. The tilting of the slideways to either side is accomplished by simply turning the screw-shaft n^3 in the proper direction, as will be understood, the universal-joint connection between the slideways and their supports, before described, permitting these movements of the slideways.

To move the slideways bodily from side to side, the following mechanism is employed: Secured firmly on the rear bolster of the wagon is a plate O, and to this plate, near the middle thereof, is bolted or otherwise secured an arm O' , whose outer end carries a block O^2 , through which passes a screw-threaded rod O^3 , journaled in boxes O^4 , secured to the under side of the side pieces of the frame A, collars O^5 , fast on the shaft, being provided to prevent longitudinal movement thereof by reason of the collar O^5 abutting against the

boxes O^4 . On each end the rod or shaft is provided with a crank-handle O^6 , whereby the shaft may be turned. When now the shaft O^3 is turned, being prevented from longitudinal movement by reason of the collar O^5 , as described, the side pieces $a a$ and the parts carried thereby will be moved to either side, as will be understood.

When it is desired to fold the machine for transportation, the plate M' , carried at the ends of the braces $M^2 M^2$, is released from the frame M, carried by the slideways, and the plates $m m'$ at the opposite ends of the braces $M^2 M^2$ loosened. The yoke N is then turned forward and down, the nut n^2 sliding in the yoke, and the braces dropping down on the sides of the frame of the machine. The weight is then elevated and the slideways F are then tilted forward and down on the frame, the posts or supports O^7 receiving the ends of the slideways.

The side pieces of the main frame at the rear ends are preferably bent downward, forming depending side pieces P, and to the lower end of the side pieces are hinged or pivoted the arms P' , in the outer ends of which are formed openings for the reception of a wire-reel shaft P^2 , said openings being closed by means of pivoted latches p , which when closed about the reel-shaft will form with the arm P' bearings for the shaft. Rigid upon this shaft are the friction disks or wheels P^3 , which are adapted to be brought into frictional contact with the wheels of the wagon upon which the device is mounted by means of the rods P^4 , which are formed with the hooked ends which take over the shaft, the opposite ends being screw threaded and passing through plates P^5 , secured to the plate O and being held in proper adjustment by means of the nut P^6 .

For reeling the wire when taking down wire fences the following mechanism is employed:

Journaled in the cross-piece Q of the frame A is a wheel or pulley Q' , formed or provided on its under side with a crank-pin q , which is adapted to work in the slot q^2 in the end of the bar Q^2 , which is pivoted at one end to the plate carried by the front bolster of the wagon. Carried by this bar Q^2 is an arm or bar Q^3 , and upon this arm slides another arm Q^{10} , carrying at its outer end the wire-guide Q^{31} . Power is communicated to the pulley or wheel Q' from the reel-shaft by means of a belt or other flexible connection Q^4 , passing around the pulley p^2 on the reel-shaft.

The operation will now be understood. The wire-reel having been placed on the end of the reel-shaft and the friction-wheels being brought in contact with the wheels of the wagon, as the wagon is drawn along the reel-shaft will be caused to be revolved, thereby communicating motion to the wheel Q by means of the flexible connection, which wheel will be caused to revolve and in turning cause the bar Q^2 to be reciprocated and the bar Q^3 to be worked in and out, and consequently

laying the wire smoothly and evenly on the reel, as will be readily understood. The bar Q^3 is pivotally connected to the bar Q^2 and may be turned in under the frame when not in use. If desired, a belt-tightener, such as R, may be employed.

It will be noted that the machine is constructed throughout of metal, thereby insuring strength and lightness, and is admirably adapted for the purpose for which it is intended.

Having thus described my invention, what I claim as new is—

1. In a post-driver, such as described, the combination with the frame, of the hoisting-drum journaled in bearings in rear of the main frame, the depending frame pivotally mounted on the drum-shaft, the slideways hinged to said frame, connection between the slide-way and main frame and weight and means for actuating it; substantially as described.

2. In a post-driver, such as described, the combination with the main frame, the hoisting-drum, journaled in bearings in the rear ends of the main frame, the depending supporting-frame mounted to turn on the drum-shaft, the slideways hinged to the lower part of said frame by a universal-joint connection, the adjustable connection between the slideways and main frame, the weight and means for actuating it; substantially as described.

3. In a post-driver, such as described, the combination with the main frame, the hoisting-drum journaled in the rear ends of the main frame, the frame mounted to turn on said drum-shaft, the slideways supported on said frame, the slide movable on said main frame, the braces $M^2 M^2$ connected at one end to said slide, a detachable connection between the slideways and the other end of said braces, whereby the slideways may be folded down on the frame, the weight and means for actuating it; substantially as described.

4. In a post-driver the combination with the main frame, the sides of which constitute guideways, the slide-frame consisting of the upper and lower plates embracing said side pieces, the slideways adjustably connected to the main frame, the cross-bar swiveled to the slideways, the braces $M^2 M^2$ pivotally connected at one end to said cross-bar and at the other to the slide-frame, and the screw for clamping said slide-frame in adjusted position on the side pieces of the main frame; substantially as described.

5. In a post-driver, the combination with the main frame, the drum-shaft journaled in the rear ends of said frame, the yoke mounted on said shaft, the block carried by said yoke, the slideways, the braces $M^2 M^2$ connected to the slideways and main frame, and the screw-shaft journaled in said braces and working

through the block in the yoke, as and for the purpose set forth.

6. In a post-driver, the combination with the main frame, the drum-shaft, the yoke mounted to turn thereon, and formed with guide-slots, the block working in said slots, the slide-frame, the braces connected at one end to said slide-frame, a detachable connection between the slideways and braces $M^2 M^2$ and the screw-shaft journaled in the braces and working through said block, whereby the slideways may be tilted to either side and folded down on the main frame; substantially as described.

7. In a post-driver the combination with the main frame, adapted to rest on the running-gear of a wagon, the slideways carried thereby, the plate carried by the rear bolster of the wagon, the arm rigidly secured thereto, the block carried by said arm, the screw-shaft working through said block, journaled at each end in boxes secured to the main frame, and means for preventing longitudinal movement of the shaft; as and for the purpose set forth.

8. In a post-driver, the combination with the slideways and weight traveling thereon, of the winding-drum, the pawls for holding the drum against backward rotation, the ratchet-lever mounted to turn on said shaft, the pawl pivoted on said lever cooperating with the ratchet-wheel to wind the drum when the lever is pressed forward, and which will strike the holding-lever and throw it out of engagement with the ratchet-wheel when the lever is swung about the shaft; substantially as described.

9. In a post-driver, the combination with the slideways and weight traveling thereon, of the post-guide consisting of a rim surrounding the top of the post and sliding in said slideways, and the lever for varying the size of the guide substantially as described.

10. In a device such as described, mounted on the running-gear of a wagon, the combination with the main frame, having the side pieces bent downward at the rear end, the arms hinged to the lower part of said side pieces, the reel-shaft supported in the ends of said arms, the friction-disks thereon, adapted to be held in frictional contact with the wheels, the pulley, the crank-pin thereon, the lever formed with a slotted end in which the crank-pin works, the arm carrying the wire-guide connected to said lever, and the belt for transmitting motion from the reel-shaft to the pulley; substantially as and for the purpose set forth.

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