

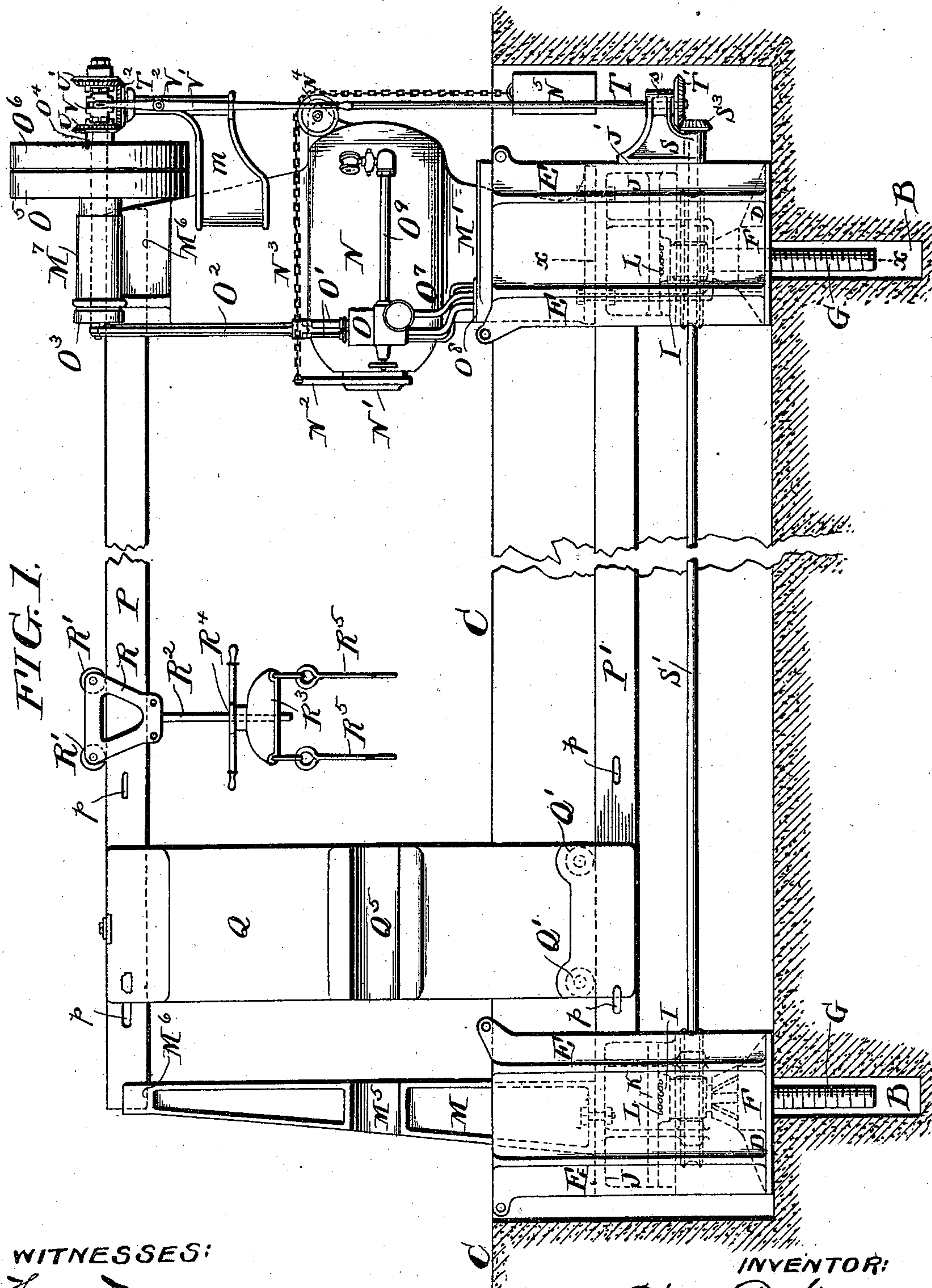
(No Model.)

2 Sheets—Sheet 1.

H. D. GORDON.  
WHEEL PRESS.

No. 504,031.

Patented Aug. 29, 1893.



**WITNESSES:**

Henry & Mary  
Joshua M. Mack, Jr.

**INVENTOR:**

Henry D. Gordon  
by his atty.

Francis T. Chambers



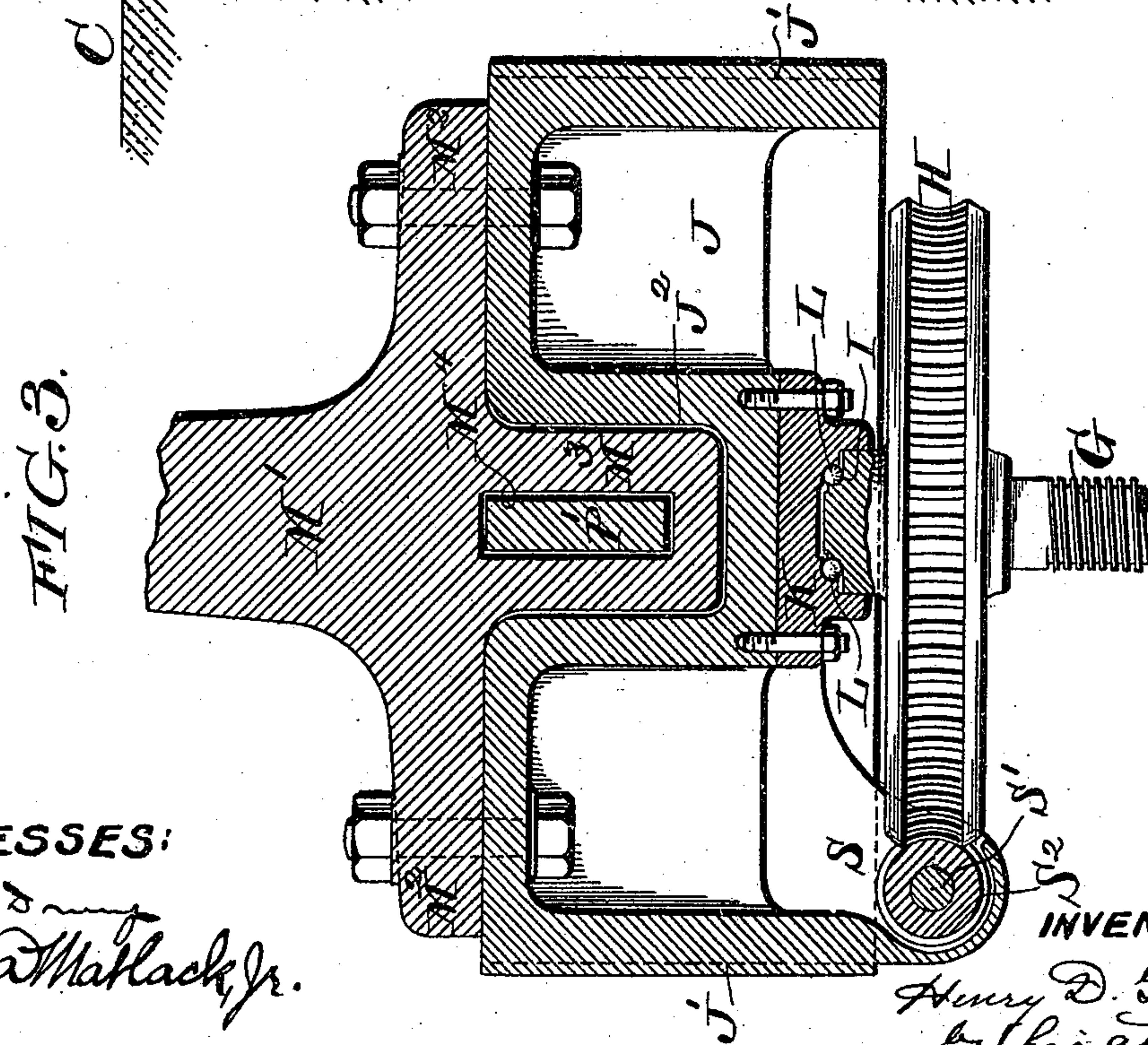
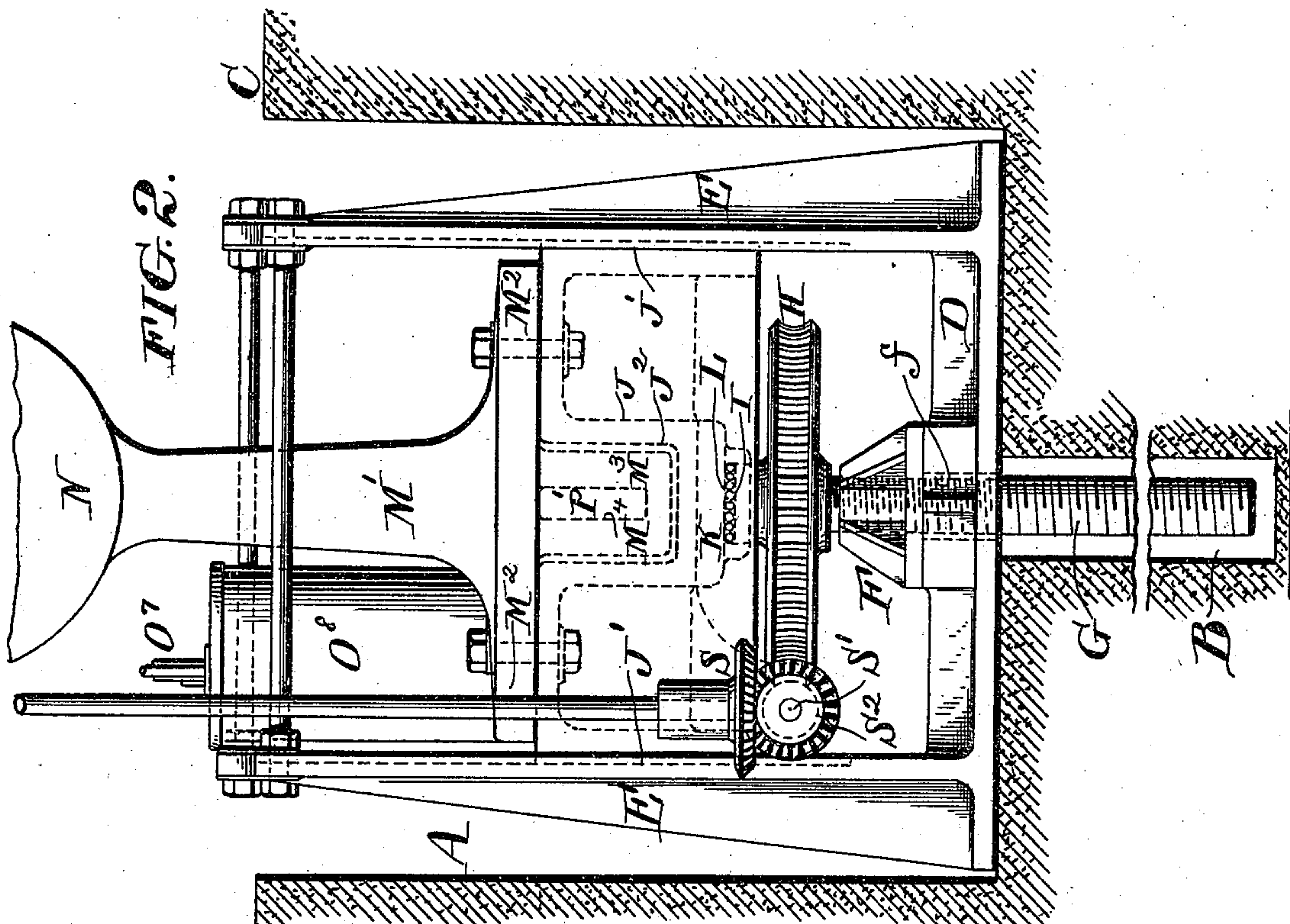
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INVENTOR:  
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James T. Chambers



# UNITED STATES PATENT OFFICE.

HENRY D. GORDON, OF ALTOONA, PENNSYLVANIA.

## WHEEL-PRESS.

SPECIFICATION forming part of Letters Patent No. 504,031, dated August 29, 1893.

Application filed August 25, 1892. Serial No. 444,127. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY D. GORDON, of Altoona, county of Blair, State of Pennsylvania, have invented a certain new and useful Wheel-Press, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to wheel presses such as are used for forming car and engine wheels onto and off of axles.

In another application filed by me July 20, 1892, Serial No. 440,596, I have described and shown a wheel press so constructed and provided with mechanism that the press can be bodily raised or lowered with respect to the floor line for the purpose of adapting it for use with wheels of different diameters.

My present invention has the same object in view and consists of a special mechanical appliance for adjusting the press, the nature of which will be best understood as described in connection with the drawings in which it is illustrated, and in which—

Figure 1 is a side elevation of a wheel press provided with adjusting devices constructed in accordance with my invention. Fig. 2 is an end elevation on an enlarged scale showing the devices for acting on the standards to raise and lower them, and Fig. 3 is a section on the line  $x-x$  of Fig. 1 shown on a still larger scale than Fig. 2.

A is a pit or hole in which the press is supported, C being the floor line and B B holes for the screw-supports.

D D are castings having formed or attached to them guides E and threaded blocks F situated over the holes B. In the threaded blocks F are supported screws G which extend down into holes B and up above blocks F and which are raised or lowered by turning them.

M and M' are the standards of the wheel press and together with parts supported upon them they constitute the operative parts of the press. Each of these standards is supported directly upon a corresponding screw G and is guided by guides E so as to preserve proper alignment while moving up and down. As shown, each standard is securely bolted to a sliding block J, the edges J' of which move in guides E and which have a

recess J<sup>2</sup> into which fits a projection M<sup>3</sup> of the standard. The head I of each screw G is fitted to form an anti-friction joint—or, as shown, a ball joint with the part above it, which, in the case illustrated, consists of a bearing plate K bolted to block J and between which and the screw head I are the anti-friction balls L. The standards M M' are secured together by means of beams P P', the beam P being secured in slots M<sup>6</sup> at the top of each standard and the beam P' passing through and secured to perforations M<sup>4</sup> in the downwardly extending projections M<sup>3</sup> of the standards. The movable standard E rests upon beam P' by means of truck wheels Q' and is guided at top by beam P.

M<sup>5</sup> and Q<sup>5</sup> are recesses for the passage of the axle end and  $p p$ , &c., are holes in beams P P' for the insertion of stops which hold the standard Q in position. Hooks R<sup>5</sup> R<sup>5</sup> for supporting the axle are secured on the end of a bar R<sup>3</sup> which screws on the end of a screw R<sup>2</sup>, a jam nut R<sup>4</sup> being provided to hold it in place and the screw depending from a car R, the wheels R' of which run on beam P.

On standard M' is supported the ram cylinder N, N' being the ram head and N<sup>2</sup> an arm from which a chain N<sup>3</sup> runs over a pulley N<sup>4</sup> and is attached to a counterweight N<sup>5</sup> which draws the ram head back.

O is the ram pump, O' its pistons which are driven by rods O<sup>2</sup> connecting with a disk O<sup>3</sup> on a driving shaft O<sup>4</sup> on which are secured fast and loose pulleys O<sup>5</sup> O<sup>6</sup>, the shaft being supported in a bracket N<sup>7</sup> on standard M'.

O<sup>7</sup> O<sup>9</sup> are the pipes leading from the pump to the reservoir O<sup>8</sup> and ram cylinder.

All the attachments to the standards above noted are of usual construction and it is obvious that the standards and parts carried thereby will be raised or lowered by the simultaneous turning of the supporting screws in one direction or the other. Preferably I actuate the screws by means of the following devices: I secure to each screw a worm-wheel H and to each standard, or rather each sliding block attached to the standard, I secure brackets S in which is journaled a shaft S' having attached to it two worms S<sup>2</sup> engaged with each of wheels H and a miter-wheel S<sup>3</sup> secured to the end of the shaft connected with



standard M'. In brackets *m* and *S* on standard M' I secure a shaft T having a miter-wheel T' at its bottom engaged with gear S<sup>3</sup> and a miter-wheel T<sup>2</sup> at its top which is engaged with oppositely faced miter-wheels U U' journaled on shaft O<sup>4</sup>. Between the gear wheels U U' is a clutch V which is keyed to the shaft O<sup>4</sup> and which can be engaged with either of the gears U or U' so as to drive shaft T and through it and its connections the screws G in either direction. The clutch V is connected with a lever V' pivoted at V<sup>2</sup> and normally rests between the gears N and U' so as not to engage either.

The operation of the device is as follows: An axle is hung in the hooks R<sup>5</sup> and properly adjusted in front of the ram plunger N' by means of the threaded bolt R<sup>2</sup> and nut R<sup>4</sup>; a car wheel is then rolled into position on the floor C so that its center will be in the same vertical plane as the axle and ram plunger L'. By now raising or lowering the standards M M' and the ram N and the axle, all carried by said standards by means of the gear train T' S<sup>2</sup>, H and screw G, the axle and the ram N may be brought directly in line with the hole in the hub of the wheel into which it is designed to force it. The ram N is now put in operation and the axle pressed into the hole in the wheel hub in the usual manner, the wheel being held from lateral displacement by the adjustable standard J. This sort of wheel press and its mode of operation is well known, being illustrated in *Knight's Mechanical Dictionary* (page 2767, edition of 1884) and it is not deemed necessary to show the wheel or axle in position in the press.

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

1. The combination of standards M M' supporting the operative parts of a wheel press, guides arranged to hold said standards in alignment while permitting them to move vertically, threaded blocks secured beneath each standard, screws working in said blocks and arranged to support the standards, and screw actuating mechanism arranged to actuate the screws simultaneously and in the same direction so as to lower and raise the press.

2. The combination of standards M M' supporting the operative parts of a wheel press, guides arranged to hold said standards in alignment while permitting them to move vertically; threaded blocks secured beneath each standard, screws working in said blocks and arranged to support the standards, anti-friction balls placed between the standards and the rotating heads of the screws, and screw-actuating mechanism arranged to actuate the screws simultaneously and in the same direction so as to raise and lower the press.

3. The combination of standards M M' supporting the operative parts of a wheel press, guides arranged to hold said standards in alignment while permitting them to move vertically, threaded blocks secured beneath each standard, screws working in said blocks and arranged to support the standards, worm wheels secured to each screw, a shaft S' secured in bearings attached to each standard, worms secured to said shaft and in engagement with the worm wheels on the screws, and means for actuating said shaft to raise and lower the standards.

4. The combination of standards M M' supporting the operative parts of a wheel press, guides arranged to hold said standards in alignment while permitting them to move vertically, threaded blocks secured beneath each standard, screws working in said blocks and arranged to support the standards, worm wheels secured to each screw, a shaft S' secured in bearings attached to each standard, worms secured to said shaft and in engagement with the worm wheels on the screws, a shaft T journaled in supports upon the cam-carrying standard M', gearing connecting shafts S' and T, a driving shaft O<sup>4</sup> on the standard M', a miter wheel T<sup>2</sup> secured to shaft T, miter-wheels U U' journaled on shaft O<sup>4</sup> and in engagement with gear T<sup>2</sup> and a clutch V arranged to connect either of gears U or U' with shaft O<sup>4</sup> substantially as and for the purpose specified.

H. D. GORDON.

Witnesses:

H. A. ANDERSON,  
W. W. BROWN.