

No. 699,054.

Patented Apr. 29, 1902.

R. J. WOOD.

APPARATUS FOR DISPLAYING ADVERTISEMENTS.

(Application filed Apr. 25, 1899.)

(No Model.)

3 Sheets—Sheet 1.

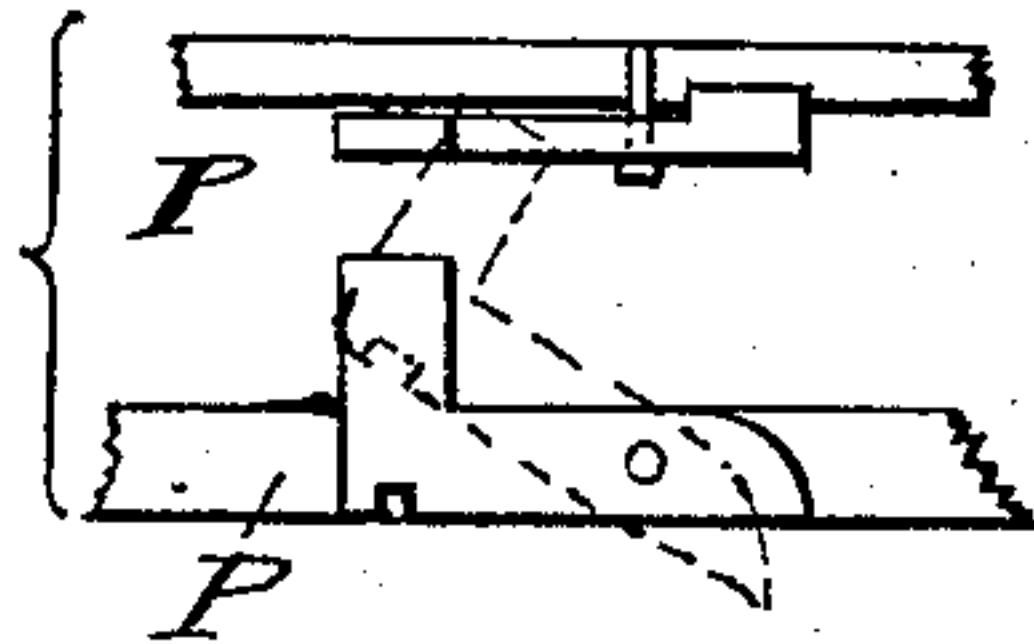


Fig. 3.

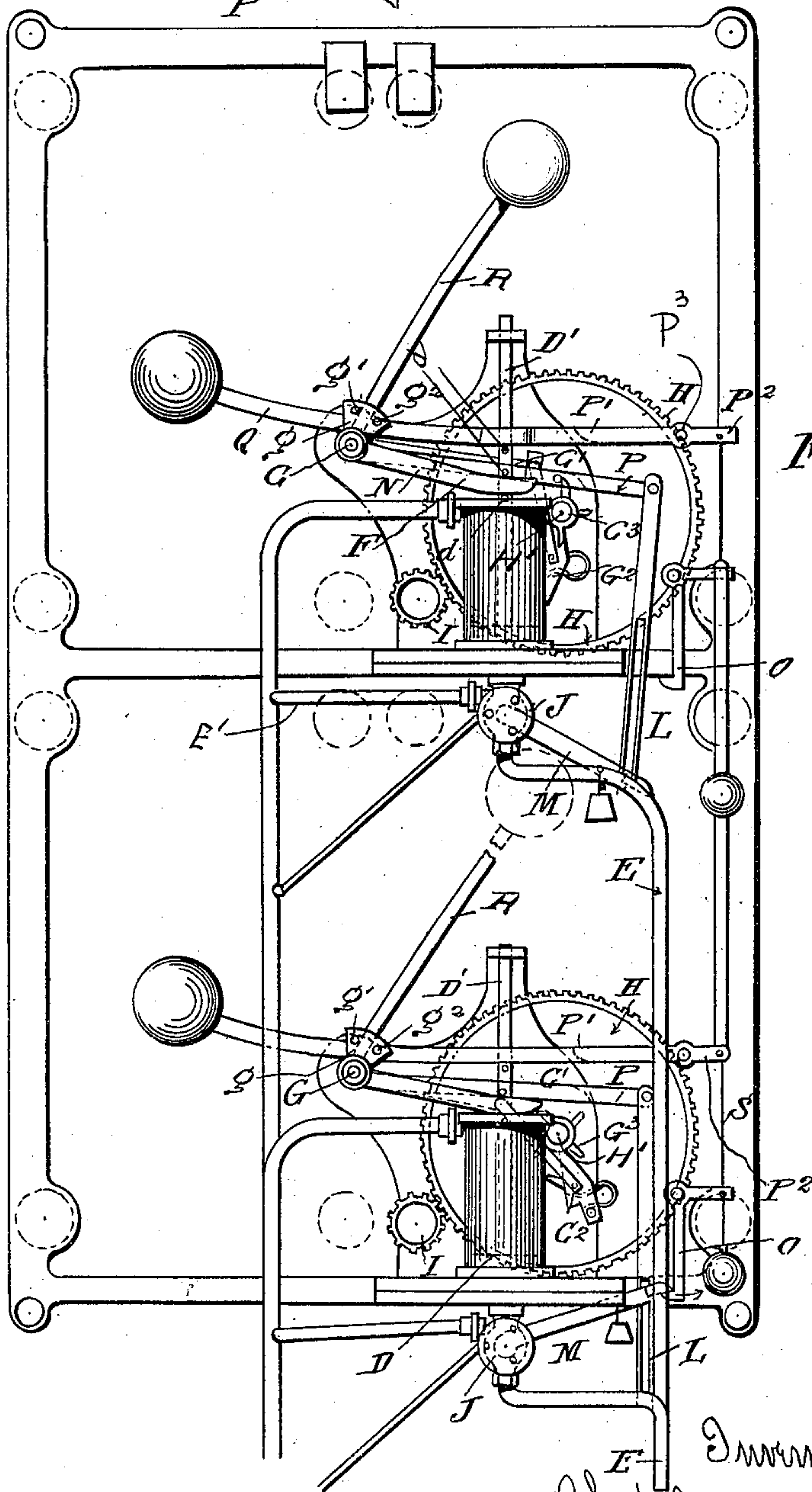


Fig. 1

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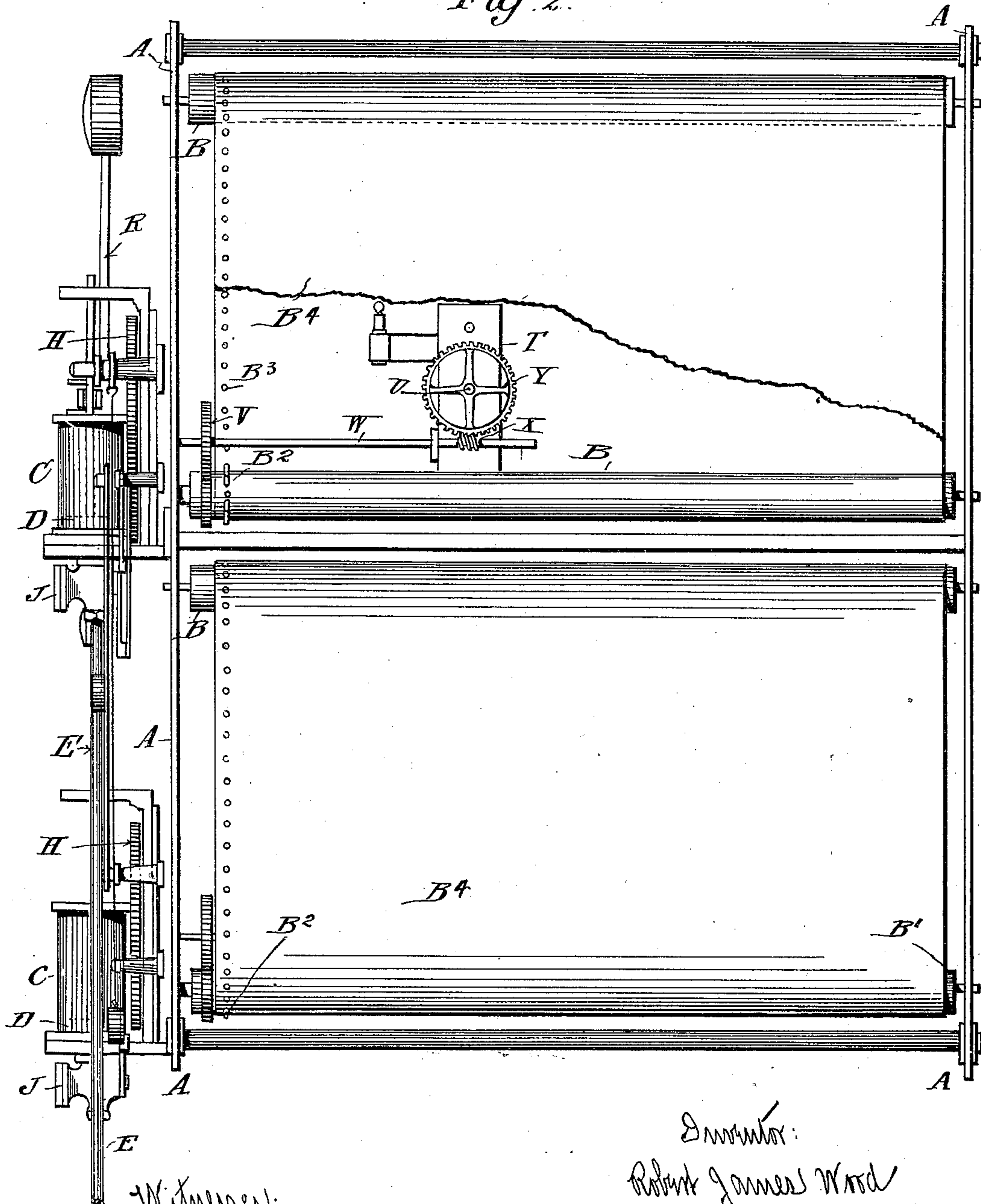
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3 Sheets—Sheet 2.

Fig. 2.



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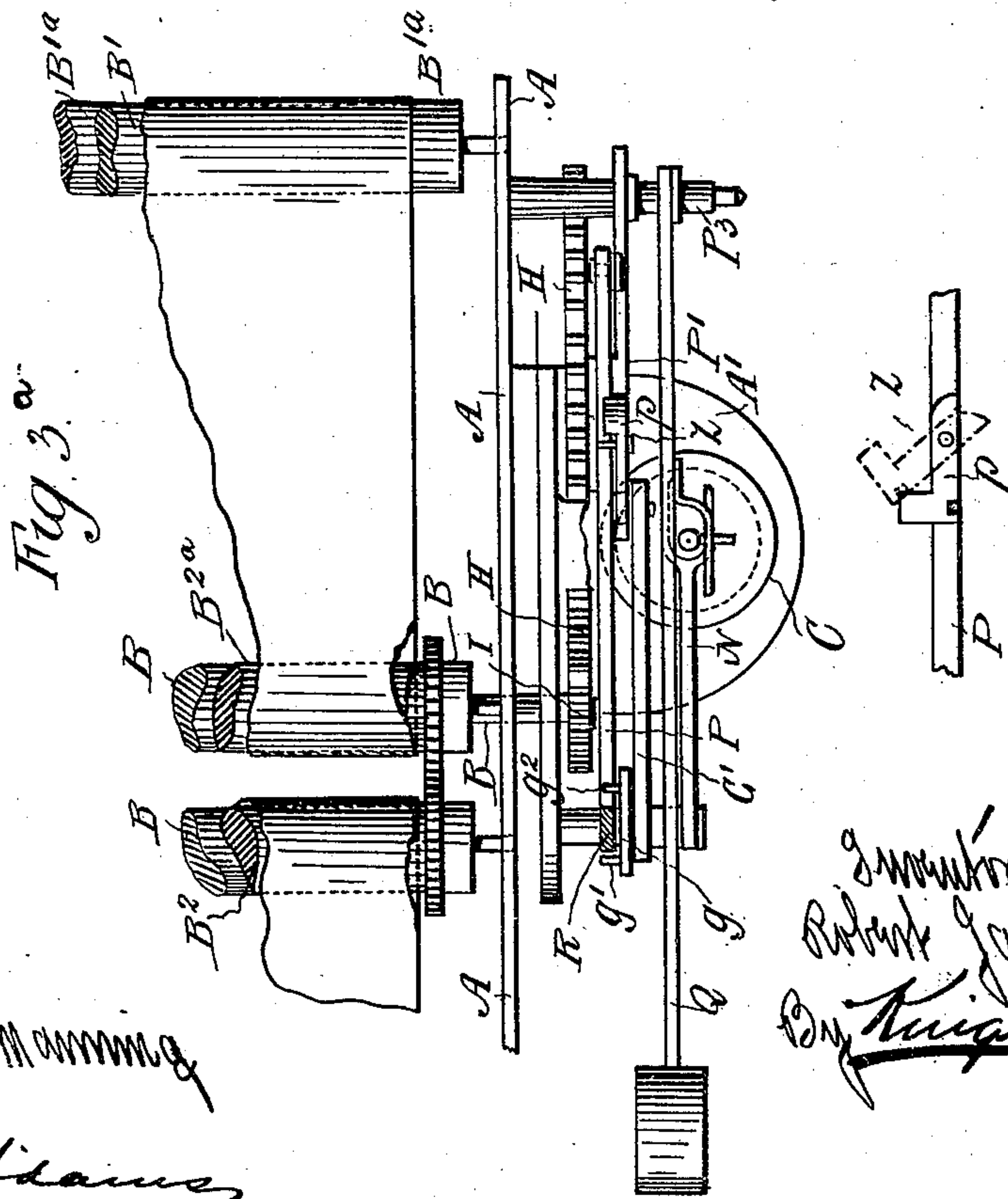
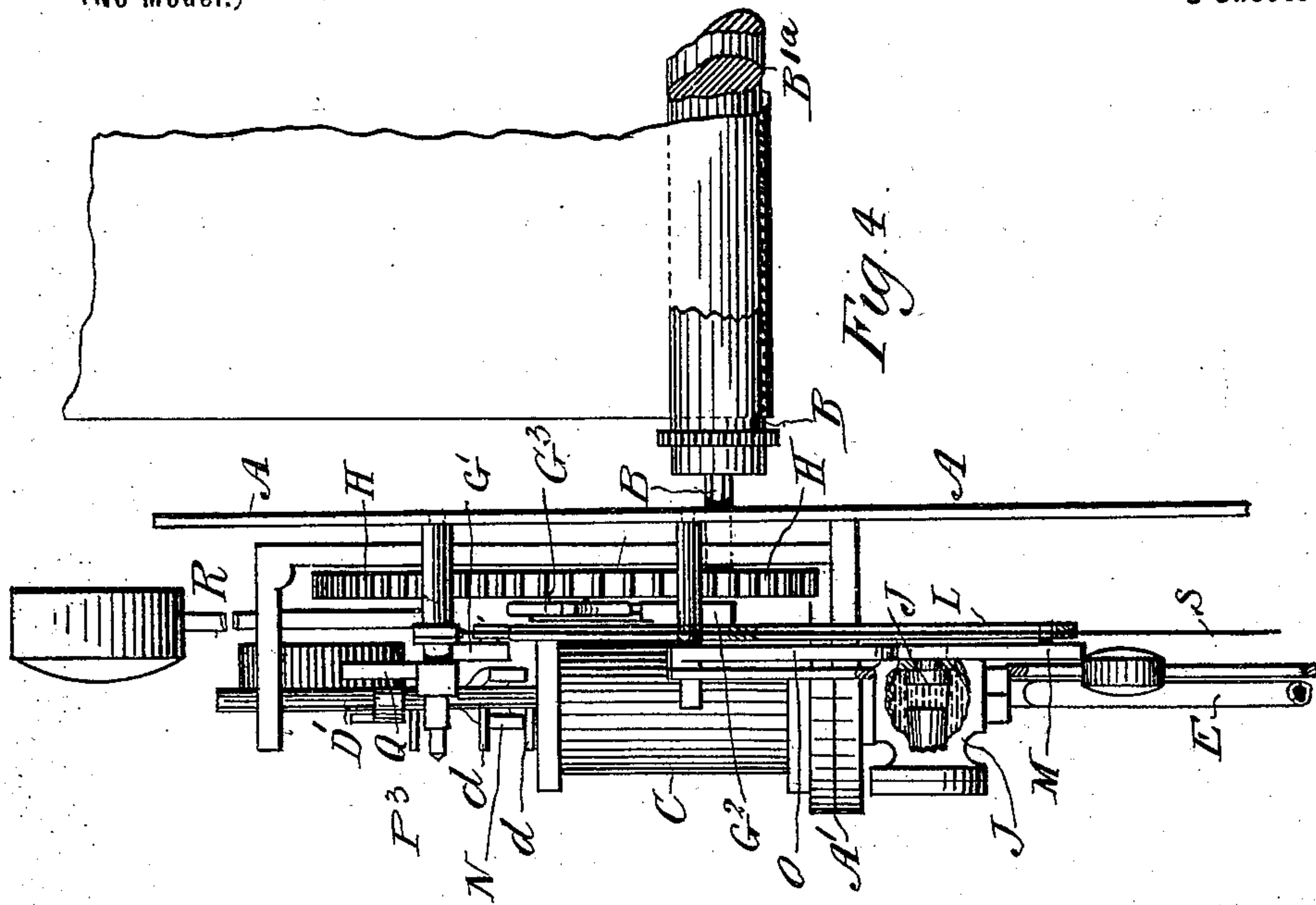
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(No Model.)

3 Sheets—Sheet 3.



Witnesses:
Matthew Q. Manning
Jno. R. Adams

Inventor:
Robert James Wood
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UNITED STATES PATENT OFFICE.

ROBERT JAMES WOOD, OF GLASGOW, SCOTLAND.

APPARATUS FOR DISPLAYING ADVERTISEMENTS.

SPECIFICATION forming part of Letters Patent No. 699,054, dated April 29, 1902.

Application filed April 25, 1899. Serial No. 714,393. (No model.)

To all whom it may concern:

Be it known that I, ROBERT JAMES WOOD, clockmaker, of 108 Argyle street, in the city of Glasgow, Scotland, have invented Improvements in Apparatus for Displaying Advertisements, (for which I have obtained a patent in Great Britain, No. 20,559, bearing date the 29th of September, 1898,) of which the following is a specification.

This invention relates to improvements in apparatus for displaying advertisements which is operated by water-power.

In order that my invention may be properly understood and readily carried into effect, I have hereunto appended three sheets of drawings, of which—

Figure 1 is an end view of the apparatus, and Fig. 2 is a front elevation of the apparatus. Fig. 3 is a side elevation and plan, respectively, of the detail of mechanism hereinafter more fully described. Fig. 3^a is a part side elevation and plan, respectively, of a detail of the mechanism hereinafter more fully described. Fig. 4 is an end view of part of the mechanism illustrated in Fig. 2, also hereinafter more fully described.

In carrying out my invention I provide a framework A, across the back and front of which there is a set of rollers B. Each set of rollers B are mounted with an advertising device B⁴ or a series of advertising devices. There are or may be two, three, or more sets of such rollers carried on the framework at a convenient distance above each other. At one end of the framework opposite each set of rollers in the vertical plane and resting on a suitable bracket A' there is a vertical cylinder C, having a piston D working therein. Connected to this cylinder C is a pipe E, leading from the main or other source of supply. As the water enters the cylinder C it raises the piston D, and as it rises it operates a forked lever N, which gives motion to an axle or spindle G, upon which is mounted a rocking bar G', which is connected to a pawl G², which gears with a sprocket-wheel G³, working on same center or axes H' as the driving-wheel H. This operation causes the driving or spur wheel H to make a fourth or other arranged part of a revolution, and thereby revolves the first set of rollers B, B', B², and B^{2a}, which are in gear communication with said driving-wheel H by means of a pinion I

or otherwise, on whose axis the roller B is mounted and so calculated as to make a complete revolution for the fourth or other part of a revolution made by the driving-wheel H. Each set of rollers are so geared to each other as to insure their working simultaneously. On the piston D reaching the top of its stroke the valve J is closed and the water completely cut off. A tumbling-lever R, which is loosely mounted on the spindle G and rocks between the two studs g' and g², as seen in Fig. 3^a, projecting from the quadrant, which is rigidly fixed to the aforesaid spindle G, assists in the operation, for when the piston is at the top of the cylinder and has commenced to descend the quadrant g by means of the pin g' has thrown the tumbling-lever R, and with it its weight, on the stud g² of the quadrant g, which causes the spindle G to quickly turn upon its axis, and relatively with this movement an arm P, which is coaxial with it on the spindle G, descends, as well as the lever L, which is pivotally connected with the arms P, said lever L being connected to the weighted lever M and which is connected to the stems of the valves or cocks, by which means the downward stroke is greatly expedited. The said weighted lever M is provided at its outer end with a curved projection of bolt formation by which it is momentarily locked, as now to be described. The closing of the inlet-valve simultaneously opens the discharge-valve, this valve having a three-way cock.

Referring to the upper cylinder C, as illustrated on Fig. 1, the inlet-port leading to the cylinder C is open for the admission of water, which enters at the bottom, as shown. The rise of the piston-rod D' by means of projecting studs d causes the fork N to turn the spindle G upon its axis, which operation raises the lever P, which is mounted upon and turns with the said spindle G, and with it is raised the slotted extension L, which is connected to the outer end of the valve-lever M aforesaid. The valve-lever M, being raised to a predetermined height, engages with the short vertical locking-lever O, which for the time being insures the water being positively cut off and kept so. Further, with the rise of said piston the engaging end of the lever P (seen more particularly in Fig. 3) is caused to rise relatively with it. The rise of the le-

ver P would be retarded when it came in contact with the engaging end P' of the weighted lever Q, which is pivoted on the fulcrum P³. This, however, is obviated by virtue of the deer-foot form of joint Z, operating only by a rising motion with which the lever P is provided, which is so constructed that its outer end becomes depressed, as shown in dotted lines in Fig. 3^a, when in contact with P', and so the lever is enabled to rise until the piston has completed its stroke. The cylinder becoming exhausted of water discharging itself by gravity by the outlet or exhaust pipe E' at the bottom, the piston is then depressed by the aid of the weighted lever or arm R, and on reaching the bottom the tumbling-lever falls in an opposite direction, and in doing so by disengaging a catch attached to the valve or cock of the cylinder connected with the second set of rollers opens the valve and admits water into this cylinder, and the piston rises and operates the mechanism in a precisely similar manner to the former set already described. When the piston of this second cylinder reaches the bottom, the tumbling-lever by means of a wire or cord or other suitable arrangement releases the catch, which prevents the water from entering the first cylinder. The lever P also descends when it comes in contact with the engaging surface P' of the weighted lever Q aforesaid, which does not permit of its passing clear, but is acted upon in such a manner as to cause the outer end P² of the weighted lever P' to rise. The rising of the outer end P² of the lever P', which is connected to the lower lever P² by means of a connecting wire, cord, or chain S, has effected the disengagement of the lower valve-lever M by causing its bolt-like end to be released from the lower vertical locking-lever O, which is moved outwardly in the direction indicated by the arrow end, which opens the port for an admission of water to the lower cylinder, which in turn is acted upon in a similar manner, as stated. By the alternate charge and discharge of the upper and lower cylinders and bringing into operation the mechanism before described the upper and lower rollers are periodically revolved and the advertisements alternately changed. Suitable overflows are provided in the cylinders. The advertisements, which are placed around the sets of rollers, revolve so long as the set is in motion. The advertisements on each set of rollers may be placed on one sheet of canvas or other suitable material or in separate sheets, and they may be connected to chains, cords, or otherwise for communicating the motion from one roller to the other. In the drawings I have shown the rollers B' mounted with sprocket-wheels B², which engage with the eyelets B³, formed on one side of the advertising-screen. I also provide revolving electric lamps (not shown in the drawings) of different colors and intended to be mounted on the framework T, which has a spindle U, which receives a rotary motion

from the roller by means of a pinion V, which gives motion to a shaft W, mounted with a worm X, which said worm gives motion to a tooth-wheel Y in order to operate the spindle U aforesaid. The lamps are so arranged that the revolving of the rollers operates them, thereby causing them to revolve at the same time.

I claim—

1. An apparatus for displaying advertisements, consisting of a framework, a set or sets of rollers mounted upon the front and back thereof, a series of hydraulic pistons and means engaging the same for rotating said rollers, and means whereby, as one set of rollers has completed its revolution the rotating mechanism is cut off from it and said set of rollers remains stationary and means connecting the first and last set of rollers whereby the rollers are operated in succession so long as power is applied.

2. An apparatus for displaying advertisements consisting of a framework, a set or sets of rollers mounted upon the front and back thereof, a series of hydraulic pistons, each controlled by the other and levers connected to said pistons for rotating said set of rollers, whereby, as one set of rollers has completed its revolution, the rotating mechanism is cut off from it and immediately connected to the next set of rollers and means connecting the first and last set of rollers whereby the rollers are operated in succession so long as power is applied.

3. An apparatus for displaying advertisements consisting of a framework, a set or sets of rollers mounted upon the front and back thereof, a series of hydraulic pistons mounted above each other, mechanism engaging said pistons for rotating said rollers, means whereby, as one set of rollers has completed its revolution, the rotating mechanism is cut off from it, means for immediately connecting up the next set of rollers with the rotating mechanism until all the rollers have been operated, and means for connecting the first with the last set of rollers whereby the rollers are again rotated in succession so long as power is applied.

4. An apparatus for displaying advertisements consisting of a framework, a set or sets of rollers mounted upon the front and back thereof, hydraulic pistons having connection with each other, levers connected to the rods of said pistons, a valve for each piston-cylinder, connected with the said levers, and a connecting-rod connecting the top and bottom set of rollers whereby the rollers are operated in succession so long as water-power is applied.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT JAMES WOOD.

Witnesses:

JOHN LIDDLE,
JOSEPH HENRY PEARSON.