

No. 695,865.

Patented Mar. 18, 1902.

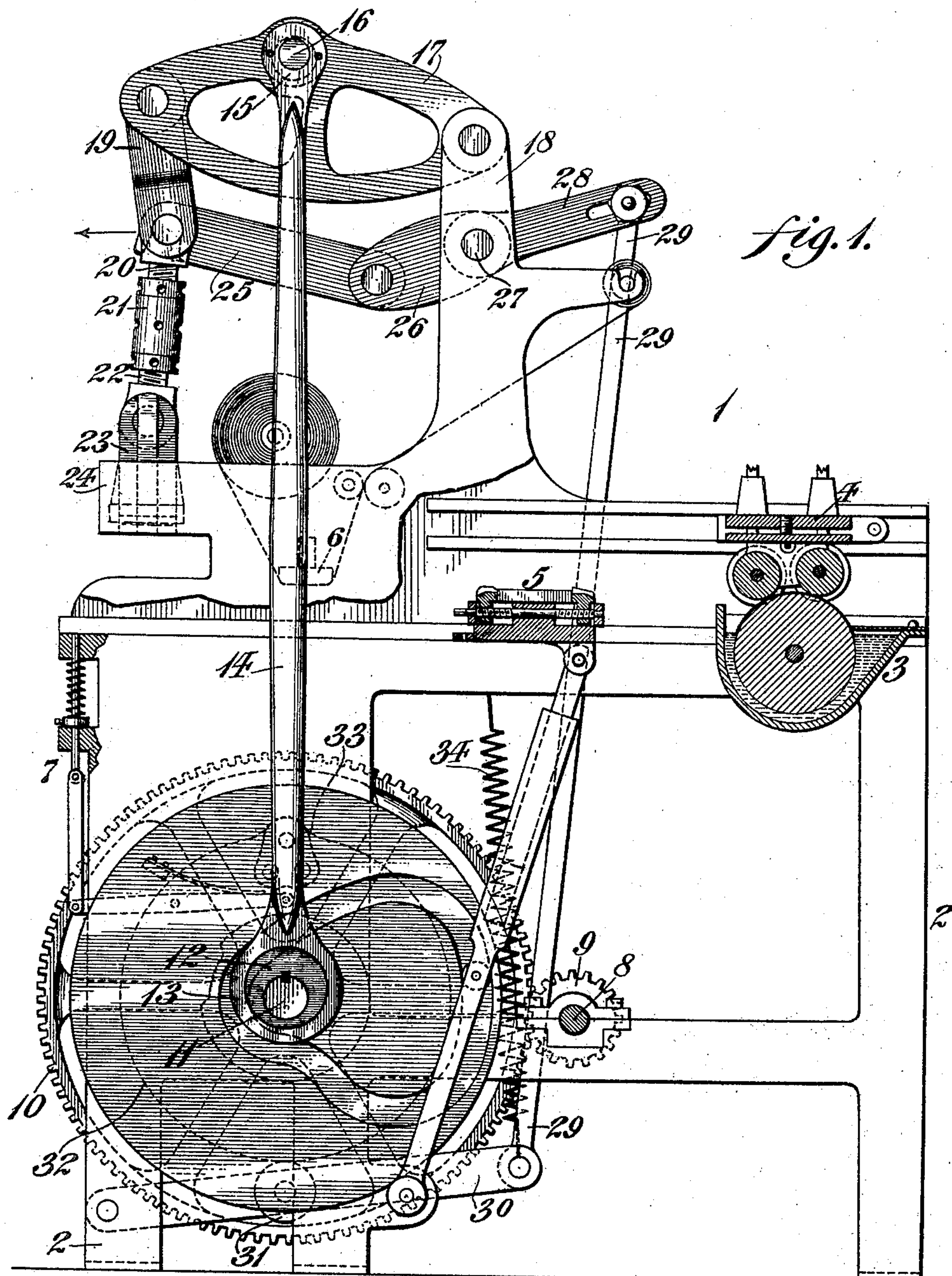
W. FULLARD.

PLATE PRINTING AND EMBOSSING PRESS.

(Application filed Mar. 27, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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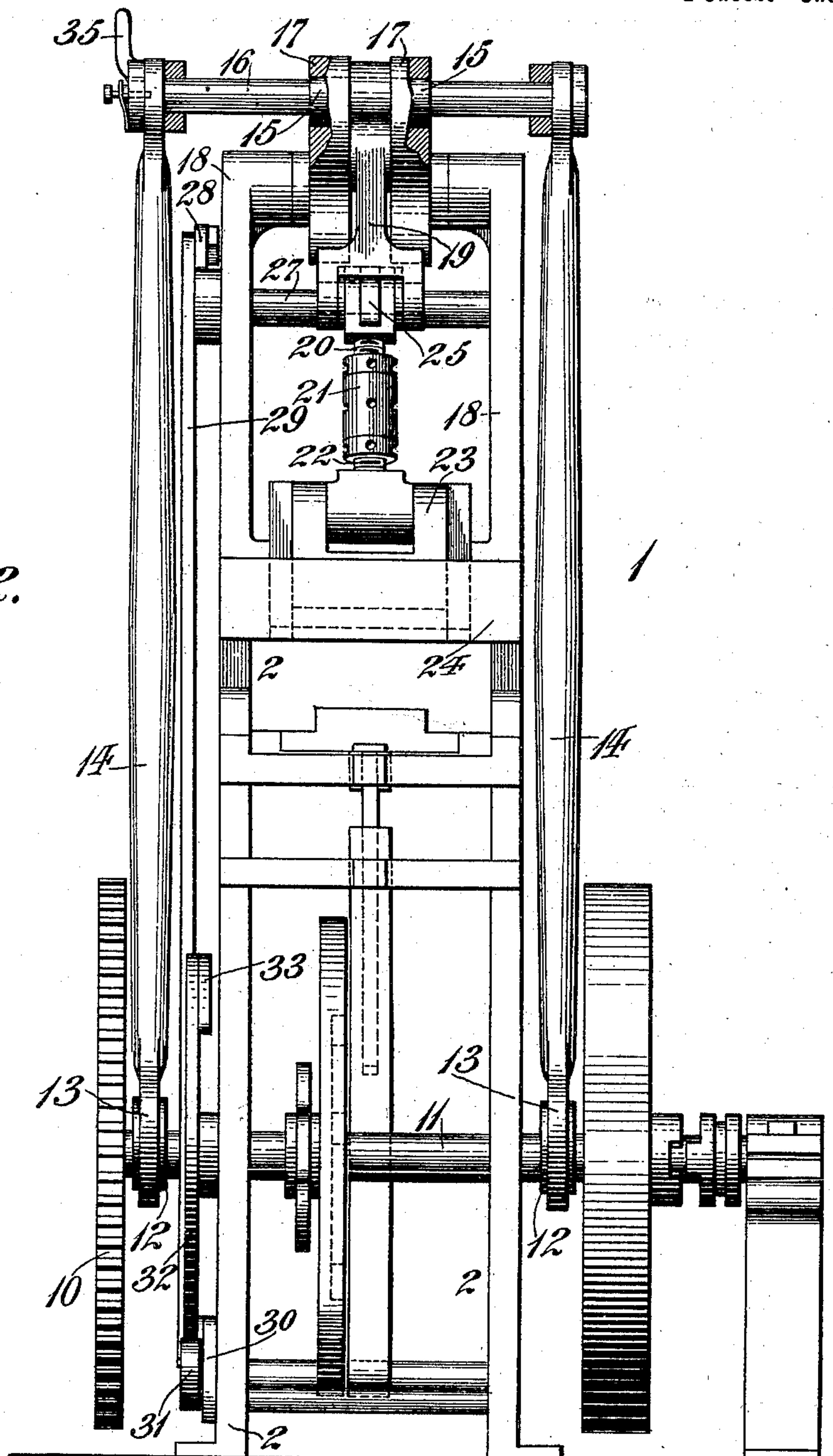
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(No Model.)

2 Sheets—Sheet 2.

fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM FULLARD, OF COLWYN, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO WILLIAM E. WEBER, OF WYNCOTE, PENNSYLVANIA.

PLATE-PRINTING AND EMBOSSING PRESS.

SPECIFICATION forming part of Letters Patent No. 695,865, dated March 18, 1902.

Application filed March 27, 1901. Serial No. 53,022. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM FULLARD, a citizen of the United States, residing at Colwyn, in the county of Delaware, State of Pennsylvania, have invented a new and useful Improvement in Plate-Printing and Embossing Presses, of which the following is a specification.

My invention relates to an improvement in plate-printing and embossing presses; and it consists in means for imparting a quick and positive action to the plunger of the impression-die.

It further consists in means for imparting a motion to the die-plunger and then a quicker action thereto.

It further consists of novel details of construction, all as will be hereinafter fully set forth.

Figure 1 represents a partial side elevation and partial sectional view of a portion of a plate-printing and embossing press embodying my invention. Fig. 2 represents an end elevation thereof.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a plate-printing and embossing machine having the frame 2, which carries a suitable inking device 3 and ink-rollers and carriage 4, a die-chuck 5, which may be operated in any suitable and well-known manner, a suitable wiping device 6, and a suitable locking device 7 for the die-chuck, the parts mentioned forming no part of the present invention, and hence no further description of the same is deemed necessary at this time.

8 designates a power-shaft carrying a gear 9, which meshes with the gear 10, the same being mounted upon the main shaft 11, to which is suitably secured—for example, by a feather—an eccentric 12, which engages with a collar 13, on one end of the rod 14, the opposite end of the rod engaging with a shaft 16, which carries eccentric 15, and which also is connected with a walking-beam lever 17, one end of which is pivoted to a support 18, the opposite end of said lever having pivoted thereto a lever 19, in which is journaled a screw-threaded pin 20, which has a nut 21 thereon, which also engages with the screw-

threaded pin 22, which latter is pivotally connected with the plunger-head 23, the latter carrying the impression portion of the die and moving in a portion 24 of the frame as a guide. Suitably connected with the lever 19 is an arm 25 of a toggle-lever, the opposite end of the arm 25 being connected with an arm 26, which in the present instance is secured to a shaft 27, a lever 28 being also secured to said shaft and has connected therewith a rod 29, the lower end of which is pivotally connected with a lever 30, which latter is pivoted to a suitable portion of the frame 2 and which carries a roller 31, which is in intimate contact at all times with a cam 32, having a nose 33 thereon, said cam being connected with the main shaft 11 and revolves therewith.

The operation is as follows: The inking device 4 is so timed as to impart ink to the die in the chuck 5, after which the same moves forward, being suitably wiped by the wiper 6 and locked in proper position by the locking device 7. As the parts mentioned are operated the shaft 11 is meanwhile revolving and carries with it the eccentric 12, which thus depresses the rod 14 and likewise the lever 17, and consequently the plunger 23. In order to get the quick action and necessary power to the plunger 23, the following movement occurs at the proper time: As the shaft 11 revolves it carries with it the cam 32, the nose 33 of which contacts, as before stated, at the proper time with the lever 30, the free end of which is thus depressed and lowers the rod 29 and the free end of the lever 28, thus revolving the shaft 27, which raises the free end of the arm 26 and forces the outer end of the arm 25 in a direction indicated by the arrow, Fig. 1, which thus straightens out the arm 19, pins 20 and 22, and thus forces down the plunger-head 23 the requisite amount, and as the various parts continue their movement they again assume the position seen in Fig. 1 and are ready for their next action. By means of the nut 21, which is connected with the screw-threaded pins 20 and 22, the plunger-head can be adjusted, while by reason of the spring 34 the lever 30 is assisted in its return movement.

Connected with the eccentric 15 is a handle 35, and by giving the same a proper turn

it will be seen that the heavy portion of the eccentric will be on the upper side of the shaft 16, which will tend to raise the lever 17, which engages therewith, as seen in Fig. 2, so that while in this position the machine can operate without the plunger-head die coming in contact with the die in the chuck 5, thus preventing the destruction of the same. It will be further noticed that on the arm 25 is a hook whereby the same is connected with the lever 19, and by releasing the same, if desired, the plunger-head will be prevented from operating to make an impression.

In Figs. 1 and 2 it will be noticed that when an impression is being made the pull is in a vertical line on a dead-center and that the plunger is acted upon and given motion by two distinct means, one a slow one to lower or raise a certain distance and the other to impart a quick action and the necessary power at the time of making the impression.

While I describe certain mechanism and apparatus for carrying out my invention, I do not desire to be limited in every instance to the exact construction herein shown and described.

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

1. In a plate-printing and embossing press, a die-plunger, means for imparting a motion thereto and separate means for imparting a quicker action thereto at a proper time.

2. In a plate-printing and embossing press, a die-plunger, means for supporting the same, means for imparting a movement thereto and separate means connected with said plunger for imparting a quick action thereto.

3. In a plate-printing and embossing press, a die-plunger, a walking-beam supporting the same, a rod connected with said walking-beam, a power-shaft, a cam on said power-shaft adapted to operate said rod to impart an up-and-down movement thereto, and sep-

arate means for imparting a quick action to said plunger after the walking-beam has been lowered.

4. In a plate-printing and embossing press, a die-plunger, a toggle-lever connected therewith, means for operating said toggle-lever and separate means for imparting a slow up-and-down movement to said die-plunger.

5. In a plate-printing and embossing press, a die-plunger, a toggle-lever connected therewith, a rod adapted to operate said toggle-lever, a lever connected with said rod, means for actuating said lever, a walking-beam supporting said die-plunger, and means for imparting a slow up-and-down movement to said walking-beam.

6. In a plate-printing and embossing press, a die-plunger, a lever pivoted at one end to a support and carrying said plunger, means for imparting an up-and-down movement to said walking-beam, separate means for imparting a quick movement to said lever and an eccentric suitably connected with said lever whereby the latter can be adjusted to prevent an impression being made.

7. In a plate-printing and embossing press, a die-plunger, a walking-beam supporting the same, means for imparting an up-and-down movement to said walking-beam, an arm connected with said die-plunger, and a cam adapted to operate said arm in order to impart a quick motion to said plunger.

8. In a plate-printing and embossing press, a die-plunger, a walking-beam supporting the same, means for imparting an up-and-down movement to said walking-beam, an arm connected with said plunger, a cam adapted to operate said arm, a shaft carrying said cam and means for imparting motion to said shaft.

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