

No. 763,552.

PATENTED JUNE 28, 1904.

W. FULLARD.
PRINTING PRESS.

APPLICATION FILED JAN. 26, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 3.

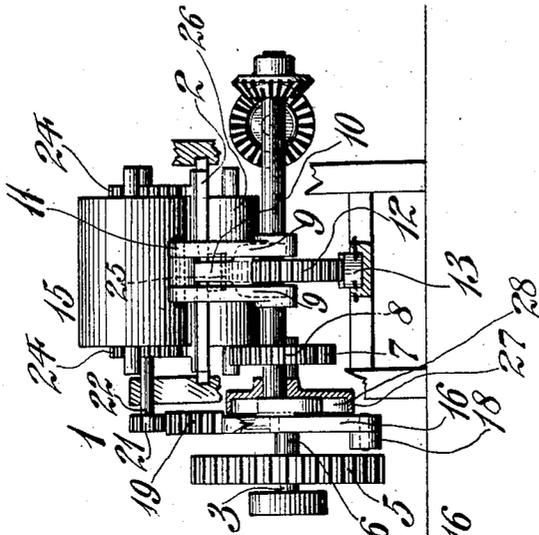
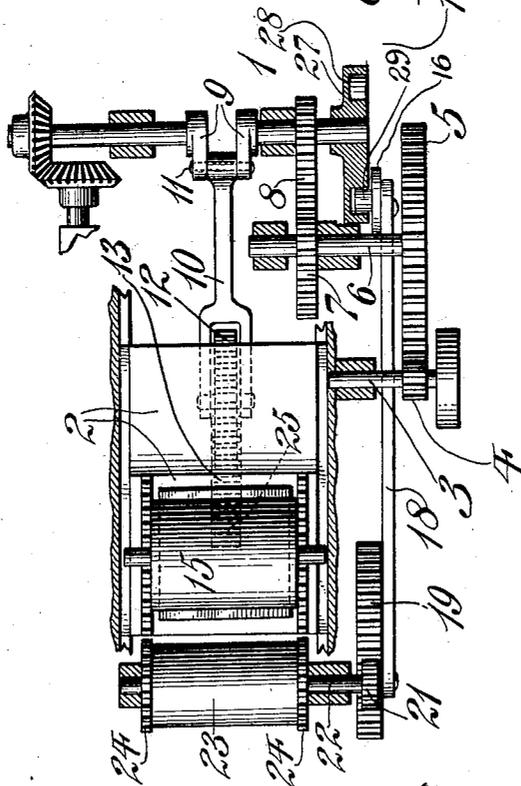


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM FULLARD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
TO POWER STEEL PLATE PRESS COMPANY, A CORPORATION OF
NEW JERSEY.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 763,552, dated June 28, 1904.

Application filed January 26, 1903. Serial No. 140,523. (No model.)

To all whom it may concern:

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

My invention consists of an improvement in means for imparting a reciprocating movement to any suitable device and being so arranged as to impart a quicker movement in one direction than in the other, and in the present apparatus I have shown and described the same as applied to a printing-machine wherein a slow movement is imparted to the bed-plate in its forward movement or during the wiping and a quicker movement is imparted on its return motion.

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

Figure 1 represents a side elevation of a portion of a printing-machine, showing the embodiment of my invention and the portions of the machine upon which the same act. Fig. 2 represents a plan view thereof. Fig. 3 represents an end elevation.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates means for imparting the reciprocating motion to the bed-plate 2 of the machine, and consists of a power-shaft 3, to which power is imparted in any suitable manner, said shaft carrying a gear 4, which meshes with the large gear 5, carried on the shaft 6, to which is secured the eccentric gear 7, meshing with the eccentric gear 8, the latter being suitably connected with the lever 9, which has attached thereto the arm 10 by the pivot 11, said arm 10 being pivotally connected with the gear 12, which meshes with the stationary rack 13, which latter is suitably supported on the frame of the machine, said gear also meshing with a suitable rack or gear 14 on the bed-plate 2, whereby it will be understood that motion is imparted to said bed, as will be hereinafter fully explained.

15 designates the wiping device of the machine, of ordinary construction, adapted to be rotated in the same direction as the line of movement of the bed 2 and is adapted to contact with the plate carried by the bed during the forward motion thereof—that is, toward the left in Fig 1—whereby it will be understood that it is desired in the present case to impart a slow forward movement to the bed.

16 designates an arm which is pivoted at 17 to a suitable portion of the frame of the machine and has connected at its lower portion one end of a bar 18, which is connected at its opposite end to a segment 19, which is pivoted at 20 to a suitable portion of the frame of the machine, said segment having suitable teeth thereon in mesh with the pinion 21, carried on the shaft 22, upon which is carried the impression-roll 23 of the machine, said roll being provided with the mutilated or segmental gear 24, which is adapted at the proper time to mesh with a rack 25, carried upon the bed 2 of the machine.

26 designates a roller which is journaled in the frame of the press and which is adapted to support the bed when it is in its forward position.

27 designates a cam which is suitably supported and is adapted to be moved in conjunction with the gear 8 and is provided with the slot 28, in which is situated a roller 29, carried by the arm 16.

The operation is as follows: Motion is imparted to the power-shaft 3, which transmits motion through the medium of the gear 4 to the gear 5 and the eccentric gears 7 and 8 to the arm 9, the parts being so arranged that as a forward movement is imparted to the arm 9 the same will move slowly, carrying with it the lever 10, which causes the gear 12 to move on the rack 13 and imparts a slow forward motion to the bed 2, the wiping device 15 being brought in contact with the plate carried by the bed and wiping the same. Meanwhile the cam 27 in its revolution causes the arm 16 to be moved toward the right in Fig. 1, carrying over the bar 18, which causes the upper end of the segment to be moved toward

the left in Fig. 1, which rotates the impression-roll 23, which has meanwhile been supplied with the paper to receive the impression, and causes the teeth of the segmental gear 24 to mesh with the rack 25, carried by the bed 2; whereby it will be understood that the relative movement of the said bed and the printing-roll will be properly timed and controlled and that the movement of the bed will be assisted, and the free end of said bed will contact with and be supported by the roller 26. The parts are so arranged that a complete revolution of the impression-roller 23 will be made, and that portion of the impression-roller 23 which is not supplied with teeth will be adjacent to the bed 2, which latter thus can move freely in the return direction without movement of the impression-roller 23. The continued movement of the eccentric gears 7 and 8 will cause the lever 9 and arm 10 to draw back the gear 12, and with it the bed 2, said eccentric gears 7 and 8 being so arranged as to give a quick movement to the parts, and as soon as the bed 2 is removed from proximity to the impression-roller 23 the slot 28 in the cam 27 causes the arm 16 to be returned to its former position, which actuates the segment 19 through the medium of the bar 18 and causes the impression-roller 23 to be returned to its former position, ready for the next operation.

As above stated, it will be understood that I do not wish to be limited to the construction as above shown and described, nor to a printing-machine, but desire to use the invention where it is necessary to impart a reciprocating motion to any device, and I therefore desire to make such changes as will come within the scope of my invention.

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

1. In a printing-press, a plate-supporting bed, means for moving said bed in opposite directions at different speeds, an impression-roll, a segmental gear on said roll, a rack on said bed with which said gear engages during the movement of said bed in one direction and separate means for rotating said roll during the movement of said bed in the opposite direction.

2. In a printing-machine, a bed adapted to support a plate, means for imparting a slow forward movement to said bed, and a relatively quick movement for the return of said bed, an impression-roll, a mutilated gear carried by said roll and adapted to mesh with a suitable rack on said bed during the forward movement thereof, and being so arranged as to present the plain space to said bed, whereby the return movement of said bed is accomplished without actuating said impression-roll, and means for returning the impression-roll to its normal position after the bed has been

removed from proximity to said impression-roll. 65

3. In a printing-machine, a bed adapted to support a plate, means for imparting a slow forward movement to said bed, and a relatively quick movement for the return of said bed, an impression-roll, a mutilated gear carried by said roll and adapted to mesh with a suitable rack on said bed during the forward movement thereof, and being so arranged as to present the plain space to said bed, whereby the return movement of said bed is accomplished without actuating said impression-roll, means for returning the printing-roll to its normal position after the bed has been removed from proximity from said impression-roll, and means for supporting said bed in its forward position. 70 75 80

4. In a printing-machine, a bed adapted to support a plate, means for imparting a slow forward movement to said bed, and a relatively quick return movement to said bed, an impression-roll, a mutilated gear carried thereby and adapted to mesh with a suitable rack on said bed during the forward movement thereof, a segment suitably supported and adapted to mesh with a pinion carried by said impression-roll, and means for actuating said segment whereby the same will assist in the forward movement of said bed, and will return said impression-roll to its normal position after the bed has been removed from proximity thereto. 85 90 95

5. In a device of the kind specified, a bed, a rack thereon, a gear meshing therewith, a stationary rack suitably supported and with which said gear meshes, a lever connected with said gear, an arm connected with said lever, an eccentric gear connected with said arm, a second eccentric gear meshing with said first-mentioned gear, and to which motion is imparted whereby a fast and slow reciprocating movement is imparted to said bed, an impression-roller, a mutilated gear carried thereby and adapted to mesh with a suitable rack on said bed during the slow forward movement thereof, and being so arranged as to present a plain surface to said bed in its furthest position, a segment suitably supported and adapted to mesh with a pinion carried by said impression-roller, means for actuating said segment whereby the same will assist in the forward movement of said bed, and will return said impression-roller to its normal position after the bed has been removed from proximity thereto, and a support for said bed in its forward movement. 100 105 110 115 120

6. In a device of the kind specified, a bed, a rack thereon, a gear meshing therewith, a stationary rack suitably supported and with which said gear meshes, a lever connected with said gear, an arm connected with said lever, an eccentric gear connected with said arm, a second eccentric gear meshing with said 125

first-mentioned gear, and to which motion is imparted whereby a fast and slow reciprocating movement is imparted to said bed, an impression-roller, a mutilated gear carried
5 thereby and adapted to mesh with a suitable rack on said bed during the slow forward movement thereof, and being so arranged as to present a plain surface to said bed in its
10 furthestmost position, a segment suitably supported and adapted to mesh with a pinion carried by said impression-roller, a bar suit-
ably connected with said segment, an arm connected with said bar and pivotally supported and a cam suitably connected with said
arm and to which motion is imparted whereby
15 movement is imparted to said arm to operate said segment.

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Witnesses:

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