

H. W. DICKINSON.
PAPER FEEDER FOR PRINTING PRESSES.

No. 13,737.

Patented Oct. 30, 1855.

Fig. 1.

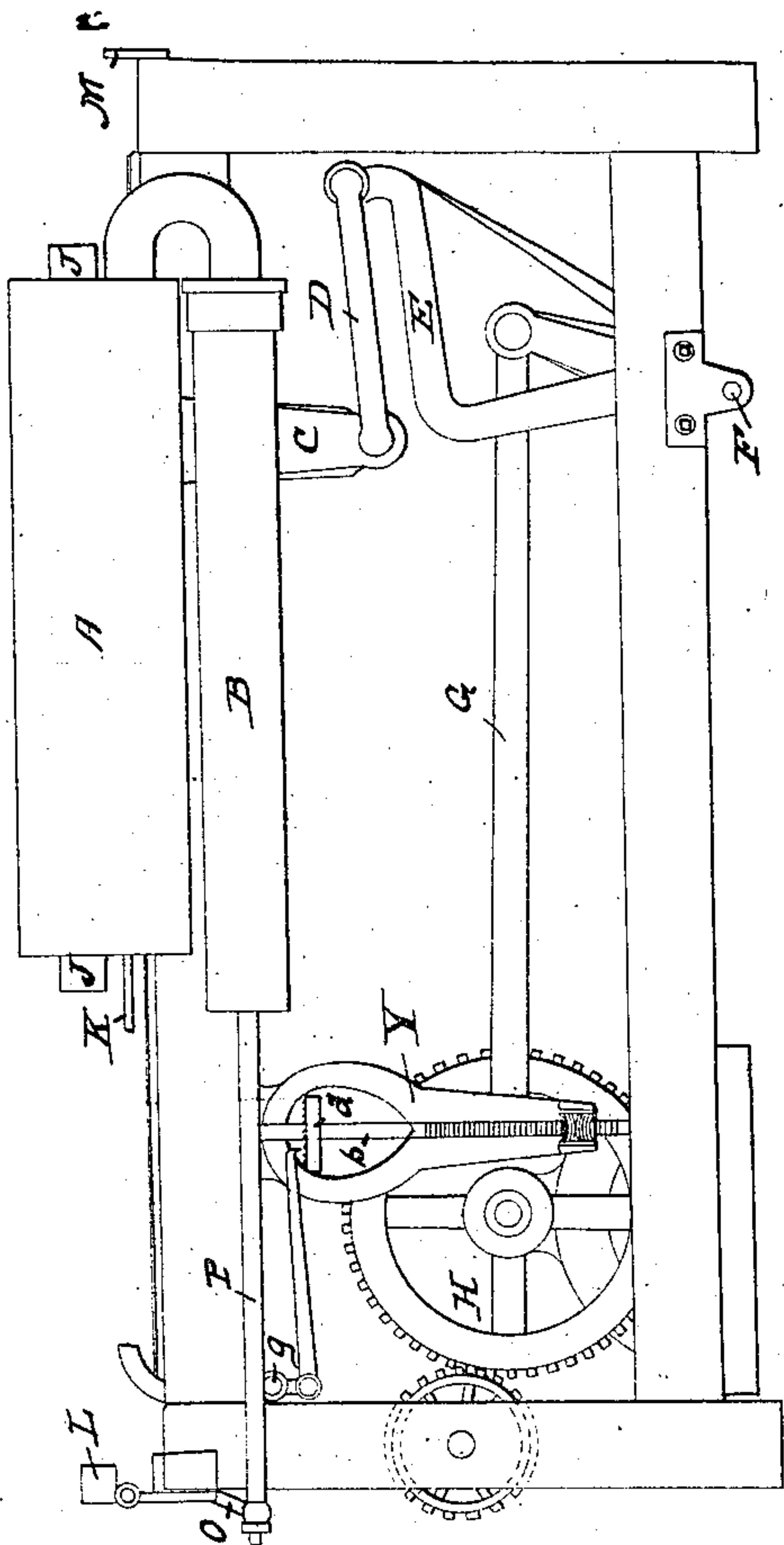


Fig. 2.

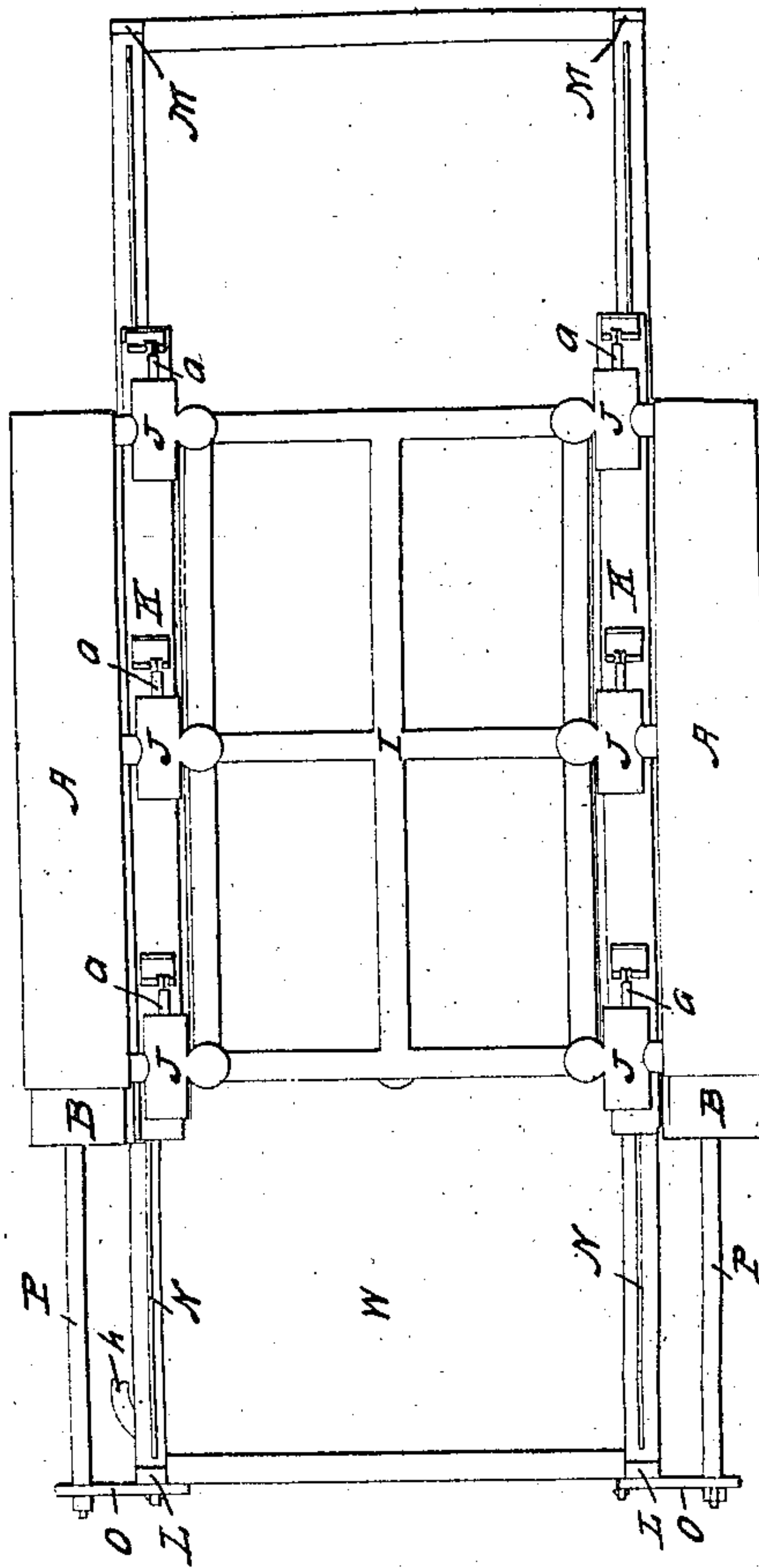


Fig. 3.

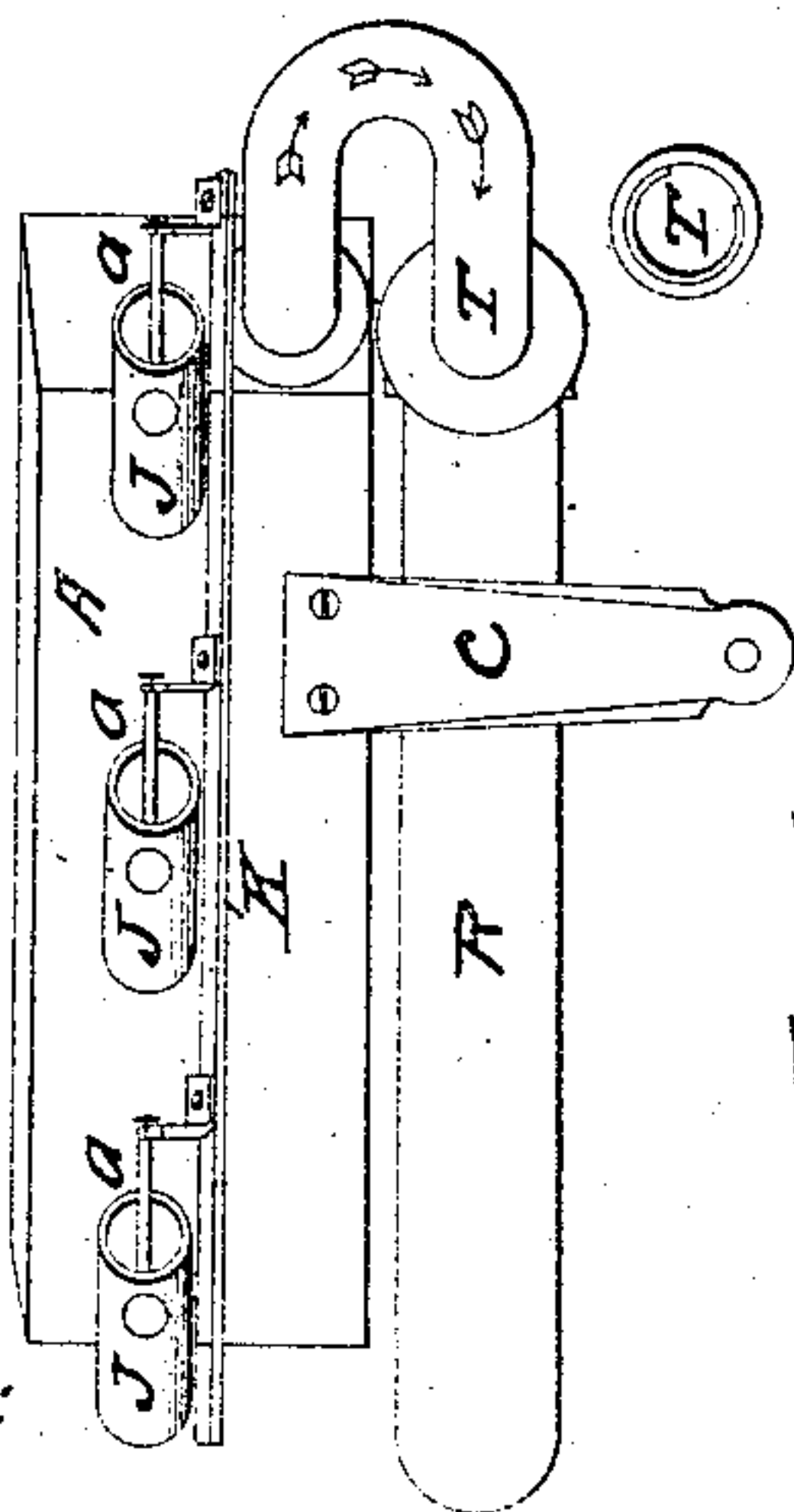


Fig. 5.

Fig. 6.

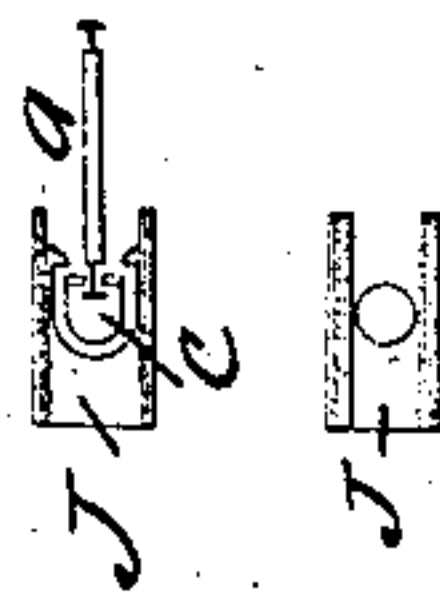
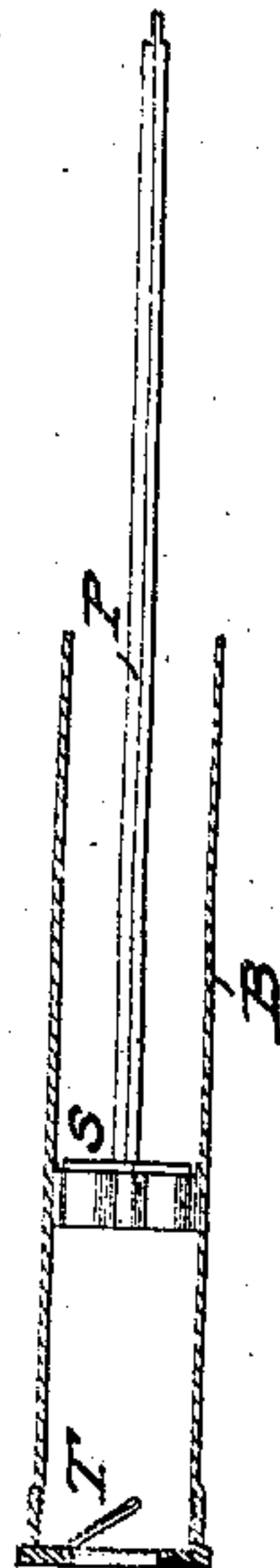


Fig. 4.



Witnesses:

Wm. H. Ferguson
Wm. H. Ferguson

Inventor
H. W. Dickinson

UNITED STATES PATENT OFFICE.

HENRY W. DICKINSON, OF ROCHESTER, NEW YORK, ASSIGNOR TO L. B. SWAN, OF
LOWELL, MASSACHUSETTS.

MACHINE FOR FEEDING PAPER TO PRINTING-PRESSES.

Specification of Letters Patent No. 13,737, dated October 30, 1855.

To all whom it may concern:

Be it known that I, HENRY W. DICKINSON, of Rochester, in the county of Monroe and State of New York, have invented a
5 new and useful Improvement on Paper-Feeders of Printing-Presses; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to
10 the accompanying drawings, making a part of this specification, in which—

Figure 1, is a side elevation, showing the air chambers A, pump B, arm C, connecting rod D, arm E, the end of the rock-shaft F,
15 connecting rod G, gearing H, and the devices for raising the "bank" table. Fig. 2, is a plan of the top of the machine, showing the transit-frame I, valve cylinders J, adjusting bars K, stops L, and the stops M, &c.
20 Fig. 3, shows the side of the air chamber and pump next to the frame, with the cylinders J, and adjusting bar K, attached. Fig. 4, is a longitudinal section of the pump and piston.

25 The nature of my invention consists in the construction of a reciprocating transit frame to be applied to the ordinary printing presses for the purpose of feeding the paper, by means of atmospheric pressure, so as to
30 avoid the necessity of manual assistants for that purpose.

To apply my invention to ordinary presses, it is only necessary to fix a pair of ways N, Fig. 2, to the sides of the press
35 frame, for the transit frame I, to move upon. Said ways should be about $\frac{2}{3}$ the length of the press frame, and at one end of them is the stops L, and at the other, the stops M, which strike the end of the adjusting bars K.

40 I use a common air pump B, to exhaust the air chambers A, which should be of equal capacity with the chambers, in order that each outward stroke of the piston P, may fully exhaust them. They should each
45 be about two inches in diameter, and three and a half feet long. They may be attached to the under side of the chambers, as seen, in Figs. 1, and 3, and move with them, the pistons being fixed to the press frame at O,
50 Figs. 1, and 2. The piston valve is constructed as seen at S, Fig. 4, and the pump valve, as seen at T, Figs. 4 and 5. The valves in the cylinders J, are constructed as shown at c, Fig. 6, with a catch connecting
55 the valve with the end of the pistons a, the other end of them being attached to the adjusting bars K. The valves may all be made

either of leather or gutta-percha. From each of the valve cylinders J, there is a tube leading down through the transit frame I, 60 to the paper. Said frame I, is constructed as seen in Fig. 2, of any suitable material, either tubular, or solid, and it is moved to and from the "bank," by the rock-shaft F, by connecting the arm C, of the air-cham- 65 bers to the arms E, of said rock-shaft F, by the connecting rods D. The rock-shaft F, connecting rod G, and the gearing H, are already in the presses. The screw b, on each side is attached to the press frame at the top 70 and bottom, as seen in Fig. 1, and passes through the nut at the lower end of the hanger Y, which is formed of two threaded pinions. They are kept from turning when the table is to be fed up, by a key between 75 them and the hanger Y. Said hanger is fixed to the "bank-table" W, seen in Fig. 2. There is a ratchet wheel d, on each of the screws b, which are worked by the pawls f, of the rock-shaft g. The end of the air 80 chamber at each oscillation, strikes the arm h, of said rock-shaft, thereby giving a partial turn to the screws b, which raises the "bank-table" according to the thickness of each sheet of paper. It may be found ex- 85 pedient to have but one orifice into the air chamber and run a tube from that to each of the openings through the transit frame. The paper is placed upon the table W, Fig. 2, and one oscillation given to the transit 90 frame to produce the exhaustion. As the frame moves back from right to left, of Figs. 1, and 2, the stops L, strike the adjusting bars K, which opens the valves c, when the suction from the exhausted cham- 95 bers A, causes the sheet to adhere to the orifices of the transit-frame I, which immediately returns to the other end, the stops M, strike the adjusting bars moving them back so as to close the valves c, when the 100 sheet is delivered to the nippers on the frisket frame of the press. This forward motion of the transit frame also reëhausts the chambers.

What I claim as my invention and desire 105 to secure by Letters Patent, is—

The general arrangement of the devices as above described and for the purpose set forth.

HENRY W. DICKINSON.

Witnesses:

WM. S. LOUGHBOROUGH,
D. BROOKS.