

Richard C. Warwick. Impit-cylinder printing presses.

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PATENTED JAN 31 1871

Fig. 1.

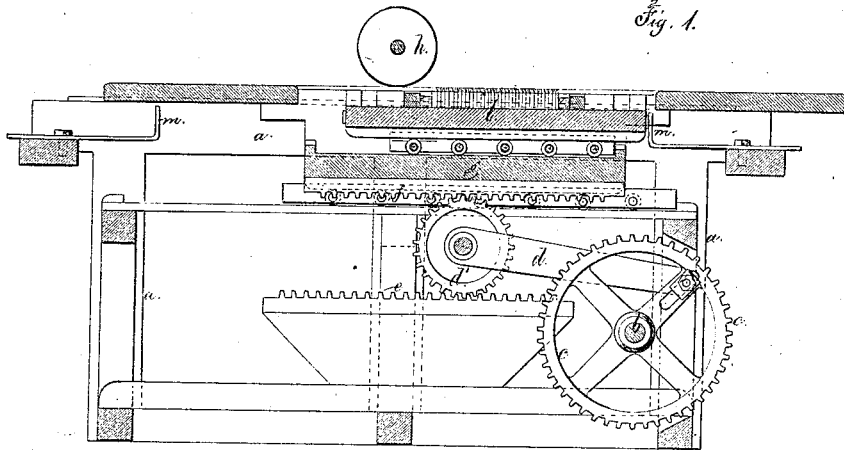
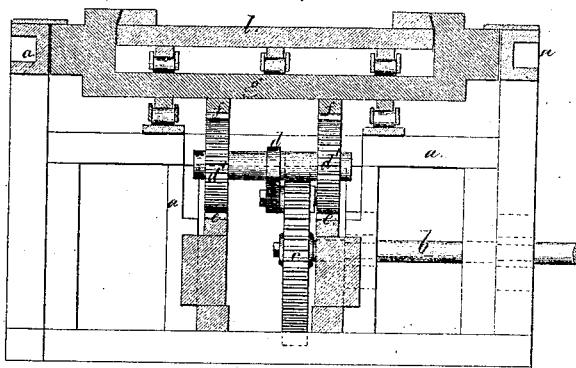


Fig. 2.



Witness,

Chas. H. Smith

Jos. A. Knicker

Richard C. Warwick,

per L. W. Terrell

att.

United States Patent Office.

RICHARD C. WARWICK, OF NEW YORK, N. Y.

Letters Patent No. 111,407, dated January 31, 1871.

IMPROVEMENT IN PRINTING-PRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all to whom it may concern:

Be it known that I, RICHARD C. WARWICK, of the city and State of New York, have invented an Improvement in Cylinder Printing-Presses, (two-feeder;) and the following is declared to be a correct description thereof.

Two-feeder cylinder printing-presses have been made with a press-cylinder above a reciprocating bed carrying the types, and in consequence of the bed having a uniform amount of reciprocation from the crank or otherwise, two sheets could not be fed in and properly brought into contact with the types, (when the form was smaller than the ordinary size, and a smaller sheet of paper required,) because the bed and roller have to be moved a given distance to bring the fingers into position for grasping the advancing edge of the sheet to be printed, hence this class of presses is limited to use with a given size of sheet and measurement of form of types, otherwise the paper will not be in proper position for the types, or a margin of too great width will be left upon the paper.

My invention consists in a secondary or type-bed upon the main bed, combined with stops, in such a manner that while the main bed receives its regular reciprocating movement so that the grippers are turned with the cylinder or segment to the proper place to grasp and carry forward the sheets fed from first one side and then the other, the type-bed only has the movement necessary to bring the types of the form into the proper position for the next sheet to be impressed.

By this construction the type-bed moves with the main bed in printing the sheet supplied from one side, and when the types reach the position for commencing to print the sheet supplied from the other side of the cylinder, the types and their bed are stopped while the main bed and cylinder or segment complete their movements for carrying out the printed sheet and receiving the next sheet to be printed, and upon the opposite reciprocation commencing, the type-bed and main bed move together, and with the cylinder, and print the sheet, after which the type-bed is arrested as before.

By this improvement any sized sheet of the capacity of the press, or less, can be printed, and the adjustment can be made with rapidity, so that more or less motion can be allowed to the type-bed.

In the drawing—

Figure 1 is a longitudinal section of the bed of the press.

Figure 2 is a cross-section of the same.

The frame *a* of the press carries the driving-shaft

b and wheel *c*, which may be rotated by a pinion or by power applied to the shaft *b*.

The connecting-rod *d* passes from a crank-pin on *c* to the shaft of the wheels *d'*, that gear into the racks *e* below, and *f* above, upon the under side of the main bed *g*, and

h is the impression-cylinder or segment.

These parts, except the bed *g*, are all of the well-known character made use of in two-feeder cylinder presses, and the feeding-tables, grippers, or feeding-fingers are of the ordinary character, and do not require further description, and I remark that the cylinder *h* or segment is geared so as to move as the bed is reciprocated in the usual manner, and delivery-belts and flyers may be employed for conveying away the paper.

The bed *g* varies from the ordinary bed used in these presses in the central portion, for, instead of being adapted to receive the form of type and chase, it is lowered to form a platform upon which the secondary or type-bed rests, and is supported upon friction-rollers or slides in such a manner as to allow of the type-bed *l* remaining stationary during a greater or lesser portion of the movement of the main bed *g*.

It will now be evident that the type-bed *l* may move with the bed *g* during the entire reciprocation of the latter, and that in this case a sheet of the full size of the press can be printed, and a lock to hold the two beds together may be used, or only the friction depended upon to keep the beds in the proper relative positions.

When a shorter or narrower sheet is to be printed the rules or gauges *m m* are to be adjusted so as to stop the movement of the bed *l* at the proper point of each reciprocation.

These rules or gauges *m* are adjustably affixed to the main bed of the machine, so as to be set to stop the movement of the bed *l* at any desired point, and I prefer to introduce India-rubber buffers either upon the ends of the gauges *m*, or upon the bed *l* where it comes in contact with said gauges, so as to lessen the noise and concussion.

The mode of adjusting the parts so that the edges of the sheets will occupy the proper position relatively to the types, and that the types will be arrested by stopping the bed *l* so that the last edge of the form of types will be in proper position to the fingers and edge of the sheet when the reciprocation is reversed, will be fully apparent to any skilled printer, and hence need not be further described.

A latch or connecting-lock may be applied in any convenient manner to connect the type-bed and main

bed during that portion of the reciprocation in which the printing is performed, said latch being disengaged by a cam or otherwise simultaneously with the bed *l*, being stopped by contact with the gauge or rule *m*.

This improvement is available where two cylinders are used with the two feeders, as well as in single-cylinder or segmental two-feeder presses.

I claim as my invention—

The secondary or type-bed *l* and stops or rules *m*, in combination with the main reciprocating bed *g* of the cylinder or segmental two-feeder printing-press, substantially as and for the purposes set forth.

Dated this 30th day of August, 1870.

RICHARD C. WARWICK.

Witnesses:

CHAS. H. SMITH,
GEO. T. PINCKNEY.