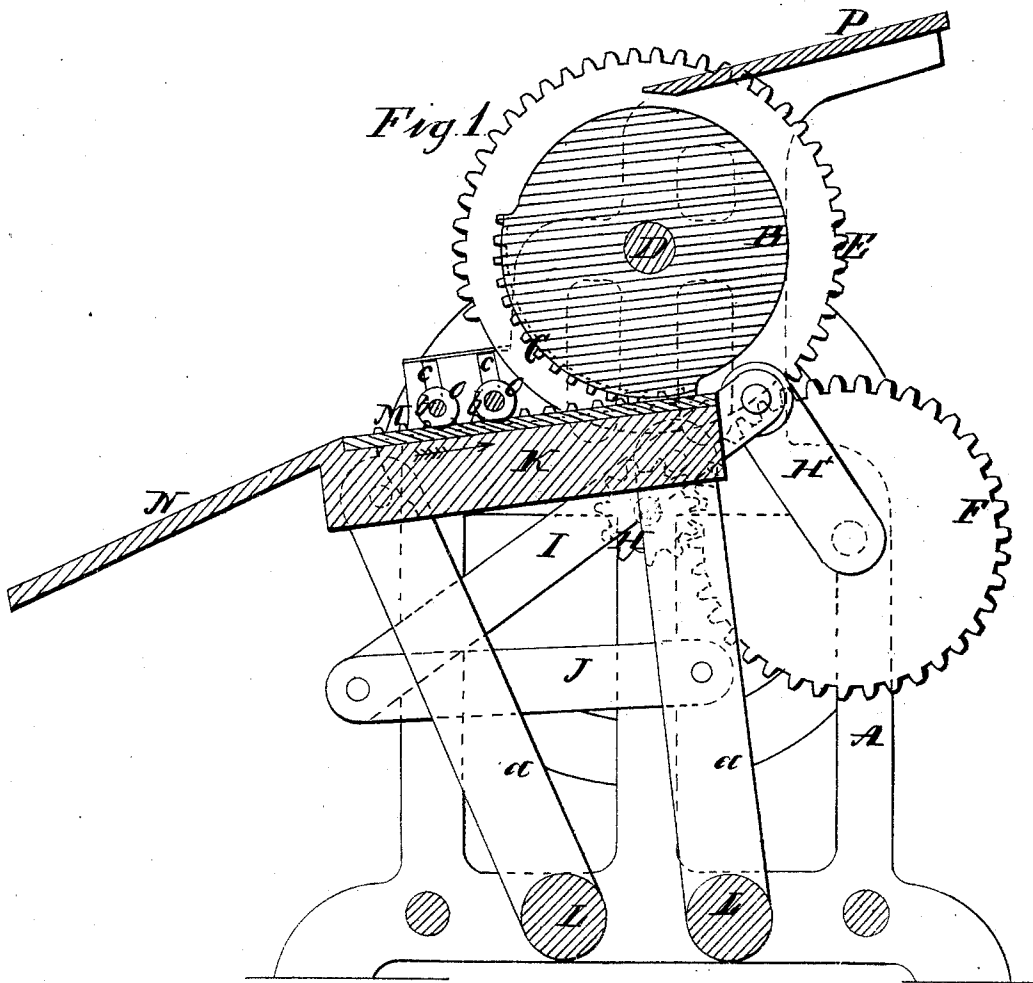


Sheet 1. 2 Sheets.

G. P. Gordon.
Printing Press.

N^o 20204. Patented May 11, 1858.



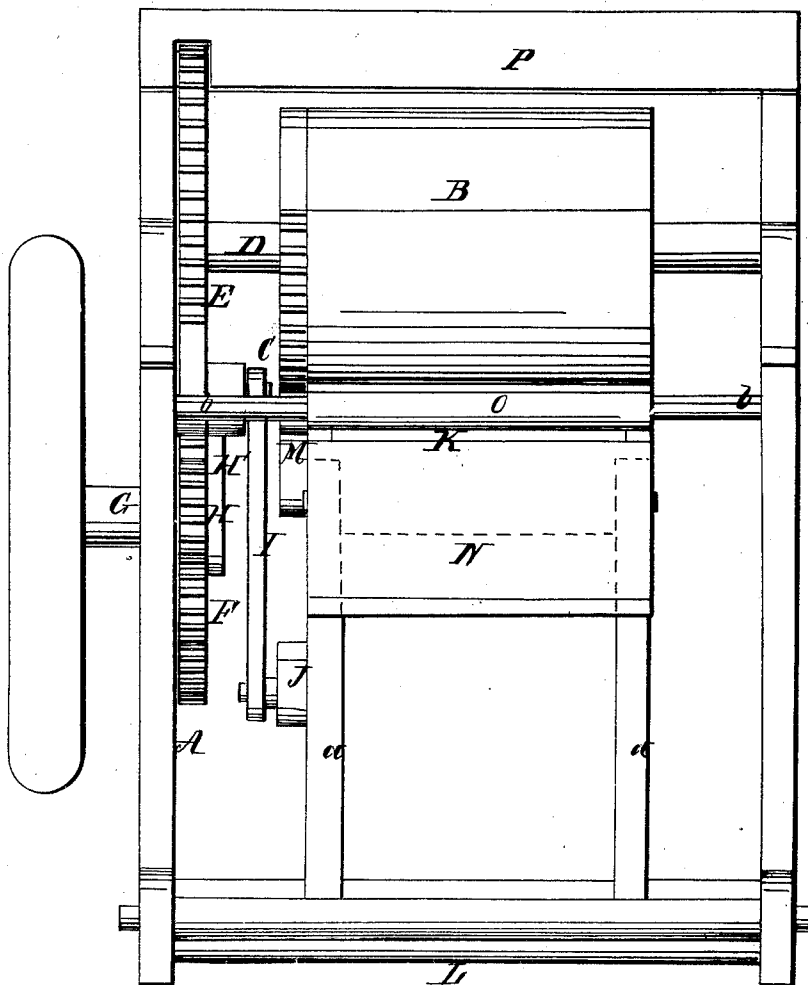
Sheet 2. 2 Sheets.

G. P. Gordon.

Printing Press.

N^o 20.204. Patented May 11. 1858.

Fig. 2.



UNITED STATES PATENT OFFICE.

G. P. GORDON AND F. O. DEGENER, OF NEW YORK, N. Y.

PRINTING-PRESS.

Specification of Letters Patent No. 20,204, dated May 11, 1858.

To all whom it may concern:

Be it known that we, GEORGE P. GORDON and F. O. DEGENER, of the city, county, and State of New York, have invented a new and Improved Printing-Press; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical central section of our improvement. Fig. 2 is an end view of ditto.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to an improvement in that class of printing presses in which a continuous rotating cylinder that receives the sheet to be printed is used in connection with a reciprocating bed on which the form is placed.

The object of the invention is to simplify in a great degree the construction of such presses and also to give a positive or arbitrary movement to the cylinder and bed relatively with each other at the time the impression is given to the sheet, thereby securing a perfect register and a clean impression.

To enable those skilled in the art to fully understand and construct our invention we will proceed to describe it.

A represents a framing which may be of cast iron and of any suitable form to support the working parts.

B is a cylinder constructed in the usual manner and placed in the upper part of the framing. The cylinder B has a geared segment C attached to it at one end. This segment extends around about one third of the circumference of the cylinder as shown clearly in Fig. 1. On the shaft D of the cylinder B there is placed a wheel E having about two thirds of its periphery cogged, and the cogged portion of this wheel as said wheel rotates gears into a toothed wheel F having its axis in one side of the framing A.

G is the driving or power shaft, on the inner end of which there is a pinion H. This pinion gears into the wheel F. To the inner side of the wheel F there is attached a radial arm H' which projects a short distance beyond the periphery of the wheel. This arm has one end of a rod I pivoted to its outer end, said rod being pivoted at its opposite end to a bar J, which is at-

tached to standards (a) (a) at one side of a bed K. There are two standards at each side of the bed K, and the two standards at each side of the bed are placed out of parallel with each other as shown clearly in Fig. 1. The lower ends of the standards are attached to rock shafts L L, at the lower part of the framing A. The upper parts of the uprights (a) are pivoted to the sides of the bed K, and said bed has a rack M attached to it at one side and in line, or, in the same plane with the segment gear C at the end of the cylinder B.

To one end of the bed K an ink bed or plate N is attached and O, O, are the ink rollers, the journals (b) of which are fitted in slots (c) in the framing A.

P is the feed board placed at the upper part of the framing A and having the usual relative position with the cylinder B.

The operation is as follows:—Motion is given the shaft G in any proper manner and the pinion H rotates the wheel F which, through the medium of the arm H' and connecting rod I, gives a reciprocating motion to the bed K. The movement of the bed K is not rectilinear as will be clearly seen, it has an oscillating movement and owing to the position of the standards (a) relatively with each other the bed at all points of its movements is allowed to work in contact with the periphery of the cylinder B. This arrangement of the bed K does not require a more minute description as this mode of hanging and arranging reciprocating beds under the title of a "new and useful mechanical device or movement" is already patented by us,—the Letters Patent bearing date June 16th 1857, and the bed thus hung or arranged although vastly preferable to the usual plan, still is not necessarily applicable to the press for the usual rectilinearly reciprocating bed may be employed. The bed K, while moving in one direction that indicated by the arrow (1) operates the cylinder B in consequence of the rack M gearing into the segment C on the end of the cylinder and as the bed reaches the end of its stroke in this direction and the rack M leaves the segment C, the geared portion of the periphery of the wheel E takes into the wheel F and completes the revolution of the cylinder, the rack M again gearing into the segment C as the geared portion of wheel E leaves the wheel F. Thus it will be seen that the cylinder is rotated by the al-

ternate action of the two devices described viz., the rack M and segment C and the wheels F, E, and as the cylinder B is actuated by the rack M on the bed K during the time
5 the impression is given to the sheet, a positive or arbitrary movement of the cylinder and bed relatively with each other is obtained and the "slurring" of the sheet is prevented. This "slurring" as it is technically
10 termed is caused by an unequal movement of the cylinder and bed, and if these two parts be actuated by separate means, or by means not having a positive or arbitrary movement relatively with each
15 other an unequal movement of the bed and cylinder is quite likely to occur, and the sheets be not only "slurred" but also thrown out of register with each other. This difficulty so far as we are aware, attends to a
20 greater or less degree, all cylinder presses hitherto constructed.

We would remark that the cylinder is provided with the usual fingers for grasping the sheets as they are fed to it from the
25 board P, and also that the form which is placed on the bed K is inked as it passes underneath the rollers O, O. We would also remark that although only one rack M

is shown, and also only one segment C, still two of each may be used, a rack being at each side of the bed, and a segment at each side of the cylinder.

We do not claim the peculiar manner of hanging or arranging the reciprocating bed K, for that is already patented, as previously
35 stated, nor do we claim broadly giving a continuous rotary motion to a cylinder when used with a reciprocating bed as this has been previously done and is common to many cylinder presses in use; but

We claim as new and desire to secure by Letters Patent,

Communicating motion to the cylinder at the time of giving the impression, by and through the motion of the bed, while the
45 revolution of the cylinder shall be perfected, by or through ordinary gearing, or other means entirely independent of the motion of the bed; thus, alternating from one of these means to the other, to give a full revolution
50 to the cylinder.

GEO. P. GORDON.
F. O. DEGENER.

Witnesses:

O. D. MUNN,
E. P. GRIFFIN.