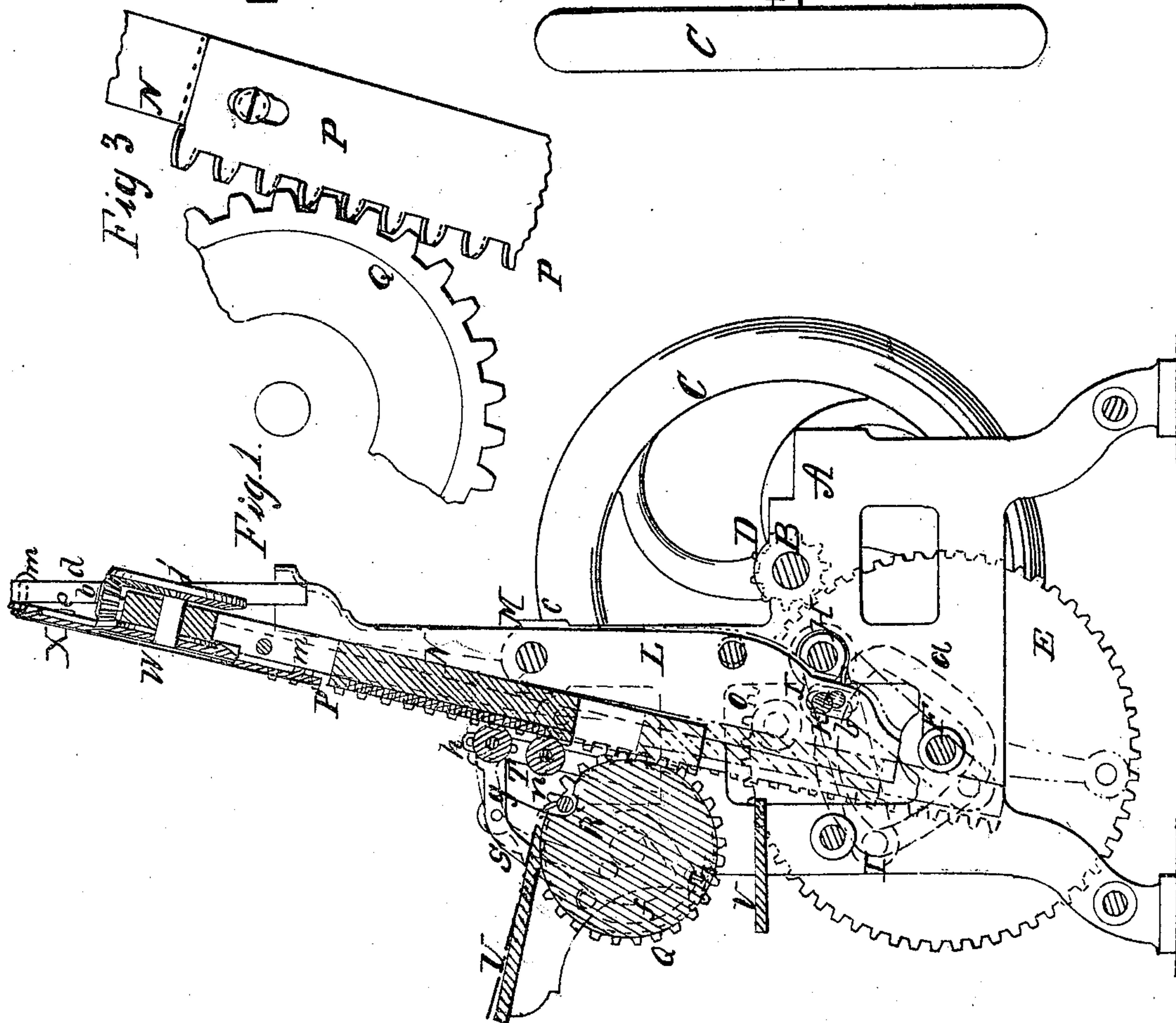
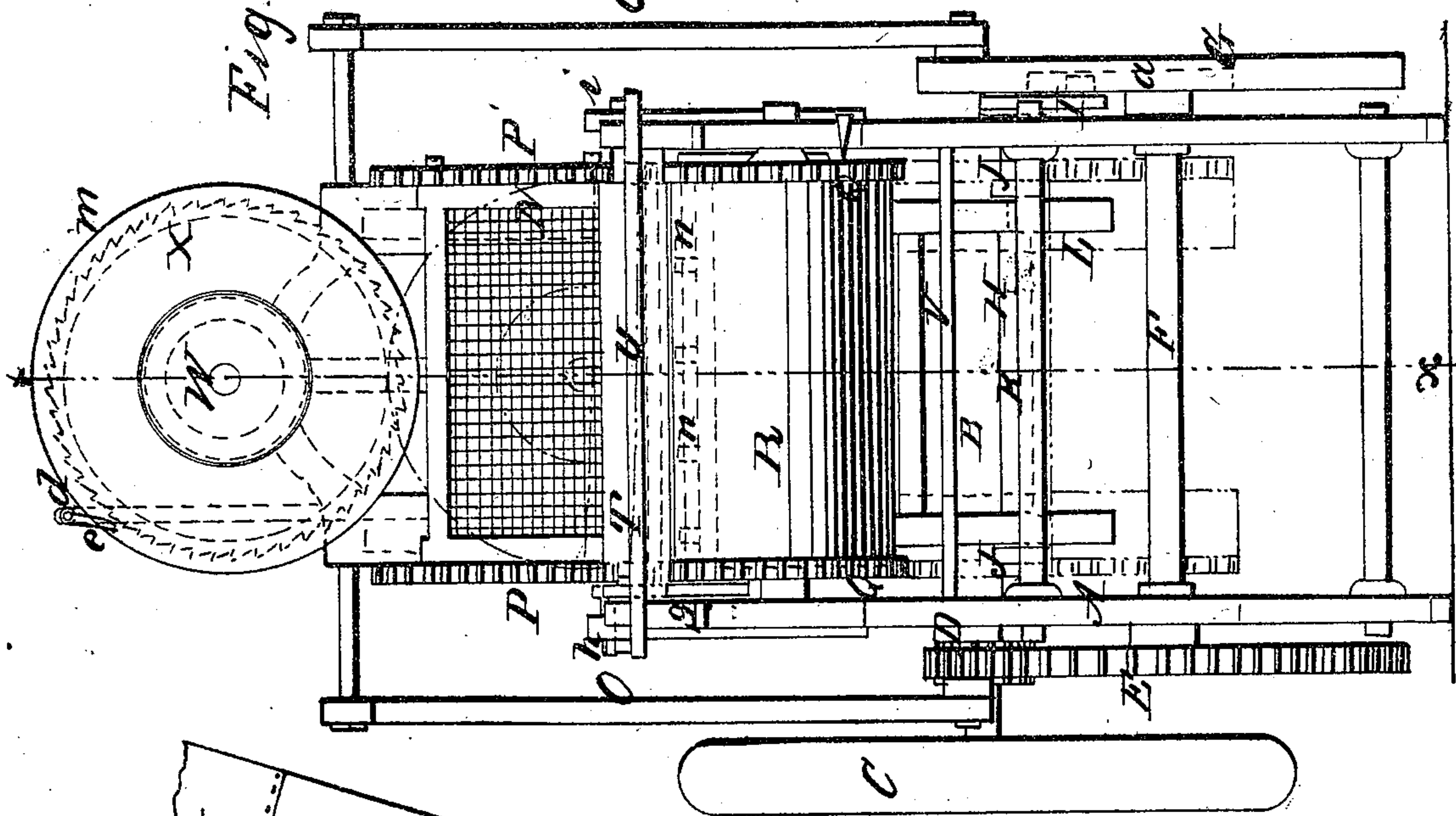


G. P. Gordon.

Printing Press.

No. 14016.

Patented Jan. 1. 1856.



UNITED STATES PATENT OFFICE.

GEO. P. GORDON, OF NEW YORK, N. Y.

PRINTING-PRESS.

Specification forming part of Letters Patent No. 14,016, dated January 1, 1856; Reissued August 10, 1858, No. 581.

To all whom it may concern:

Be it known that I, GEORGE P. GORDON, of the city, county, and State of New York, have invented a new and Improved Print-
5 ing-Press; and I 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—

10 Figure 1, is a vertical section of my improvement, (x) (x) Fig. 2, showing the plane of section. Fig. 2, is a front elevation of ditto. Fig. 3, is a detached side view of the toothed wheels, on the cylinder and the
15 racks on the sides of the form bed.

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

My invention consists, 1st, in the employment or use of a circular and annular
20 disk, the circular disk being placed within the annular one, both disks being rotated, and in opposite directions, for the purpose of distributing the ink upon the rollers which ink the form.

25 2nd. My invention consists in giving the ink rollers one or more, an oblique vibratory movement over the disk and plate above mentioned for the purpose of causing an equal distribution of the ink upon the same.

30 3rd. My invention consists in the combination of a rotating reciprocating cylinder, or segment of a cylinder, and reciprocating form bed, arranged as will be presently shown and described for the purpose of giving
35 the necessary pressure of the form upon the sheets of paper.

40 4th. My invention consists in the employment or use of a vertical reciprocating form bed or a bed placed at any given angle with a horizontal position, when used with a rotating reciprocating cylinder so arranged as to drop or pile the printed sheets underneath it.

45 To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents a suitable framing constructed in any proper manner to support the working parts.

50 B, represents the driving shaft of the press having at one end a fly or balance wheel C, and a pinion D, which gears into a toothed wheel E, at one end of a shaft F. The opposite end of the shaft F, has a
55 wheel G, upon it, said wheel having an

irregular groove (a) made in it, as shown by dotted lines in Figs. 1 and 2.

H, is a shaft having an arm I, on one end. The outer end of this arm works in the groove (a) in the wheel G. The shaft
60 H, has also two small arms J, J, attached to it, and the outer ends of the arms J, have a shaft K, fitted in them, said shaft passing through slots (b) (b) in the lower end of an upright swinging frame L, which is
65 hung on a shaft M, placed in the upper ends of uprights attached to the framing A. To one of the side pieces of the swinging frame L, there is attached an upright (d) having a pawl (e) at its upper end. 70

N, represents a form bed which works upon guides or ways on the side pieces of the swinging frame. The form bed is connected by pitmen O, O, one at each side, to the toothed wheel E, and wheel G, the
75 pitmen being attached to said wheels near their peripheries, as clearly shown in Fig. 2. To each side of the form bed N, there is attached a rack P, one of which is permanently attached to the side of the bed and
80 the other is rendered adjustable by set screws. These racks gear into toothed wheels Q, Q, which are attached, one at each end of a cylinder R, the shaft of which works in proper bearings in the front part of the
85 framing A. The outer side of one of the toothed wheels Q, has an irregular groove (f) made in it, in which groove the end of a lever S, is fitted. This lever is attached to the framing by a pivot (g) and the
90 opposite end of the lever is forked and encompasses the shaft of an ink roller T, the end of which adjoining the lever S, is fitted in an oblong slot in an upright (h) attached to the framing. The opposite end
95 of the roller T, has its bearing in an upright (i) attached to the framing. The roller T, is placed directly in front of the form bed, and more ink rollers or as many as may be desired may be fitted in the same
100 uprights.

U, represents a feed board placed over the upper part of the cylinder R, and V, is a fly board placed underneath the cylinder.

To the upper part of the bed form N, 105 there is attached a circular disk W, having a bevel wheel (j) attached to its axis on its outer end. The plate W, is encompassed by an annular disk X, which has a bevel geared rim (k) on its outer side, in which 110

a pinion (*l*) gears said pinion also gearing into the wheel (*j*) on the axis of the disk W. A rim (*m*) having ratchet teeth cut in it is also placed on the outer side of the disk X, near its periphery.

The cylinder R, is provided with fingers (*n*) to grasp the sheets of paper. These fingers may be operated in the usual manner.

Operation: The two racks P, P, bear, one against the upper edges of the teeth of one wheel Q, and the other rack against the under edges of the teeth of the other wheel, so that no play is allowed between the teeth of the racks and those of the wheels. This is effected by adjusting one of the racks, one of them being made adjustable as previously stated. The sheets of paper to be printed are placed upon the feed board U and the form is secured to the bed N, in any proper manner. Motion is given the shaft B, in any proper manner and a reciprocating motion is communicated to the form bed N, by the pitmen O, O. When the form bed reaches its highest point, the lower end of the swinging frame is thrown toward the cylinder by the shaft K, which receives its motion from the shaft H, the shaft H, being operated by the arm I, the end of which works in the groove (*a*) in the side of the wheel G. The cylinder R, has a rotating reciprocating motion given it by the racks P, P, and toothed wheels Q, Q. The sheets of paper are caught in the usual manner by the fingers (*n*) on the cylinder and as they are carried around between the cylinder and form, the impression is given the paper, the cylinder depositing the printed sheets upon the fly board V. Just before the form bed commences to move upward, the shaft K, throws the lower end of the swinging frame and consequently the form out from the cylinder, and the pawl (*e*) acts against the rim (*m*) and rotates the annular disk X, a certain distance. The circular disk W, is rotated a corresponding distance in an opposite direction by means of the gearing (*j*) (*l*) (*l*). The disks X, W, are supplied with ink from a proper fountain and the rotation of the disks as above described serves to distribute it evenly upon the disks. As the form bed N, descends, the two disks pass behind the rollers T, one or more, which are

inked by being in contact with the disks, and one or all of these rollers are thrown in an oblique position when in contact with the beds by the lever S, which is operated by the irregular groove (*f*) in the side of one of the wheels Q. This oblique vibratory movement causes the ink to be evenly distributed on the rollers. The form is inked while passing both up and down behind the rollers. By adjusting one of the racks P, as shown, the sheets of paper will be properly presented to the form and the impressions will not be "slurred" by unnecessary play of the cylinder and form bed, as they must always move precisely together and all wear may at once be taken up or adjusted. The press by the above improvements is rendered extremely simple, economical to manufacture, and efficient and rapid in its operation.

I do not claim separately a rotating disk W, for distributing the ink, but

I do claim,

1. Combining with such rotating disk W, an annular disk X, which shall revolve around and in a contrary direction to it, for such purpose.

2. I claim throwing the same rollers T, one or more, used for inking the form, from the parallel position they necessarily occupy for this purpose, to an oblique position which shall give to them a lateral motion, when in contact with the distributing disks or equivalent for the purpose specified.

3. I claim a rotating reciprocating cylinder R, or segment of a cylinder, in combination with a reciprocating bed N, when such bed shall have a movement to and from such cylinder, or segment of a cylinder in the manner described for the purpose specified.

4. I do not claim placing a reciprocating bed in a vertical position, or in any given angle from a horizontal position, but I do claim so placing the bed, when used with a rotating reciprocating cylinder, or segment of a cylinder, which shall drop or pile the printed sheets underneath it in the manner specified.

GEO. P. GORDON.

Witnesses:

JOS. GEO. MASON.

WM. TUSCH.