

G. P. Gordon.
Printing Press.

N^o 90091.

Patented May 18. 1869.

Fig. 1.

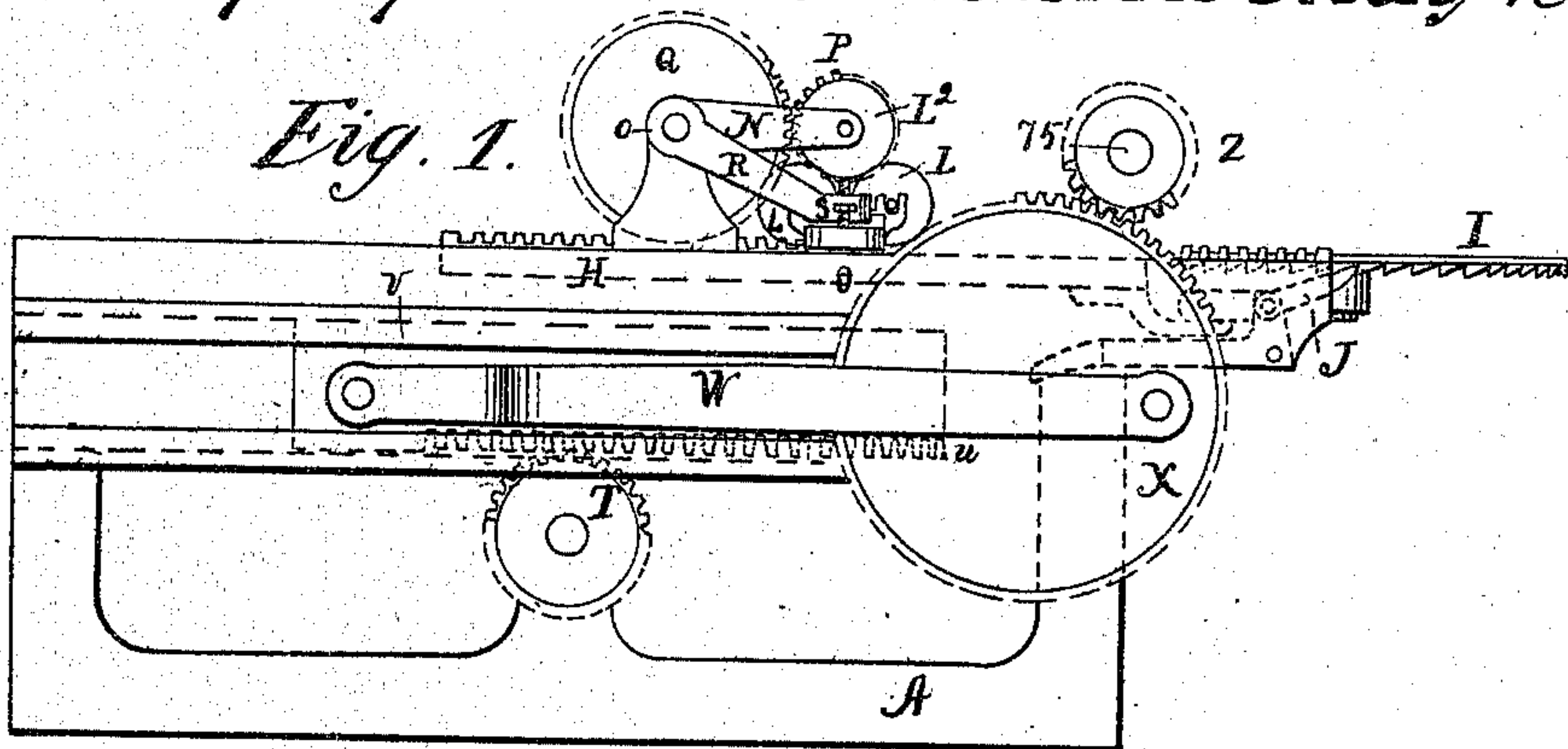


Fig. 2.

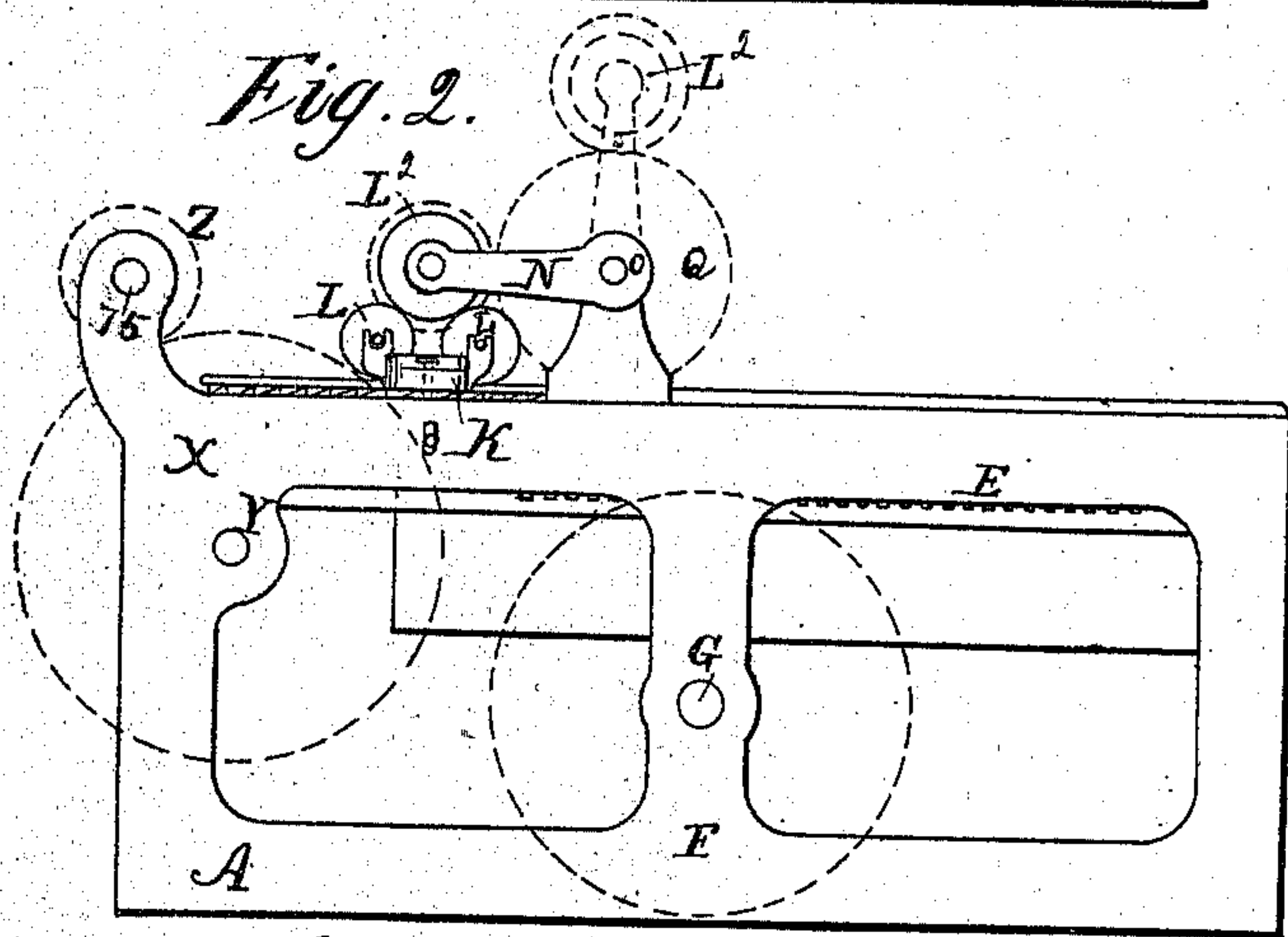


Fig. 3.

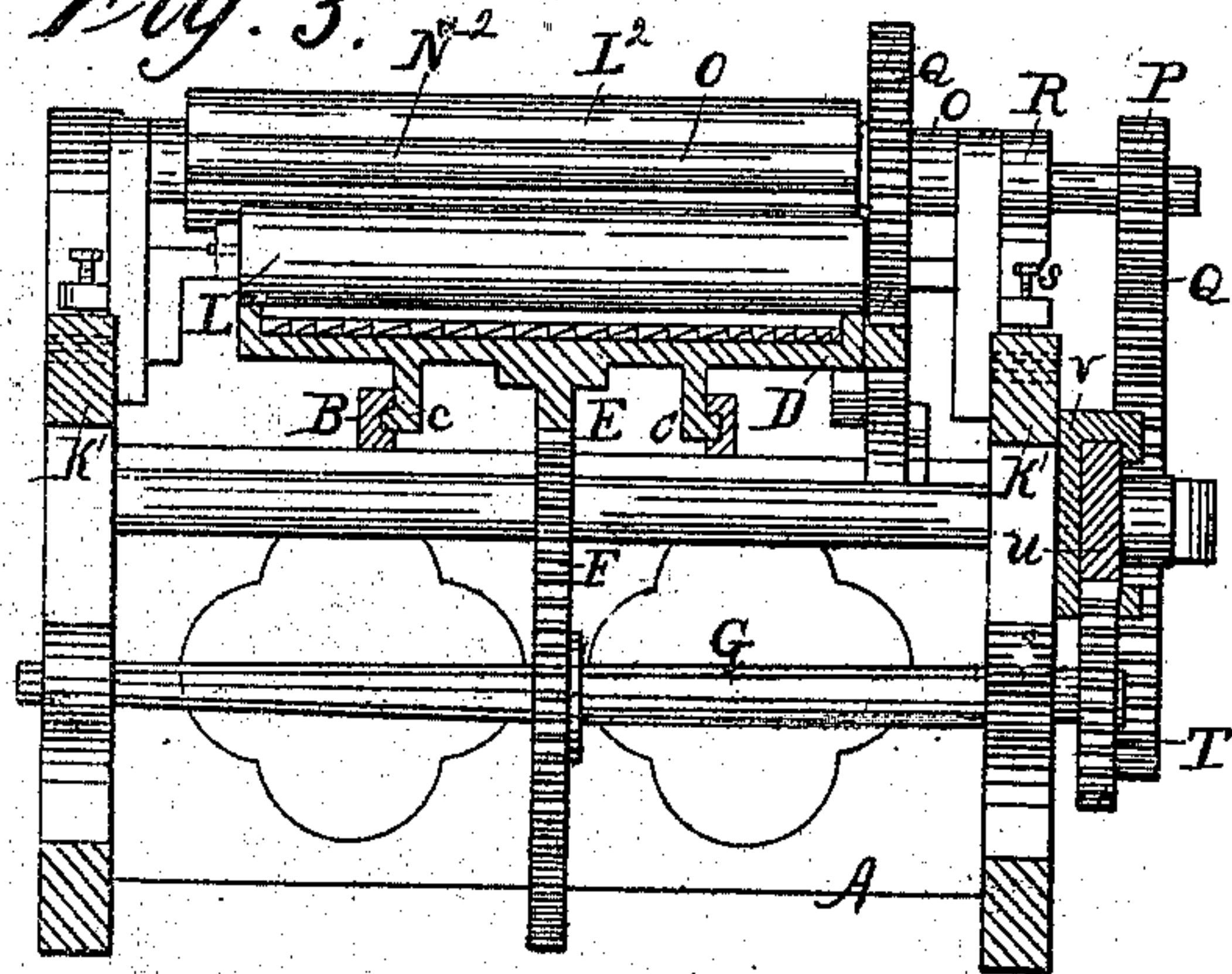
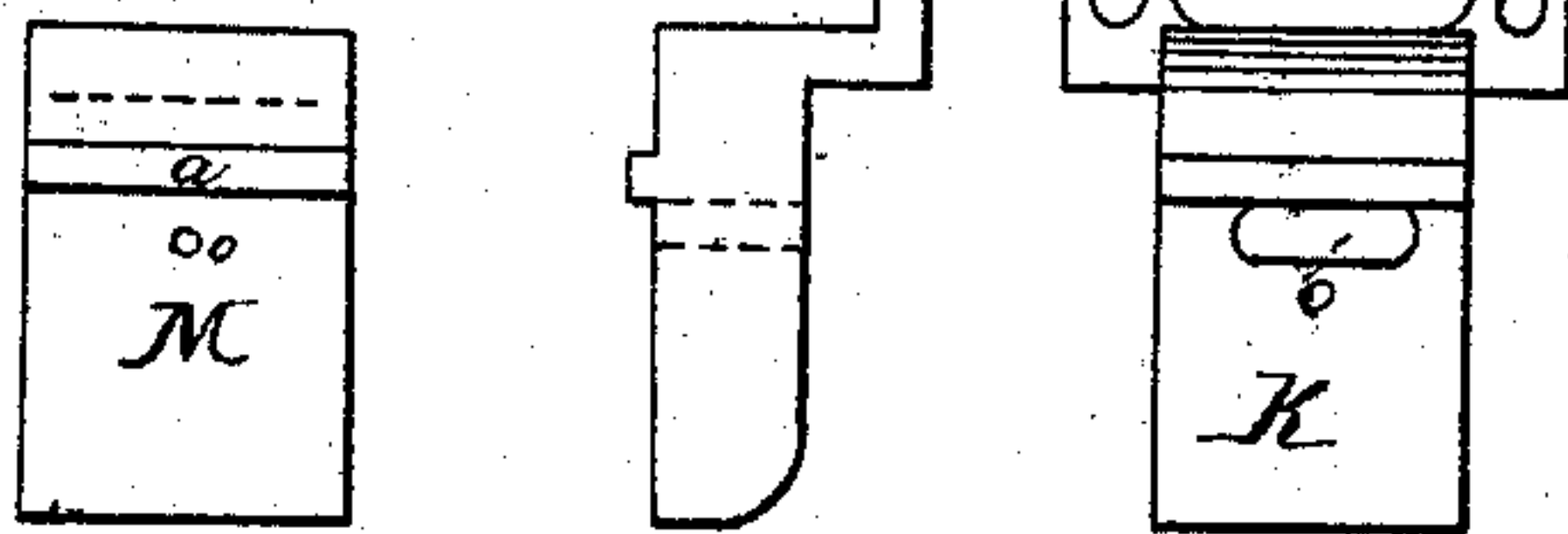


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE P. GORDON, OF RAHWAY, NEW JERSEY.

IMPROVEMENT IN PRINTING-PRESSES.

Specification forming part of Letters Patent No. 90,091, dated May 18, 1869.

To all whom it may concern:

Be it known that I, GEORGE P. GORDON, of Rahway, Essex county, New Jersey, have invented, made, and applied to use certain new and useful Improvements in Printing-Presses; and I do declare the following to be a full, clear, and correct description of the same, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a side elevation of my improved printing-machine; Fig. 2, a longitudinal sectional view of the same; Fig. 3, a transverse sectional view of the same; Fig. 4, a view of the roller-supports detached from the machine.

In the drawings like parts of the invention are indicated by the same letters of reference.

The nature of my invention consists in certain improvements, as more fully hereinafter set forth, in printing-presses: (a,) in combining, with an ink-distributing cylinder so constructed, a regulating-screw, for causing the ink-distributing cylinder to bear heavily or lightly upon the inking-rollers, substantially as hereinafter described; (b,) in the use or employment of inking-roller supports constructed and operated substantially as hereinafter described, for the purpose hereinafter indicated; (c,) in the combination of an ink-distributing table and an ink-distributing cylinder with a reciprocating bed, to insure the more perfect distribution of the ink.

To enable those skilled in the arts to make and use my present improvements, I will describe the construction and operation of the same.

A shows a frame for supporting the operative parts of my improved printing-machine. This frame supports the grooved ways B B, in which grooved ways the supports C of the bed D move freely when the machine is in operation.

D shows the bed to receive the form or types, which bed is supported in the present instance by the supports C, moving freely in the grooved ways B upon the frame A; or the bed may be moved in any of the ordinary ways.

Upon the under side of the bed D is placed centrally the rack E, gearing into a toothed

or cog wheel, F, keyed upon the shaft G, having its bearings in the frame A; or, if preferred, a rack may be placed upon each side of the bed, which racks may gear into two cog-wheels of equal size, keyed upon the same shaft.

Upon one side of the bed D is attached the rack H, and to the back end of the bed is attached a support, supporting the ink-distributing table I, operated by the ratchet J.

K are the inking-roller supports, for supporting the inking-rollers L, which inking-rollers L are supplied with ink by means of the ink-distributing cylinder L² and ink-distributing table I, which ink they in turn supply to the form or types, as the same, carried by the bed, passes beneath them. These roller-supports (see Fig. 4) consist of the upright pieces or plates K, the upper portion of which projects beyond the body of the same, and is slotted to receive the inking-rollers placed in the same, and of the secondary or supplemental pieces or plates M, provided with a groove, a, into which the projecting part upon the back of the plate K fits snugly.

The plates K are also slotted crosswise, as at c, to receive a set-screw, d, and when desired to adjust laterally the inking-rollers held in the supports, the set-screw d is loosened, the plate K moves either to one side or the other, and when the lateral adjustment is effected the screw d is tightened and the rollers are held in the proper position.

The secondary or supplemental plates M are attached to the frame of the press by means of screws inserted from the outside of the frame and passing through slots in the frame, and having their bearings upon the secondary plates M. These slots in the frame A are perpendicular slots, and admit of the perpendicular adjustment of the roller-supports by simply loosening the screws e, raising the supports or depressing them to the desired point, and then tightening the screws inserted in the slots and bearing against the secondary plates M.

L² is an ink-distributing cylinder, for receiving ink and imparting the same to the inking-rollers placed beneath it, and upon which it rests. This ink-distributing cylinder is attached to the arms N, hung upon a shaft, O, upon which they move freely, thus allowing the ink-distributing cylinder to be turned

away from the inking-rollers readily, thus affording immediate access to these rollers when desired. Upon the spindle supporting this ink-distributing cylinder is keyed the pinion P, gearing into a cog-wheel, Q, held upon the shaft O, which cog-wheel gears into the rack H upon the bed D.

As the bed moves forward and back, it, through the rack, cog-wheel, and pinion, gives motion to the ink-distributing cylinder, thus greatly aiding in the distribution of the ink upon the inking-rollers. Upon this spindle also is keyed the arm R, provided with a regulating-screw, S, having its bearing upon one of the roller-supports. This regulating-screw is employed for the purpose of adjusting the position of the ink-distributing cylinder relatively to the inking-rollers, so that the same (the cylinder) may bear more heavily or lightly upon the roller, as may be desired by the operator. By elevating the screw the cylinder will bear more heavily upon the rollers; by depressing the screw, the cylinder will bear more lightly upon the rollers.

Upon one end of the shaft G, upon which shaft is the cog-wheel F, gearing into the rack upon the under side of the bed, is a pinion, T, gearing into a side rack, U, moving freely, when the machine is in operation, in the grooved way V, bolted to the side of the frame A of the press. W is a connection attached at one end to the rack U, while its opposite end is attached to a cog-wheel, X, keyed upon shaft Y, and gearing into pinion Z upon shaft 75, said cog-wheel giving to the connection a crank movement.

It will be observed that the inner cog-wheel, gearing into the rack upon the inner side of the bed, is made about twice the diameter of the pinion upon the same shaft gearing into the side rack. Thus, when a crank motion is imparted to the outside gear, the periphery of the wheel gearing into the rack upon the bed is thrown twice the distance of the periphery of the wheel gearing into side rack, and consequently the bed will be thrown twice the distance of the crank movement, thus affording the employment of a small crank movement in giving the required throw to the bed.

In the present invention the ink-distributing cylinder, which has heretofore been made stationary, is made so that it can be readily turned away from the inking-rollers beneath it. This will be found a feature of great utility to the pressman, as instant access to the inking-rollers is thus afforded for the purpose of removing the rollers, clearing any impediments from the same, and washing the same when desired. In addition, the position of this cylinder is rendered capable of adjustment to the inking-rollers by means of the regulating-screw, so that when the rollers are elevated or depressed the cylinder may be adjusted to them.

In connection with the above, the means employed for thoroughly breaking up the ink should be spoken of.

Besides the cylinder just described I use an ink-distributing table, the object being that the cylinder shall put the ink upon the upper side of the rollers, while the table supplies ink to the under side of the rollers. Thus the inking-rollers are ever supplied with ink thoroughly broken up before it is imparted to them. As these rollers shrink or need adjustment to the form, the supports, constructed as shown, may be raised or lowered, as is necessary.

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

1. In combination with a reciprocating bed operating an ink-distributing cylinder, L², such ink-cylinder L², hung upon vibrating arms N, so that the cylinder may be vibrated or turned upward and away from the inking-rollers when desired, thus giving free access to said inking-rollers.

2. In combination with such cylinder, the arm R, to cause the cylinder to bear heavily or lightly upon the inking-rollers placed beneath it.

3. In combination with such cylinder and reciprocating bed, a revolving ink-distributing table, for the purposes specified.

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Witnesses:

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