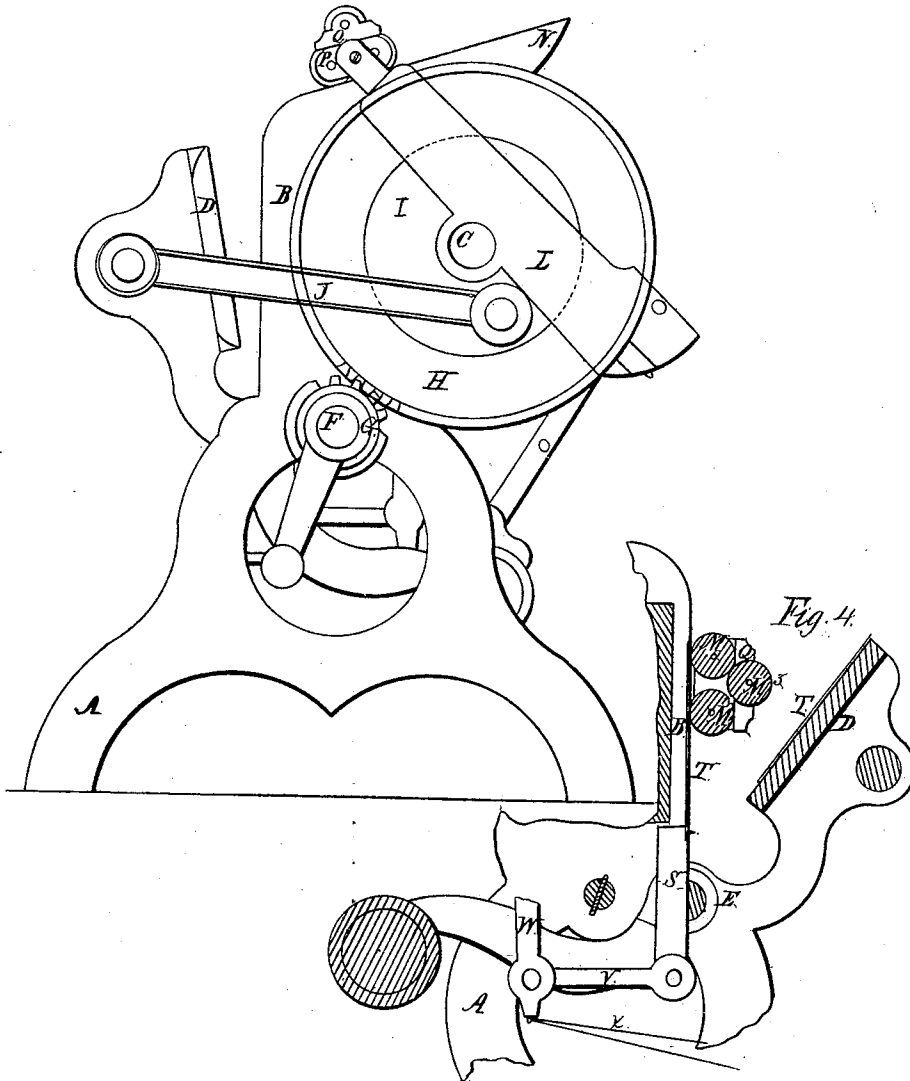


G. P. GORDON.
PRINTING PRESS.

No. 60,504.

Patented Dec. 18, 1866.

Fig. 1



Witnesses:
C. P. Gordon
C. O. Gordon

Inventor:
G. P. Gordon by Attey, Drake, Att'y

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Fig: 3.

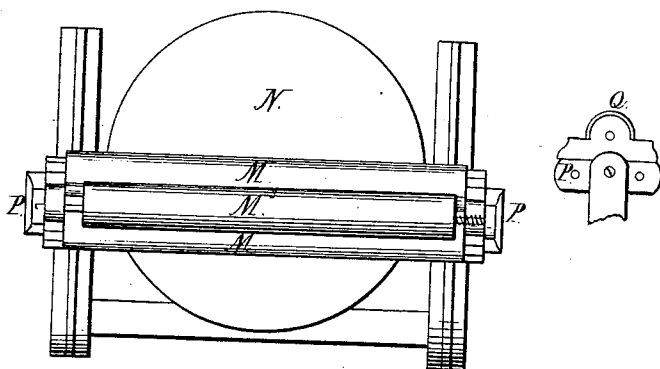
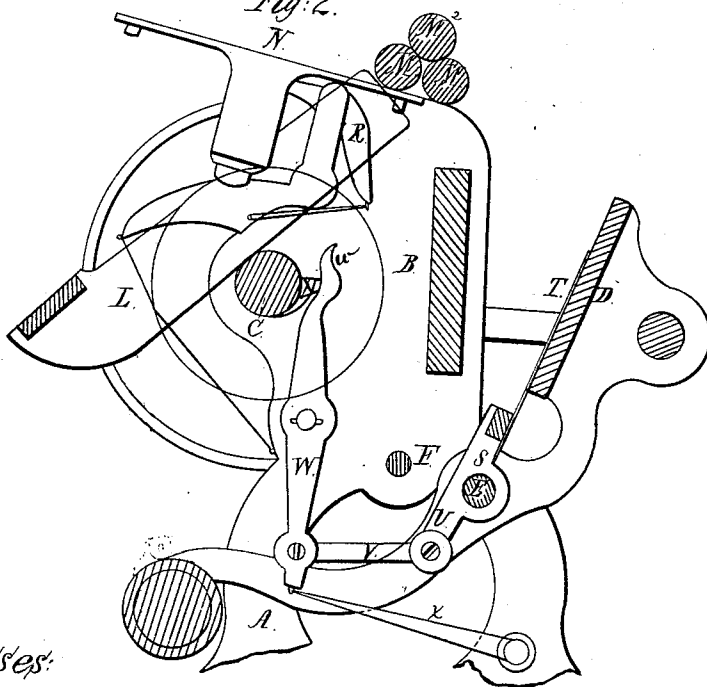


Fig: 2.



Witnesses:

C.C. Gordon
C. Q. Gordon.

Inventor:

Gov. Gordon by Sidney D. D. Atty.

United States Patent Office.

IMPROVEMENT IN PRINTING PRESSES.

GEORGE P. GORDON, OF BROOKLYN, NEW YORK.

Letters Patent No. 60,504, dated December 18, 1866.

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

TO ALL IT MAY CONCERN:

Be it known that I, GEORGE P. GORDON, of Brooklyn, Kings county, New York, 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.

Figure 2 is a vertical section of the same.

Figure 3 is detached view of ink-distributing table and means for holding ink rollers.

Figure 4 is detached view of the bed B, and platen D, of the press.

In the drawings, like parts of the invention are designated by the same letters of reference, and in fig. 2, the position occupied by the grippers in relieving the sheet or card from the form or types is shown, while in fig. 4, the grippers are shown in their proper position after the sheet or card has been relieved from the form or types.

The nature of my invention consists, A, in the use or employment of a third or supplemental inking roller, in combination with the inking rollers held in and carried in a rocking roller-frame, for the purposes hereinafter set forth. B, in the use or employment of the grippers to relieve the sheet or card from the type or forms, as hereinafter fully shown. C, in combination with the inking rollers and a third or supplemental roller, the use or employment of the revolving ink-distributing table or disk for the purpose specified.

To enable those skilled in the arts to make and use my invention, I will speak of its construction and operation.

A shows a frame for supporting the working parts of my improved printing machine, and B is a stationary bed in which the form or types is placed and held, which bed, B, is supported by the shaft, C, passing through the same. D is the platen, hung upon the shaft, E, upon which shaft, E, it vibrates to the bed, B, for the purpose of giving an impression. F shows the driving or main shaft of the press, upon which shaft, F, is keyed the pinion, G, gearing into the cog-wheel, H, upon the shaft, C. I is a blank-wheel, keyed upon the opposite end of the shaft, C. The cog-wheel, H, and blank-wheel, I, form cranks to which the connecting-rods, J, are attached at one end, their opposite ends being attached, one, at each end, to the shaft, K, inserted in the back of the platen, D. L are arms for the purpose of carrying the inking rollers, M, forward and backward over the form or types and the ink-distributing table, N; as said arms, L, rock or vibrate. These roller arms, L, are connected together by a brace, and form, as it were, a frame. These roller arms, L, rock upon the shaft, C, and are tied to and operated by the vibrating platen, D, by and through the connecting piece, O. The inking rollers, M, are held in the arms by rods made to play freely in the grooves in said arms. P shows saddle pieces attached to these rods, in which saddle pieces, P, the rollers are held. To these saddle pieces, P, are attached the boxes, Q, for the purpose of receiving and carrying a third or supplemental roller, M³, which third or supplemental roller when in position rests upon and between the rollers M. This roller, M³, may be made of wood or any substance suitable to give a good distribution to the ink.

Two purposes are effected by the use of this third or supplemental roller, namely: a, the carrying always of one-half more ink than if two rollers be employed; b, by the presence of this third roller, giving distribution as it travels to the inking rollers, and giving this distribution to them continuously, whether the same are passing over the form or types or over the revolving ink-distributing table or disk; thus, the distribution never ceases, as the inking rollers ever receive a distribution, whether they are taking ink from the tabular surface or are imparting the ink to the form or types. In many cases I prefer that this third or supplemental roller shall be made to vibrate, to effect which vibration a simple screw is cut upon one end of the stock or journal supporting this third roller, which screw when the press is in operation works in a female screw cut in one of the boxes supporting this third or supplemental roller. N shows the ink-distributing table or disk placed directly above and back of the top of the bed, B. This table, N, supplies the rollers, M, with ink, which ink is thoroughly broken up by the rotation of the table, N, which rotation is accomplished by means of the ratchet, R, operated by the motion of the vibrating platen, D, through the roller-frame. Upon the shaft, E, upon which shaft the platen, D, vibrates, is hung the gripper frame, S, supporting the grippers, T, for relieving the printed sheet or card from the form or types. These grippers, T, are so constructed as to be adjusted for any width of

job that may be printed upon the press; and as the platen recedes from the bed, after an impression has been taken, they (the grippers T) impinge upon the platen to relieve the printed sheet or card, and stand upon and move in the same plane as the face of the platen, thus compelling them to perform their duty. The great peculiarity of these grippers is, that they lie close to the sides of the form or types, save when occupied in relieving the sheet or card from the form or types; the inking rollers, M, when inking the form or types, passing and repassing over, and free of the grippers, while they remain in position by the sides of the form. Thus, the grippers are never in the way of the operator in "making ready" or in laying the sheet; the whole front of the press being as free as though no grippers were used. In this respect it is claimed that they (the grippers) are entirely different from any heretofore used. These grippers vibrate down with the platen, D, when the platen vibrates from the bed after an impression has been given to such a distance as shall insure the full relief of the printed sheet or card, and then with a quick movement vibrate back to their position by the form or types. The lower portion of the gripper-frame, S, is elongated as at U, for the purpose of allowing the same to be operated as hereinafter described. V shows an arm attached at one end to the elongated portion, U, of the gripper-frame, while its other end is attached to the lever, W. W shows a lever hung upon a projection upon the inside of the frame, A; this lever has its upper end curved as at *w*, and moves freely upon the projection upon which it is hung. X shows a surface cam upon the shaft, C, for the purpose of operating the lever, W. *x* is a spring attached to the bottom end of the lever, W, and to the frame, for the purpose of causing the grippers to return to their position by the sides of the form, after they have relieved the printed sheet or card therefrom.

Operation.

We will suppose the form or types to have been placed upon the bed, and the sheet or card to be printed to have been laid upon the platen, the roller arms being at the lowest point of their vibration, the bottom of the bed, and the grippers (having been adjusted to the size of job to be printed) in their position by the sides of the form or types. Motion being communicated to the press, the pinion, G, upon the shaft, F, gearing into the cog-wheel, H, causes the same to revolve, and the platen, D, operated by the connecting-rods, J, attached as shown, vibrates upon the shaft, E, to the bed, B, for the purpose of giving an impression, and continues such vibration until an impression has been taken. During this operation of the platen, D, the grippers, T, attached to the gripper-frame, S, remain in their position by the sides of the form. An impression having been taken, the platen, D, through the cranks, commences its return movement from the bed, and as the platen commences this return movement, the surface cam, X, upon the shaft, C, impinges upon the curved end, *w*, of the lever, W, connected to the gripper-frame, S, as shown, by which impingement the upper portion of the lever, W, is thrown forward, and the lower portion of the same, connected as shown to the gripper-frame, S, backward, thus causing the grippers, T, held upon the frame, S, to vibrate, impinge upon, and travel with the platen, D, and thus relieve the printed sheet or card from the form or types. During this vibration of the grippers, the spring, *x*, attached as shown, has been expanded, and after the grippers have vibrated a sufficient distance with the platen, D, to relieve the printed sheet or card, and the surface cam, X, has travelled over the curved end of the lever, W, the spring, *x*, contracts, and with a quick motion the grippers are thrown back to their position by the sides of the form or types. During the upward movement of the platen, D, to the bed, B, the rollers M and M³ have been carried up and over the form or types and on to the revolving ink-distributing table or disk. The platen, D, having completed its return movement, and the succeeding sheet or card to be printed having been laid upon the same, the operation first described is repeated.

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

1. In combination with the inking rollers M, held and carried in a rocking roller-frame, I claim the use or employment of a third or supplemental roller, M³, whether said third or supplemental roller M³ shall vibrate or not, substantially as and for the purposes shown.

2. I claim the grippers T, to relieve the printed sheet or card from the form or types, constructed and operated substantially as shown.

3. In combination with a revolving ink-distributing table or disk N, I claim the use or employment of the inking rollers M, and a third or supplemental roller M³, or its equivalent, for the purpose specified.

GEO. P. GORDON.

Witnesses:

A. SIDNEY DOANE,
C. O. GORDON.