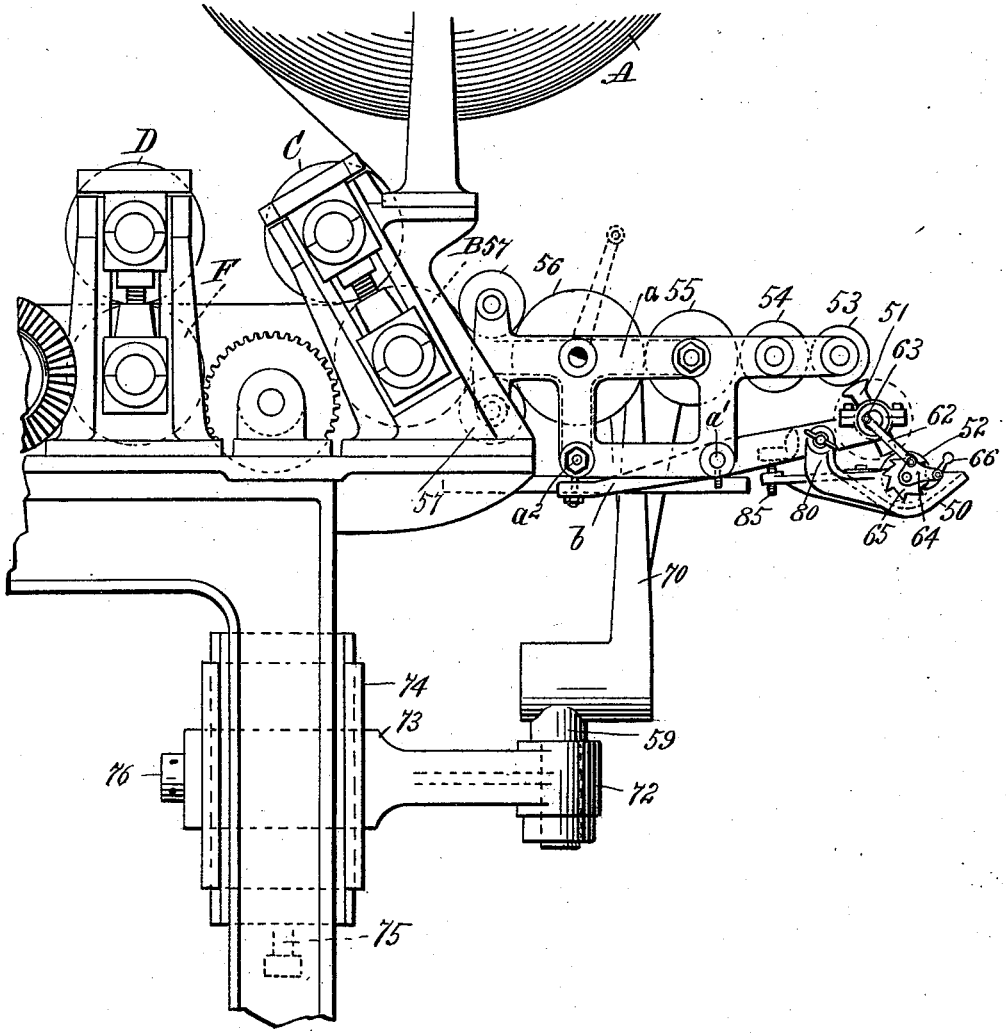
(No Model.) 3 Sheets—Sheet 1.

C. A. TEAL.

PRINTING MACHINE.

No. 524,031. Patented Aug. 7, 1894.

Fig. 1.



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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2.

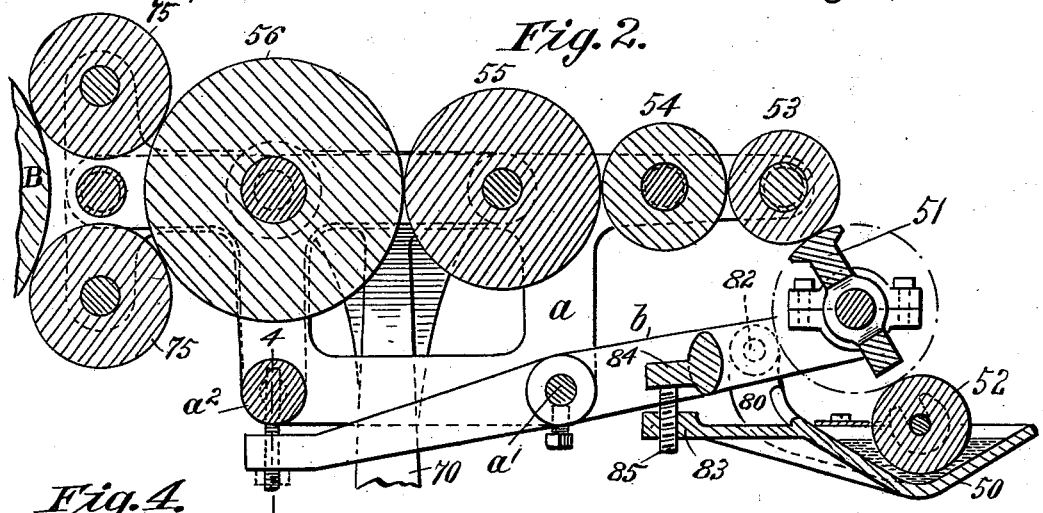


Fig. 4.

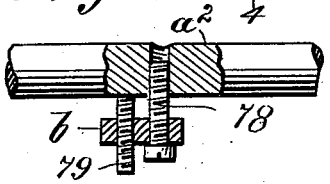


Fig. 3.

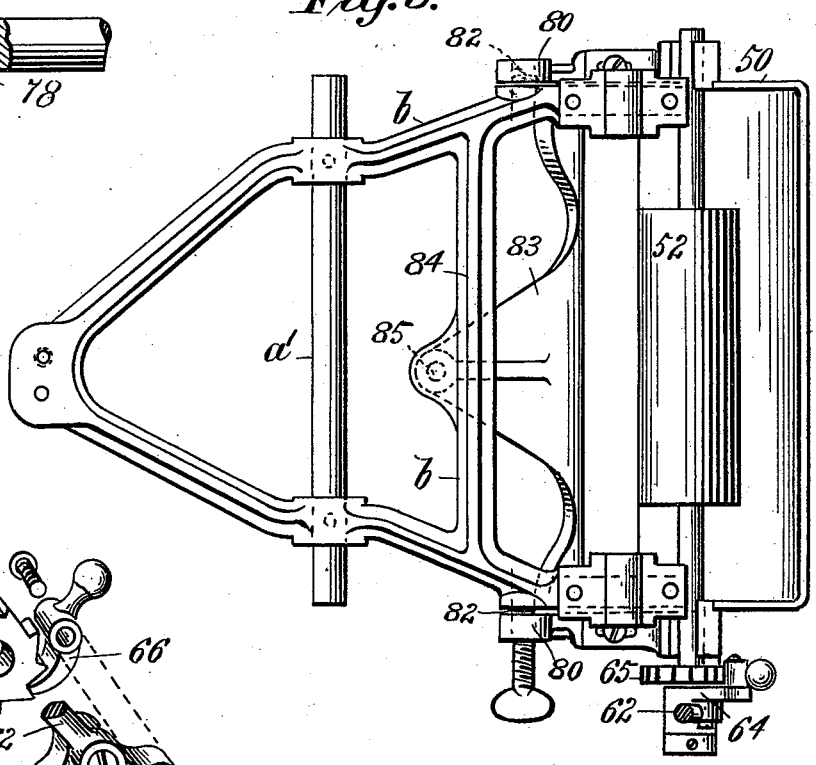
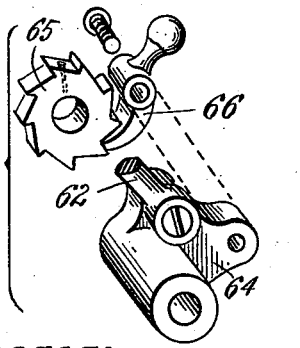


Fig. 5.



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PRINTING MACHINE.

No. 524,031. Patented Aug. 7, 1894.

Fig. 6.

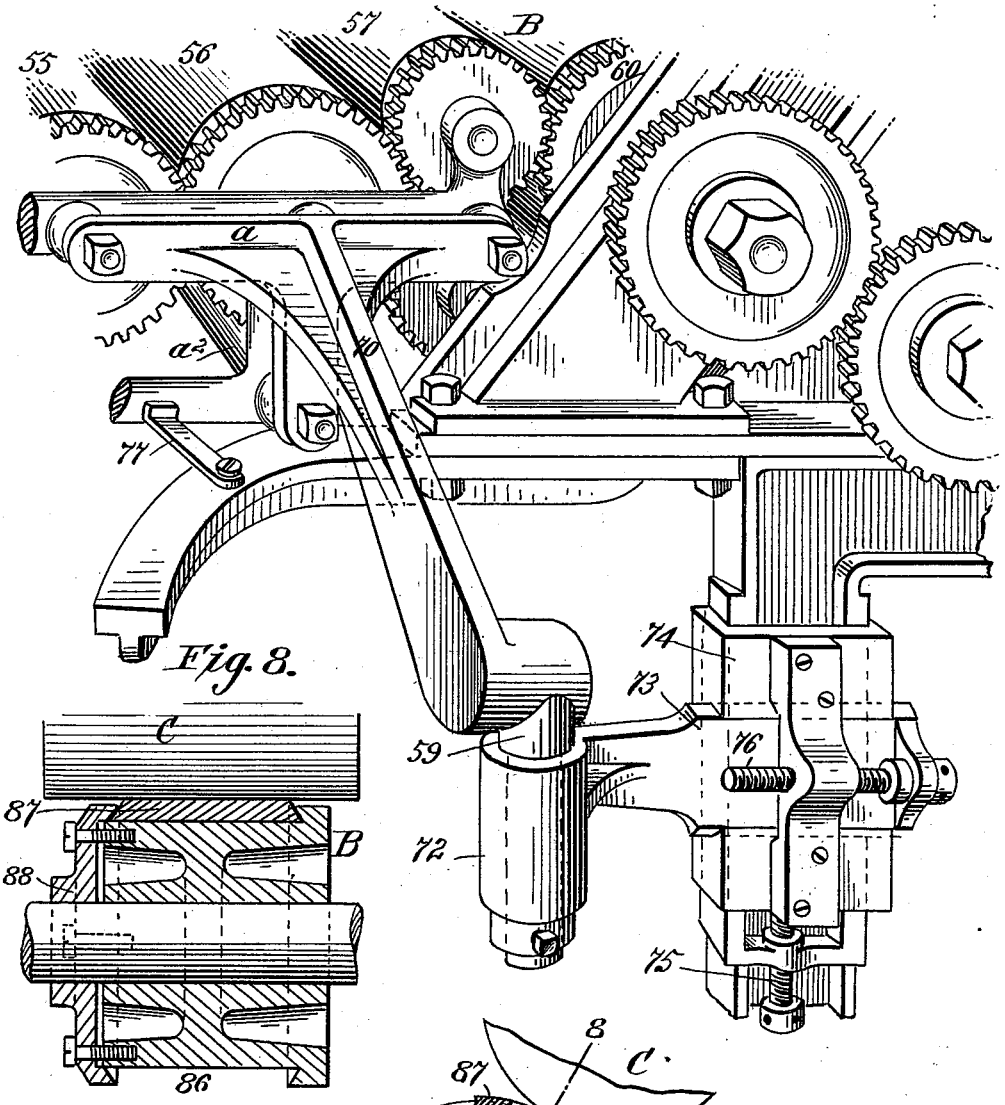

Fig. 8.

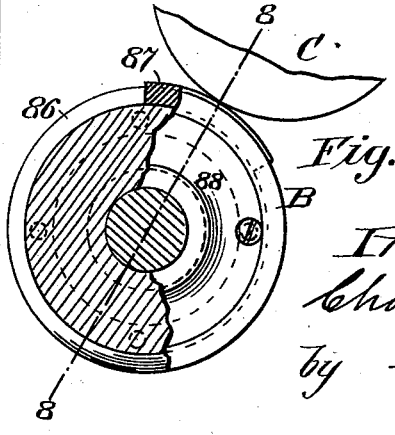

Fig. 7.

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UNITED STATES PATENT OFFICE.

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PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 524,031, dated August 7, 1894.

Application filed January 11, 1894. Serial No. 496,460. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. TEAL, a citizen of the United States, residing at Clifton Heights, in the county of Delaware and State of Pennsylvania, have invented new and useful Improvements in Printing Machinery, of which the following is a specification.

This invention relates to improvements in rotary printing machinery, more especially to the inking devices whereby the same are simplified and most easily fitted up, whereby certain of the parts are adjustable so that better inking contact of the ink supply, distributing, and printing rolls may be assured, and whereby the inking devices, as a whole, are bodily adjustable vertically and also forward and rearward to accord with changed sizes of printing cylinders which may be employed in the machine for different sizes of letter press; and, also, whereby the inking devices may have a bodily swinging movement away from the printing cylinders so as to enable one to conveniently get at the printing cylinder to change the type, or stereotypes, and to permit the distribution of ink thoroughly upon the inking rolls previous to running the machine, by running the inking rolls independently of the printing rolls and envelope-making machine.

Reference is to be had to the accompanying drawings in which the present improvements are illustrated, and in which—

Figure 1 is a side elevation of the printing mechanism. Fig. 2 is a vertical sectional view taken in the direction of the length of the machine through the ink distributing devices. Fig. 3 is a plan view of the adjustable supporting devices for the ink fount and supply roll and for the ink transmitter. Fig. 4 is a vertical sectional view taken on the line 4—4, Fig. 2. Fig. 5 is a representation in perspective of parts forming the medium of driving connection between the ink, transmitter and the supply roll in the fount. Fig. 6 is a perspective view showing parts of the inking rolls relative to the printing cylinder and showing the swinging support therefor, and the vertically and longitudinally adjustable support for the swinging support. Fig. 7 is an end view and partial vertical section showing the printing cylinder and part of the impression roll, Fig. 8 being a sectional view and partial elevation of the same as taken at right angles thereto.

In the drawings, A represents the paper-supply-roll, suitably mounted: the paper is to be drawn therefrom under slight tension, by the rotary running parts of the machine, it passing thence between the printing cylinder, B, and the impression roll, C.

50 represents the fount or receptacle for the ink, in which rotates the ink supply, or delivering roll, 52.

51 is the transmitter, and 53, 54, 55, 56, and 57, 57, are the distributing rolls, and all of these parts are carried on the support, *a*, swinging from the point, 59, at one side of the machine, so that they may, at pleasure, be bodily carried away from the printing cylinder; all of said distributing rolls, and the transmitting segment 51, have intermeshing gears, receiving their motion by their mesh with the gear, 60, on the printing cylinder.

The supply roll in the ink fount moves only as the transmitting segment passes it, its motion being imparted by the connecting-rod, 62, one end of which is in engagement with the eccentric pin, 63, on the journal of the transmitter and the other is in engagement with the pawl carrier, 64, loosely hung on the journal of the supply roll. The supply roll has the ratchet wheel, 65, fixed thereon with which engages the pawl, 66, pivotally mounted on the said pawl carrier.

The support, *a*, comprises the opposing side frames, or members, and the suitable uniting cross-bars, as a', a^2, the support, *b*, for the ink transmitting segment being intermediately and adjustably supported on the bar, a', while the ink fount is adjustably mounted on the said support, *b*. All of these said inking devices are mounted to swing as aforementioned, on the vertical axis, as seen at 59, by being supported at one side upon the arm, 70, which has the depending stud at its lower end which sets into the socket hub, 72, of the block, 73. This block is adapted to slide for adjustment horizontally in the direction of the length of the machine in ways therefor in another block, 74, which is vertically movable on the framing of the machine. The adjusting screw, 75, effects the vertical adjustment of the block,

74, relative to the frame, while the screw, 76, engaged with the block, 73, having the screw engagement with the block, 74, insures the horizontal adjustment, all whereby the inking rolls and auxiliary parts may be given their proper co-operative relations to the printing cylinder, whether larger or smaller, as variously employed. When the support for the inking devices is so swung as to bring the rolls, 57, 57, to contact with the printing cylinder, B, said support is immovably held by the dog, or latch, 77, which is pivoted on a supporting arm of the frame and adapted to be swung to endwise contact with a part of the ink roll support, *a*.

The equipment of the frame, *b*, which carries the segmental ink transmitter for its adjustment by a swing movement whereby the proper contact between the inking face of the segment and the face of distributing roll, 53, may be insured, is by means of passing the shank of the headed screw, 78, loosely and vertically upwardly through the forward extension of the frame, *b*, with a screw engagement up into the cross-bar, a^2; the adjustment insured by turning the screw, 78, is held by turning the screw, 79, (which passes with a screw engagement through the said frame extension,) to form endwise bearing against the under side of said bar, a^2.

The ink fount, or receptacle, 50, in which runs the ink supply roll, 52, has forwardly and upwardly, extended ear pieces, 80, 80, which are pivotally hung as indicated at 82, upon the aforesaid adjustably mounted frame, *b*. There is also forwardly projected from the ink fount the arm, or extension, 83, which has a position under the web of the cross-bar, 84, of said frame, *b*. The screw, 85, passing with a screw engagement through the arm, 83, to endwise bearing against the said part, 84, is to be so set as to swing the fount to bring the surface of the ink supply roll, 52, journaled therein, into the path of revolution of the ink transmitting segment, 51.

The printing cylinder is illustrated in section in Fig. 8, and in partial cross section in Fig. 7, and is formed with the annular depression, 86, with the undercut sides for the reception of the segmental type sections, 87. For the insertion of these type sections the printing cylinder has, at one end, the removable head, 88.

It will be now manifest that by releasing the dog, 77, all of the above described inking devices may be bodily swung a quarter way round, more or less, and entirely free from the printing cylinder, the gearing for these rolls being thrown out of mesh with the gear, 60, of the printing cylinder.

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

1. In a printing machine, the combination with the printing cylinder, distributing rolls and transmitting segment, gear connected substantially as described, of the ink fount and ink supply roll running therein, the latter having a ratchet wheel fixed thereon and the pawl carrier, 64, to oscillate relative thereto and carrying the pawl, 66, an eccentric pin on the journal of the said ink transmitter, and the connecting rod, 62, secured to, and extended between, said eccentric pin and pawl carrier, substantially as described.

2. In a printing machine, the combination with the printing cylinder and a support, or frame, adjacent thereto upon which is mounted a series of ink distributing rolls, said support comprising the transverse bar, a^2, of the ink transmitter and the frame, *b*, upon which the same is journaled which frame is, intermediately, pivotally mounted upon the support for the said distributing rolls, and which has an extension projected into proximity to said bar, a^2, and the adjusting screw, 78, and confining screw, 79, all arranged substantially as and for the purposes set forth.

3. In a printing machine, the combination with the printing cylinder, distributing rolls, ink transmitter, and the carrying frame, *b*, therefor, having the member, 84, of the ink fount with the ear pieces, 80, 80, pivotally hung upon said frame, *b*, and having the extension, 83, the adjusting screw, 85, applied as shown, and the ink supply roll, 52, running in the fount, substantially as described.

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