

(No Model.)

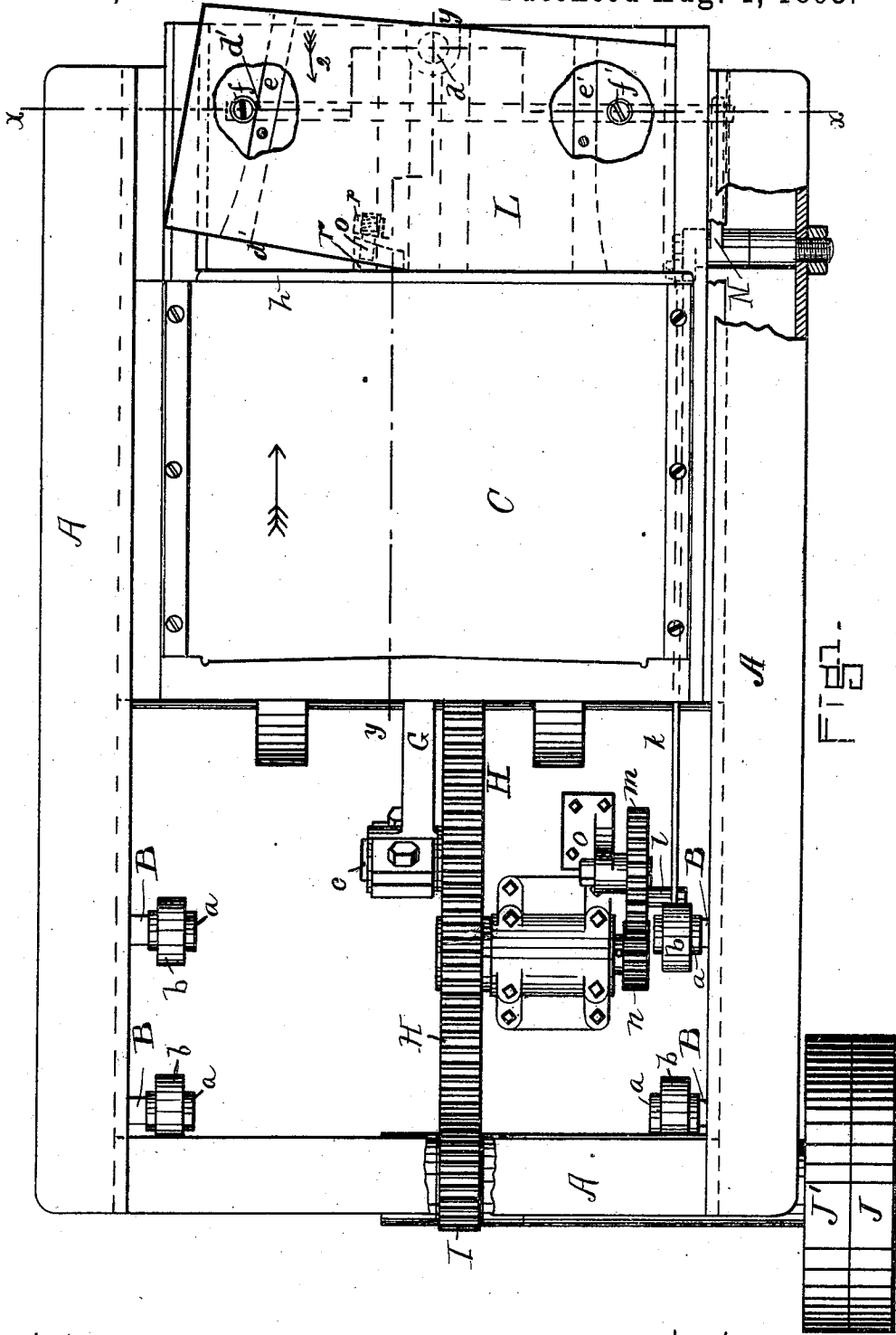
3 Sheets—Sheet 1.

G. F. McINDOE.

# INK DISTRIBUTING APPARATUS FOR PRINTING PRESSES.

No. 502,575.

Patented Aug. 1, 1893.



WITNESSES.

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(No Model.)

3 Sheets—Sheet 2.

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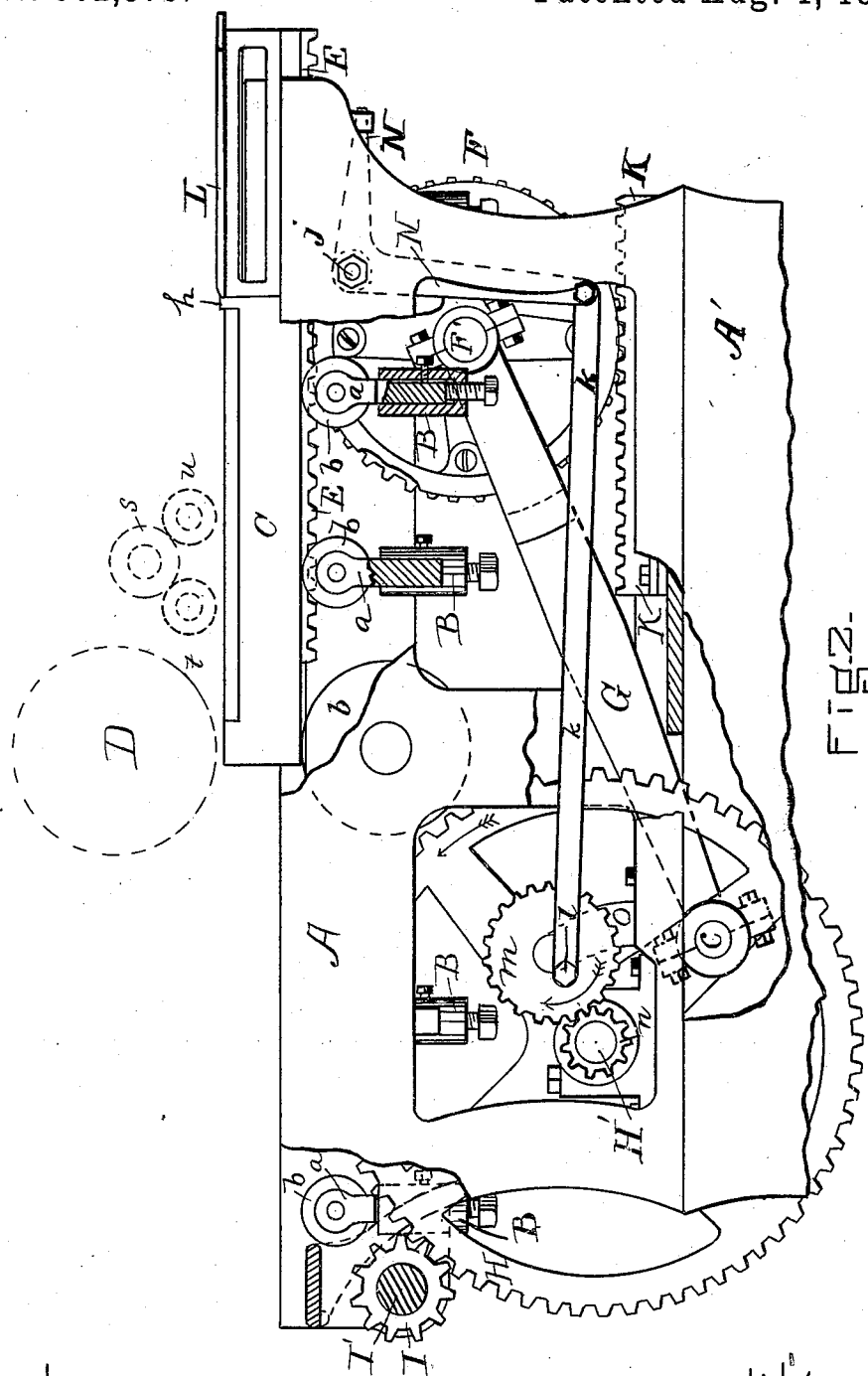


FIG. 2.

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3 Sheets—Sheet 3.

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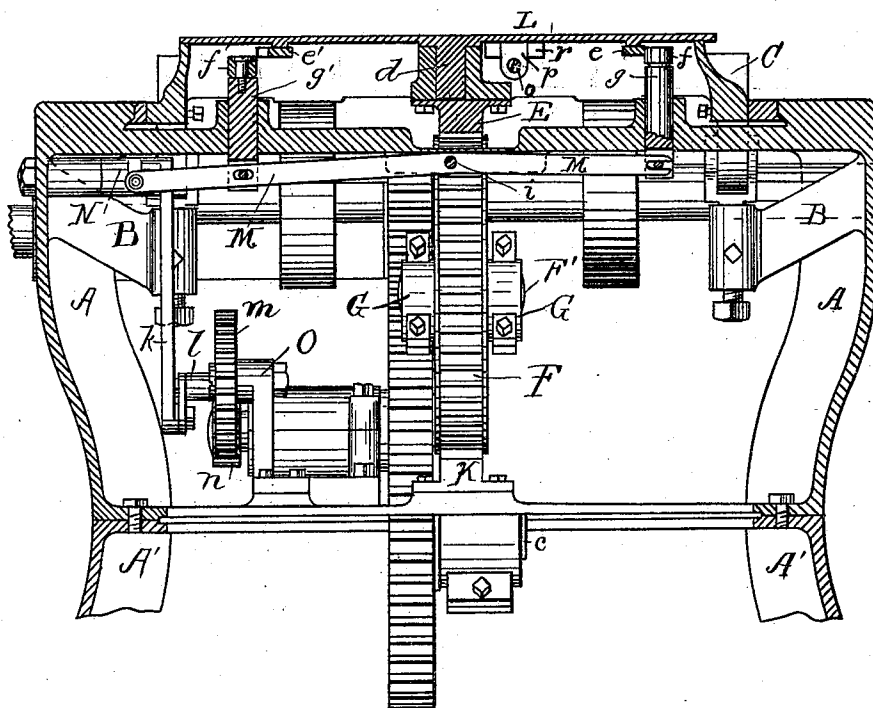


FIG. 3.

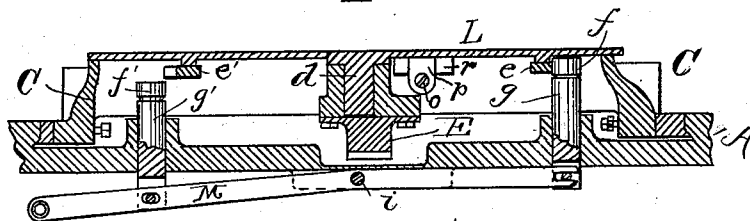


FIG. 4.

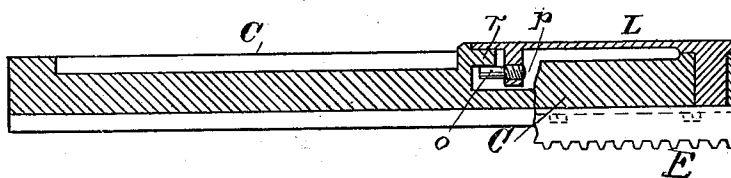


FIG. 5.

WITNESSES.

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Attorney

# UNITED STATES PATENT OFFICE.

GEORGE F. MCINDOE, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF  
TO JAMES W. MCINDOE, OF SAME PLACE.

## INK-DISTRIBUTING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 502,575, dated August 1, 1893.

Application filed January 23, 1893. Serial No. 459,454. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. MCINDOE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Ink-Distributing Apparatus for Printing-Presses, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to "ink distributing apparatus for printing presses," and it consists in certain novel features of construction, arrangement and combination of parts, which will be readily understood by reference to the description of the accompanying drawings, and to the claims hereinafter contained, and in which my invention is clearly pointed out.

Figure 1 of the drawings is a plan of so much of a printing press, embodying my invention, as is necessary to illustrate the same, with portions broken away to show parts beneath. Fig. 2 is a sectional elevation of a portion of the machine, a part of one side of the frame being broken away to show the working parts in the interior. Fig. 3 is a vertical transverse section on line *xx* on Fig. 1, and showing certain parts of the operating mechanism in elevation. Fig. 4 is a partial vertical section on the same line as Fig. 3, but showing the operating parts in a slightly different position. Fig. 5 is a vertical section through the type bed and ink distributing table on line *yy* on Fig. 1.

In the drawings, A and A' are the upper and lower sections of the frame, bolted together as shown, each section forming a single casting, the operating parts of the press being mounted in or upon the upper section A.

B B are two series of brackets cast integral with the upper section of the frame and projecting inward from the two side portions of said frame section, in the inner ends of which are mounted, so as to be adjustable vertically, the forked standards *a a*, each carrying, in its forked upper end, a bearing roll or truck *b*, upon which the type bed C is supported and moves as it is reciprocated beneath the impression cylinder D shown only by a dotted circle in Fig. 2.

The type bed C has secured to its under side the toothed rack E, which is engaged by the teeth of the spur gear wheel F, mounted

upon a short shaft F', having its bearings in the arms of the forked end of the connecting rod G, the opposite end of which is mounted upon the crank pin *c*, set in the side of the spur gear wheel H, which in turn is mounted upon the short shaft H', and is acted upon by the pinion I mounted upon the driving shaft I', carrying on its outer end the tight and loose pulleys J and J', as shown in Fig. 1.

The upper section of the frame has bolted thereto near its bottom, the toothed rack K, arranged parallel to, but of less length than, the rack E, the teeth of said rack K being engaged by the under side of the gear wheel F, which rolls along said rack as the crank pin *c* moves about the axis of the shaft H', and at the same time by the action of said wheel upon the rack E moves the type bed a distance equal to twice the travel of said gear wheel F.

The casting which constitutes the type bed C extends to the rear, or toward the right of Figs. 1 and 2, a considerable distance beyond the space to be occupied by the type form, and has mounted thereon the ink distributing table L, by means of a vertical pivot *d* set in a bearing in said bed casting as shown in dotted lines in Fig. 1 and in full lines in Figs. 3 and 5. The front edge of said table L is inclined from its center to each end toward the rear, and each end is made at a right angle to its portion of the front edge as shown in Fig. 1.

To the under side of the table L is firmly secured two cam plates *e* and *e'*, so arranged and shaped, that, when said table with the type bed is moved toward the right of Figs. 1 and 2 beyond the position shown in the drawings, one or the other of said cam plates will be engaged by an anti-friction truck *f* or *f'*, mounted upon vertically movable stems or rods *g* and *g'* set in bearings in the upper tie connection of the upper frame section A, and cause said table to be moved about its pivotal connection to the type bed casting, said trucks and cams acting alternately so as to vibrate said table about said pivot a distance equal to the angular space between the front edge *d'* of said table and the edge *h* of the type bed as shown in Fig. 1. The lower ends of the stems *g* and *g'* are forked and are connected by suitable

pins to the lever M, which is pivoted at *i* to the frame A and is connected at one end to the elbow lever N, fulcrumed at *j*, and having pivoted to its pendent arm one end of the connecting rod *k*, the other end of which is mounted upon the crank-pin *l* set in the side of the gear wheel *m*, mounted upon a stud set in the stand O and engaging with, and operated by, the pinion *n* secured upon the shaft H' all as shown in Figs. 1, 2, and 3. A stud *o* is set in a lug *p* projecting downward from the table L near the center of its front portion, which stud projects beneath a short rib or lip *r* on the bed casting, as shown in Figs. 1, 3, and 4, to prevent the front edge of said table from being lifted by the action of the ink rolls when leaving the same.

The inking rolls are shown in dotted lines only, in Fig. 2, as at *s*, *t*, and *u*.

It will be seen that the pinion *n* is just one half the diameter of the gear *m*, and as the pinion *n* is mounted on the shaft H', it follows that the gear *m* makes but one revolution to two revolutions of the gear H and as a consequence the relative positions of the trucks *f* and *f'*, as to height, are reversed at each revolution of the gear wheel H, so that at each rearward movement of the bed C the ink distributing table L is moved about its pivot *d* a distance equal to the angular space shown in Fig. 1 between the inclined edge *d'* of said table and the lip or rib *h* on the type bed.

The operation of these several parts is as follows: In the drawings the type bed is shown in position as moving toward the rear as indicated by the arrow on Fig. 1, and as just passing from beneath the impression cylinder, see Fig. 2, and the gear wheels H and *m* are moving in the directions indicated by the arrows marked thereon in Fig. 2, and the trucks *f* and *f'* and their stems or rods *g* and *g'* are in the positions shown in Fig. 3, the truck *f* and stem *g* moving upward and the truck *f'* and stem *g'* moving downward, but having nearly reached the limits of their movements in those directions. It will be seen by inspection of Fig. 3, that the cam plate *e* is in engagement with the truck *f* while the truck *f'* is dropped below the cam plate *e'*. As the bed C continues to move toward the rear, the action of the truck *f* upon the curved outer

edge of the cam-plate *e* will cause the table L to move about its pivot *d* in the direction indicated by the arrow 2, placed thereon, in Fig. 1, until the inclined portion *d'* of the front edge of said table comes in contact with the rib *h* of the bed, while the cam plate *e'* will assume a position oblique to the sides of the bed, so that at the next rearward movement of said bed said cam will come in contact with the truck *f'*, which in the meantime has been raised upward, and cause the table L to be moved about its pivot in a direction the reverse of that indicated by the arrow 2. By this arrangement and operation of the distributing table the ink carrying rolls may be all arranged parallel to each other in fixed bearings, and at the same time act upon the distributing table on different lines at each alternate forward movement of said table, thereby producing an effective and even distribution of the ink in a very simple manner.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a printing-press, the combination of a reciprocating type bed; an ink distributing table connected to said bed by a vertical pivot; and mechanism controlled and operated by the movements of said bed, and having provision for moving said table about its pivot, alternately in opposite directions, during the rearward movements of said type bed.

2. In a printing press provided with an impression cylinder and a reciprocating type-bed, the combination with said type bed of the ink distributing table L pivoted to said bed; the cam plates *e* and *e'* formed upon or secured to the under side of said table; the trucks *f* and *f'* mounted upon the stems or rods *g* and *g'*; the levers M and N; rod *k*; crank-pin *l*; and the gears *m* and *n*, all arranged and operating substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 18th day of January, A. D. 1893.

GEORGE F. MCINDOE.

Witnesses:

N. C. LOMBARD,  
H. E. LOMBARD.