

N. Bowler, Sheet 1, 2 Sheets
Addressing Mach.
N^o 28,059. Patented May 1, 1860.

Fig. 1.

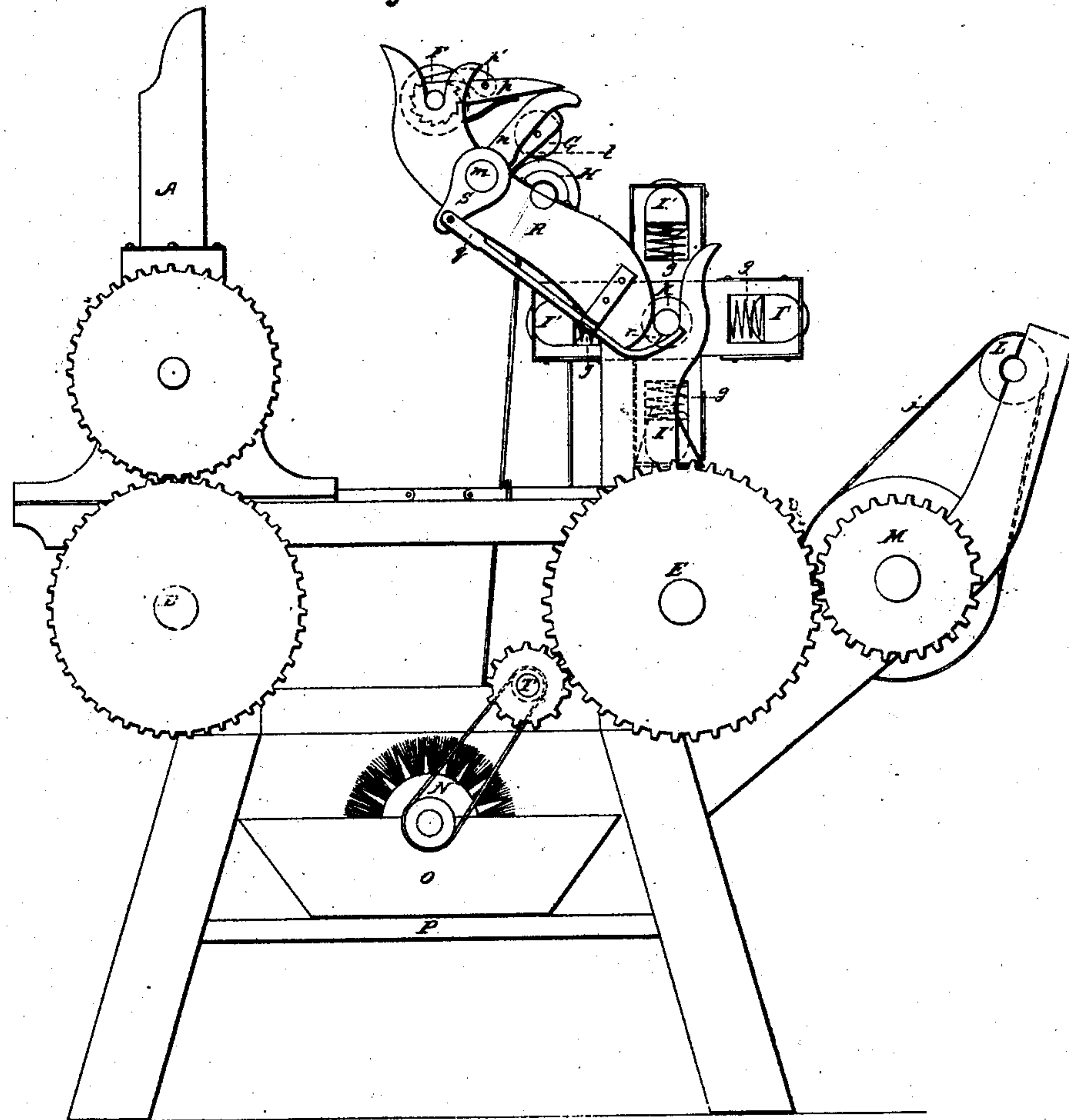
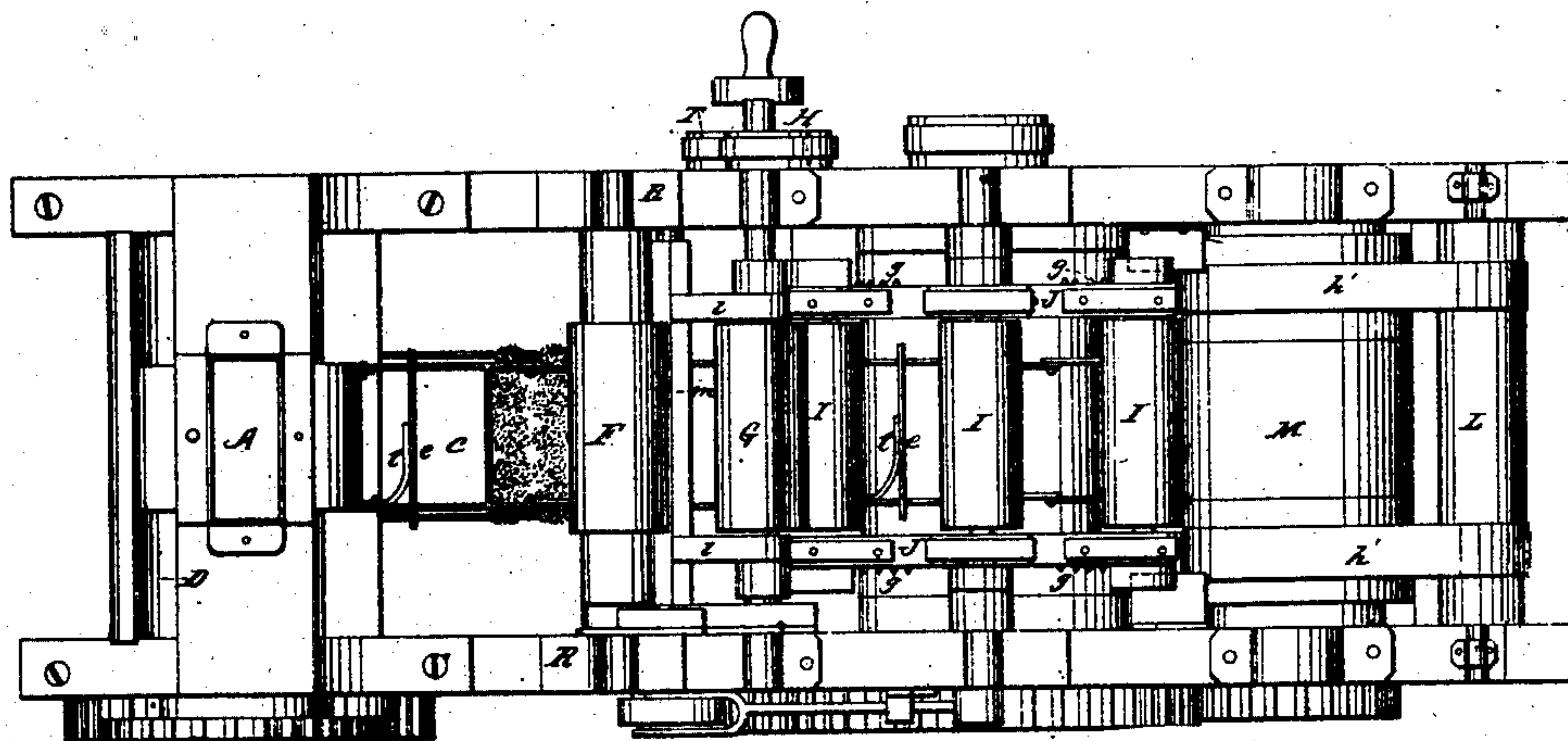


Fig. 2.



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Attorn

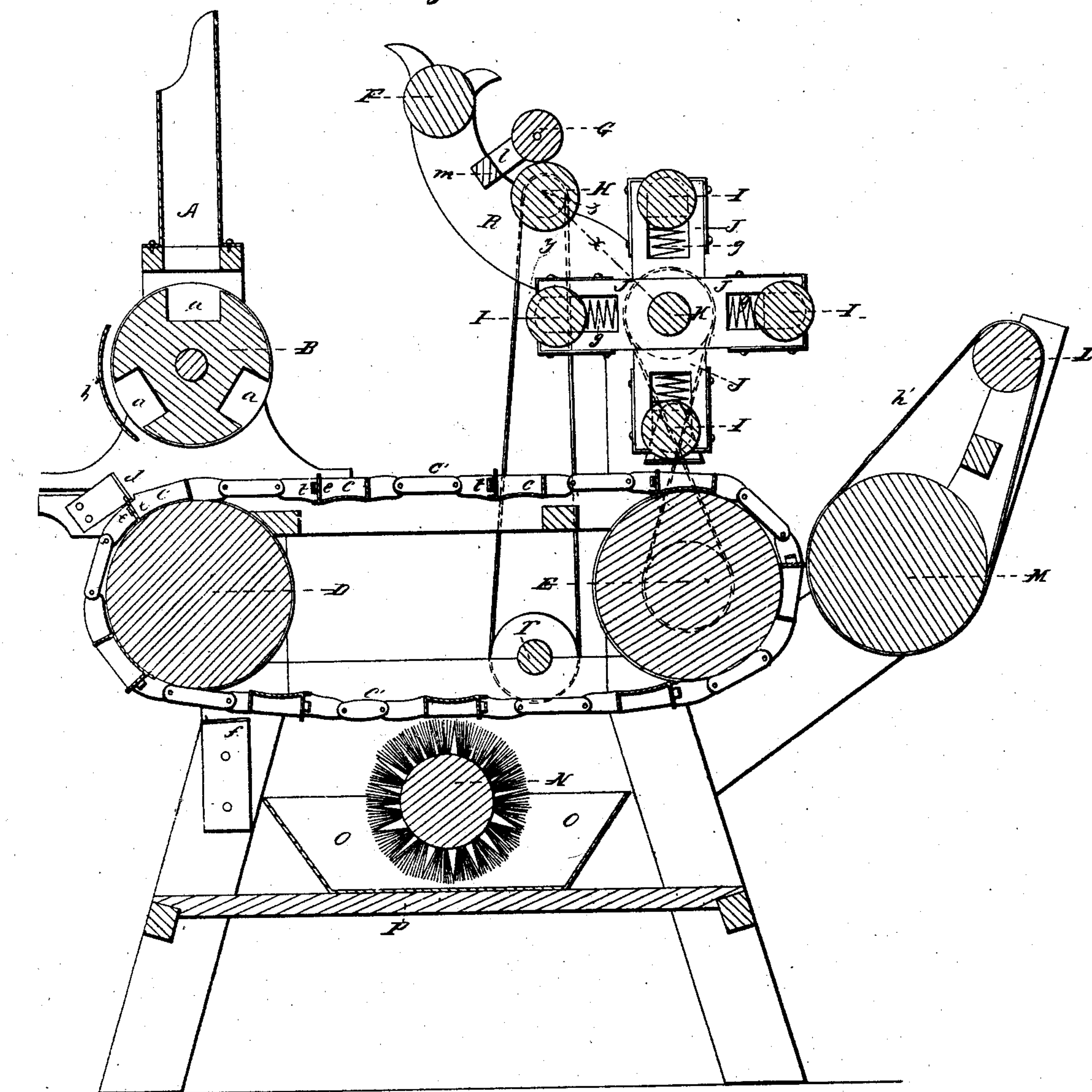
N. Bowlius: Sheet 2, 2 Sheets.

Addressing Mach.

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Fig. 3.



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UNITED STATES PATENT OFFICE.

NOAH BOWLUS, MIDDLETOWN, MARYLAND.

MACHINE FOR PRINTING ADDRESSES ON NEWSPAPERS.

Specification of Letters Patent No. 28,059, dated May 1, 1860.

To all whom it may concern:

Be it known that I, NOAH BOWLUS, of Middletown, in the county of Frederick and State of Maryland, have invented a new and useful Improvement in Machines for Addressing Newspapers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, represents an end view. Fig. 2, a plan of the machine, and Fig. 3, a vertical longitudinal section through the same.

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

The nature of my invention consists, first, in the construction of an endless chain with type boxes; said boxes having one or more spring sides; second, in the construction of a type box with one or more spring sides; third, in arranging stationary catches in combination with the spring sides of the endless chain of type boxes; fourth, in the combination of a paper feeding and printing roller with the endless chain of type boxes; fifth, in the combination of a type feed box, type wheel and shield; sixth, in inking the types by means of a series of ink rollers revolving around a common central shaft, the rollers being held in spring bearings, or otherwise suitably; seventh, in causing type inking rollers revolving around a common central shaft to travel in a straight line while in contact with the type; eighth, in combining a series of ink rollers arranged in spring bearings with an ink roller arranged at such a distance from the common central shaft of said ink roller, that the point of contact between the rollers shall not be on a line which connects the axis of said shaft with the axis of the ink rollers; ninth, in the combination of a wash tub and brush with an endless chain of type boxes, which have one or more spring sides; tenth, in the distributing ink-roller set in a vibrating frame, in combination with the main supply roller, receiving ink roller and type inking rollers.

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

The main component parts of this machine are the type feeding and distributing device, the inking device, the paper feeding and printing device and the type cleaning device.

The type feeding and distributing device consists of a box A, attached to the frame of the machine and open at top and bottom, a revolving feeding wheel B, arranged underneath the feed-box A, and provided with a number of recesses *a*, in its surface, the length and width of which recesses coincides with the horizontal dimensions of the inside of the feed box; a series of type boxes *c*, one or more sides *e*, of each of these boxes hinged at the bottom and held in place by a spring or springs *f*, and the whole series of type boxes attached to endless bands or chains *c'*, passing around two or more rollers D, E; and stationary catches *d*, *f*, projecting from the main frame of the machine. The width and breadth of the type boxes correspond to the width and breadth of the feed wheel recesses *a*, and the type boxes are arranged so as to travel underneath the said recesses, the shafts of the feed wheel and the roller D, being properly geared together so as to cause each of the recesses *a*, to pass by the shield *b*, fastened to the machine frame, exactly at the time when one of the boxes *c*, arrives underneath the feed wheel. The catch *d*, is placed a little in rear of the feed wheel so as to catch and hold open the spring back *e*, of each box while passing underneath the feed wheel B, and relieve said side or back *e*, of the box and allow the spring *f*, to press it forward and close the box as soon as the box has passed from underneath the feed wheel B. Another spring catch *f*, is attached to the main frame of the machine underneath the roller D, and serves to open the spring back of the box for a moment, before the box commences to ascend around the circumference of the roller D.

The inking device consists of the following parts: A distributing roller G, which has its bearing at the outer ends of two arms *l*, projecting from a rock shaft *m*. This roller G, is designed to take the ink from the ink-roller F, and transfer it to roller H, which latter revolves continually. The rocking motion of shaft *m*, is produced by a cam-tooth *r*, upon the revolving shaft K, acting upon the bent up end of rod *q*, the other end of which is pivoted to the outer end of a crank *s*, which is arranged on the outer end of rock shaft *m*. Thus it will be seen the roller G, is alternately made to swing toward the ink roller F, and after it has remained in contact with roller F, sufficiently long for taking ink from it, to fall back by

its own weight and remain in contact with the second ink roller H. It will be understood that it depends upon the length of the bent up portion of rod *q*, how long the roller G, may be maintained in its raised position in contact with roller F. As the roller G, is made to approach roller F, an arm *n*, upon the rock shaft *m*, strikes an arm *p*, which is hung to the shaft of roller F, and as the arm *n*, pushes the end of arm *p*, upward, a pawl *p'*, pivoted to arm *p*, takes into ratchet teeth cut into the end of roller F, and causes the latter to describe a portion of a revolution. As soon as the roller G. and the arm *m*. return to their original position, the arm *p*. falls back by its own weight and the pawl *p'*. is ready to take in the next ratchet tooth on the arm *p*, being acted upon the next time. Thus the ink roller F, which takes the ink from an ink box, (not shown in the drawings) is made to present a portion of its surface covered with fresh ink to the distributing roller G. each time the latter is brought into contact with said roller F. A number of type inking rollers I (the drawings represent four of them) are hung in bearings I', which are arranged in the clotted ends of arms J. spring *g*. in said slots, serving to press the bearings outward from the common center of the rollers I. The arms J. extend from shaft K, around which revolves the whole system of rollers I. The shaft K. is at such a distance from roller H. that the collars I. are successively brought into contact with ink roller H. as shaft K. revolves, and receives ink from said roller H. As the rollers I. are arranged in spring bearings they are free to yield toward their common center K, the bearing sliding in the slots in the ends of arms J. Thus the relative arrangement of the ink roller H. and rollers I. may be such that the latter may strike the circumference of roller H, not merely in a point in the line *x*, (connecting the centers of H. and K.) but somewhat in rear of said point, for instance at *y*, and remain in contact with the roller H. until they leave it at *z*. By this means, it will be seen the rollers I. will be more thoroughly inked than if they were arranged in fixed bearings which would of course allow them merely to touch the roller H. in the line *x*. As the rollers I. rotate around their common center K. their spring bearings I' are successively brought to strike the upper surfaces of horizontal projections *n*, extending from the main frame of the machine immediately above where the type boxes pass over the roller E. As long as the spring bearings rest against the flat surfaces of these projections and yield slightly toward the central shaft K, the roller held in said bearings travels in a straight line instead of in a circle as it would if these horizontal projections were

dispensed with. Thus the rollers I. are made to travel in a line parallel to the surface of the types while they pass in contact with said types and ink them.

The paper feeding and printing device consists of endless bands *h'*, passing around a guide roller L, and printing roller M.

The type cleaning device consists of a revolving brush N, which is kept wet by passing through liquid contained in a tub O, arranged upon a platform P, underneath the endless chain of type boxes.

The types which consist of solid blocks with the full address for each newspaper cast, cut or otherwise formed on their upper surface, are placed one above the other in the feed-box A, wherefrom they drop one by one, into the recesses *a*, in the feed wheel B, as the said recesses pass underneath the mouth of the feed-box. The type, after it dropped into the recess *a*, is carried round by the revolution of the type-wheel (the shield *b*, preventing the type from falling out). By the time the type passes the end of the shield, the catch *d*, has opened the spring side of box *c*, and after the type has dropped from the recess into the box the catch releases the spring side which in consequence thereof springs back and bears against the side of the type holding it fast in the box until the box arrives at the catch *f*, which opens the spring side once more and allows the type to drop from the box onto platform P. On the way from catch *d*, to catch *f*, the type comes first into contact with the ink rollers I, and is properly inked, then it passes between the roller E, and printing roller M, in contact with the sheet of paper which has been fed over the bands *h'*, by this means the impression is made; and finally (just before the action of the catch *f*, causes it to drop) the type is brought into contact with the brush N, which cleans it. Thus the type when dropped upon platform P, is clean and in proper condition to be reintroduced to feed box A.

What I claim as my invention and desire to secure by Letters Patent, is—

1. The construction of an endless chain with type boxes *c*, said boxes having one or more spring sides *e*, substantially as and for the purposes set forth.

2. The construction of a type box *c*, with one or more spring sides *e*, substantially as and for the purposes set forth.

3. Arranging stationary catches *d*, and *f*, in combination with the spring sides *e*, of the endless chain of type boxes *c*, substantially as and for the purposes set forth.

4. The combination of a paper feeding and printing roller M, with the endless chain of type boxes *c*, substantially as and for the purposes set forth.

5. The combination of a type feed box A,

type wheel B, and shield b, substantially as and for the purposes set forth.

6. Inking the types by means of a series of ink-rollers I, revolving around a common central shaft K, the rollers being held in rigid or spring bearings I', substantially as and for the purposes set forth.

7. Causing type inking rollers I, revolving around a common central shaft K, to travel in a straight line while in contact with the type, substantially as and for the purposes set forth.

8. Combining a series of ink rollers I, arranged in spring bearing I, with an ink roller H, arranged at a certain distance from the common central shaft K, of said ink

rollers, substantially as and for the purposes set forth.

9. The combination of a wash tub O, and brush N, with an endless chain of type boxes c, substantially as and for the purposes set forth.

10. The distributing ink roller G, set in a vibrating frame, in combination with the main supply roller F, receiving ink roller H, and type inking rollers I, substantially as and for the purposes set forth.

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Witnesses:

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