

(No Model.)

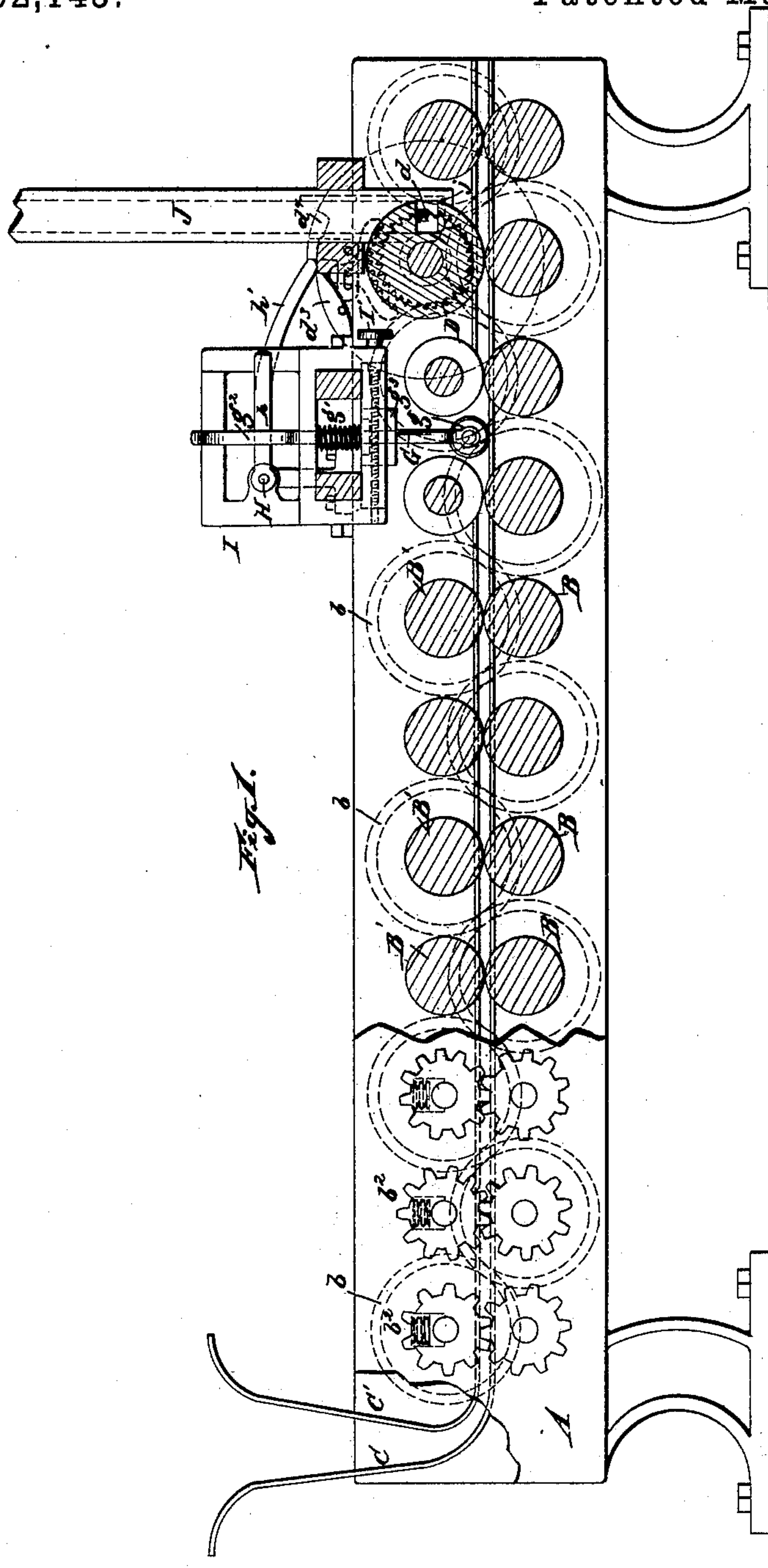
3 Sheets—Sheet 1.

W. BARR.

ADDRESSING MACHINE.

No. 362,143.

Patented May 3, 1887.



WITNESSES

Jno. E. Wiles.
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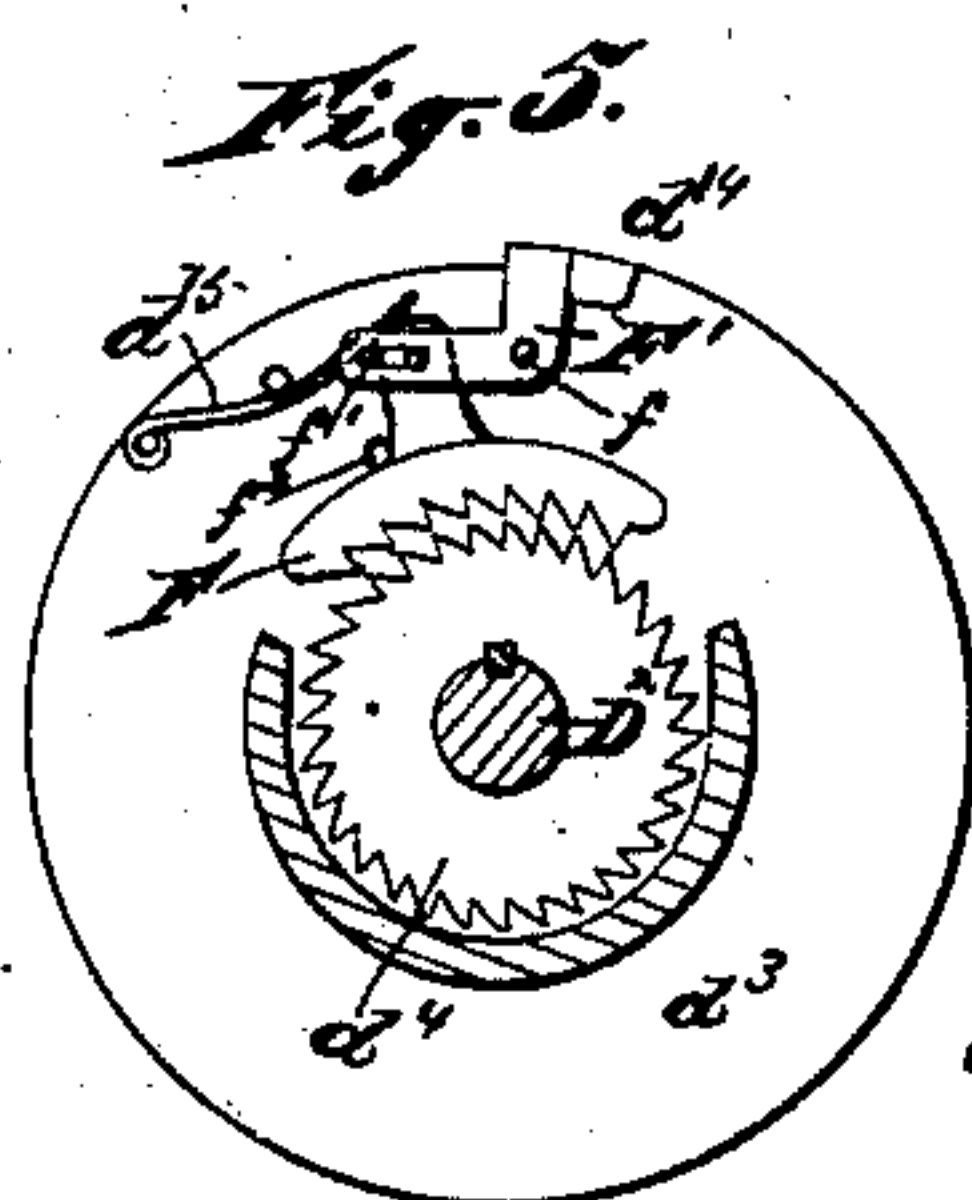
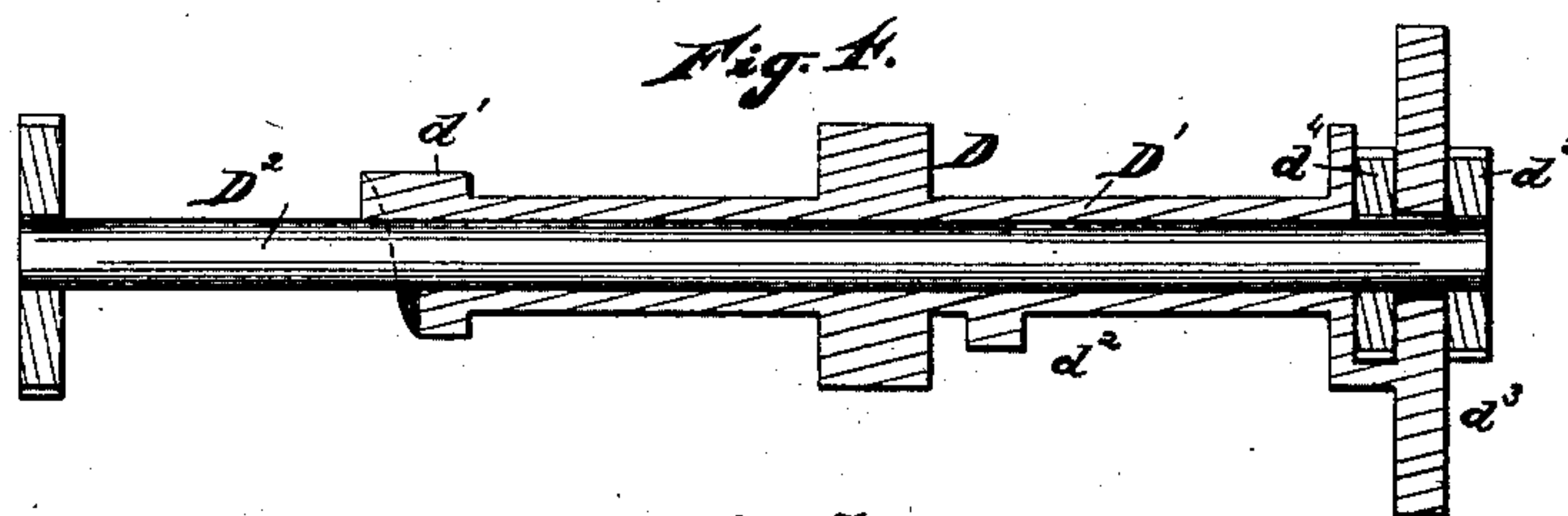
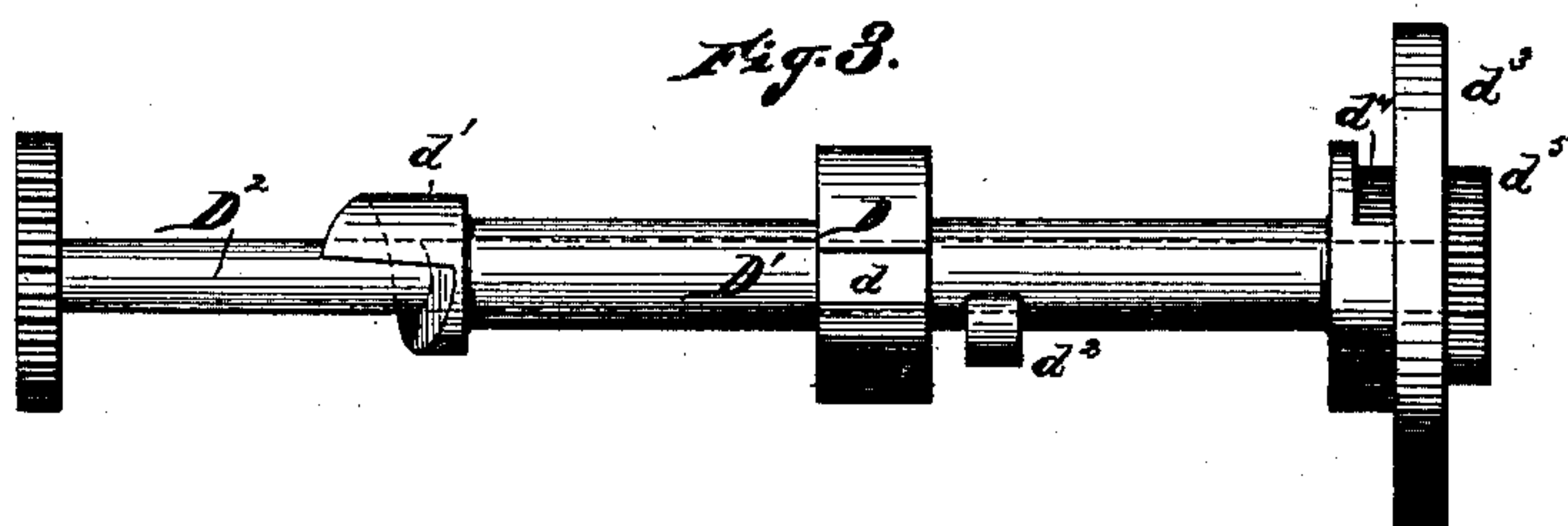
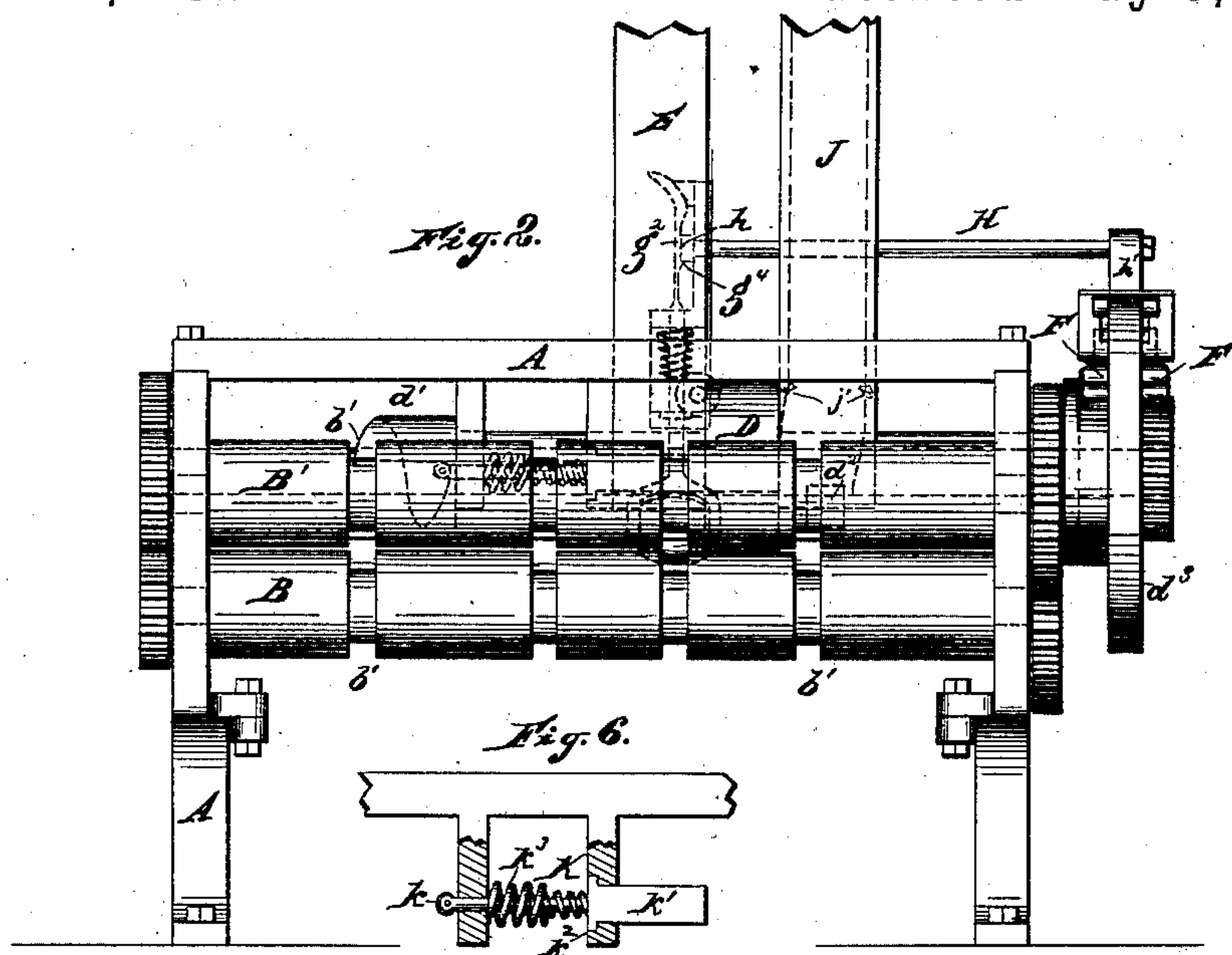
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W. BARR.
ADDRESSING MACHINE.

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Patented May 3, 1887.



WITNESSES

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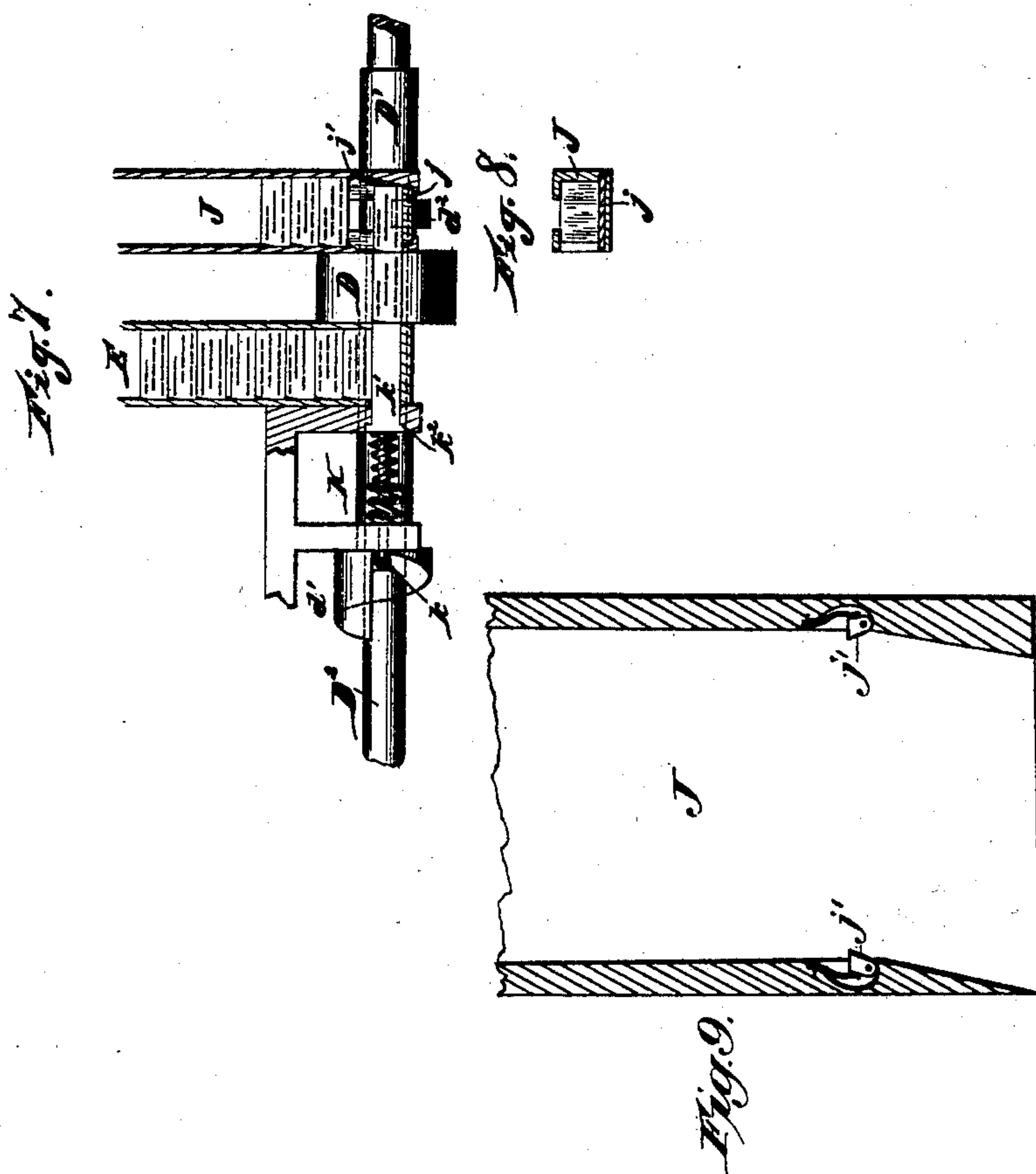
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3 Sheets—Sheet 3.

W. BARR.
ADDRESSING MACHINE.

No. 362,143.

Patented May 3, 1887.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM BARR, OF WINDSOR, ONTARIO, CANADA.

ADDRESSING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 362,143, dated May 3, 1887.

Application filed December 21, 1885. Serial No. 186,359. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BARR, of Windsor, county of Essex, Province of Ontario, Canada, have invented a new and useful Improvement in Addressing - Machines; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a new and useful improvement in machines for addressing newspapers, magazines, and other matter, and has for its object a machine for this purpose which shall be automatic, and which may be readily adjusted and operated to suit papers or periodicals of different sizes and thicknesses when folded; and it consists of the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings which form a part of this specification, Figure 1 is a longitudinal vertical section of a device illustrating my invention, with parts in elevation. Fig. 2 is an end view. Fig. 3 is a view of the shaft carrying the printing-roller and other parts. Fig. 4 is a vertical section of the same. Fig. 5 is a separate view of the ratchet mechanism. Fig. 6 is a separate view of one of the parts. Fig. 7 is a sectional elevation of the chutes, showing their position with relation to the printing-roller and other parts. Fig. 8 is a section of one of the chutes just above its sliding bottom.

Heretofore it has been common where the addresses have not been affixed by hand-writing to print them on slips of gummed paper, which are fed from a machine which cuts off the several addresses and attaches them to the paper or wrapper. It has been common, also, to set up the various addresses in a form, so arranged that each address is successively printed. My invention, however, contemplates stereotyping the addresses on separate blocks, or arranging them on separate blocks in an analogous manner, said blocks being fed successively to a printing-roller in which they are engaged to do their work, and from which they are afterward discharged, the papers be-

ing fed to the printing-roller in consecutive order.

My invention contemplates, also, the gearing of the mechanism for feeding the paper and the stereotyped address to the printing-roller with a printing-press, so that in the case of newspapers, for instance, they may be fed directly from the folder to the addressing-machine without rehandling.

My invention also contemplates the general construction, combination, and arrangement of devices herewith illustrated and described.

I carry out my invention as follows:

A represents any suitable frame-work. I have represented my improved device in the drawings as adapted to carry papers from the folder of a printing-press, although it may be run separate therefrom by any desired power, if preferred.

B B' represent a series of feeding-rollers arranged and geared in any proper way for carrying the folded papers from the folder to the printing-roller. These feeding-rolls may be geared with the folder or run in connection therewith in any well-known manner—as, for instance, one of the feed-rollers adjacent to the folder may be provided with a driving-pulley, *b*. I would have it understood, however, that I do not limit myself to any particular method of driving the feed-rollers employed in my improved machine—either the feed or printing rollers.

C C, &c., represent guides to insure the paper being carried to the printing-roller and delivered therefrom. The rollers may be countersunk to receive these guides, as shown at *b'*, Fig. 2. These bands are preferably arranged under the upper and over the lower series of rolls, as shown, to keep the paper from working out through the rolls in its passage.

The upper series of rollers may be provided with springs *b''*, to permit their yielding for the passage of any inequalities in the thickness of the paper.

D is the printing-roller, mounted on a shaft, D', through which is sleeved a driving-shaft, D'', geared with the feeding-rollers. This printing-roller is constructed with an orifice upon its periphery, as shown at *d*, adapted to receive one of the blocks bearing an address

stereotyped thereon, which blocks are fed thereto through a chute, E, or in any other desired manner, the arrangement being such that one address will be fed to the printing-roller on each complete revolution of the same as the orifice d comes into position where the block can be engaged in the roller. The shaft D' is provided with a cam, d' , at its end and with a cam, d^2 , intermediate of its ends. It is also provided with a driving-head, d^3 .

D^2 is the driving-shaft, provided with ratchet-gears d^4 d^5 adjacent to said driving-head d^3 .

F designates one or more pawls arranged to automatically engage said ratchet-gears and to be automatically disengaged therefrom in any desired way—as, for instance, the pawl may be pivotally connected with a bell-crank, F' , pivoted upon the driving-head, as shown at f , the end of the bell-crank to which the pawl is engaged being provided with an elongated slot, f' . f^2 is a guide-pin. The upper end of the bell-crank is extended to the periphery of the driving-head d^3 , which is cam-shaped, leaving a shoulder, as shown at d^4 .

G represents a spring-bar provided with a roller, g , at its lower end, arranged to travel in proximity to one of the feeding-rollers, the spring g' permitting said bar to yield upwardly as the folded paper comes under and lifts the roller g . The upper end of the spring-shaft is preferably constructed or provided with a spring-arm, as shown at g^2 .

H is a shaft provided with a crank-arm, h , adjacent to the spring-arm g^2 and at the opposite end with a pawl-arm, h' , arranged to ride upon the periphery of the driving-head d^3 and to trip the bell-crank F' upon each revolution of said head and throw the pawl F out of engagement with the ratchet-gears and ride past said bell-crank as the driving-head revolves, when a spring, d^{15} , will throw the pawls into engagement with the ratchet-gears.

I represents an auxiliary frame supporting the spring-shaft G and crank-shaft H.

g^3 is an adjusting-nut for tightening the spring g' upon the spring-bar.

I' is an adjusting-screw for moving the auxiliary frame to and fro, so as to locate the roller g at just the right point to ride upon the paper as it is fed forward. The inner face of the spring-arm g^2 is constructed with a cam-shaped surface, and the adjacent portion of the frame I with a corresponding cam-shaped face, as shown in dotted lines, Fig. 2.

g^4 is a shoulder upon the inner face of the spring-arm, adapted to engage the crank-arm h and trip its shaft, thereby tripping also the pawl-arm upon the opposite end.

It is evident now that as the paper to be addressed rides under the roller g the spring-bar is lifted, whereby the shoulder g^4 engages the crank-arm h and lifts it. At the same time the cam-shaped surface of the spring-arm rides upward upon the corresponding cam-shaped face of the frame, whereby the spring-arm is crowded out, so that at the proper instant the shoulder g^4 will be disen-

gaged from the crank-arm and it will drop. Whenever the paper has passed through under the roller g , the spring-bar will be thrown down by gravity, assisted by the spring g' , ready to be operated by the succeeding paper.

It will be understood, also, from the description of the parts given that when the pawls F are in engagement with the ratchet-wheels the shaft D' will be rotated simultaneously with the shaft D^2 ; but when the pawls are out of engagement the shaft D^2 only will be rotated, the rotation of the shaft D' , upon which the printing-block is mounted, being thus controlled by the operation of said pawls in the manner described, so as to revolve at the proper intervals as the papers to be addressed are fed underneath the tripping-roller g and imprint the address carried by said roller as it rotates.

J is a chute to receive the stereotyped blocks after they have done their work in the printing-roller.

It will be observed from Fig. 2 that the printing roller is located between the chutes E and J, as this is a convenient arrangement, though I do not limit myself definitely thereto.

To engage the stereotyped blocks in the printing-roller they are fed in proper order through the chute E, which preferably stands a little to one side of the shaft D' , in a vertical plane with the chute G, so that as the printing-roller rotates it may bring the orifice d adjacent to the base of the chute E, which position is shown in Fig. 1. The orifice, being in the position indicated in said figure, is also adjacent to the base of the chute J, each of said chutes opening inwardly, to afford free communication between said chute and the orifice d , when it is rotated into corresponding position.

To discharge the stereotyped block which may be in the printing-roller and to engage the successive blocks one after another in said roller, I mount upon a portion of the frame A a reciprocatory spring-arm, K, provided at one end with a caster, k , and at the other with a plunger, k' , which may be provided with a shoulder, k^2 , to limit its operation in the direction of the chute.

The caster k is arranged to travel upon the outer face of the cam d' on the shaft D' . By this construction it is evident that at each successive revolution of the shaft D' the spring-arm K is drawn laterally until it rides off the outermost face of the cam, when the spring k^3 causes a sudden rebound of the plunger, which is arranged to strike the bottom stereotyped block in the chute E at the proper instant, driving it against the block already engaged in the roller, if there be one, forcing the latter block out of the roller and the former block into place, the block being forced into the base of the chute J, preferably constructed with a sliding bottom, as shown in Fig. 1 at j . Now, as the shaft D' continues to rotate, the cam d^2 is thrown against the sliding bottom j , forcing upwardly the discharged

block therewith, which is carried up and held by suitable spring-arms, as shown at *j'*, Fig. 2. The cam *d'* rides past the sliding bottom, which falls to its place, leaving room in the base of the chute J for the reception of the following block to be discharged from the printing-roller.

In order that the discharge-block may not be forced too far in the direction of the rebound of the plunger, so as to cause the newly-entered block to extend past the edge of the roller, I prefer to slant the two sides of the base of the chute J, as shown in dotted lines, Fig. 2. This forms an addressing or numbering machine of great utility, and which needs no attention to secure its operation other than to see that the feeding-chute is supplied with the blocks in proper order, the whole operation being automatic.

What I claim is—

1. In an addressing-machine, a receiving-chute provided with a sliding base-plate, and mechanism, substantially as described, for lifting said base-plate, substantially as and for the purpose described.

2. A chute for receiving a series of blocks, a sliding base-plate to lift said blocks successively, and means, substantially as described, for holding said blocks when lifted upon said base-plate, substantially as described.

3. In an addressing-machine, the combination, with a shaft provided with a printing-roller formed with a recess to receive a removable type-block, of a plunger placed with reference to said roller to replace a block in said recess, a cam connected with the rotatable shaft of the roller to bear against the plunger and move it in the rotation of the roller, and a spring for holding the plunger against the cam, substantially as described.

4. In an addressing-machine, the combination, with a rotatable shaft provided with a printing-roller for carrying a removable type-block, of a chute to receive the block from the roller, means, substantially as described, for retaining the block in said chute, and a cam on the roller-shaft to strike the block when removed from the roller and move it to the receiving-chute, substantially as described.

5. A rotatable printing-roller sleeved upon a rotatable shaft, and means, substantially as described, for intermittently rotating said roller with said shaft, substantially as described.

6. A printing-roller mounted upon a rotatable sleeve, said sleeve constructed with a driving-head, a driving-shaft passed through the sleeve of the printing-roller and provided with driving-gear, and mechanism, substantially as described, for intermittently engaging said driving-head with said gear, substantially as described.

7. The combination of the driving-shaft provided with ratchet-gears, a hollow shaft mounted on said shaft and provided with a printing-roller and driving-head, pawls connected to said driving-head to engage with the

ratchet-gears, a vertical arm adapted to be acted on by a paper passing under the printing-roll, and a shaft at one end acted on by said vertical arm and at the other end provided with a projection to act on said pawls to release their connection with the ratchet-gears, substantially as and for the purposes described.

8. The combination, with a sleeve provided with a printing-roll and a driving-head, of a rotatable shaft passed through said sleeve and provided with driving-gear, a pawl to intermittently lock said driving-head and driving-gear, and a tripping device, substantially as described, to operate said pawl, substantially as described.

9. In an addressing-machine, the combination of a printing-roll formed with a recess to receive a removable type-block, a chute to contain a number of blocks to be fed to the roll, a reciprocating plunger to replace the blocks in the roll, and a shaft carrying the printing-roll and having a cam acting on said plunger, substantially as described.

10. The combination, with printing-roll D, shaft H, and means, substantially as described, connecting them, of the frame I, having a cam-face, and the spring-actuated arms *g'*, movable by a passing paper and formed with a cam-surface to act on the cam-face of frame I and the shaft H to throw the printing-roll in and out of operation, substantially as described.

11. The combination, with a rotatable shaft provided with a printing-roller and a driving-head, of a pawl engaged with said head, a bell-crank engaged with said pawl, and a tripping device, substantially as described, arranged to ride upon the periphery of said head and trip said pawl upon each revolution of the head, substantially as described.

12. In an addressing-machine, a series of feeding-rollers for carrying the paper to a printing-roller, and a tripping device, substantially as described, for throwing the printing-roller into operation as the paper is fed thereto, and to throw the printing-roller out of operation when the paper has passed the tripping device, substantially as described.

13. In an addressing-machine, the combination of an intermittently-rotating printing-roll formed with a recess to receive a removable type-block, a chute containing a number of said blocks located with reference to the roll to deposit a block in position to be carried into the recess thereof at each revolution of the roll, a cam-actuated plunger to eject the block from the roll after it has printed its matter by driving another block into its place, and a chute to receive the blocks ejected from the roll, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

WILLIAM BARR.

Witnesses:

N. S. WRIGHT,
M. B. O'DOHERTY.