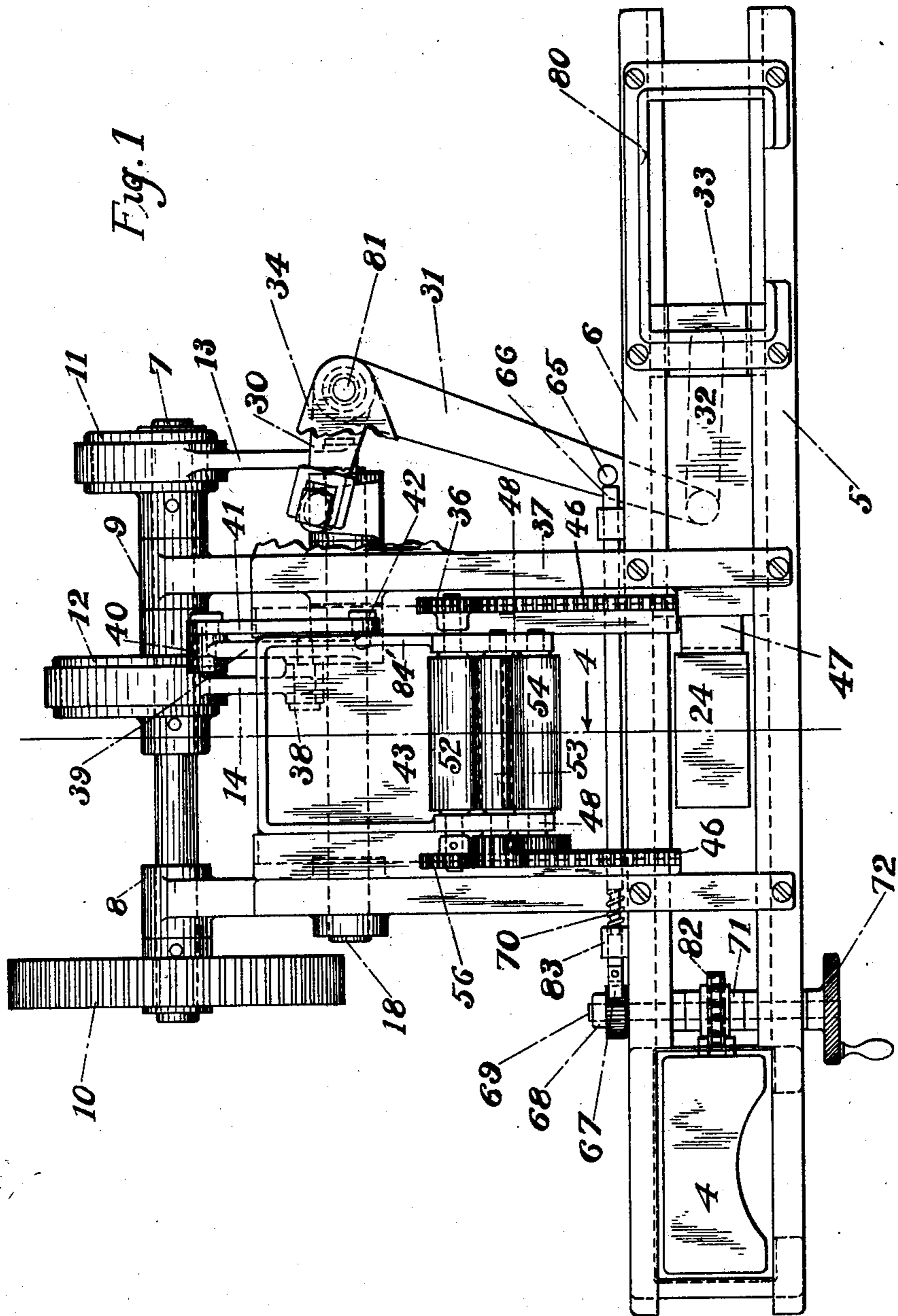


No. 896,702.

PATENTED AUG. 25, 1908.

C. A. BELKNAP.
ADDRESSING MACHINE.
APPLICATION FILED APR. 13, 1906.

4 SHEETS—SHEET 1.



WITNESSES:

F. W. Wright.
Beatrice Morris

INVENTOR

CHARLES A. BELKNAP

BY

Emerson R. Howell

HIS ATTORNEY

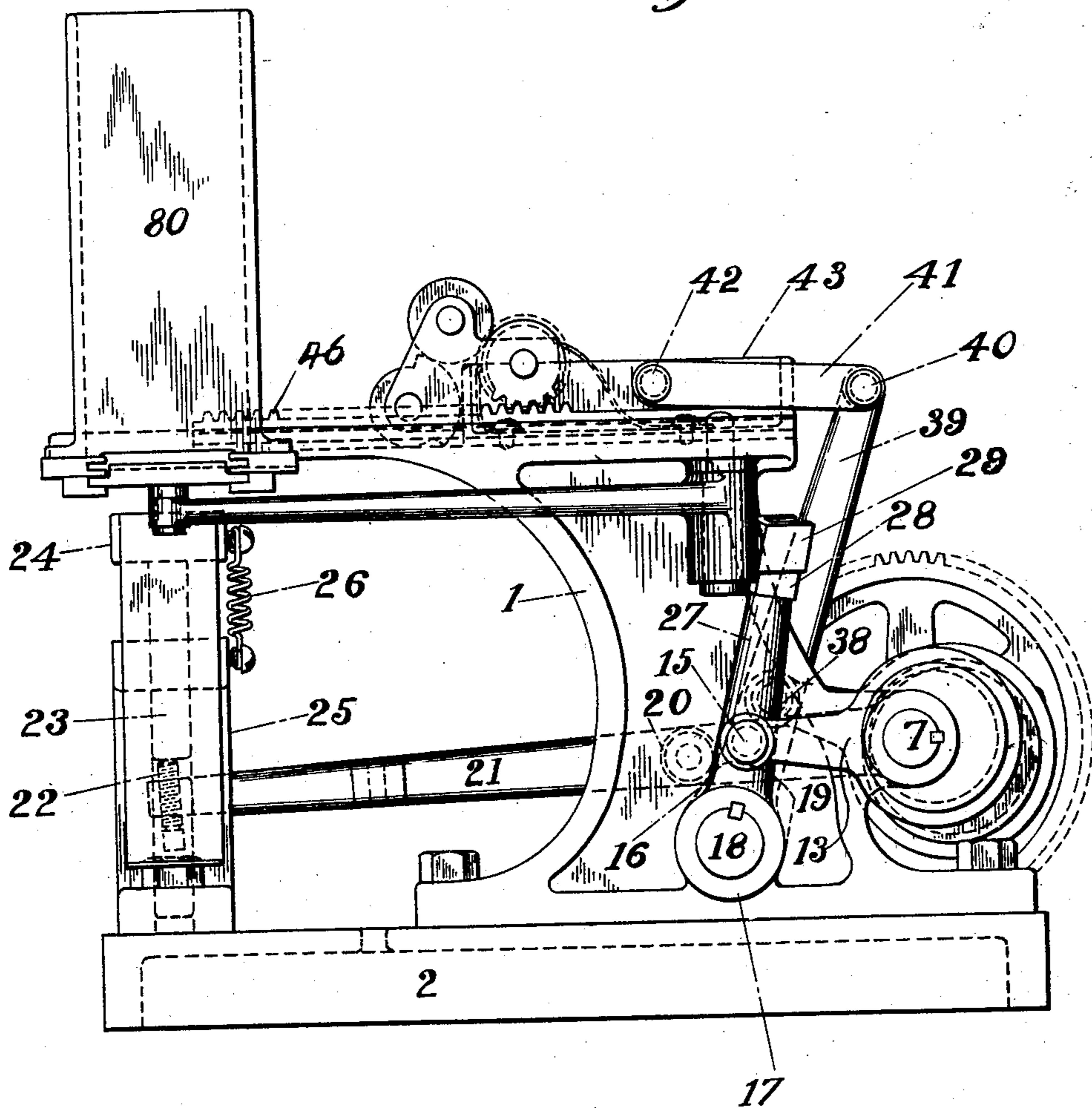
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4 SHEETS—SHEET 2.

Fig. 2



WITNESSES:

F. W. Wright
Beatrice Morris

INVENTOR

CHARLES A. BELKNAP

BY

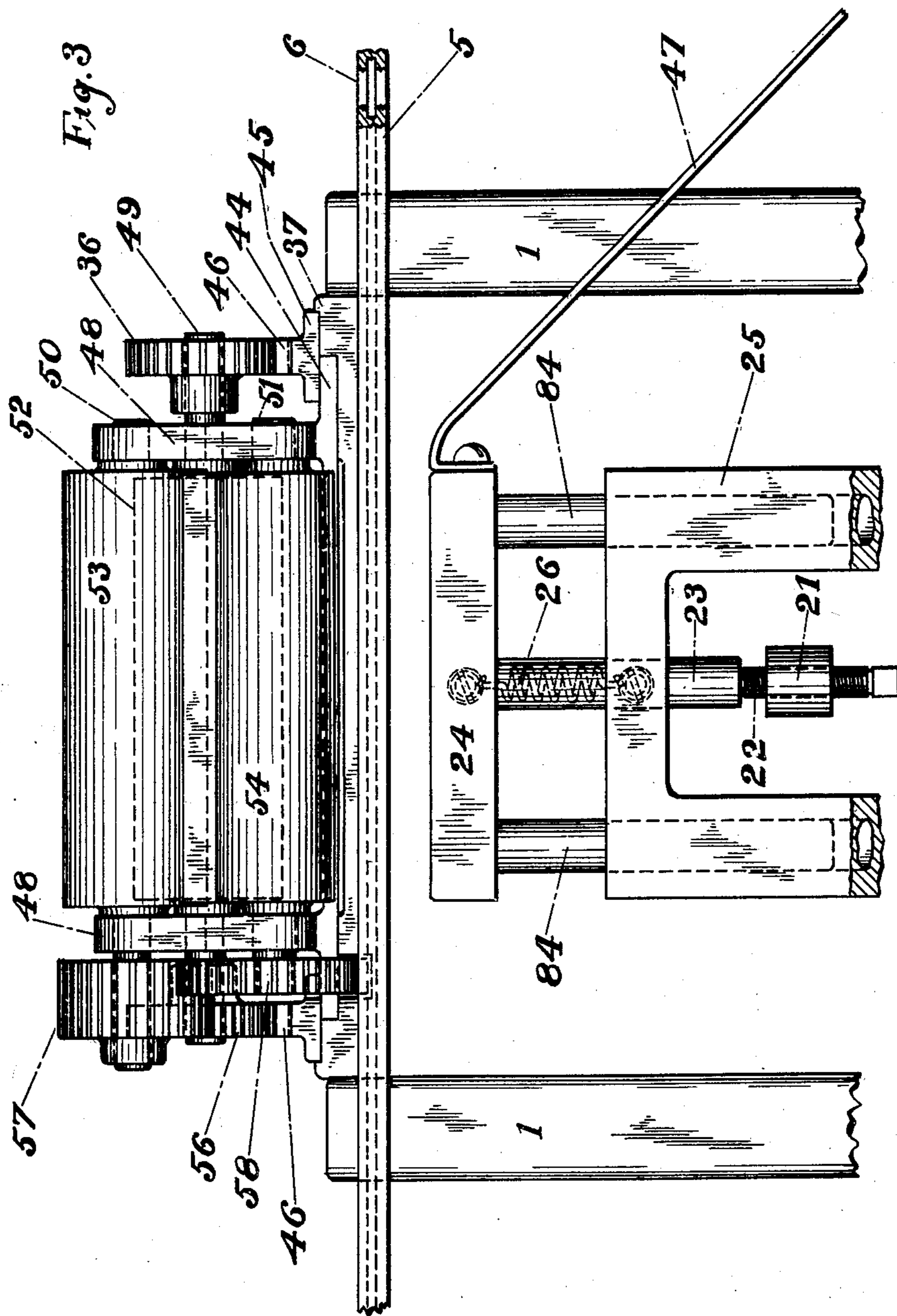
Ernest R. Howell
HIS ATTORNEY

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4 SHEETS—SHEET 3.



WITNESSES:

F. W. Wright
Beatrice Miris

INVENTOR
CHARLES A. BELKNAP

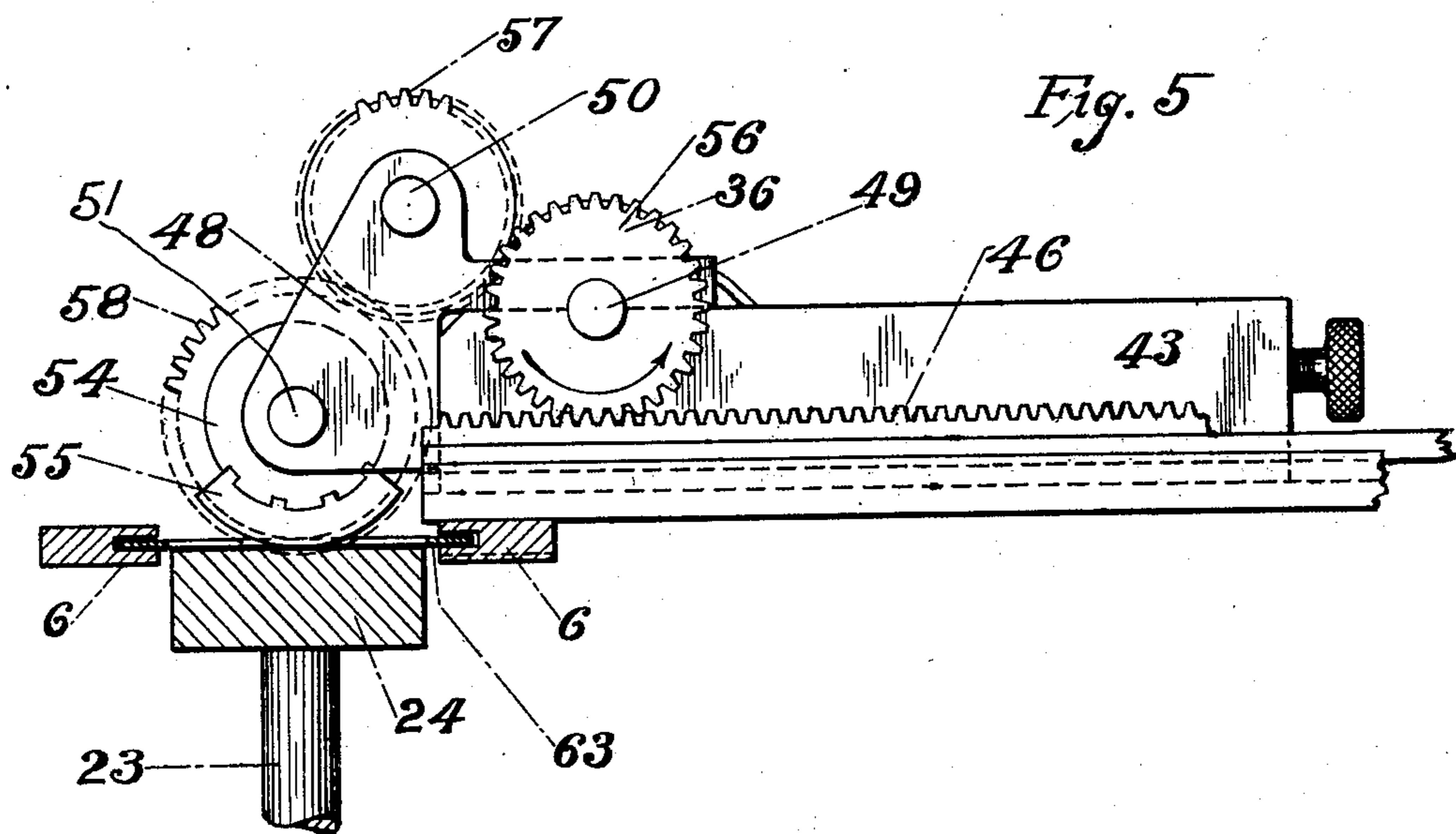
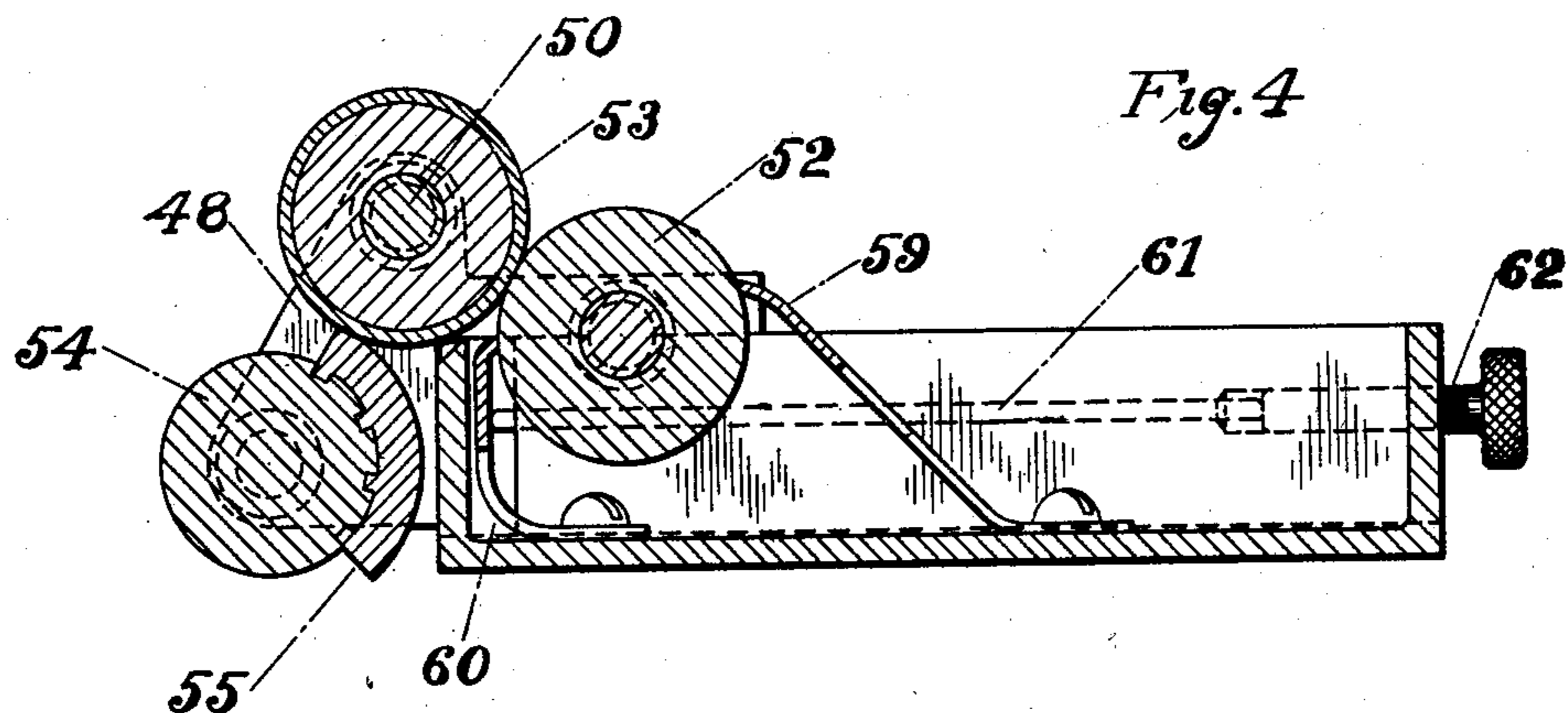
BY
Emerson R. Howell
HIS ATTORNEY

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4 SHEETS—SHEET 4.



WITNESSES:

F. W. Wright
Beatrice Morris

INVENTOR

CHARLES A. BELKNAP

BY

Emerson R. Howell
HIS ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES A. BELKNAP, OF BROOKLYN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO VELOX MANUFACTURING COMPANY, A CORPORATION OF NEW YORK.

ADDRESSING-MACHINE.

No. 896,702.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed April 13, 1906. Serial No. 311,503.

To all whom it may concern:

Be it known that I, CHARLES A. BELKNAP, a citizen of the United States, residing at Brooklyn, New York, have invented certain new and useful Improvements in Addressing-Machines, of which the following is a clear, full, and exact description.

The object of this invention is to provide a simple, economical, readily constructed, durable and reliable addressing machine of that type illustrated in my U. S. Patent No. 560,018, dated May 12, 1896.

The particular improvement in addressing machines hereinafter described, resides chiefly in the means for inking the stencil card and in the means and mechanism for supplying ink to the inking roller which is passed over or smeared over the perforated stencil card to produce the impression upon the envelop wrapper or other device to be addressed.

In order to simplify the movement and construction of the inking roller I provide means for moving it which will move its shaft in a given plane, preferably a horizontal plane, at the same time when other means are rotating the roller, and I prefer that such roller shall have a segmental surface which will dip into the recess within the frame of the stencil card to contact with the stencil sheet thereof. Of course, as in all types of addressing machines, some type of supporting means or platen will be used to hold the stencil in the path of said roller. I prefer that the means for rotating the inking roller be comprised of a stationary rack or racks on the frame of the machine with which gear certain pinions connected with the shaft of the roller and set into rotation by the passage of the roller pinions along the racks, while the roller is being moved in the given plane heretofore referred to. In order to supply ink to this printing roller in a simple, economical and efficient manner I have found it most efficacious to mount the ink-containing tray or fountain in guides on the upper part of the frame of the machine, so that it may be reciprocated as an independent carriage, upon which carriage the inking roller, ink transferring roller and ink supply roller with their bearings and connected gears may be mounted so that the same operating mechanism which gives the inking roller its reciprocating movement in the given plane, before described, may serve to

reciprocate the tank or fountain and all parts carried by it. I prefer, in order to have the inking parts in full view where an operator will be advised of the condition of those most important parts of an addressing machine, that the fountain and rollers be located vertically above the platen or other supporting means for the stencil, but it is obvious that such arrangement, while preferable for many reasons, is not imperative. My invention will be pointed out in the claims.

In the accompanying drawings, I have shown the preferred embodiment of my invention as applied to a machine such as the machine of the prior Belknap patent, hereinbefore mentioned, in which

Figure 1 is a plan view of an addressing machine with the arm which supports the stencil shifting lever shown partly broken away for clearness; Fig. 2 is a right-hand side elevation of the machine of Fig. 1; Fig. 3 is a view drawn to a larger scale of part of the frame, card guides and platen and of the tank and rollers carried thereby in entirety, as seen from the front of the machine; Fig. 4 is a sectional view of the ink fountain and rollers taken on line 4—4 Fig. 1; and Fig. 5 is a side elevation more or less in section of the fountain, rollers, stencil and platen.

As shown in the accompanying drawings, the main frame is formed of a pair of frame plates 1, mounted on a suitable base 2. The frame plates have a pair of upper horizontal and parallel members 37 extending fore and aft of the machine. Secured to the front ends of these fore and aft members 37 are the stencil guides 5 and 6. These guides consist of parallel bars suitably channeled to receive the stencil cards in the manner well known in the art and cut out at each end to permit of the reception of the cards at the right-hand end from the receiving stack 80, and at the left-hand end to permit the delivery of the cards to a receiving platform 4. In the frame 1 in suitable bearings 8 and 9, there is freely mounted a rotating shaft 7 carrying a driving gear or other driving wheel 10 connected with some suitable source of power. The shaft 7 has keyed thereon an interior eccentric 12 and an exterior eccentric 11. The exterior eccentric 11 is connected by a strap 13 and pivoting stud 15 with an arm 16 having its bushing 17 keyed on the shaft 18. Upon the shaft 18 there is also secured a cam 19 op-

erating against a roller 20 on a platen operating lever-arm 21 freely pivoted on the shaft 7 at one end and provided with an adjustable threaded stud 22 at its other end.

- 5 The stud is adapted to bear against the underneath end of a vertical rod 23 carrying the platen 24 at its upper end. Guide rods 84 secured to the platen are mounted in a suitable guide support 25 secured to the base 2.
- 10 A spring 26 is secured to the platen 24 and to the support 25 and tends always to retract the platen against the upward movement imparted to it by the platen operating lever 21.

- On the shaft 18 there is also a lever 27 here-
- 15 in shown as a combination of the rocking lever 16. The lever 27 carries at its upper end a block 28 freely pivoted on the end of the lever, which block 28 fits into a slotted block 29, also freely pivoted in the end of a member 30 of a bell crank lever 31. Thus I produce a universal connection between lever 27 and bell crank 31. The bell crank is pivoted at 81 in a bracket 34, extending from the right-hand frame plate 1. The end of the
- 25 bell crank lever 31 is pivoted to a link 32 carrying the pusher block 33 for shifting a card from the bottom of a stack in the delivery chute transversely through the guides, which same motion will impel a card from the
- 30 guides to above and consequently onto the receiving platform 4. The receiving platform 4 is given a slow intermittent downward motion by the means of a sprocket 71 connected to the platform 4 by a chain 82. The
- 35 gear 71 is mounted on a shaft 69 having a hand wheel 72 at one end and a ratchet 68 at the other. A pawl 67 on the end of a rod 66 serves to rotate the ratchet a given distance upon every reciprocation of the rod 66 which
- 40 occurs when a projection 65 on the bell crank lever 31 strikes the end of the rod to throw it to the left, while a spring 70 between the rod 66 and its bearing 83 tends to return the rod and pawl to the right.

- 45 The strap 14 of the eccentric 12 is connected at its end by a stud 38 to a lever 39 freely mounted on the counter shaft 18 at one end. The free end of the lever 39 is pivoted at 40 to a link 41, which is pivoted at 42 to a side plate 84' of the movable ink tank or fountain 43. It is by this eccentric 12 and its connecting lever and link that the fountain and rollers, hereinafter to be described, are given a reciprocating motion.

- 55 The ink fountain 43 at its forward end carries in suitable brackets 48 shafts 49, 50 and 51, which are the respective shafts for the ink supplying, ink transferring and printing rollers. The ink supplying roller 52 is mounted
- 60 so as to depend into the tank 43 so as to rotate with its lower part immersed or in contact with the ink therein. The ends of this shaft 49 are shown as provided with pinions 36 and 56, one at each end and of like size
- 65 and pitch, which travel and rotate as the

fountain is reciprocated in engagement with racks 46 parallel to the aforesaid members 37 of the frame. The fountain itself is formed of a base plate of greater width than the fountain proper, forming ledges at the side of the same represented by 44, which serve as a carriage for the fountain. The ledges 44 fit nicely the members 37 of the frame, while the racks 46 are provided with broad bases 45 which extend over the ledges 44 to aid in guiding the same during reciprocation of the fountain. Scraper blades 59 and 60 are arranged within the fountain to bear upon the roller 52. I have shown one of these blades 60 as adjustable in its position against the roller 52, such adjustment being secured by threaded thumb screws 62 which bear against rods 61, the ends of which rest against the blade 60.

Shaft 50 in the bracket 48 is shown as located above and forward of the shaft 49 and it carries the transfer roller 53 provided with a suitable transfer envelop or cover. Shaft 50 is provided with a double width gear 57 one half of which meshes with gear 56 of the ink supplying roller, whereby it is given a rotation in unison with said roller. The printing roller shaft 51 is mounted obliquely below the transfer roller shaft 50 and is provided with a gear 58 meshing with the other half width of the gear 57 aforesaid. The roller 54 carries a segmental printing surface 55 which during part of its travel contacts with the transfer roller, as will be obvious.

In operation the feed of the cards and their delivery and the actuation of the platen are well known in the art, as illustrated in my before mentioned patent, so I will not describe them at further length than to state that the stencil cards 63 are intermittently and successively fed into position over the platen 24, where they are held in the guides during the complete printing operation of the printing roller which passes over the same twice, as will be obvious from examination of Fig. 5. The stencil card, when the roller has been retracted, is shifted on, for another to take its place.

The operation of the printing roller and tank will now be considered. It is most graphically illustrated in Fig. 5. When the tank and brackets 48 are thrown forward by the eccentric 12, strap 14 and lever 39, the gears 36 and 56 as they travel along the racks 46 will be caused to rotate in the direction of the arrow, Fig. 5, causing ink to be taken up by the ink supplying roller 52 which transfers the same to the transfer cover or envelop of the roller 53 which is rotating in unison with the aforesaid roller, due to its geared connection. This roller 53 transfers its ink to the segment 55 of the roller 54 when the same is passed in contact with the surface 53 caused by the rotation of the shaft 51 by the gearing connection with

the transfer roller. As the carriage and ink fountain approach their forward position, the lower edge of the segment 55 will be so adjusted that it will dip into the recess formed between the side frames of the stencil card 63 just as said forward edge has come into position adjacent to the inner frame of the card. The rotation of the segment will be continued as the segment passes over the card and will thus smear the ink through the stencil plate onto the wrapper or envelop held against it by the platen 24. Upon the retraction of the fountain the segment 55 will again smear the face of the stencil and then be drawn up free from the stencil card so that it may be rotated afresh against the transfer roller 53. It is after the roller has left the card on its rearward journey that the shifting of the cards takes place. The platen is dropped from printing position before said shifting, as usual in machines of this type and a new envelop or wrapper inserted by the aid of the guide plate 47, which is attached to the right hand end of the platen 24.

I claim as my invention:

1. In an addressing machine in combination, a main frame of the machine having a rack thereon, a supplementary frame movable thereon and provided with a gear wheel meshing with said rack, means for reciprocating said auxiliary frame, said supplementary frame carrying a printing roller having a segmental printing surface rotated by said gear wheel, an ink tank on said supplementary frame, means for transferring ink from said tank to said segmental surface of said printing roller, and means for holding a stencil in such position that it will be pressed upon by said segmental surface.

2. In an addressing machine, a frame, an ink tank thereon, a printing roller, means for moving said printing roller upon the frame to print, said tank being movable with the described movement of the printing roller, in combination with means for holding a stencil in the path of the roller, and means for rotating the printing roller controlled by the movement of the tank and roller.

3. In an addressing machine, a frame, an ink tank thereon, means for moving said tank upon the frame, a printing roller movable with the tank, straight guides for the tank, a rack alongside said guide, and gearing between the rack and the roller, in combination with means for holding a stencil in the path of the roller.

4. In an addressing machine, a frame, an ink tank thereon, a printing roller, means for moving said printing roller upon the frame to print, said tank being movable with the described movement of the printing roller, in combination with means for holding a stencil in the path of the roller, and means for rotating the printing roller con-

trolled by the movement of the tank and roller, said roller having a segmental surface.

5. In an addressing machine, a frame, an ink tank thereon, means for moving said tank upon the frame, a printing roller movable with the tank, guides for the tank, a rack alongside said guide, a supply roller in the tank, a transfer roller and gearing connecting the rollers and rack, in combination with means for holding a stencil in the path of the roller.

6. In an addressing machine, a frame, an ink tank thereon, a printing roller, means for moving said printing roller upon the frame to print, said tank being movable with the described movement of the printing roller, in combination with means for holding a stencil in the path of the roller, a segmental surface for the roller, and a shaft for the roller adapted to be moved in a given plane.

7. In an addressing machine a frame, an ink tank thereon, means for moving said tank upon the frame, a printing roller movable with the tank, said roller having a segmental surface and a shaft for the roller, means for moving said shaft in a given plane, means for rotating said roller, said means comprising a stationary rack and gearing between the rack and the roller in combination with means for holding a stencil in the path of the roller.

8. In an addressing machine a frame, an ink tank thereon, means for moving said tank upon the frame, a printing roller movable with the tank, said roller having a segmental surface and a shaft, means for moving said shaft in a given plane, means for rotating said roller comprising a stationary rack and gearing between the rack and roller, said gearing being adapted to give a rotation to the roller where it contacts with the stencil in a direction the opposite to the direction of movement of its shaft, in combination with means for holding a stencil in the path of the roller.

9. In an addressing machine, a frame, an ink tank thereon, means for moving said tank upon the frame, a printing roller movable with the tank, said roller having a segmental surface and a shaft, means for moving said shaft in a given plane, means for rotating said roller in combination with means for holding the stencil in the path of the roller and a reciprocating platen and means for moving it into place beneath the stencil before the operation of the inking surface thereupon.

10. In an addressing machine, a main frame of the machine, a supplementary frame and means for reciprocating the same in a given plane, a printing roller having a segmental printing surface and an ink tank both mounted on said auxiliary frame, an ink supplying roller between said tank and

printing roller, means for rotating said printing roller at the same surface speed as said movement given to said auxiliary frame, and means for holding a stencil in the path of said
5 segmental surface of said printing roller whereby the same is adapted to roll over and press upon a stencil.

11. In an addressing machine, a frame, an ink tank thereon, means for moving said tank
10 upon the frame, a printing roller movable in a given plane and also movable with the tank, straight guides for the tank, a rack alongside said guides and gearing between the rack and the roller, in combination with means for
15 holding a stencil in the path of the roller.

12. An addressing machine having a horizontal stationary guide for the stencils, a reciprocating platen beneath said guide, an inking roller above said guide and means for supplying ink to the roller, a tank upon which
20 the roller is mounted and means for imparting a horizontal movement to both tank and roller in combination with means for rotating the roller by mechanism operated by the
25 movement of the roller in its horizontal plane.

13. In an addressing machine, a roller having a printing surface and a shaft for the roller, means for moving said shaft in a given plane, means for rotating said roller, an inking roller and tank therefor, and mechanism
30 for transferring ink from the roller last mentioned to the printing roller, said tank and rollers being movable together, in combination with means for holding a stencil in the path of the printing roller. 35

14. An addressing machine having a horizontal stationary guide for the stencils, a reciprocating platen beneath said guide, an inking roller above said guide and means for supplying ink to the roller, a tank upon which
40 the roller is mounted and means for imparting a horizontal movement to both tank and roller.

Signed at New York, N. Y. this 12th day of April 1906.

CHARLES A. BELKNAP.

Witnesses:

EMERSON R. NEWELL,
BEATRICE MIRVIS.