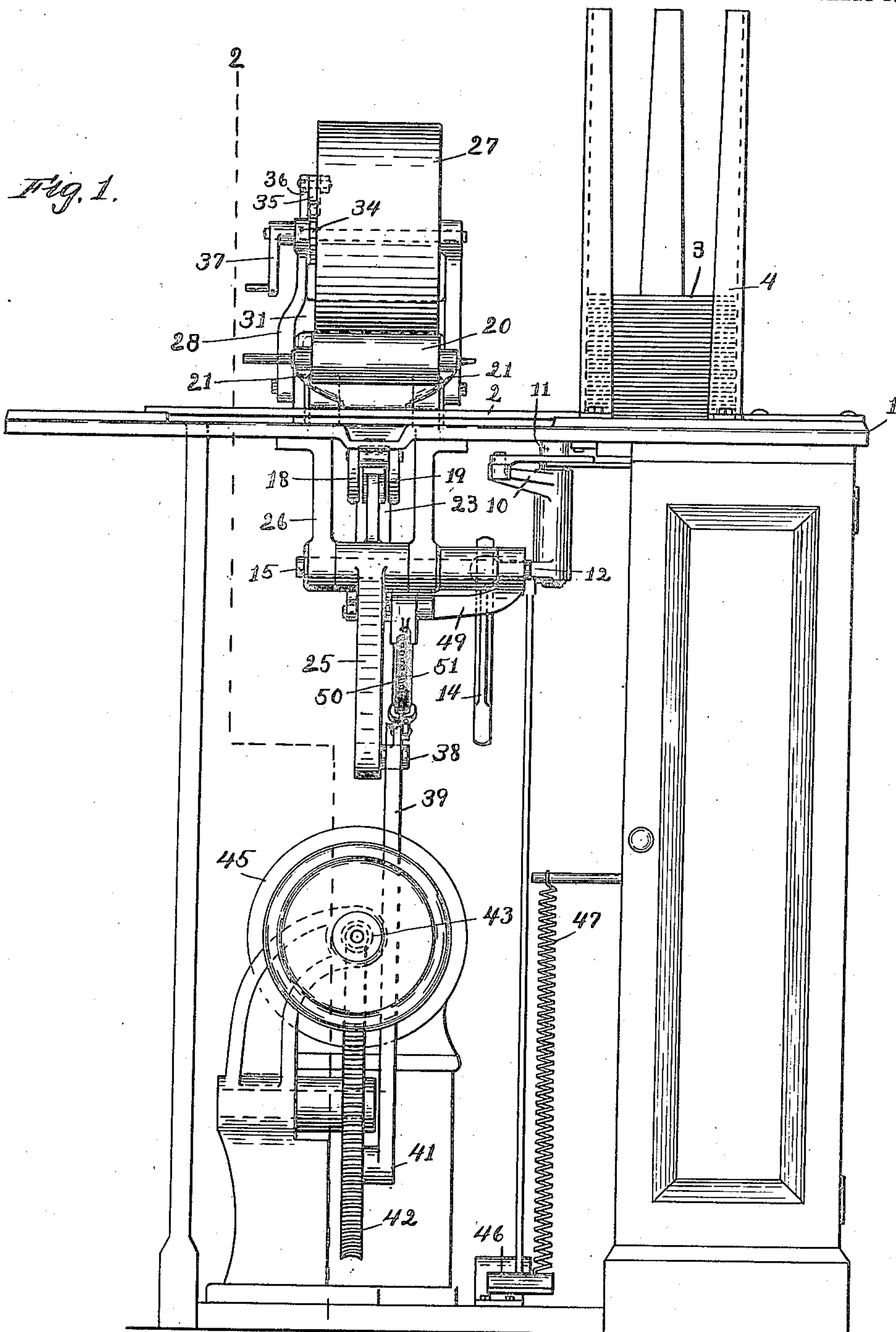


S. ELLIOTT.
ADDRESSING MACHINE.
APPLICATION FILED AUG. 19, 1908.

935,196.

Patented Sept. 28, 1909.

3 SHEETS—SHEET 1.



Witnesses:
H. B. Davis,
Cynthia Doyle.

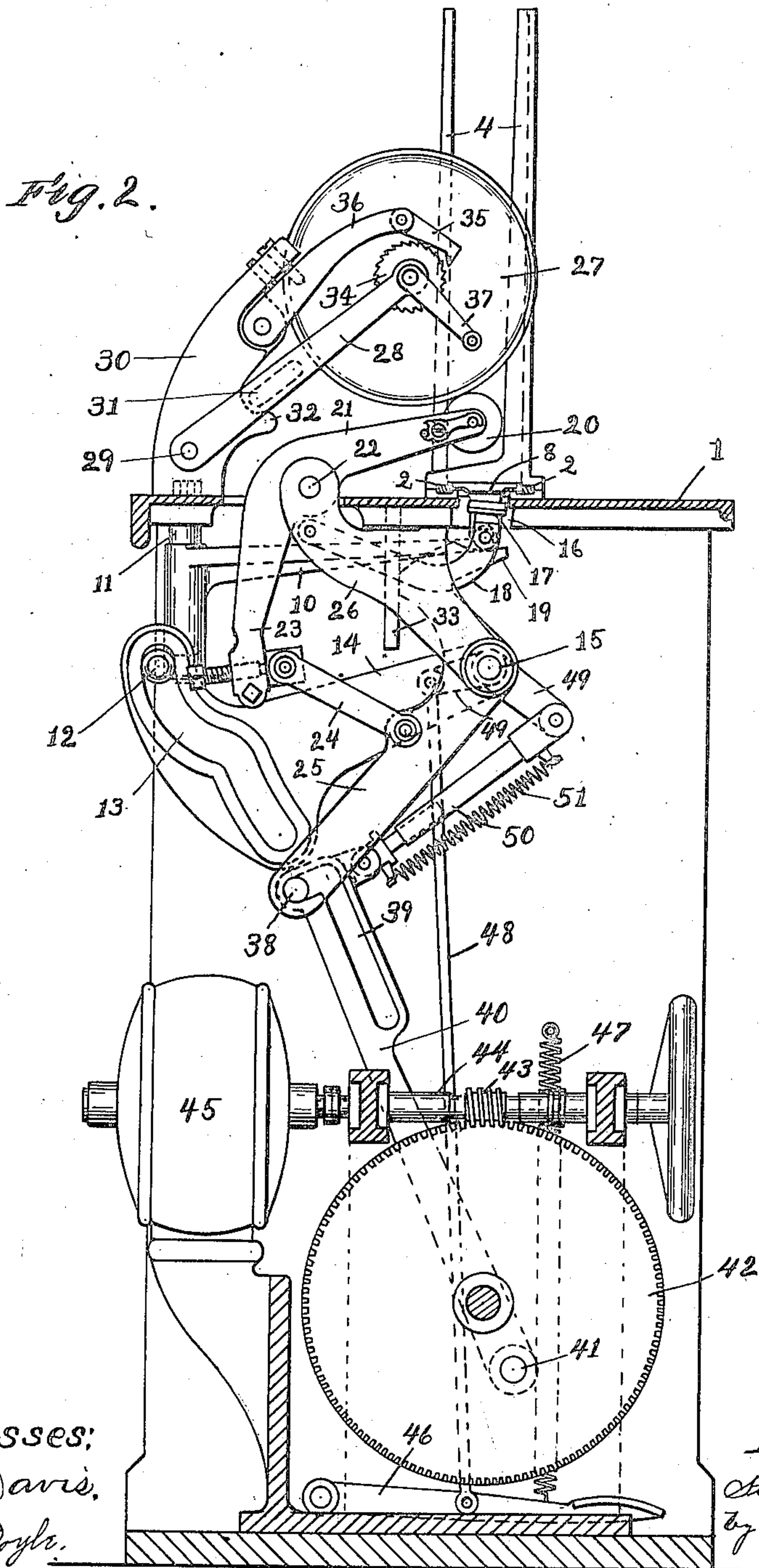
Inventor:
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

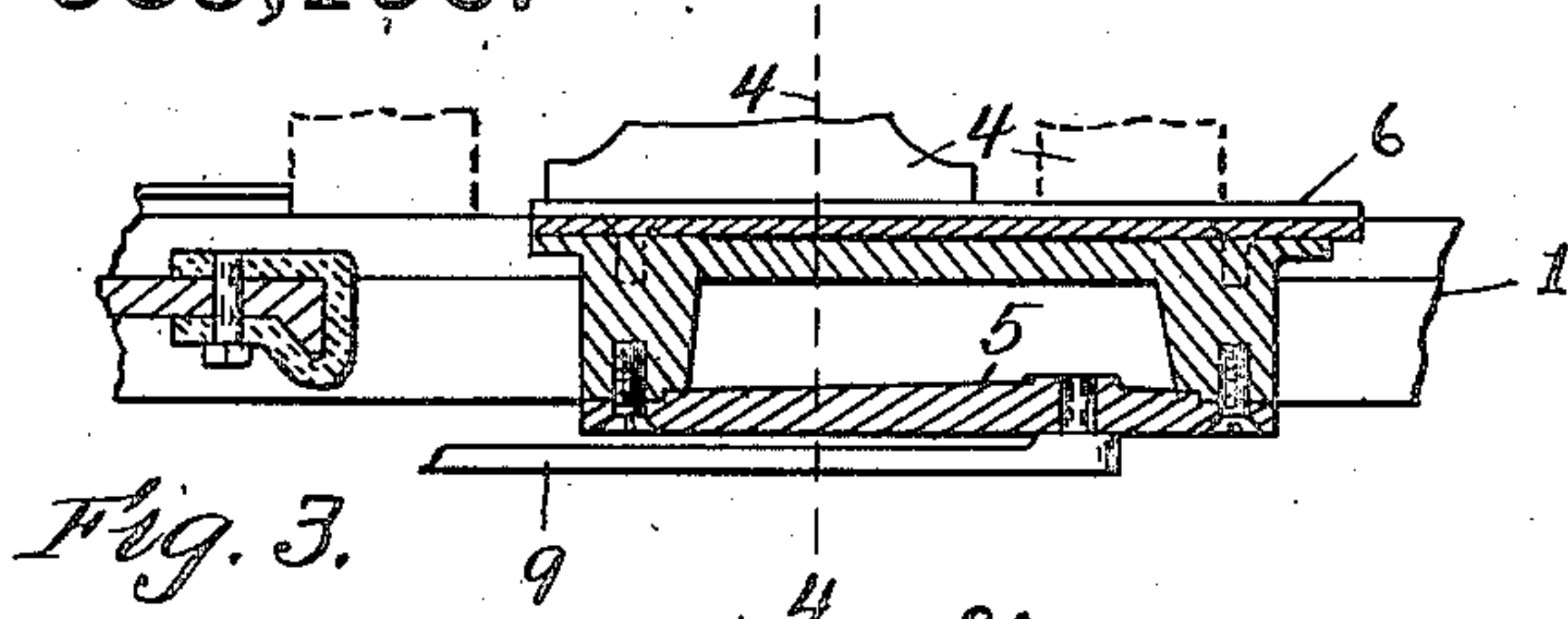


Fig. 3.

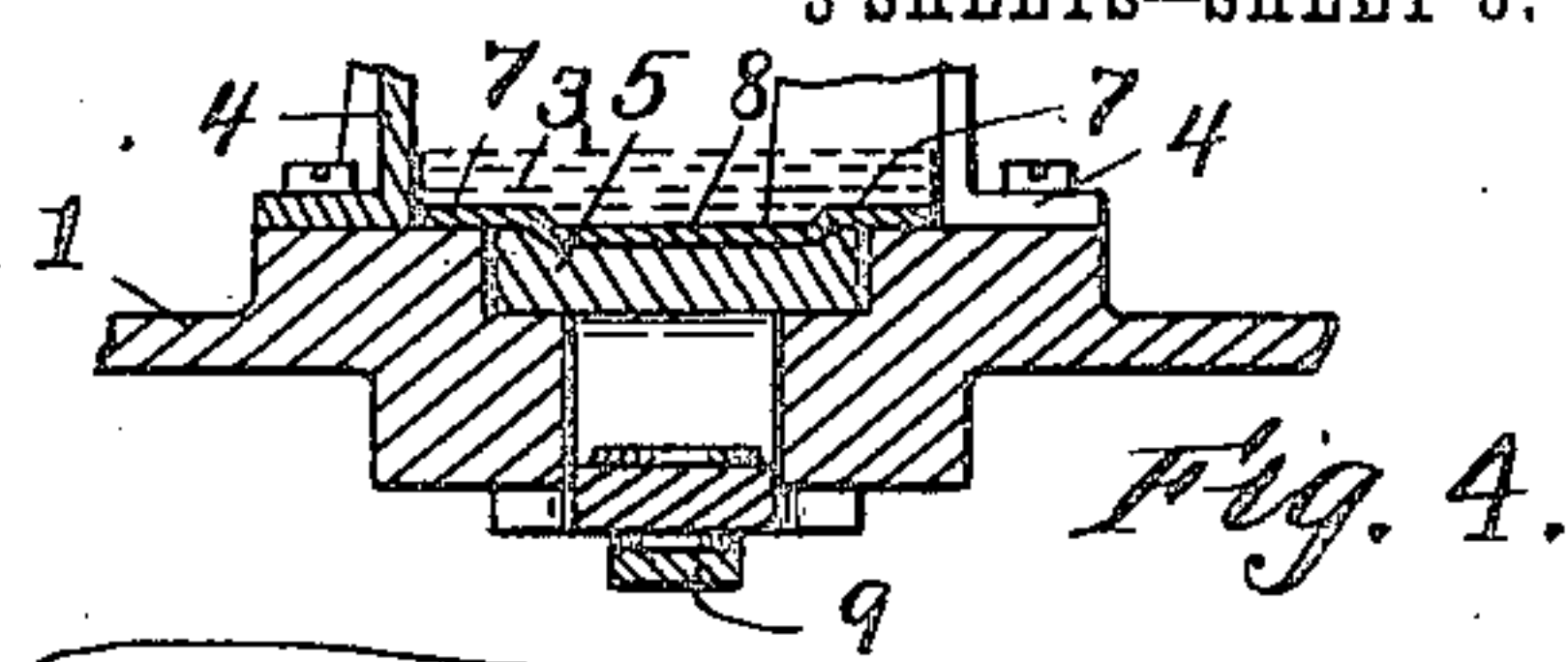


Fig. 4.

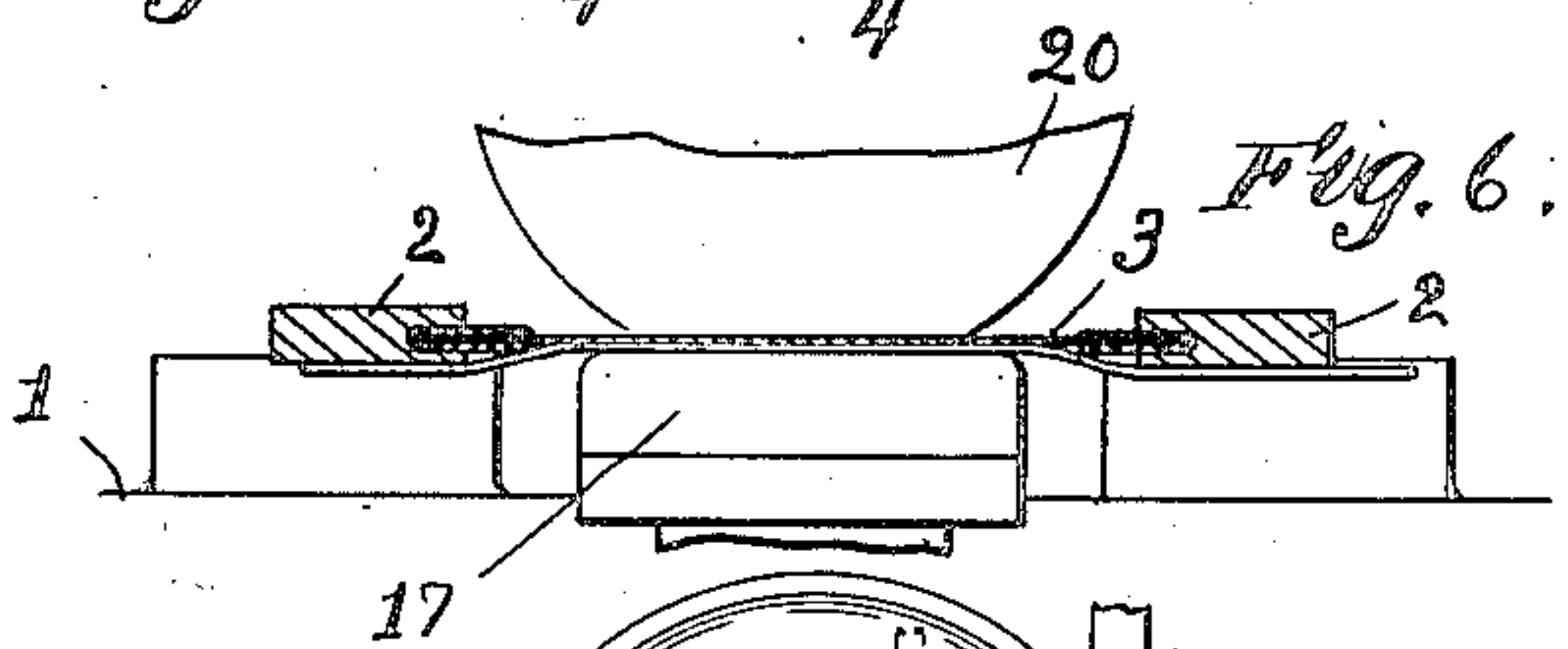


Fig. 6.

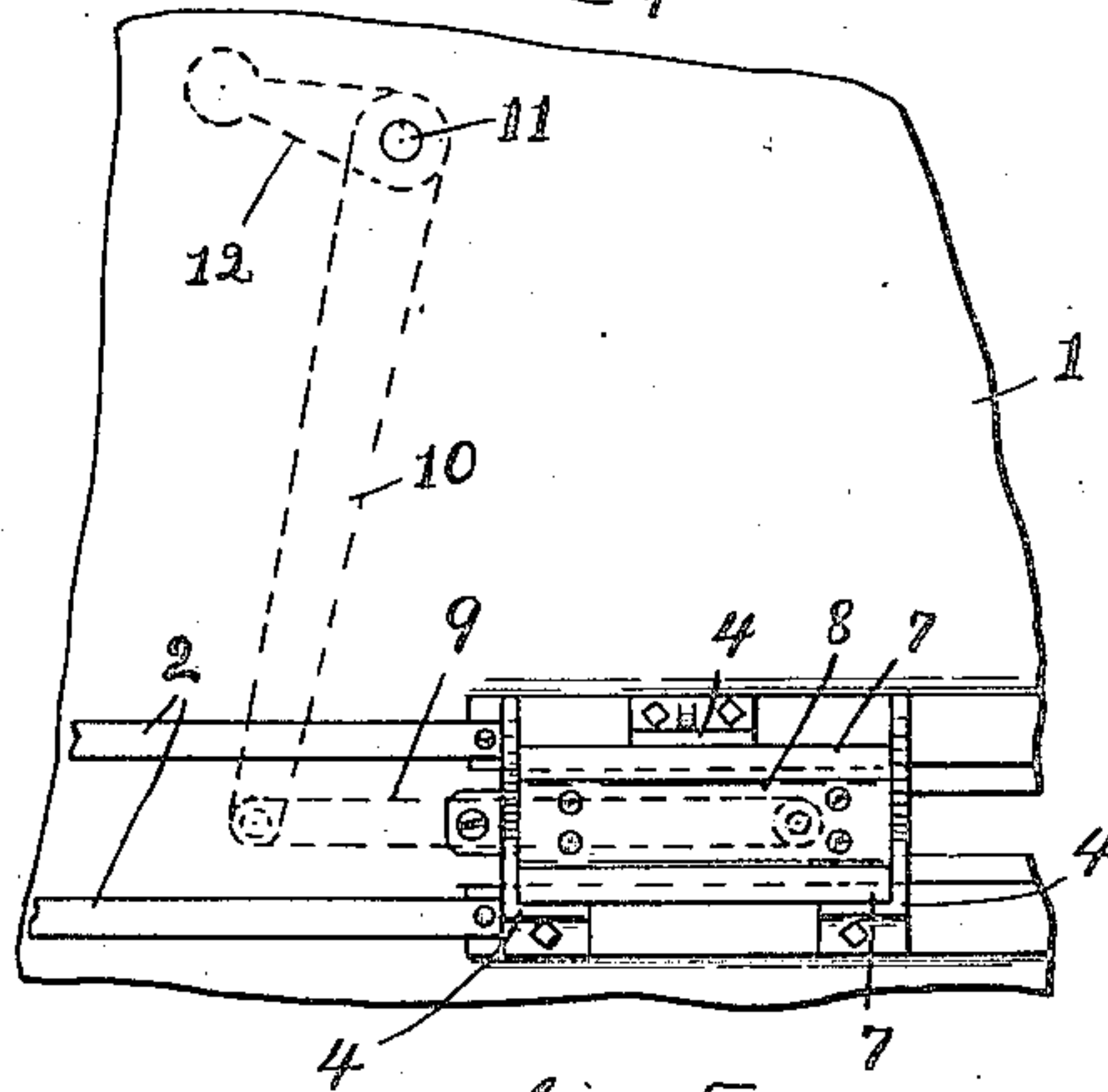


Fig. 5.

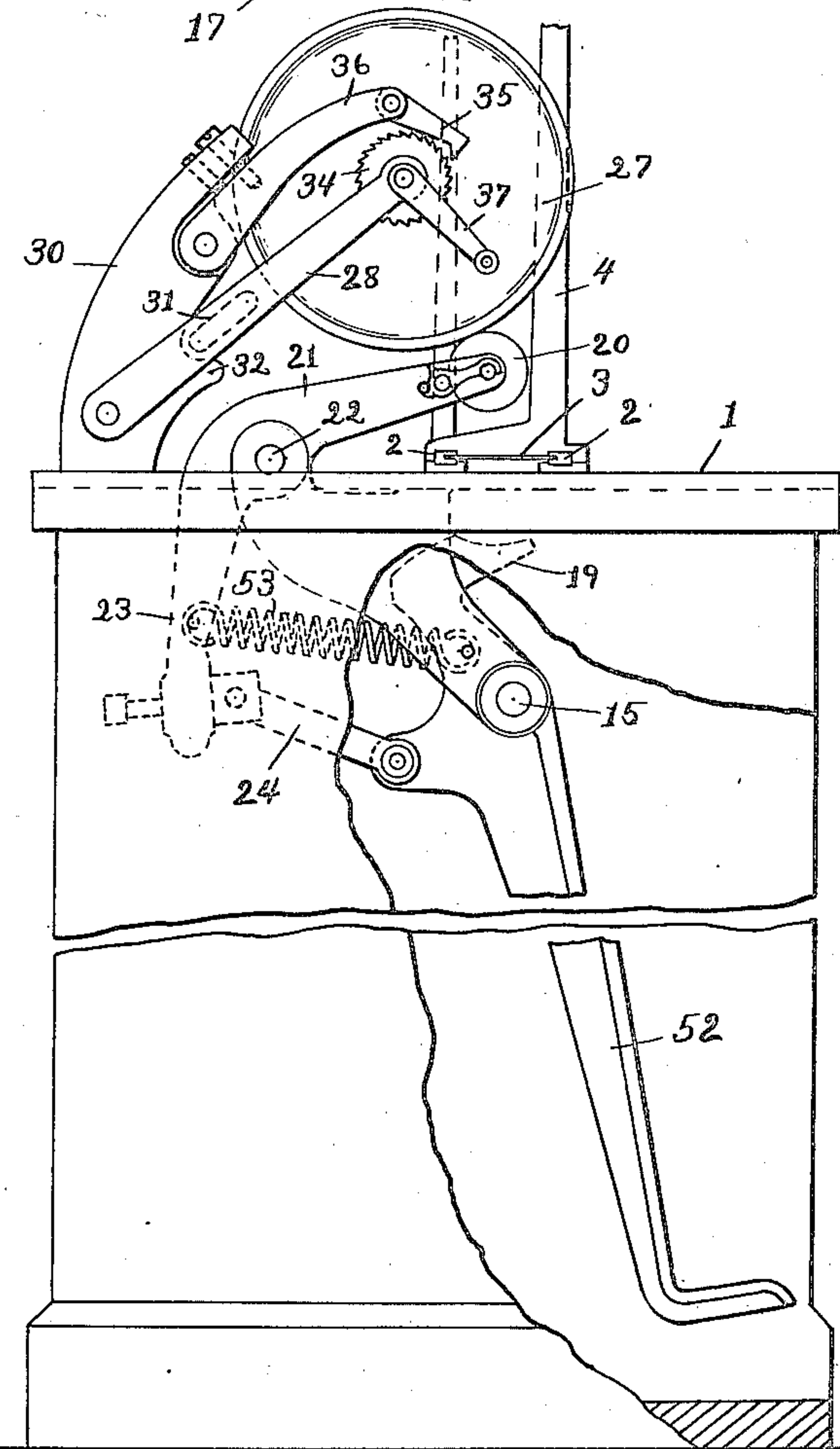


Fig. 8.

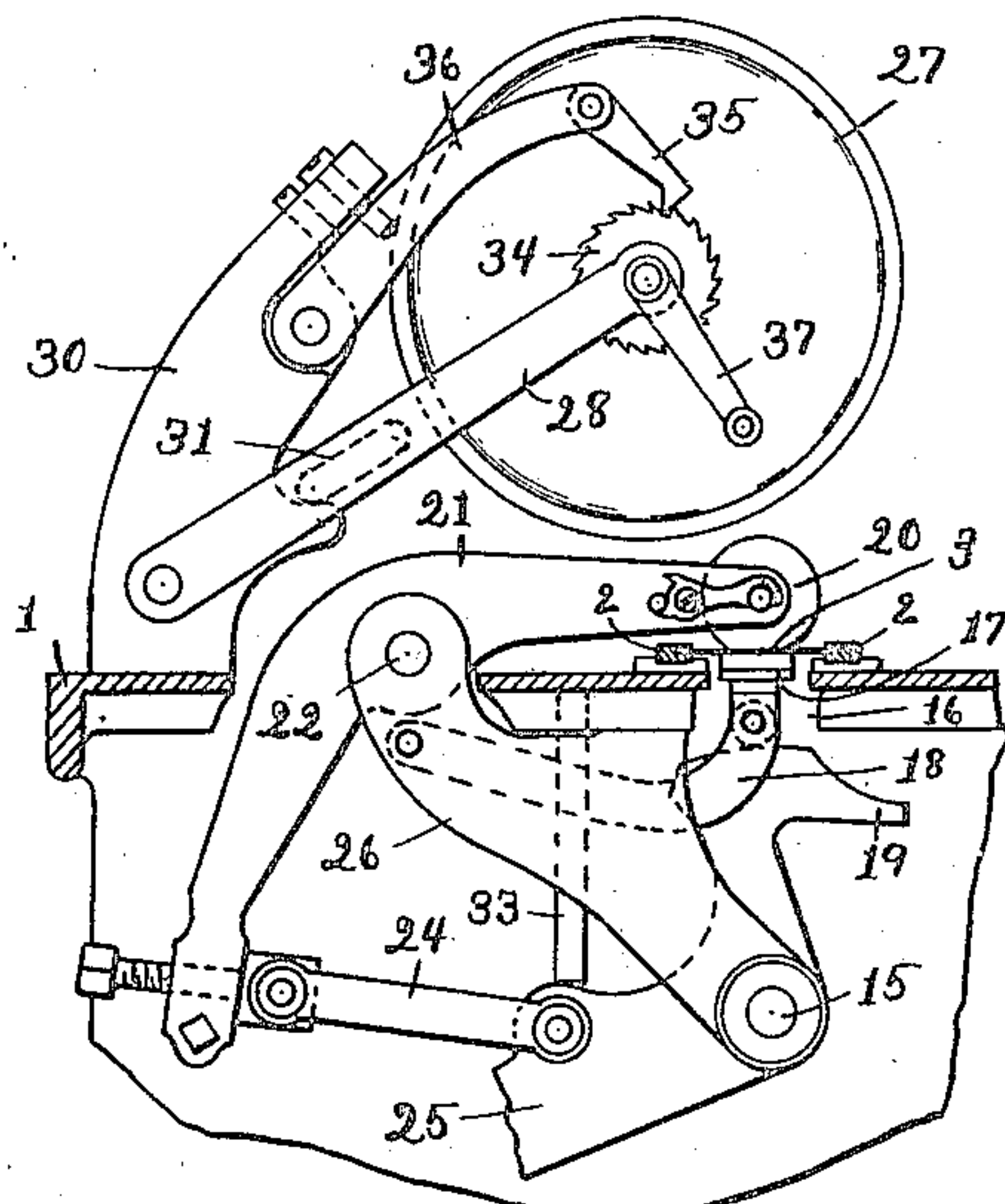


Fig. 7.

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UNITED STATES PATENT OFFICE.

STERLING ELLIOTT, OF NEWTON, MASSACHUSETTS.

ADDRESSING-MACHINE.

935,196.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed August 19, 1908. Serial No. 449,228.

To all whom it may concern:

Be it known that I, STERLING ELLIOTT, of Newton, county of Middlesex, State of Massachusetts, have invented an Improvement in Addressing-Machines, of which the following is a specification.

This invention relates to machines for printing addresses by the use of stencil-plates which are successively brought into position to be engaged by an impression-roller which receives its supply of ink from an inking-cylinder, and is an improvement upon the machine shown in the United States Patent #714,789, dated December 2, 1902.

To apply ink to the impression-roller the inking-cylinder is revolved while in engagement with said roller and by such engagement the roller is also revolved; yet, when the roller is moved into engagement with a stencil-plate it is necessary that it shall be at rest; and one of the objects of this invention is to so construct and arrange the parts that the impression-roller will engage the inking-cylinder and will be revolved by it while in engagement therewith, and will then disengage said cylinder and cease revolving before it engages the stencil-plate. The actuating-mechanism for revolving the inking-cylinder acts intermittingly, but as the cylinder is quite heavy it continues to revolve by momentum each time it is actuated for a short period of time, hence it is necessary to disengage the impression-roller therefrom in order that said roller may come to rest before it is moved into engagement with a stencil-plate.

Another object of the invention is to provide an improved form of actuating-mechanism for the inking cylinder, whereby said cylinder is revolved during its upward movement, and will continue to revolve by momentum during its downward movement, so as to supply the impression-roller with ink during the entire period of time said roller is in engagement with it.

Another object of the invention is to provide for actuating the inking-cylinder by an upward movement of the impression-roller, so that no additional means are required for accomplishing this result.

Another object of the invention is to provide an improved form of pusher for pushing the stencil-plates along the slideway, whereby a recess is provided for the reception and escape of dirt, dust and other substances

which collect between the stencil-plates of a pile.

Another object of the invention is to provide an improved form of power operating mechanism for the machine, which may be employed in case it is desired to run the machine by power.

Figure 1 is a front elevation of an addressing-machine embodying this invention. Fig. 2 is a vertical section of the machine shown in Fig. 1 taken on the dotted line 2-2. Fig. 3 is a longitudinal sectional detail of the pusher for the stencil-plates. Fig. 4 is a transverse sectional detail of the pusher shown in Fig. 3, taken on the dotted line 4-4. Fig. 5 is a plan view of the pusher. Fig. 6 is a detail showing the platen and impression-roller in engagement with a stencil-plate, which latter is held by its support. Fig. 7 is a side view of the parts in the positions they will occupy when the impression-roller is in engagement with a stencil-plate. Fig. 8 is a modified form of machine adapted to be operated by a treadle instead of by power, as shown in Fig. 1.

1 represents the table; 2, 2, a pair of slotted guide-bars thereon, which form a slideway for the stencil-plates 3. Upright posts 4 are arranged at one end of said slideway to form a receptacle for a pile of stencil-plates. A pusher is provided for transferring the stencil-plates from said receptacle to a receptacle at the opposite end of the slideway, and, as herein shown is arranged to successively engage the outer ends of the lowermost stencil-plates of the pile and push them along the slideway from beneath the pile, each stencil-plate pushing along the stencil-plate ahead of it. The pusher consists of a frame 5, see Figs. 3 and 4, bearing a top-plate 6, and adapted to slide in a guide-way provided for it. The pusher is movable along its guideway from a position opposite the outer end of the lowermost stencil-plate of the pile to a position beneath the pile, and when so moved the end of the top-plate engages the outer end of the lowermost stencil-plate of the pile and moves it from beneath the pile, along its slideway, far enough so that when the pusher returns, a space is left beneath the pile into which the pile settles and the next stencil-plate thereby brought opposite the end of the top-plate. The width and thickness of the top plate corresponds to the

width and thickness of the stencil-plate. The top-plate 6 is formed with raised sides 7 and with a depressed intermediate portion 8, both of which extend from end to end of the plate, and as the top plate is successively moved beneath the pile of stencil-plates, said depressed portion forms a recess for receiving dirt, dust and other substances which may collect between the plates of the pile. Said recess is open at the ends to provide for the escape of any material which may enter it. The pusher is reciprocated longitudinally, and to accomplish this result a link 9, see Fig. 5, is loosely connected to it, which is connected to the end of an arm 10, arranged to swing on a stud 11, secured to the under side of the table, and a short arm 12 projects from the hub bearing said arm 10 having its end formed to enter a slot 13, see Fig. 2, in a cam-plate 14, secured to a pivot-shaft 15. As the pivot-shaft is rocked the cam-plate is reciprocated to in turn reciprocate the arm 10 and thereby reciprocate the pusher. The table has a hole through it intermediate the length of the slide-way, as at 16, over which the stencil-plates are successively conveyed, and a platen 17 is arranged beneath the table, on a pivoted arm 18, whereby it is adapted to rise and fall so as to pass up through the hole and engage the under side of a stencil-plate and then retreat. The platen is operated by a cam 19 secured to the rocking pivot-shaft 15.

The impression-roller 20 is journaled in a yoke 21, pivoted at 22, to a bracket 26 on the table, and is arranged above the hole 16, and is adapted to be depressed, to engage a stencil-plate beneath it and then resume its normal position. The yoke 21 has a downwardly extended arm 23, to the lower end of which one end of a link 24 is adjustably connected, the other end of said link being loosely connected to the main actuating-lever 25, which is secured to the pivot-shaft 15. Movement of the actuating-lever rocks the pivot-shaft and also moves the yoke 21 on its pivot to move the impression-roller up and down. Downward movement of said roller is limited by a stop-pin 33, which is engaged by the rising actuating-lever.

27 represents the inking-cylinder for supplying the impression-roller 20 with ink. It is journaled in a yoke 28 pivoted at 29 to an upright 30 on the table. It normally rests by gravity upon the roller 20, as shown in Fig. 1, and is movable up and down by and with said roller 20. The yoke 28 has a cross-bar 31 or other form of stop, which is arranged to engage an ear 32 or other form of stop on the upright 30, to arrest downward movement of the cylinder, before the impression-roller engages the stencil-plate or its downward movement is checked by the pin 33. It will thus be seen that the im-

pression-roller and inking-cylinder are supported by independent frames, and stops provided for both frames, whereby downward movements of the cylinder and roller are arrested successively, the cylinder being arrested before the roller is arrested, so that the roller may disengage the cylinder before it engages a stencil-plate. The cylinder is revolved to apply ink to the roller and the roller is revolved by its engagement with the cylinder, and, as here shown, the cylinder is revolved by and during its upward movement and is permitted to continue to revolve by momentum during its downward movement. To accomplish this result a ratchet-wheel 34 is connected to the cylinder, and a pawl 35 is pivoted to a stationary arm 36, adjustably secured to the upright 30, and said pawl rests by gravity on the ratchet-wheel and is so arranged with respect thereto that as the cylinder rises it engages the teeth of said ratchet-wheel, see Fig. 7, to thereby turn said ratchet-wheel and revolve the cylinder, yet, during such time it is being turned on its own pivot, so that when the cylinder arrives at the upper end of its upward movement said pawl becomes disengaged from the teeth of the ratchet-wheel, as shown in Fig. 2. Adjustment of the arm 36 is provided for the purpose of locating the pawl with respect to the ratchet-wheel so that it will engage the teeth thereof when the cylinder is in its lowermost position and will disengage the teeth thereof when the cylinder is in its uppermost position. The pawl is disengaged from the ratchet-wheel when the cylinder is in its elevated position for the purpose of permitting the cylinder to be rotated noiselessly by momentum, and also to enable it to be rotated in either direction by hand, as will be described. The cylinder is raised quickly by the rising roller and is positively revolved by and during its upward movement, and as soon as the pawl becomes disengaged from the ratchet-wheel said cylinder is permitted to continue to revolve by momentum for a short period of time. When the machine is being rapidly operated the cylinder revolves continuously although the actuating-means for revolving it are only operated during the upward movement thereof. As the roller disengages said cylinder at the lower end of the downward movement, said roller being light, comes to rest before it engages the stencil-plate, and hence does not rub on said plate. A hand-crank 37 is secured to the shaft of the cylinder for turning it.

The pivot-shaft 15 is rocked by means actuated by a motor, see Fig. 2, or by a treadle, see Fig. 8. Referring to Fig. 2, the actuating-lever 25 has a stud 38 which enters a bayonet-slot 39 in a crank-arm 40 which is connected at its lower end to a crank-pin 41

on a disk 42, which is made as a worm-wheel and which is engaged by the worm 43 on a shaft 44 adapted to be driven by an electric or other motor 45. The shaft 44 revolves continuously and hence the crank-arm 40 is reciprocated longitudinally, and said crank-arm is so arranged with respect to the actuating-lever that the stud 38 is adapted to occupy two different positions in the bayonet-slot therein, as for instance, it may occupy a position in the transverse portion of said slot, as shown in Fig. 2, and in such case the actuating-lever will be operated by the crank-arm, or it may occupy a position in the longitudinal portion of said slot and in such case the crank-arm will be operated and the actuating-lever remain at rest. The position of the crank-arm with respect to the actuating-lever is here shown as controlled by a treadle.

46 represents the treadle which is lifted by a spring 47 when pressure upon it is relieved, and which is connected by a rod 48 with one end of a lever 49, see Fig. 2, mounted loosely on the pivot-shaft 15, the opposite end of said lever being flexibly connected with the crank-arm 40. The flexible connection here shown consists of a telescopically arranged bar 50 connecting the lever 49 with the crank-arm and a spring 51 connecting the two members of said bar 50 together. Pressure upon the treadle moves the crank-arm so that the stud 38 enters the transverse portion of the bayonet-slot, and when the pressure is relieved said stud enters the longitudinal portion of said slot. Referring to Fig. 8, a treadle 52 is connected with the pivot-shaft 15, and a link 24, which is connected with the supporting-frame for the impression-roller, is connected with said treadle, and rearward movement of the treadle depresses the impression-roller and forward movement thereof, incident to the action of a spring 53, restores the parts.

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

1. In an addressing machine, the combination of a stencil-plate support, a platen, a rising and falling inking-cylinder, actuating-means for revolving said cylinder, a rising and falling impression-roller for moving said cylinder, causing the actuating-means to revolve it, while in engagement with it, independent frames respectively supporting said cylinder and roller, and means for arresting the downward movement of said cylinder before the roller arrives at the end of its downward movement, whereby the roller disengages the cylinder and continues its downward movement independent thereof, substantially as described.

2. In an addressing machine, the combination of a stencil-plate support, a platen,

an impression-roller, a rising and falling frame supporting said roller, an inking-cylinder normally engaged by said roller, a rising and falling frame supporting said cylinder, and stops arranged to limit the downward movements of said frames, successively, the stop for the cylinder-supporting frame being engaged before the stop for the roller-supporting frame is engaged, whereby the roller continues its downward movement after the cylinder has stopped, substantially as described.

3. In an addressing machine, the combination of a stencil-plate support, a platen, an impression-roller, an inking-cylinder adapted to rest on said roller by gravity when in engagement therewith, actuating-means for revolving said cylinder, independent rising and falling frames respectively supporting said roller and cylinder, means for moving the roller-supporting frame to raise the roller and thereby raise the cylinder and cause the actuating-means to revolve the cylinder, and means for arresting downward movement of the cylinder before the roller arrives at the end of its downward movement, substantially as described.

4. In an addressing machine, the combination of a stencil-plate support, a platen, an impression-roller, an inking-cylinder adapted to rest on said roller by gravity when in engagement therewith, independent rising and falling frames supporting said roller and cylinder, actuating-means for revolving said cylinder during its rising movement, which permits said cylinder to revolve by momentum during its downward movement, means for moving the roller-supporting frame to raise the roller and thereby raise the cylinder and cause the actuating-means to revolve said cylinder, and means for arresting downward movement of the cylinder before the roller arrives at the end of its downward movement, substantially as described.

5. In an addressing machine, the combination of a stencil-plate support, a platen, a rising and falling impression-roller, a rising and falling inking-cylinder, actuating-means for revolving said cylinder operated by and during its rising movement, said cylinder being arranged adjacent the roller and adapted to be engaged and lifted by it, and means for moving the roller to lift the cylinder, substantially as described.

6. In an addressing machine, the combination of a stencil-plate support, a platen, an impression-roller, an inking-cylinder normally resting on said roller by gravity, independent pivoted frames respectively supporting said roller and cylinder, a ratchet-wheel on said cylinder, a pawl adapted to engage said ratchet-wheel during the upward movement of the cylinder, to thereby

revolve said cylinder, and arranged to disengage said ratchet-wheel at the upper end of its upward movement, permitting said cylinder to revolve by momentum during its downward movement, an arm bearing said pawl, and means for moving the roller-supporting frame to raise the roller and thereby raise the cylinder, substantially as described.

7. In an addressing machine, the combination of a stencil-plate support, a platen, an impression-roller, an inking-cylinder normally resting on said roller by gravity, independent pivoted frames respectively supporting said roller and cylinder, a ratchet-wheel on said cylinder, a pawl adapted to engage said ratchet-wheel during the upward movement of the cylinder, to thereby revolve said cylinder, and arranged to disengage said ratchet-wheel at the upper end of its upward movement, an arm bearing said pawl, adjustable means supporting said arm, and means for moving the roller-supporting frame to raise the roller and thereby raise the cylinder, substantially as described.

8. In an addressing machine, the combination of a stencil-plate support, a platen, an impression-roller, an inking-cylinder normally resting on said roller by gravity, independent rising and falling frames supporting said roller and cylinder, actuating-means for revolving said cylinder during its rising movement, means for moving the roller-supporting frame to raise the roller and thereby raise the cylinder and cause the actuating-means to revolve said cylinder, and means for arresting the downward movements of said cylinder and roller successively, whereby the roller disengages the cylinder at the lower end of its downward movement, substantially as described.

9. In an addressing machine, the combination of a stencil-plate support, a platen, a rising and falling impression-roller, a rising and falling inking-cylinder adapted to be engaged and lifted by said roller, actuating-means for revolving said cylinder operated by a movement thereof, independent frames respectively supporting said roller and cylinder, means for successively arresting their downward movements whereby the roller disengages the cylinder at the lower end of its downward movement, and means for moving said roller up and down, substantially as described.

10. In an addressing machine, the combination of a stencil-plate support, a platen, a rising and falling impression-roller, a rising and falling inking-cylinder, actuating-means for revolving said cylinder operated by and during its rising movement, which permits said cylinder to revolve by momentum during its falling movement, said cylinder being arranged adjacent the

roller and adapted to be engaged and lifted by said roller, and means for moving the roller up and down, substantially as described.

11. In an addressing machine, the combination of a stencil-plate support, a platen, a rising and falling impression-roller, a rising and falling inking-cylinder, actuating-means for revolving said cylinder operated by and during its rising movement, which permits said cylinder to revolve by momentum during its falling movement, said cylinder being arranged adjacent the roller and adapted to be engaged and lifted by said roller, means for moving the roller up and down, and means for arresting downward movement of the cylinder before the roller arrives at the end of its downward movement whereby the cylinder is disengaged and the roller continues its downward movement independent thereof, substantially as described.

12. In an addressing machine, the combination of a stencil-plate support, a platen, a rising and falling inking-cylinder, actuating-means for revolving it, a rising and falling impression-roller for moving said cylinder to cause said actuating-means to revolve the cylinder, said impression-roller being also movable independently of the cylinder toward and from the platen, and means for moving said roller, substantially as described.

13. In an addressing machine, the combination with a receptacle adapted to contain a pile of stencil-plates, a slideway arranged beneath said receptacle for the stencil-plates, a pushing-plate movable along said slideway and adapted to engage the lowermost stencil-plate of the pile and move it from beneath the pile and along the slideway, said plate having its top formed with a longitudinal depression extending from end to end of it to provide an open-ended recess for the reception and escape of substances which may collect between the plates of the pile, substantially as described.

14. In an addressing machine, a stencil-plate support, a platen, an impression-roller, a pivoted actuating-lever for moving the impression-roller toward and from the platen and having a stud, a crank-arm having a bayonet-slot to receive said stud, a crank-pin to which said crank-arm is connected, a rotatable disk bearing said crank-pin, means for rotating said disk, and means for moving said crank-arm in opposite ways whereby the stud on the actuating-lever occupies two different positions in the bayonet-slot in said arm, one in the transverse portion thereof and the other in the longitudinal portion thereof, substantially as described.

15. In an addressing machine, a stencil-plate support, a platen, an impression-roller, a pivoted actuating-lever for moving the im-

pression-roller toward and from the platen and having a stud, a crank-arm having a bayonet-slot to receive said stud, a crank-pin to which said crank-arm is connected, a rotatable disk bearing said crank-pin, means for rotating said disk, a treadle, and an extensible connection between said treadle and crank-arm for moving said crank-arm in opposite ways, whereby the stud on the actuating-lever occupies two different positions in the bayonet-slot in said arm, one in the transverse portion thereof and the other in the longitudinal portion thereof, substantially as described.

15 16. In an addressing-machine, the combination of a stencil-plate support, a platen, an impression-roller, means for moving said

impression-roller toward and from the platen, a rising and falling inking-cylinder adapted to engage said roller during the last part of the rising movement and during the first part of the falling movement of said roller, and means for revolving said inking-cylinder during its rising movement which permits said cylinder to revolve by momentum during its falling movement, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

STERLING ELLIOTT.

Witnesses:

B. J. NOYES,

H. B. DAVIS.