

J. J. McGRATH.
MAIL DELIVERY APPARATUS.
APPLICATION FILED SEPT. 15, 1909.

946,392.

Patented Jan. 11, 1910.
2 SHEETS—SHEET 1.

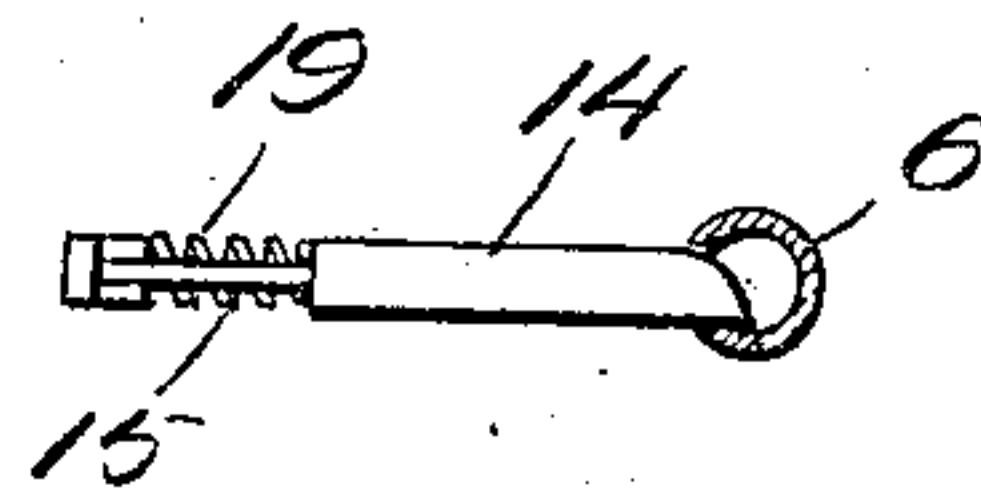
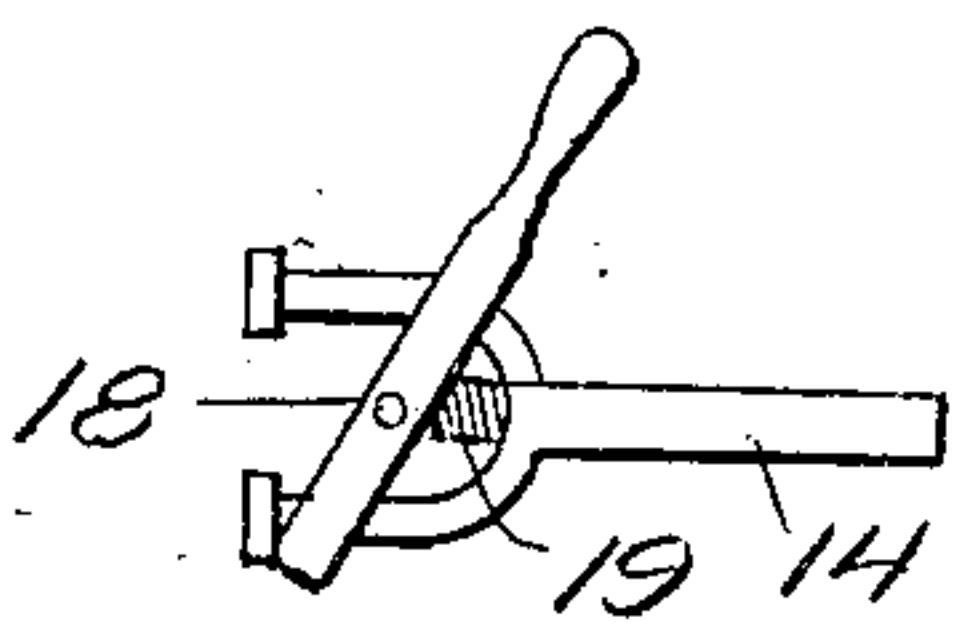
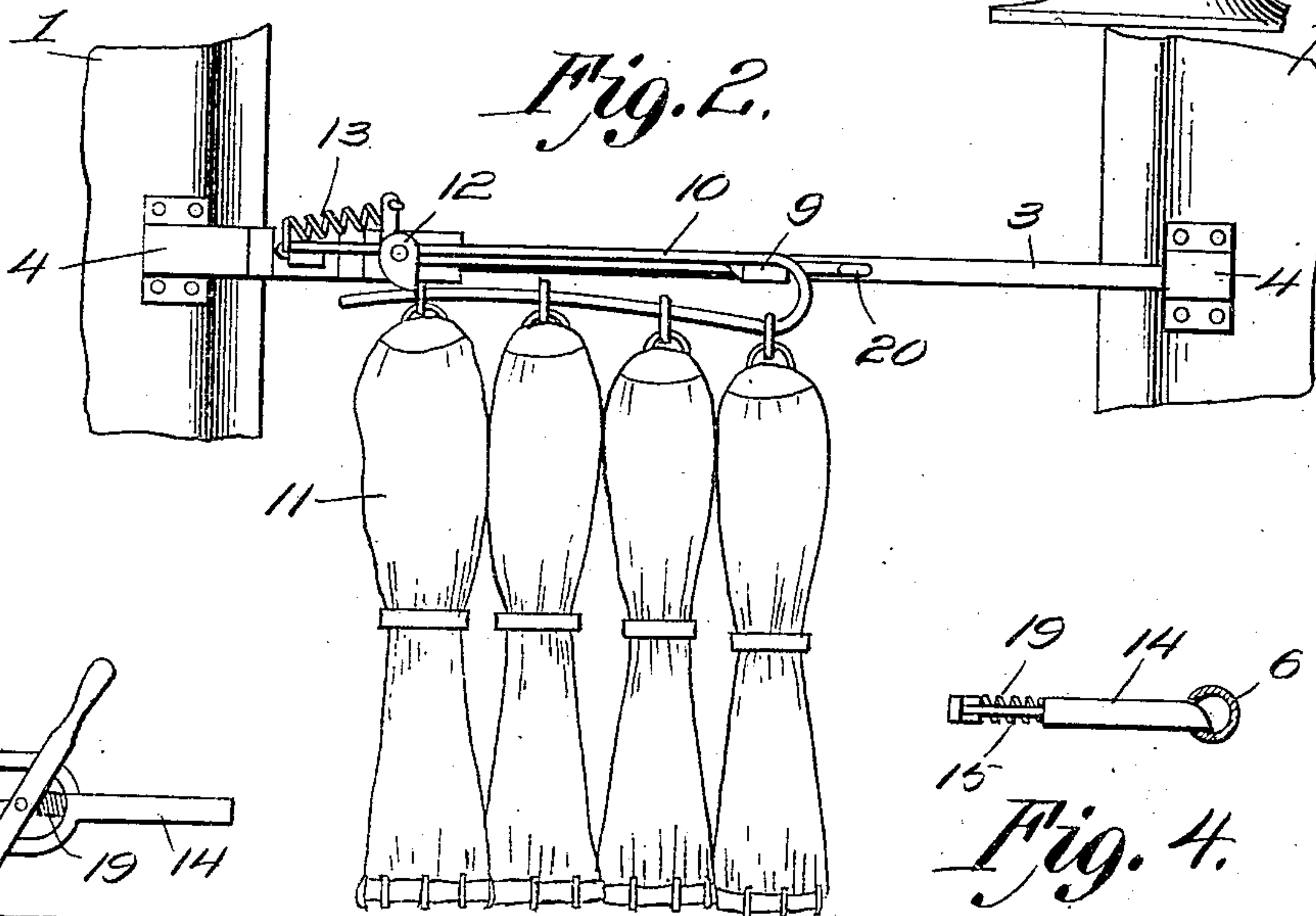
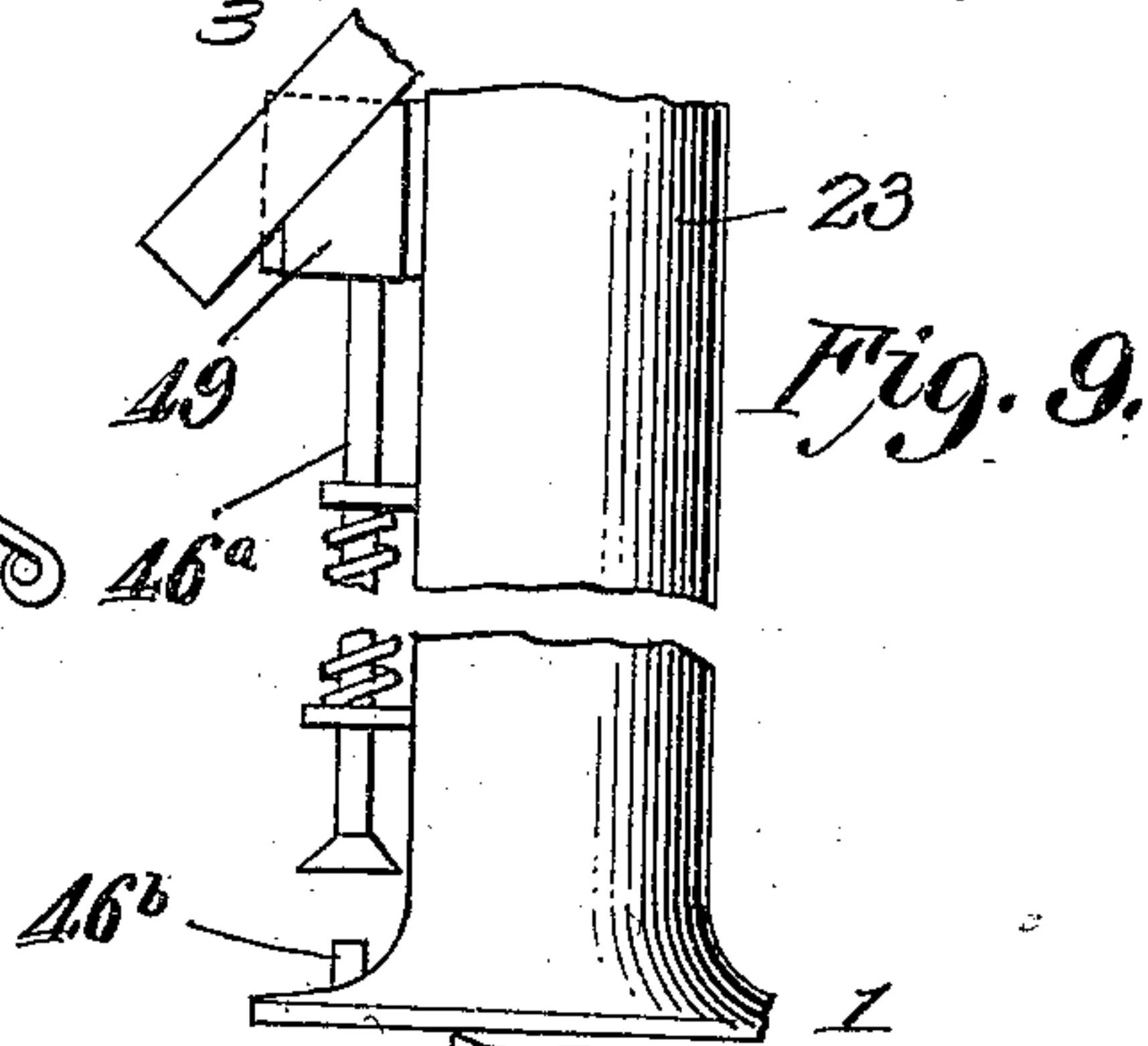
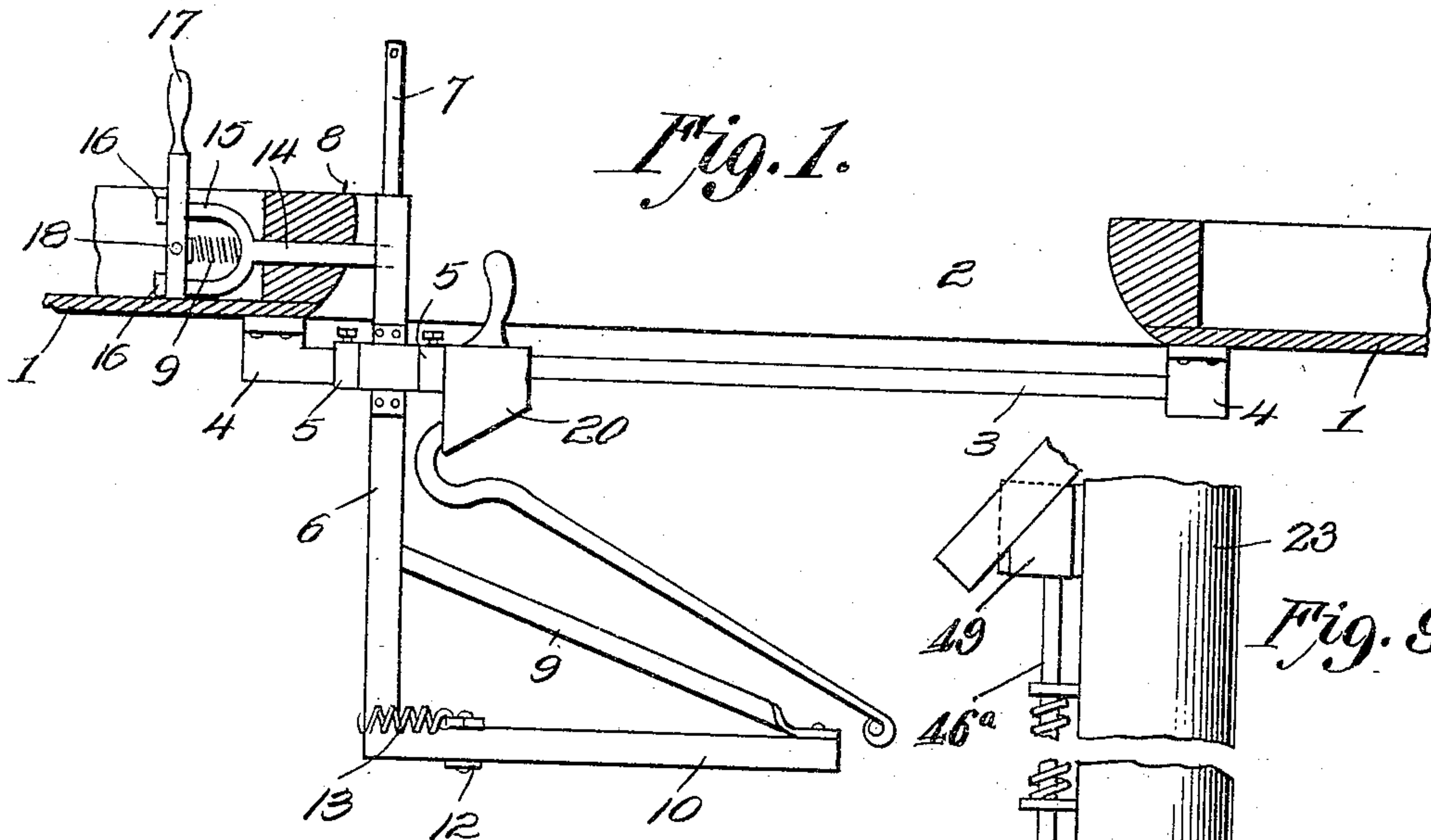


Fig. 3
Witnesses
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Fig. 5.

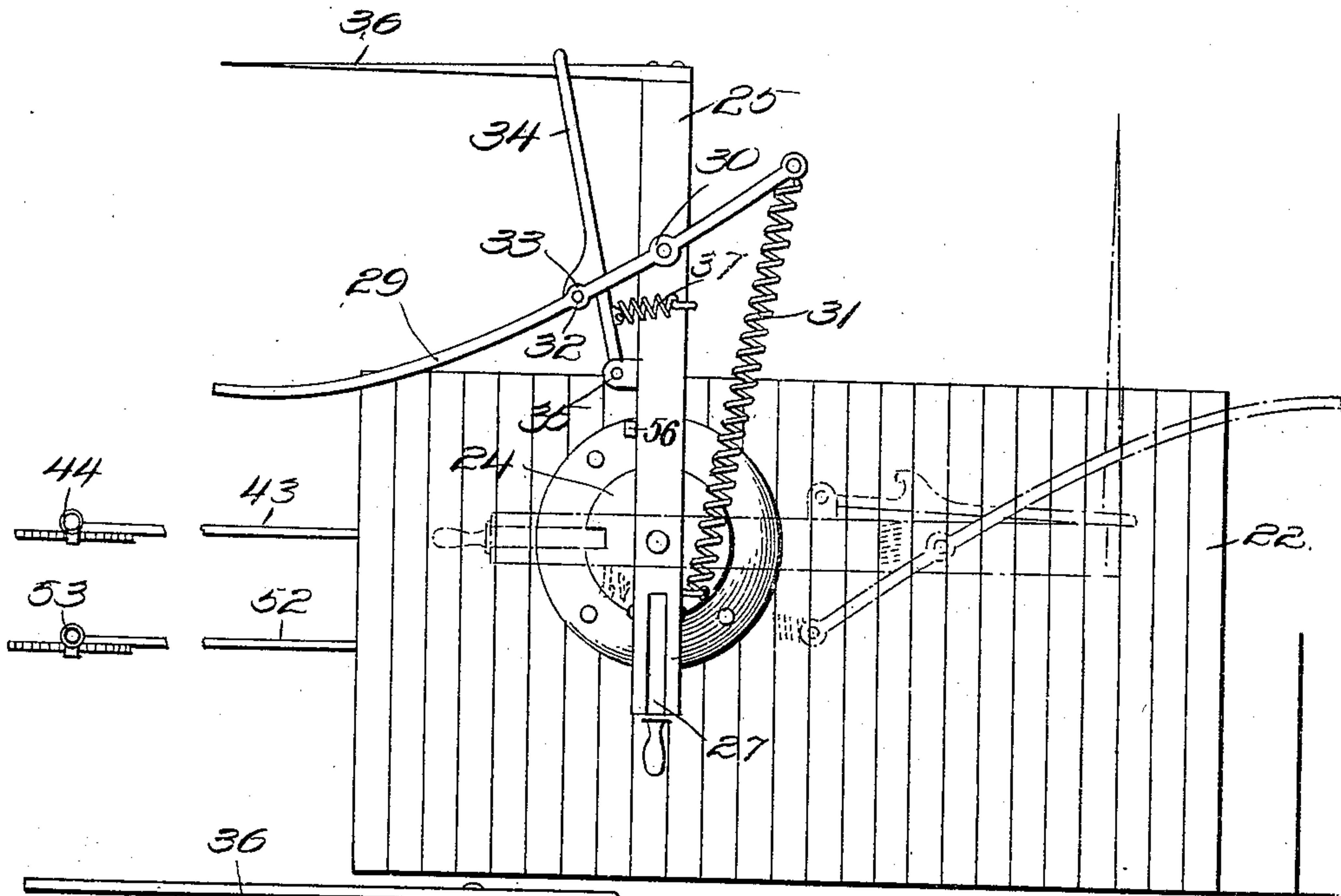
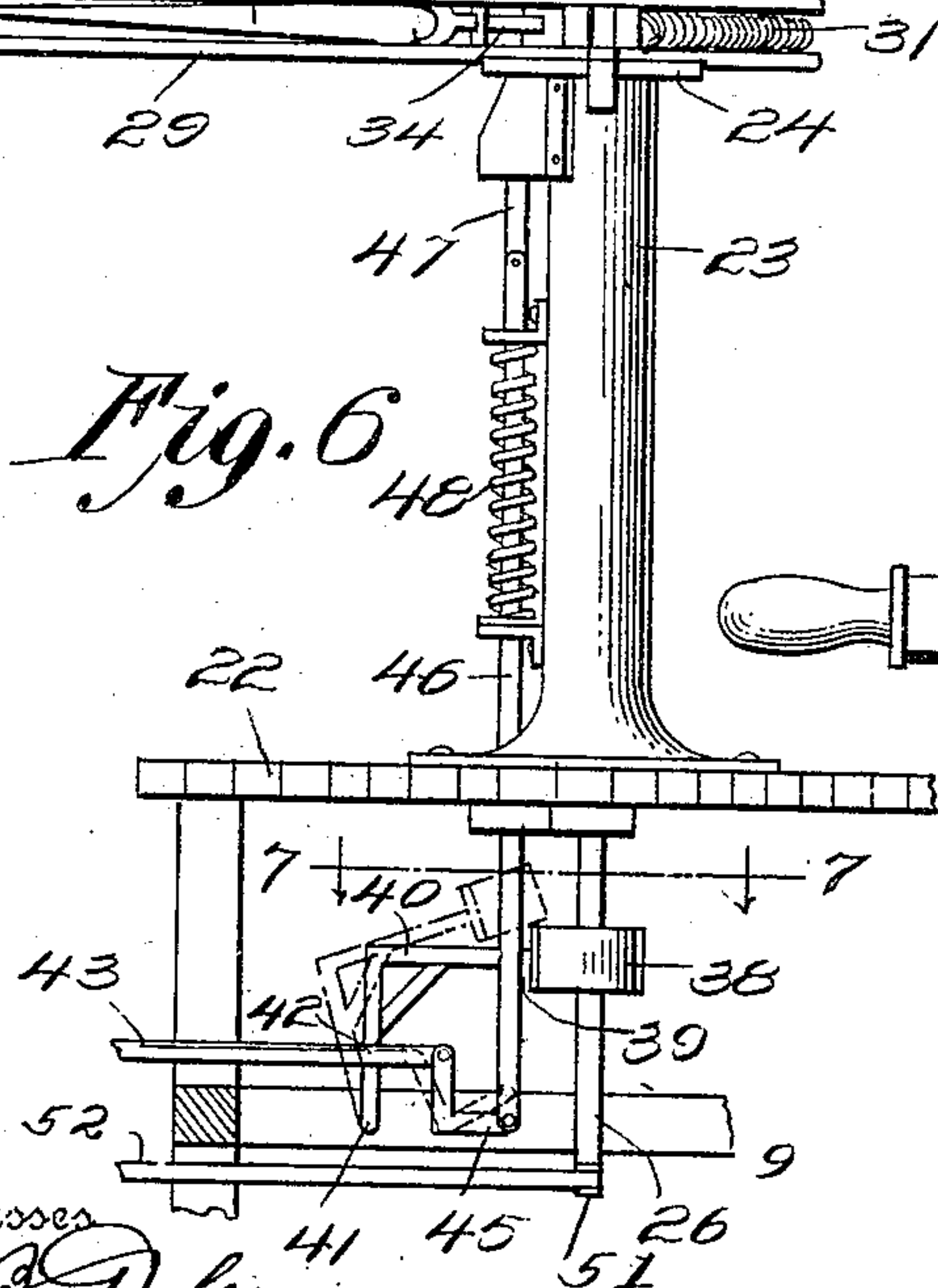


Fig. 6.



Witnesses

U. B. Hillyard.

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Fig. 7.

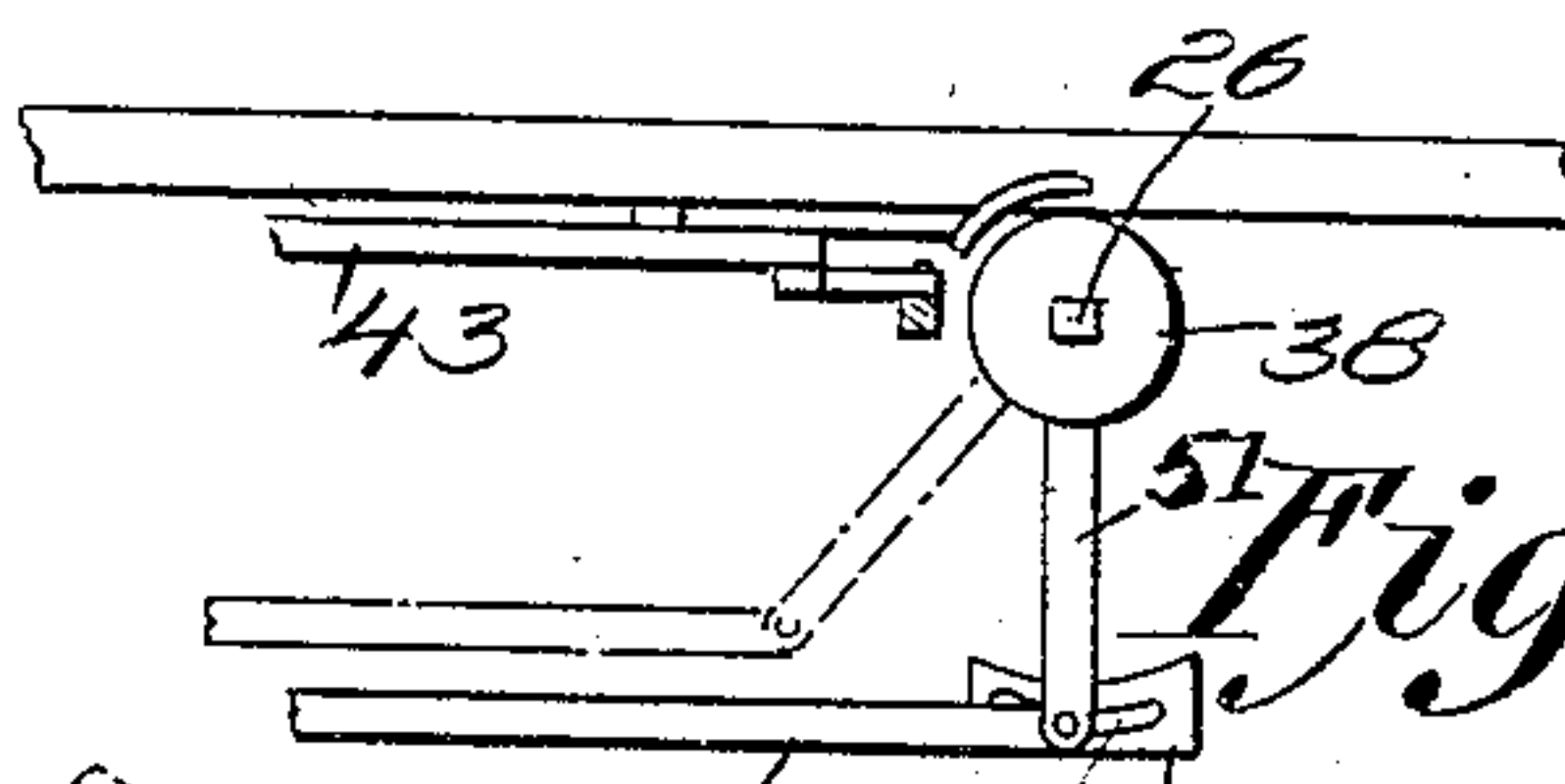
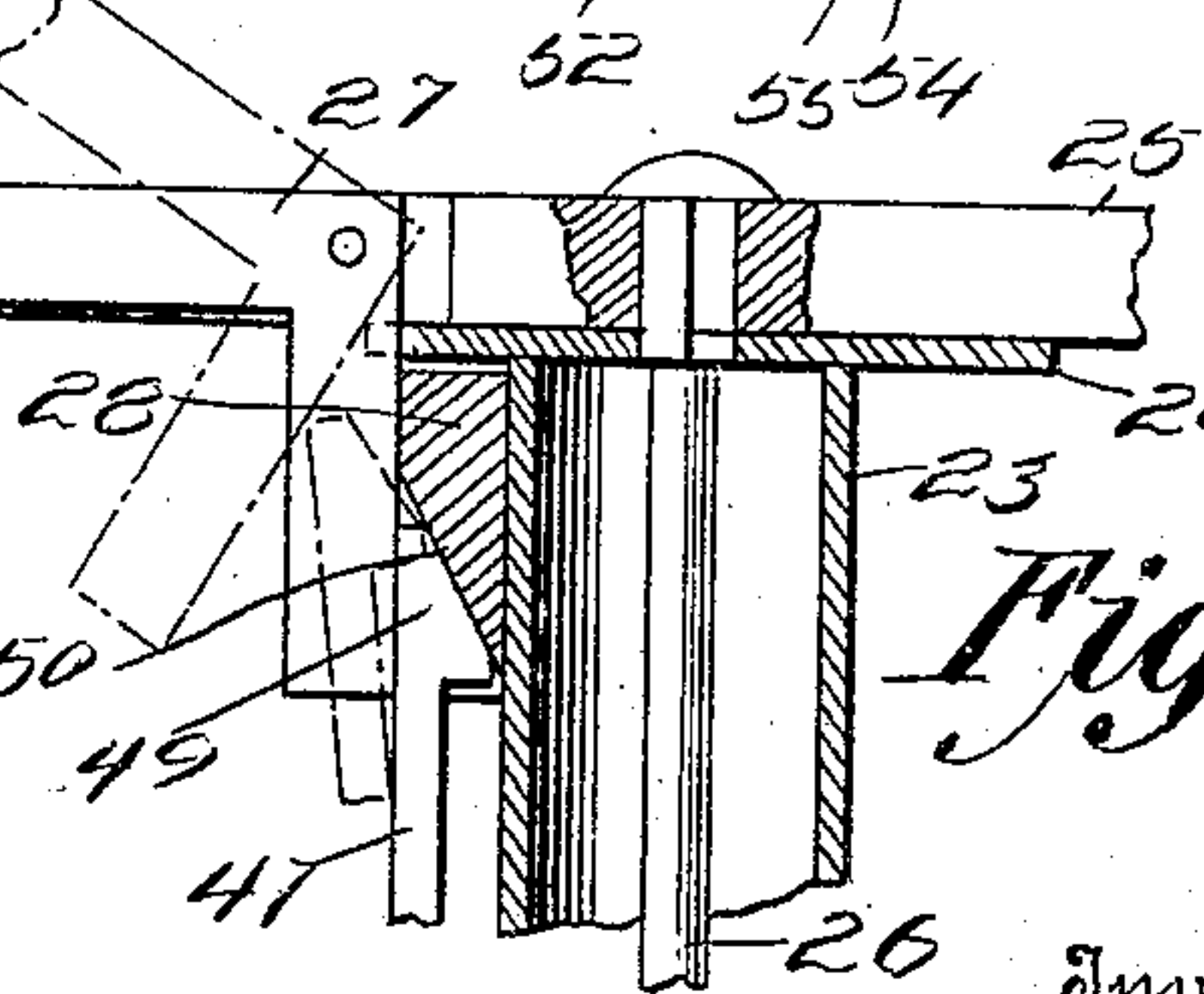


Fig. 8.



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UNITED STATES PATENT OFFICE.

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MAIL-DELIVERY APPARATUS.

946,392.

Specification of Letters Patent. Patented Jan. 11, 1910.

Application filed September 15, 1909. Serial No. 517,838.

To all whom it may concern:

Be it known that I, JOHN J. McGRATH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Mail-Delivery Apparatus, of which the following is a specification.

This invention appertains to appliances for automatically handling mail and like matter both in the delivery of the same from a moving train and the taking up of the mail by the train while in motion from stations along a given route.

The invention contemplates means for delivering a series of sacks or containers holding mail or other matter from a moving car to a catcher or crane at a station or place along the line of railway. The deliverer is mounted so as to be swung outward from the car into position for delivering the mail or other matter and means coöperating with said deliverer to hold the same in extended position.

The invention further contemplates novel means for receiving mail at a station and which may be set from a convenient point such as a box or other protective closure.

The invention consists of the novel features, details of construction and combinations of parts which hereinafter will be more particularly set forth, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings forming a part of the specification, Figure 1 is a horizontal section of a portion of a mail car showing a catcher and deliverer in operative position. Fig. 2 is a front view of the parts shown in Fig. 1. Fig. 3 is a plan view of the lock for holding the deliverer extended. Fig. 4 is an edge view of the lock shown in Fig. 3, together with a portion of the supporting arm of the deliverer. Fig. 5 is a top plan view of the means provided at a station for receiving the mail from the moving train, the dotted lines showing the position of the arm when turned to a position about parallel with the track. Fig. 6 is a view in elevation of the parts shown in Fig. 5. Fig. 7 is a horizontal section on the line 7-7 Fig. 6. Fig. 8 is a sectional view of the upper portion of the stand having a portion of the arm broken away and showing the position of the lock lever when released. Fig. 9 is a modification of the means for releasing the lock lever.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The numeral 1 designates a portion of the side of a mail car having the usual door opening 2. A rod 3 extends across the door opening and is supported at its ends in bearings 4 attached thereto. Set collars 5 secured to the rod 3 upon opposite sides of an arm 6 hold the latter in place. The arm 6 is mounted upon the rod 3 to turn so as to swing toward and from the horizontal. A handle 7 is fitted to the inner end of the arm 6 and is adapted to be disconnected therefrom and when not in use is adapted to be suspended from a hook 8 upon the inner side of the car in convenient position so as to be readily at hand when required for use. A deliverer is provided at the outer end of the arm 6 and is attached at one end thereto and extends therefrom about at a right angle and is strengthened by means of a brace 9. The deliverer 10 is in the nature of an elongated hook the bill of which occupies a lowermost position and receives the mail sacks or other containers 11 holding the mail or other matter to be delivered. A catch 12 closes the space between the bill and shank portions of the hook shaped deliverer and is held in operative position by means of a spring 13. When the arm 6 is swung into horizontal position it is retained in place by means of a lock bar 14 which is slidably mounted in a post or other convenient portion of the car. The active end of the lock bar 14 is beveled as indicated most clearly in Fig. 4 thereby enabling the lock bar to be pressed outward so as to clear the inner end of the arm 6 when swung downward into horizontal position, the end of the lock bar springing into an opening formed in a side of the arm 6 so as to hold the latter extended in horizontal position. The lock bar 14 is provided at its outer end with a fork 15, the ends of the fork members having enlargements 16 forming stops to be engaged by an operating lever 17 so as to withdraw the lock bar from engagement with the arm 6 when it is required to permit said arm to swing into vertical position. An operating lever 17 is pivoted at 18 to a part of the car between the fork members of the fork 15. A spring 19 serves normally to hold the lock bar 14 projected into engagement with the arm 6.

The catcher 20 may be of any usual con-

struction and is mounted upon the rod 3 so as to turn thereon or therewith as may be found most advantageous. The catcher and the deliverer face in opposite directions this being essential both to take up and to deliver the mail by a moving train. The catcher and the deliverer may be independently operated so that either may be swung outward into operative position in case the other is not required for immediate use.

At the station or place along the railway where mail is to be received or delivered a platform 22 is erected and upon the same is mounted a stand 23 the same consisting of a hollow column having an expanded base and an extended top 24 the latter forming a support for an arm 25 which is attached to a vertical shaft 26 mounted within the stand 23 and adapted to cooperate with controlling devices which hereinafter will be more fully described. The inner end of the arm 25 is slotted and receives a hand latch 27 of right angular formation, the vertical member of the hand latch adapted to engage a notched extension 28 at one side of the stand 23 so as to hold the arm 25 at a right angle to the length of the track. A catcher 29 is pivoted at 30 to the arm 25 and is extended at one end to which one end of a contractile spring 31 is attached the opposite end of said spring being connected to the inner end of the arm 25 and preferably to an extended arm of the pin which pivotally connects the hand latch 27 to the arm 25. The catcher 29 resembles a fork the members of which embrace opposite sides of the arm 25. A pin 32 connects the members of the fork 29 and is adapted to be engaged by an extension 33 of a lever 34 pivoted at 35 to an extension of the arm 25. The outer end of the lever 34 is forked and is adapted to engage a guard 36 projected at right angles from the outer end of the arm 25. The sacks or containers 11 holding the mail are caught between the guard 36 and the catcher 29. The lever 34 extends across the space formed between the guard 36 and the catcher 29 and is adapted to be engaged by a sack or container whereby the extension 33 is disengaged from the pin 32 thereby permitting the spring 31 to come into play and force the outer end of the catcher 29 toward the guard 36 thereby retaining the sacks or containers in place. The lever 34 is pressed forward by means of a spring 37.

A brake wheel 38 is fast to the lower portion of the shaft 26 and a brake shoe 39 is arranged to cooperate therewith and is carried upon the horizontal arm of a bell crank 40. The bell crank 40 is pivoted at 41 and is connected at 42 with a connecting bar 43. The connecting bar 43 may be of any length and is attached at the end remote from the stand with an operating lever 44. A bell crank 45 has its vertical member connected to the bar 43 and its horizontal member to a

vertical bar 46 which extends upwardly alongside the stand 23 and is mounted in suitable brackets attached thereto, the upper end of the bar 46 being attached to a releasing device 47 adapted to disengage the vertical member of the hand latch 27 from the extension 28 of the stand 23. A spring 48 mounted upon the bar 46 normally exerts a downward pressure thereon so as to hold the releasing device 47 in normal position and out of action from the vertical member of the hand latch 27. The upper end of the releasing device 47 is provided with a beveled head 49 which is adapted to engage an inclined wall or portion 50 of the extension 28 whereby as the releasing device 47 is moved upward it is at the same time pressed outward by cooperation of the inclined portions of the head 49 and 50 of the wall thereby disengaging the hand latch from the head 24 of the stand so that the arm 25 may turn freely. Upon operating the lever 44 the brake shoe 39 and the releasing device 47 are simultaneously operated thereby releasing the shaft 26 and the arm 25 whereby both are free to turn readily. The lower end of the shaft 26 is provided with a crank arm 51 which is connected at its outer end with a bar or rod 52 which in turn is attached to an operating lever 53 located at some distance from the stand to admit of the arm 25 being conveniently moved from the desired point such as a box or station. A plate 54 is attached to the end of the bar 52 and has a curved slot 55 to receive a pin at the outer end of the arm 51 whereby when the lever 53 is moved to set the arm 25 the latter may move independently of the operating levers to the dotted line position indicated in Fig. 5.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

In the modification shown in Fig. 9, the bar 46 comprises sections 46^a and 46^b. The section 46^b has connection with the bell crank 45 and the section 46^a is mounted in keepers attached to the stand 23. The head 49 is beveled upon its outer side in an opposite direction to the bevel of the head shown in Fig. 8, hence, there is no necessity for hinging the part carrying the head to the member 46^a since the inclined portion of the head makes direct contact with the vertical

member of the hand latch 27. The sections 46^a and 46^b are mounted to operate in direct lines, the section 46^a being held in normal position by the spring 48, in the manner stated. A stop 56 is provided upon the upper end of the stand 23 to engage with the arm 25 and limit its movement when turned to bring the guard 36 in operative position.

10 I claim:—

1. In combination an arm mounted to swing in a vertical plane about a horizontal axis, a slidably mounted lock bar for holding said arm in horizontal position, a fork at one end of the lock bar, a spring normally pressing the lock bar forward and an operating lever for the lock bar pivoted between the fork members thereof and adapted to engage extensions of the fork members to effect release of the lock bar from the pivoted arm upon moving the operating lever in either direction.

2. In combination, an arm, a guard extended therefrom, a catcher pivotally mounted upon the arm and adapted to cooperate with the guard, a spring normally exerting

a pressure upon the catcher to throw its outer end toward the guard, a spring actuated lever mounted upon the arm and adapted to engage the catcher to hold the same away from the guard, said lever adapted to be engaged by the mail at the time of delivery to effect release of the catcher whereby the same is thrown toward the guard to retain the mail in place when delivered.

3. In combination, an arm mounted to swing about a vertical axis and provided with a catcher, a hand latch for securing said arm in determined position, a releasing device for liberating said hand latch, a brake mechanism cooperating with said pivoted arm to control the movements thereof and operating means for simultaneously actuating said releasing device and brake mechanism.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN J. McGRATH.

Witnesses:

DAVID FLEMING,
H. R. SCHLICHTER.