

No. 836,818.

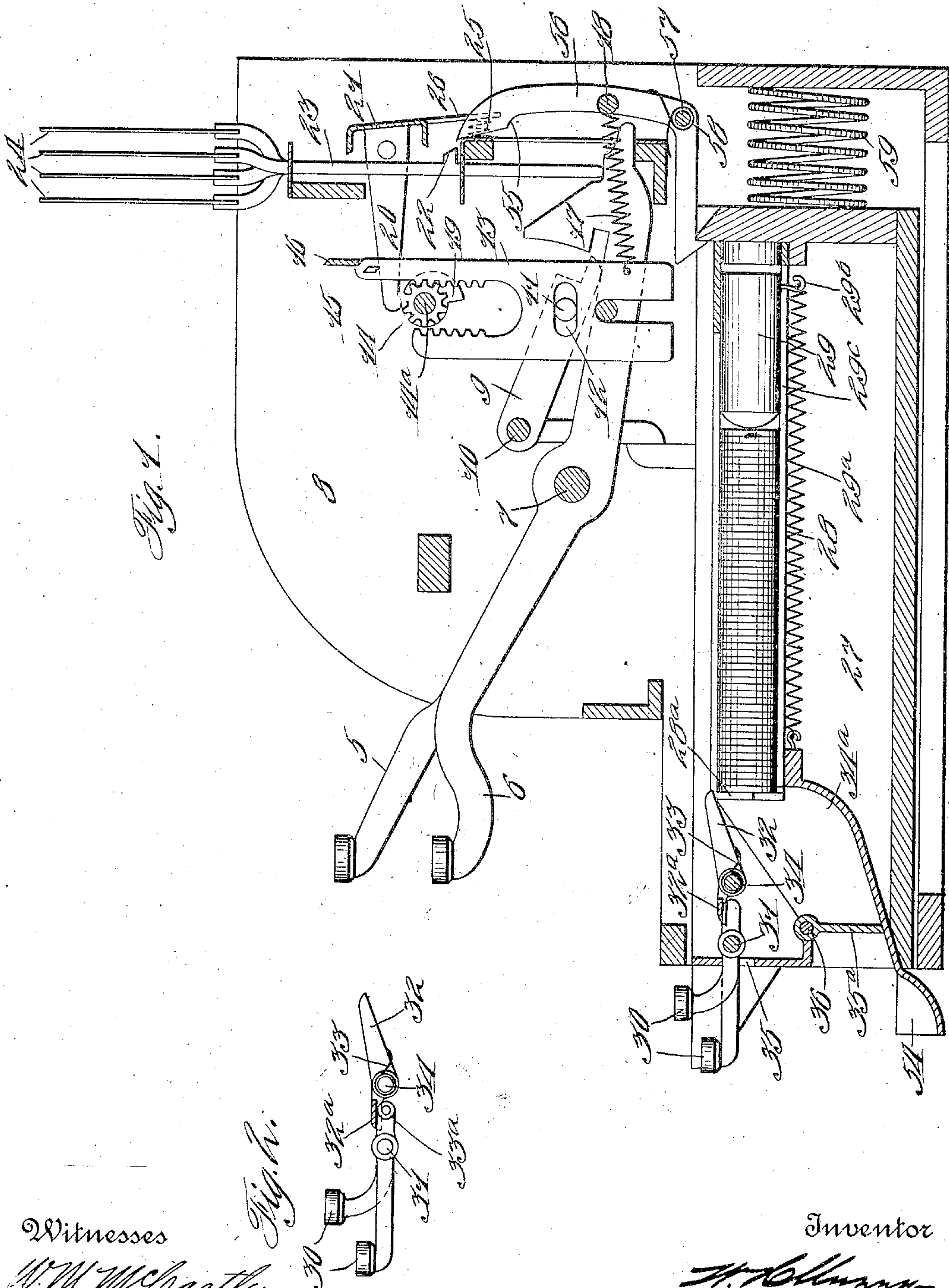
PATENTED NOV. 27, 1906.

W. H. MUZZY.

CASH REGISTER AND COIN HANDLING DEVICE.

APPLICATION FILED MAY 18, 1905.

3 SHEETS—SHEET 1.



Witnesses

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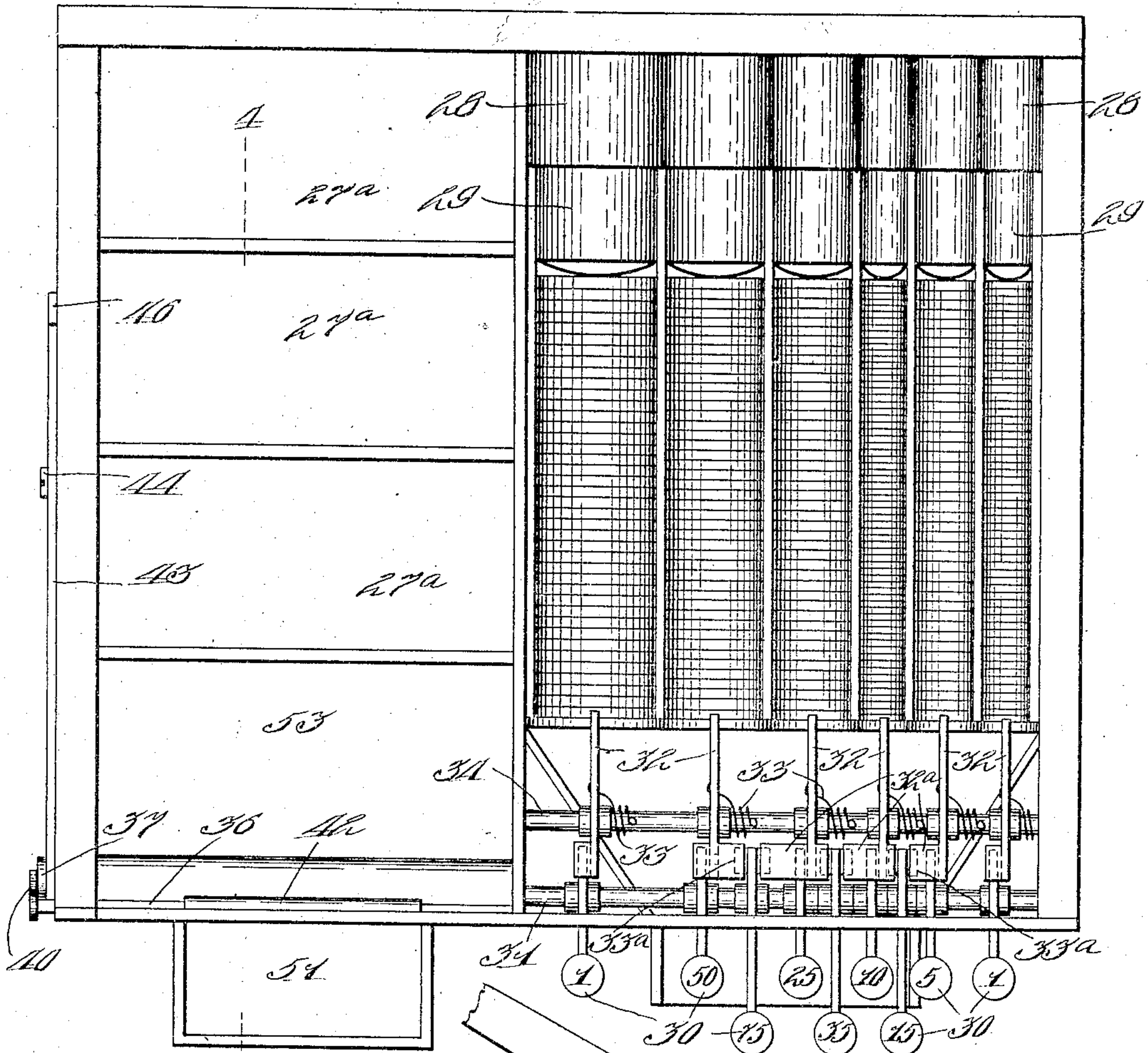


Fig. 3.

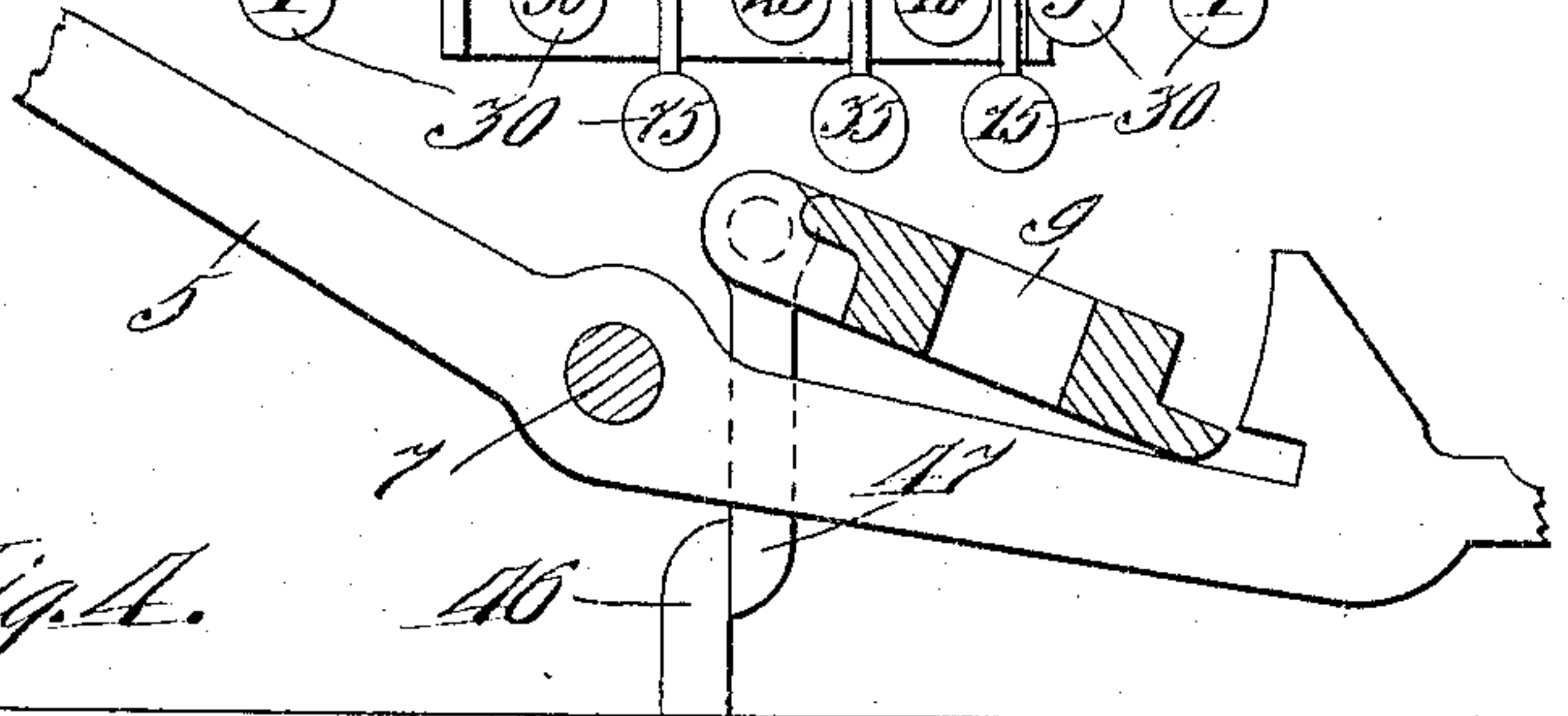
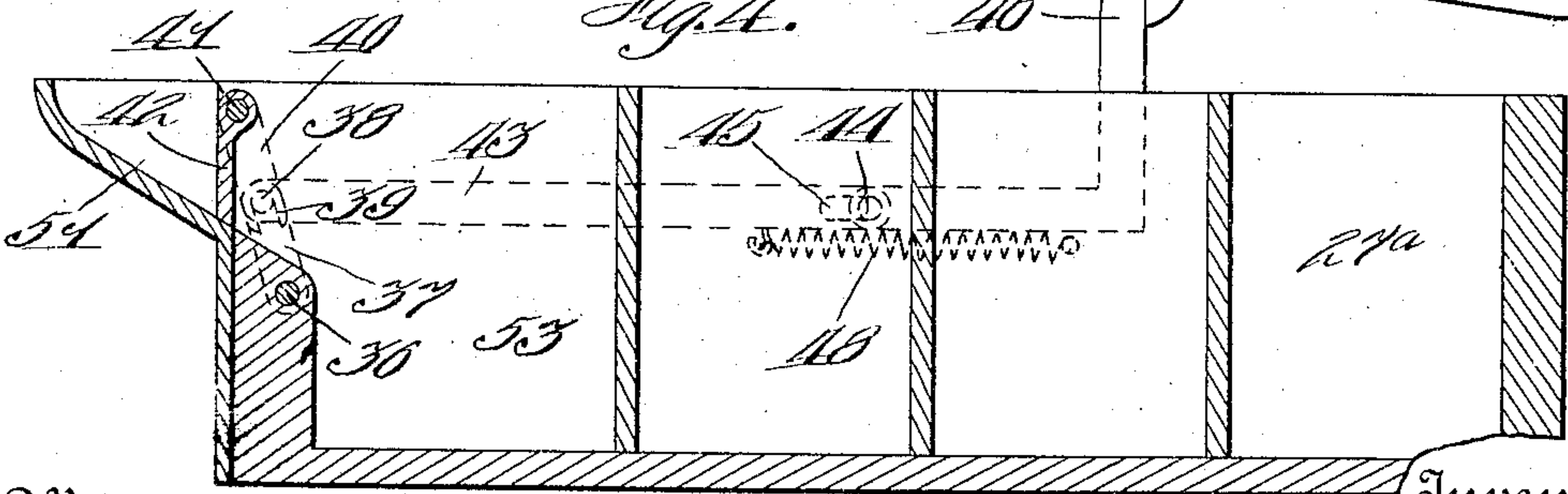


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5.

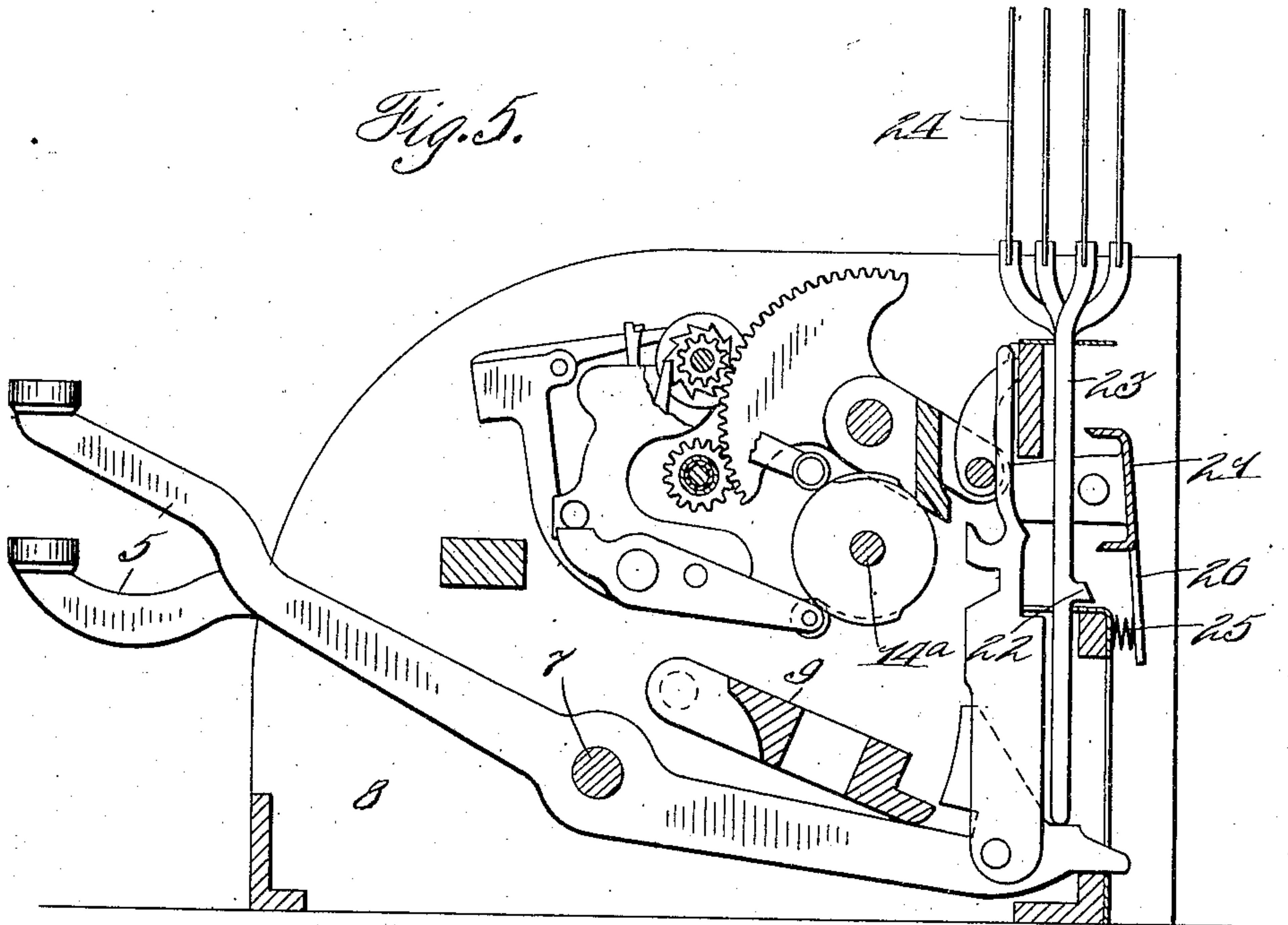
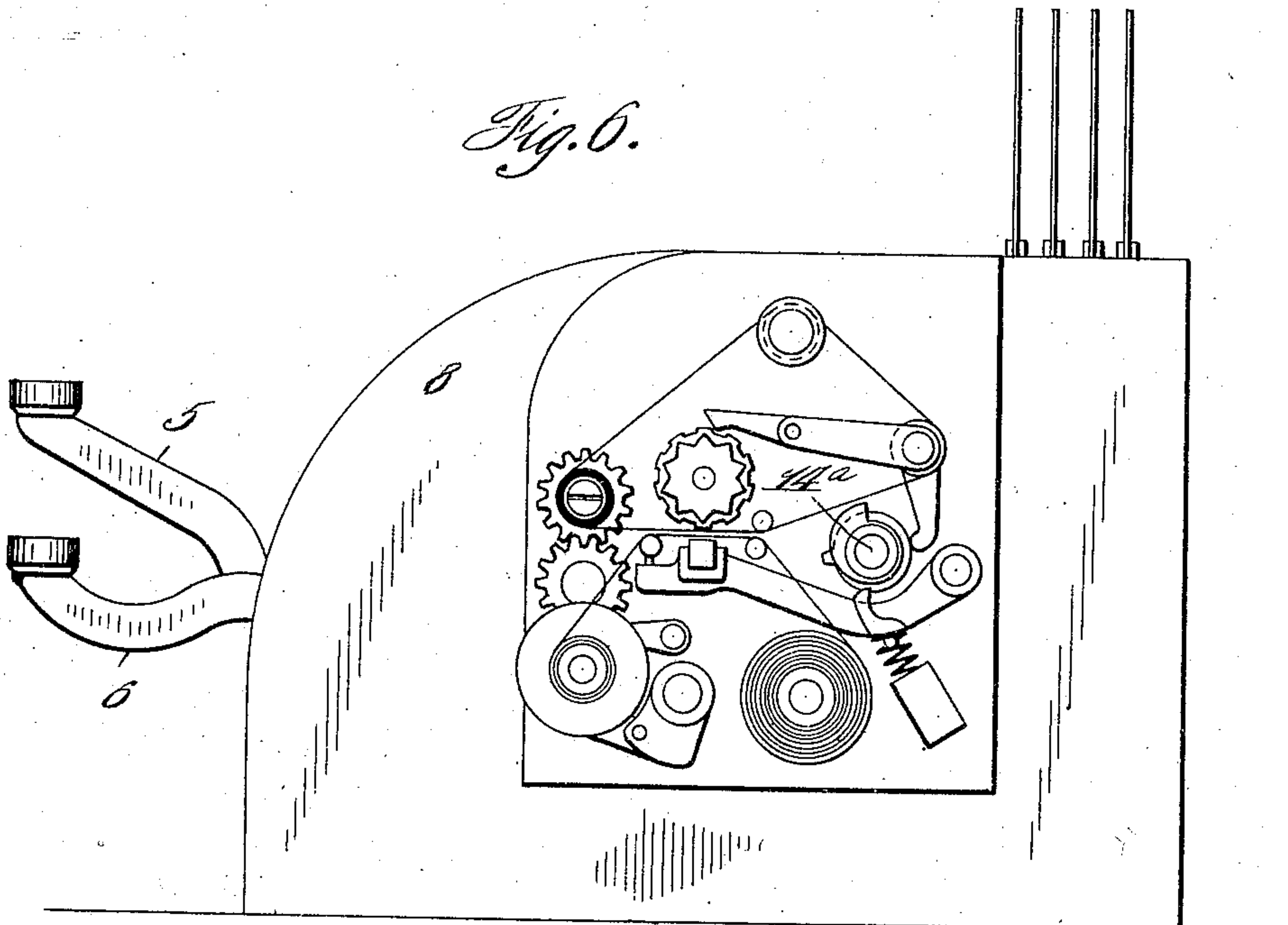


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. MUZZY, OF DAYTON, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE NATIONAL CASH REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO, (INCORPORATED IN 1906.)

CASH-REGISTER AND COIN-HANDLING DEVICE.

No. 836,818.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed May 18, 1905. Serial No. 260,949.

To all whom it may concern:

Be it known that I, WILLIAM H. MUZZY, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Cash-Register and Coin-Handling Devices, of which I declare the following to be a full, clear, and exact description.

This invention relates to improvements in cash-registers, and has more particular relation to money-handling attachments for the same.

One of the several objects of the present invention is to provide a register with improved money receiving and handling devices whereby coins may be accurately and quickly handled and change rapidly made.

I have shown my present improvement as applied to the type of cash-register patented to Thomas Carney, No. 497,860, dated May 23, 1893; but it will be understood that the invention may with equal facility be applied to other types of machines.

With the above and other incidental objects in view the invention consists in certain novel features of construction and combinations of parts the essential elements of which are set forth in appended claims and a preferred form of embodiment of which is hereinafter specifically described with reference to the drawings which accompany and form part of this specification.

Of said drawings, Figure 1 represents a transverse section of the type of machine above mentioned with my improvements applied thereto. Fig. 2 represents a detail side elevation of a pair of the change-making keys. Fig. 3 represents a top plan view of a cash-drawer, showing my improvements applied thereto. Fig. 4 represents a transverse section through the cash-drawer and its co-operating parts, taken on line 4 4 of Fig. 3. Fig. 5 represents a vertical section through the counting mechanism of the type of machine mentioned, and Fig. 6 represents a side elevation of the printing mechanism of said machine.

The class of machine shown in the present drawings and to which my improvements are applied may be described in general terms as comprising a series of amount-key levers 5,

which are journaled upon a horizontal shaft 7, supported by the side frames 8. The keys operate pivoted frames which carry segmental racks for operating the counting and printing mechanisms of the machine. Above the keys and adapted to be operated by any one of them is a universal bar or key-coupler 9, pivotally supported at 10 by the side frames. This coupler carries a pin 11, which plays in an elongated slot 12, formed in a double-faced rack 13, which is thus raised and lowered upon each operation of the keys. One side of this rack is adapted to engage with the pinion 14, which is fast to a shaft 14^a, as the rack is raised, and as the rack descends the teeth formed on its opposite side engage with the said pinion 14, and thereby continue its rotary movement. The teeth on either side of this rack are held into engagement with the pinion 14 by means of a lug 15, formed on the upper end of the rack and which engages a stationary flange 16, extending from one of the side frames 8. This rack is shifted at the end of its upward movement, so that the lug 15 will pass over the top of flange 16, by a spring 17, one end of which is fast to the lower part of said rack and the other to a stud 18, projecting from the side frame.

Fast upon the rotary shaft 14^a is a cam 19, which engages a forwardly-extending arm 20 of the back rod 21. This back rod acts as a supporting means for lugs 22, formed upon standards 23, the upper ends of which carry indicators 24. The arm 20 is held into engagement with the cam 19 by a spring 25, which abuts against a downwardly-extending arm 26 of the back rod 21.

For any more detail description of said parts reference may be had to the above-mentioned patent.

The cash-drawer 27, which is of any usual construction, is provided with a series of coin-tubes 28, arranged to be bodily removed from the drawer. These tubes hold the various denominations of coins, and each tube is provided with a coin-follower 29, which forces the coins forward. Each follower is drawn forward by a coil-spring 29^a, connected to a hook 29^b, projecting through a slot 29^c in the tube. A series of change-keys 30 are pivoted upon a shaft 31, mounted in the

front of the drawer. The rear ends of said keys project under flanges 32^a, formed upon pivoted fingers or ejectors 32, which are adapted to engage the upper edge of a coin and eject the same from the tubes 28. These fingers are normally held in engagement with the keys 30 by coil-springs 33, which extend under said fingers, surround a shaft 34, and are made fast to the latter. The keys 30 are limited in their upward movements at their forward ends by contacting with the upper ends of slots 35, formed in the front plate of the cash-drawer 27. The ends of the lower bank of keys 30, as shown in Fig. 3, are provided with antifriction-rollers 33^a, which engage with the flanges 32^a of the fingers 32, and thereby eject several coins. This is to enable the operator to make change more rapidly where more than one coin is desired. By reference to Fig. 1 it will be seen that the forward coin is forced against a flange 28^a, located at the forward end of the tube, and that when the coin is depressed free of this flange it will fall into a chute 34^a. The coins are prevented from rolling out of the chute 34^a when ejected from their tubes by a pivoted door 35^a, which is fast to a rock-shaft 36, extending the entire width of the drawer, and has fast to its left-hand end an arm 37, the upper end of which is equipped with a pin 38, that plays in a recess 39, formed in the lower end of an arm 40. This arm 40 is fast at its upper end to a rock-shaft 41, which carries a swinging door 42, similar to the door 35^a and preventing coins in a chute 51 from falling into the cash-drawer. Fast to the arm 37 and extending rearwardly is an L-shaped slide 43, which is supported upon the side of the drawer by a pin 44, which plays in an elongated slot 45, formed in said slide. The upwardly-extending arm 46 of the slide 43 engages a downwardly-extending arm 47, which is fast to the key-coupler 9. As the key-coupler oscillates upon the operation of a key the arm 47 is rocked out of the path of the arm 46, and a spring 48, which connects the slide and drawer, draws the slide rearward, thereby rocking the door 42 inward and the door 35 outward, so that the amount of money which has been tendered to the clerk and which is placed in a chute 51 in front of the door 42 is deposited in the compartment 53 of the drawer, and the coin or coins which represent the change which is to be returned to the customer drop through chute 54 into the hand of the operator.

When it is desired to open the cash-drawer for any purpose, it is necessary to operate the special drawer-release key 6, which is similar to the amount-keys 5. The rearward end of said special key as it completes its upward movement contacts with a cam edge 55 of a bell-crank latching-lever 56 and rocks the same about the shaft 57, and thereby releases

the drawer 27, which is ejected by its spring 59. The latching-lever 56 is held in its normal locking position, as shown in Fig. 1, by a coil-spring 58.

It will be seen from the above that the operation of any of the amount - keys 5 will have no effect upon the drawer-releasing mechanism and that the drawer is only opened by the operation of a special key. It will be seen that when it is desired to make change from a silver dollar or any amount under a dollar it is not necessary to open the cash-drawer at all, and most of the sales will be of this character. Say, for instance, that a sale of twenty-five cents is made and a silver dollar tendered in payment. The clerk approaching the machine places the silver dollar in the chute 51. At the same time he repeats to himself the amount of the sale, "twenty-five cents," and then presses the seventy-five-cent key and repeats to himself "one dollar," just as he would if he had gone to a cash-drawer and had said "twenty-five cents," "fifty cents," "one dollar" as he picked up a quarter and a fifty-cent piece. The pressure of the seventy-five-cent key, as before explained, will eject a fifty-cent piece and a twenty-five-cent piece into the chute 34^a, and the same will drop down until arrested by the pivoted gate or door 35^a. He then depresses the twenty-five-cent key of the cash-register. This operation registers the twenty-five cents, prints the same, and elevates the twenty-five-cent indicator and at the same time operates the gates or doors 42 and 35^a. When the gate 42 opens, the silver dollar drops into the compartment 53, and when the gate 35^a opens the fifty-cent piece and twenty-five-cent piece pass forward through the chute 54 into the hand of the operator, or, if desired, the chute 54 may be cup-shaped, so as to retain the coins. This operation has not required the opening of the cash-drawer at all. When the pressure on the cash-register key is relaxed, all the parts return to their normal positions, and the gates 42 and 35^a are again closed.

When a paper bill enters into any part of the transaction, a special key 6 is depressed, together with the other keys, which operation permits the cash-drawer to open, so that access may be had to the bill-compartments 27^a therein.

The supply of coins in the several tubes is sufficient to last for the greater portion of a day; but should the operator observe during his leisure that the tubes were becoming emptied he will replenish them from the coins in the compartments 53. During the busy hours, however, no coins are placed in the tubes, for all amounts received in silver are simply dropped in the chute 51 and require no further thought from the operator. The casting from which the tubes 28 are cut is

preferably bodily removable from the machine, so that, if desired, the same may be placed in a safe overnight.

I have illustrated only three special keys for ejecting combinations of coins; but it will be understood that any desired number of special keys may be employed for ejecting two, three, four, or five coins at one operation. The side walls of the chute 34^a are so inclined as to guide all of the coins into the chute 34^a, beneath which the hand of the operator is placed to receive the coins.

While the form of mechanism here shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not desired to confine the invention to the one form of embodiment here disclosed, for it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow.

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

1. The combination with an accounting mechanism, of a cash-receptacle containing coin holding and ejecting devices, means for operating the ejecting devices at will, and means for preventing access to the ejected coins dependent for operation upon the accounting mechanism.

2. The combination with an accounting mechanism, of a cash-drawer, coin holding and ejecting devices mounted in the cash-drawer, and means controlled by the accounting devices for preventing access to the coins.

3. In a cash-register, the combination with accounting devices, of a cash-drawer, means for ejecting the drawer when released, means for releasing the drawer dependent for operation upon the accounting mechanism, and a series of coin holding and ejecting devices mounted in the cash-drawer.

4. In a cash-register, the combination with an accounting mechanism, of a series of coin holding and selecting devices operable at will, and means for preventing access to the selected coins dependent upon the movement of the accounting mechanism.

5. In a cash-register, the combination with an accounting mechanism, of a cash-drawer controlled thereby, and a series of coin holding and selecting devices mounted in said cash-drawer.

6. In a cash-register, the combination with an accounting mechanism, of a series of operating elements therefor, and an automatically-opening cash-drawer, means for holding the cash-drawer locked, means for causing the cash-drawer to open upon the operation of the accounting mechanism by certain of the operating elements, and a series of coin holding and selecting devices mounted in the cash-drawer.

7. In a cash-register, the combination with an accounting mechanism, of an automatically-opening cash-drawer, means for opening the cash-drawer or not as desired upon the operation of the machine, a series of coin holding and selecting devices mounted in the cash-drawer, and means permitting access to the selected coins without opening the cash-drawer.

8. In a cash-register, the combination with an accounting mechanism, of a cash-drawer controlled thereby and provided with bill-spaces, and a series of coin holding and selecting devices also mounted in the cash-drawer.

9. In a cash-register, the combination with an operating mechanism, of a cash-drawer controlled thereby, a series of coin-tubes mounted in said cash-drawer, means for automatically feeding the coins forward in the tubes, selecting and ejecting devices for the tubes and means for permitting access to the drawer without opening the same.

10. In a cash-register, the combination with an operating mechanism, of a cash-drawer having inlet and outlet openings, flaps or covers for said openings, and means for operating said covers dependent for operation upon the operating mechanism.

11. In a cash-register, the combination with an operating mechanism, of a cash-drawer having inlet and outlet openings, flaps or covers for said openings, coin-selecting devices for discharging coins against the cover to the outlet-opening, and means for operating the flaps or covers dependent for movement upon the operating mechanism.

12. In a cash-register having a series of operating-keys, of a member common to said keys, a cash-drawer having inlet and outlet openings, flaps or covers for said openings, and means for operating said flaps or covers controlled by the common key member.

13. In a cash-register, the combination with a series of operating-keys, of a movable member common to the same, a cash-drawer having an outlet-opening, coin holding and selecting devices, and a flap or cover for the outlet-opening of the cash-drawer controlled by the common key member.

14. In a cash-register, the combination with an operating mechanism, of a cash-drawer having inlet and outlet openings, an external chute for the inlet-opening, flaps or covers for the two openings, and means for operating the flaps or covers controlled by the operating mechanism.

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

WILLIAM H. MUZZY.

Witnesses:

W. M. MCCARTHY,
C. L. WILLISS.