

No. 775,087.

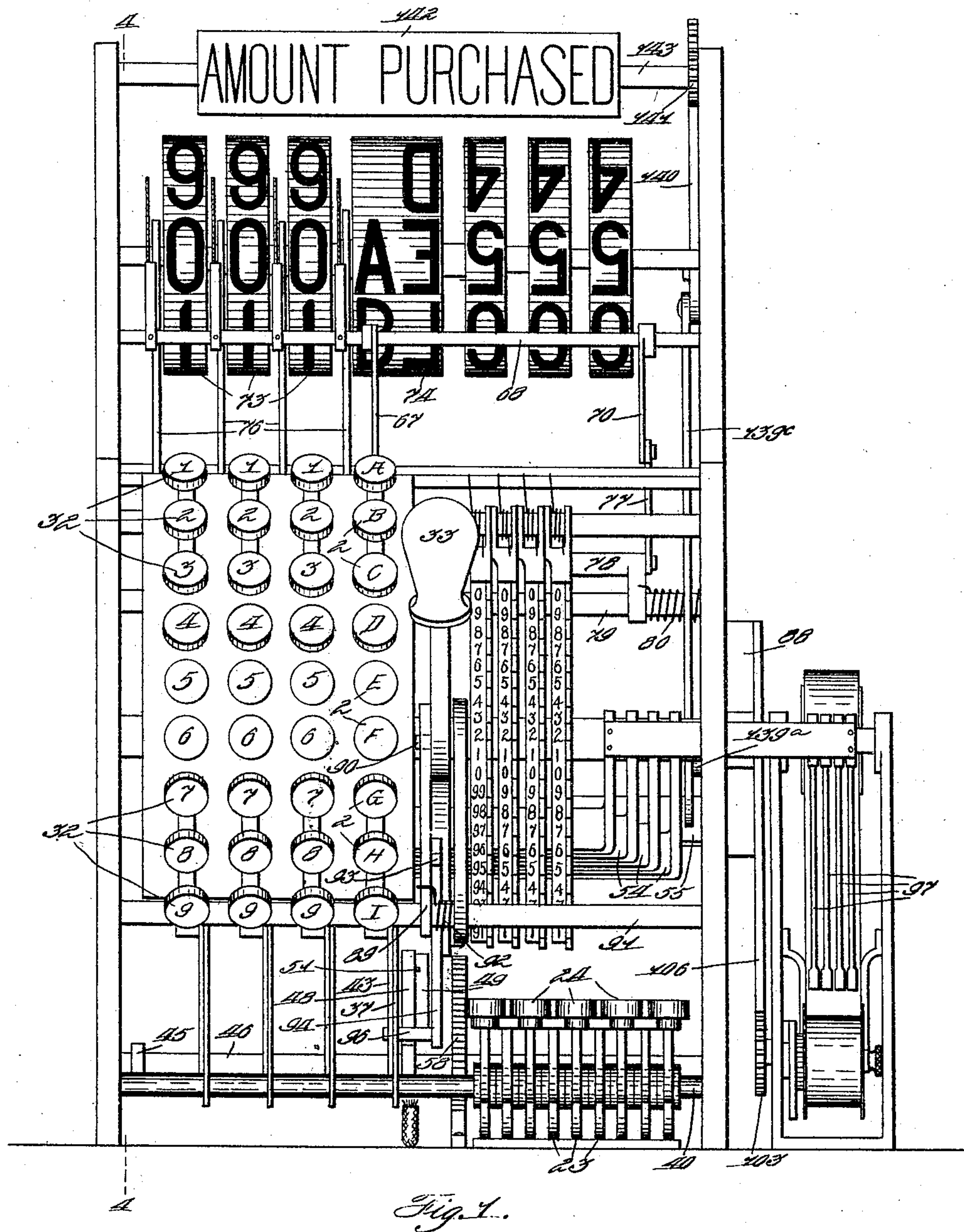
PATENTED NOV. 15, 1904.

W. H. MUZZY.
CASH REGISTER.

APPLICATION FILED NOV. 6, 1903.

NO MODEL.

7 SHEETS—SHEET 1.



Witnesses
W. M. McCarthy
John J. Ungváry

Inventor
W. H. Muzzy

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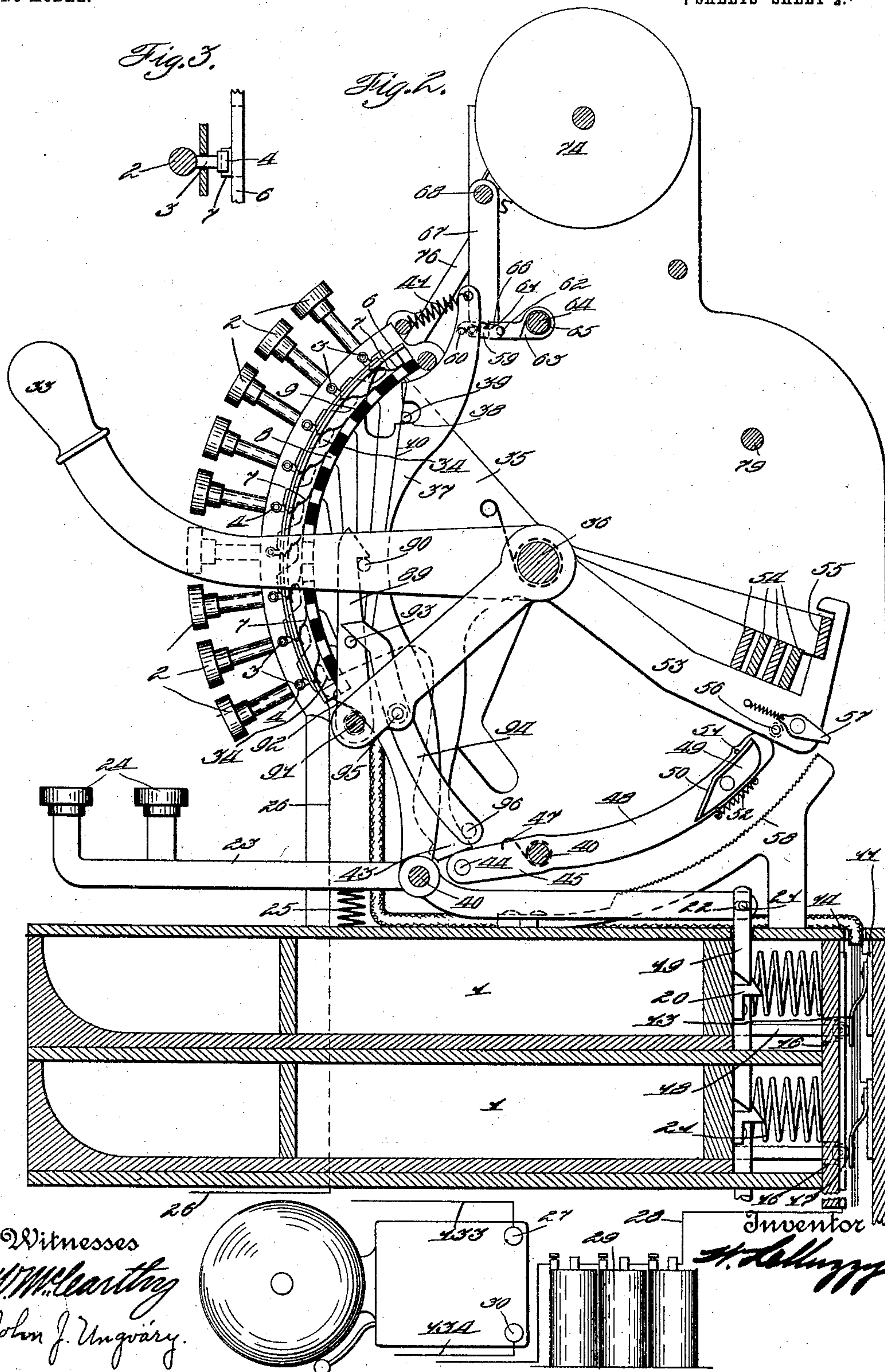
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7 SHEETS—SHEET 2.



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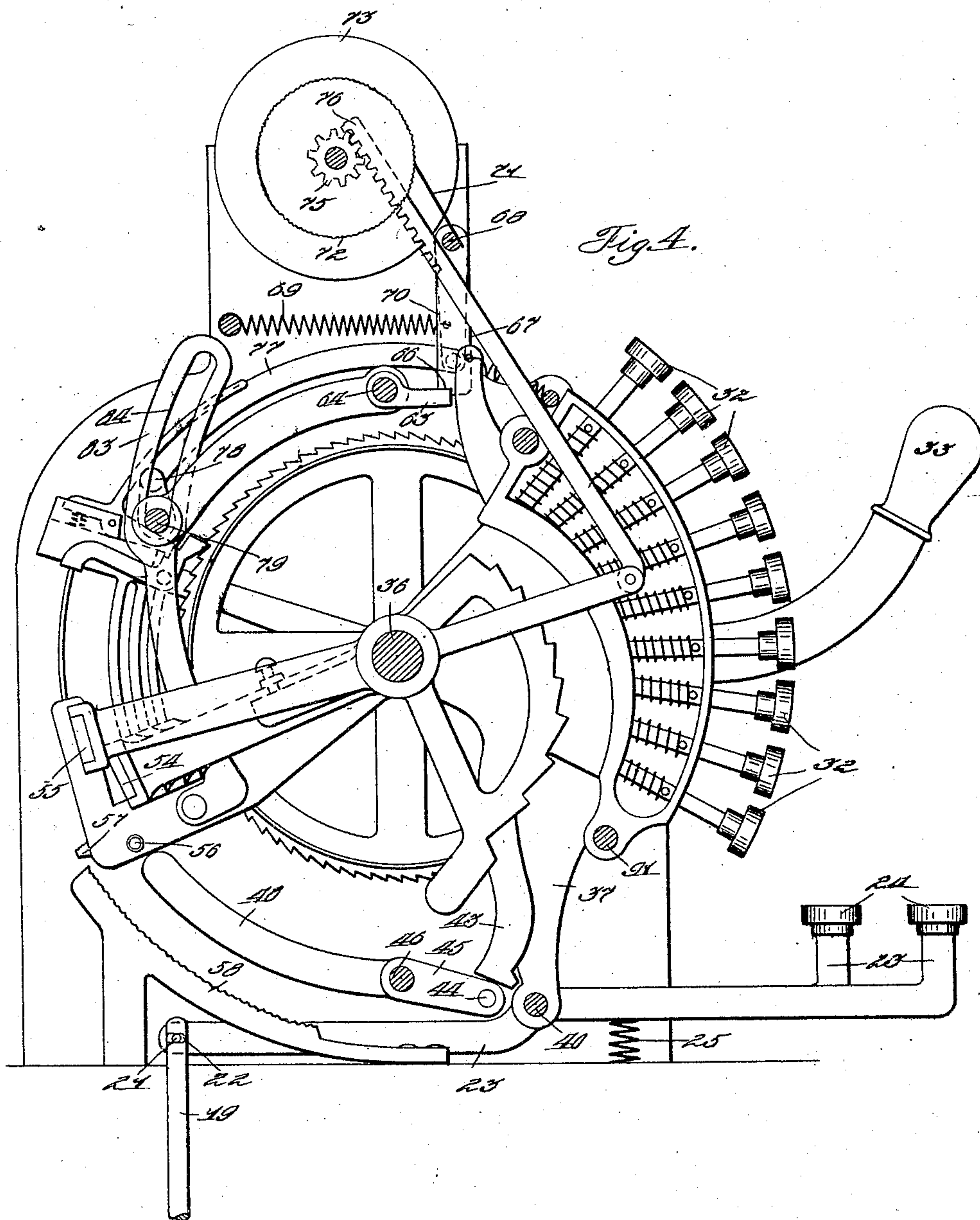
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7 SHEETS—SHEET 3.



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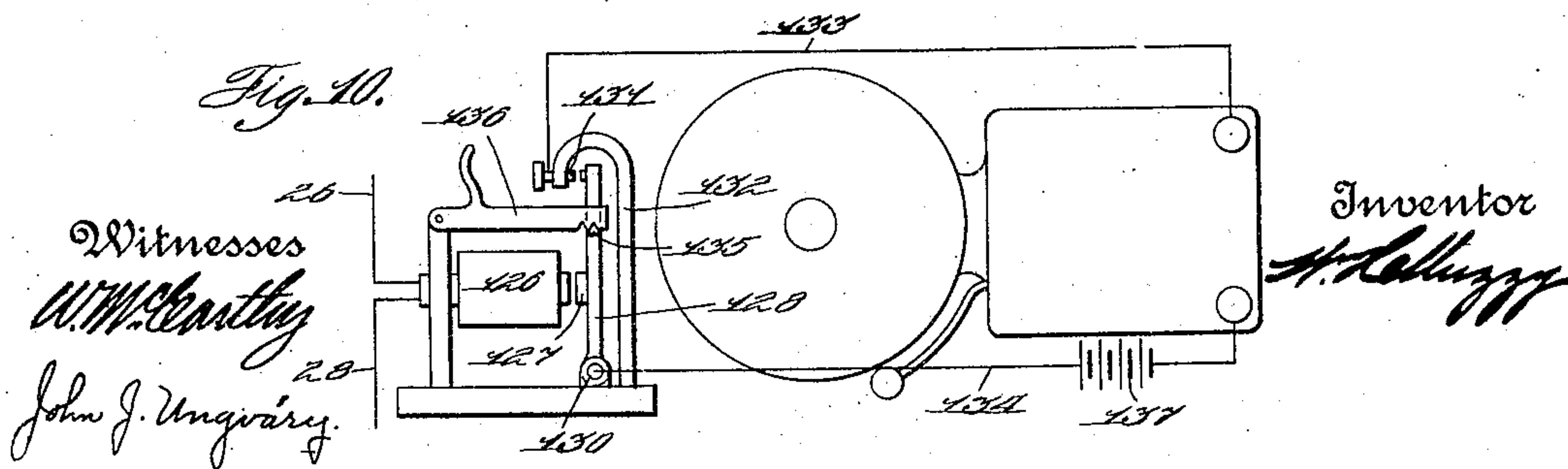
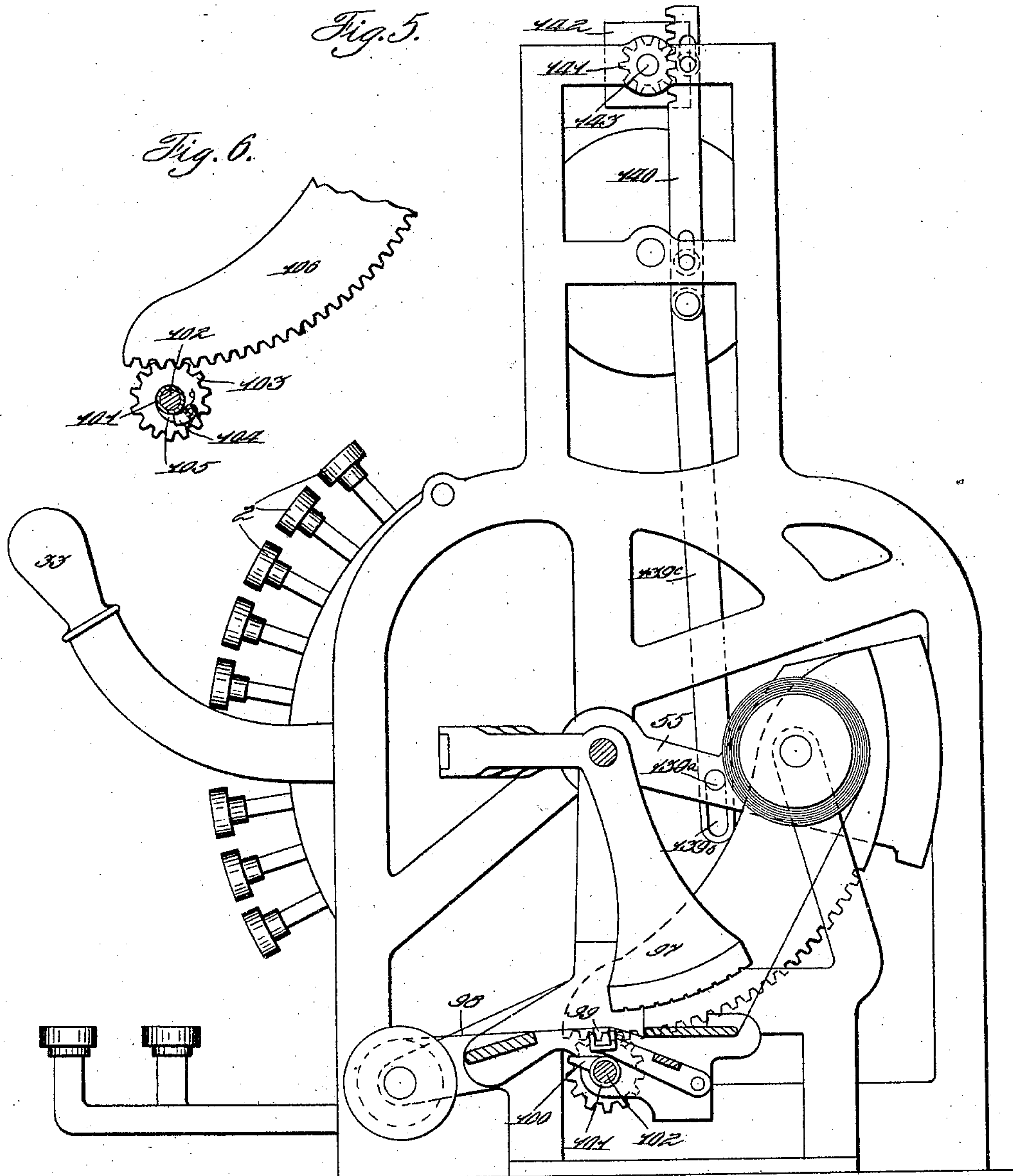
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7 SHEETS—SHEET 4.



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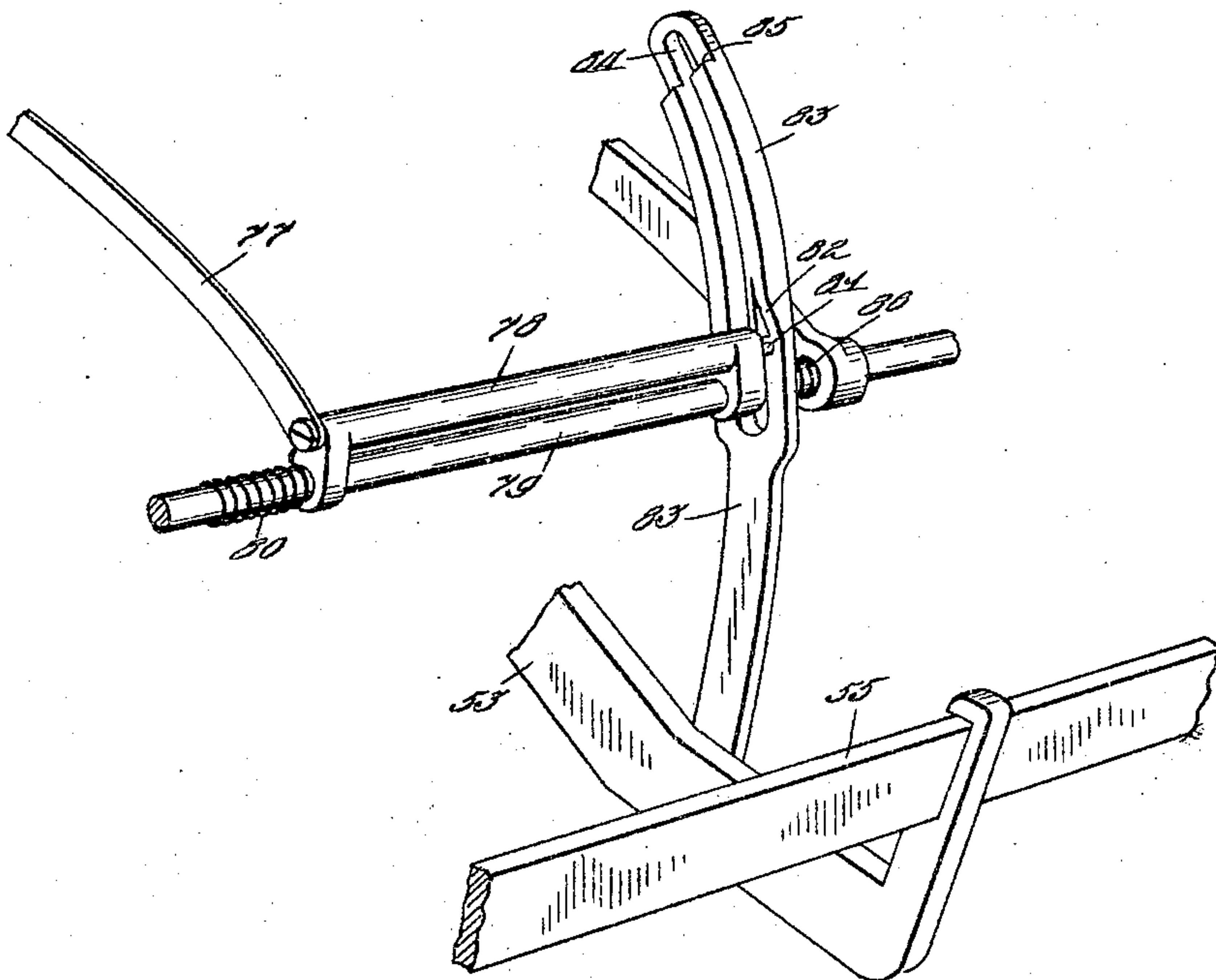
NO MODEL.

7 SHEETS—SHEET 5.

Fig. 14.



Fig. 7.



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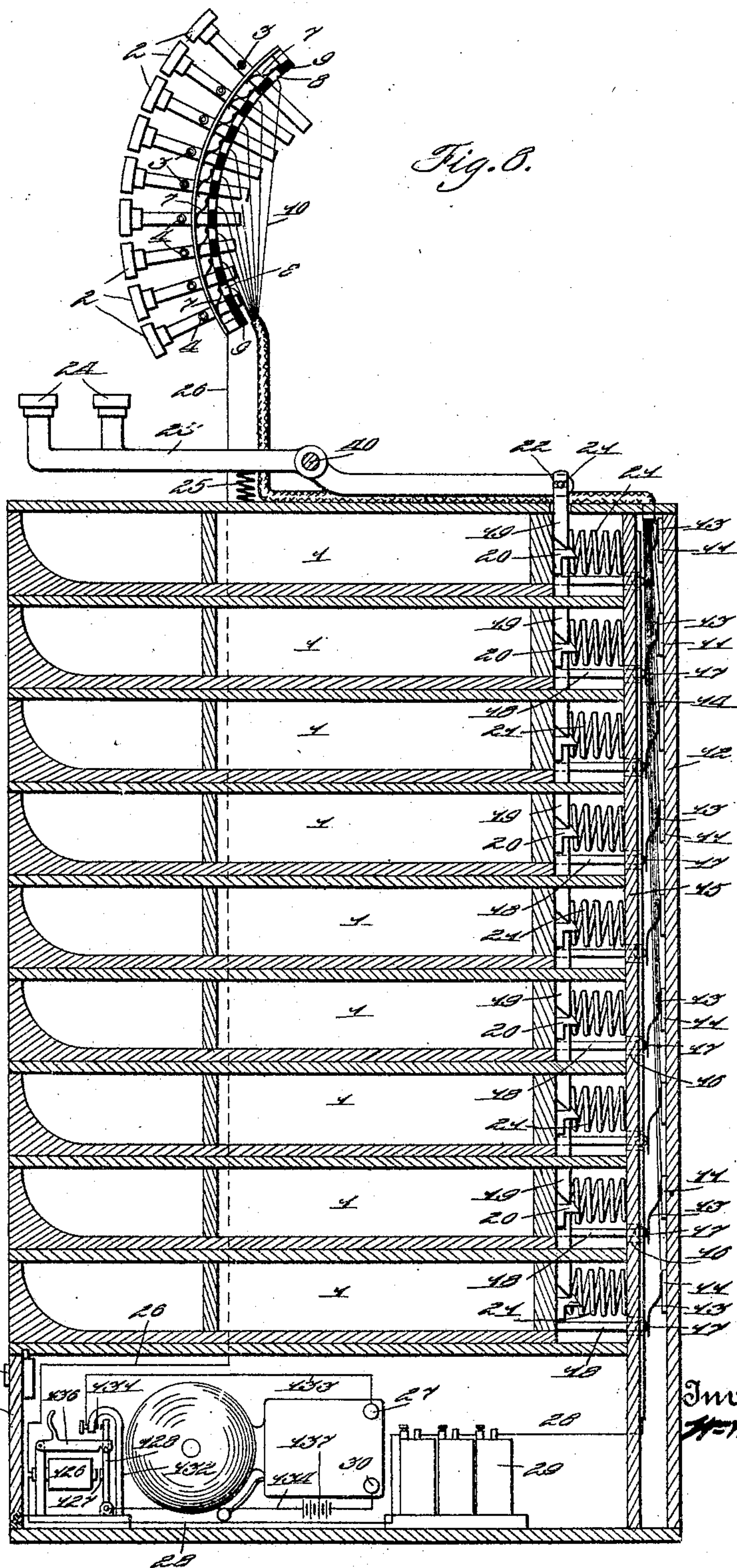
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APPLICATION FILED NOV. 6, 1903.

NO MODEL.

7 SHEETS—SHEET 6.



Witnesses
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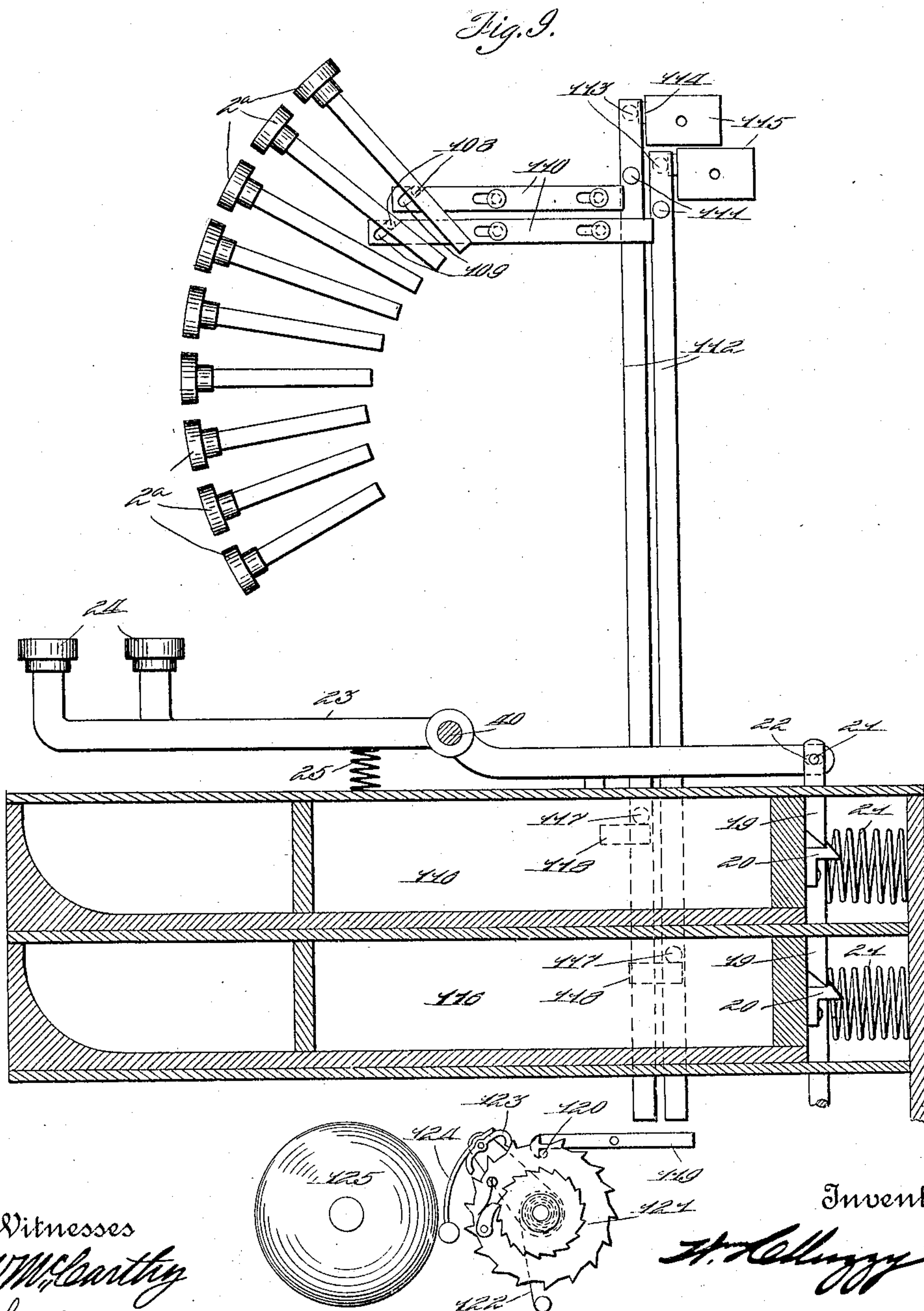
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CASH REGISTER.

APPLICATION FILED NOV. 6, 1903.

NO MODEL.

7 SHEETS—SHEET 7.



UNITED STATES PATENT OFFICE.

WILLIAM H. MUZZY, OF DAYTON, OHIO, ASSIGNOR TO NATIONAL CASH REGISTER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 775,087, dated November 15, 1904.

Application filed November 6, 1903. Serial No. 180,069. (No model.)

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-Registers, 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 improvements in registers of the multiple-drawer or multiple-receptacle type.

One of the several objects of the invention is to provide an improved type of multiple drawers or multiple receptacles to be used in connection with cash-registers.

A further object is to provide improved alarm attachments for multiple-receptacle cash-registers whereby any fraudulent operation of the machine is made known either in proximity to the machine or at a distance therefrom.

Another object is to admit all devices that compel the operation of the register preceding the opening of the drawer and to substitute therefor devices which will sound an alarm or set some form of indicator when the machine is not operated according to the cash-drawer or the receptacle opened.

The invention consists of certain novel constructions, combinations, and arrangements of parts, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of the devices embodying my invention applied to a machine of the type patented to Henry S. Hallwood July 15, 1902, No. 704,795, the cabinet and the cash-drawers being omitted. Fig. 2 represents a vertical transverse section through a machine embodying my invention, showing two of the cash-drawers in position. Fig. 3 represents a detail top plan view, partly in section, of one of the clerks' or department keys, its pin, insulating-roller, the circuit-strip, and one of the contact-makers. Fig. 4 represents a transverse vertical section through the machine on the line 4 4 of Fig. 1, the cash-

drawers and the cabinet being omitted. Fig. 5 represents an end elevation of the machine with the cash-drawers and the cabinet omitted. Fig. 6 represents a detail side elevation, partly in section, of the platen-operating devices. Fig. 7 represents a detail perspective view of the devices for actuating the indicator-detents. Fig. 8 represents a vertical section, partly in diagram, of the cash-drawers and the electrical connections with the keys of the cash-register. Fig. 9 represents a central vertical section, partly in diagram, of a modified form of my invention, showing a mechanical alarm controlled by the keys and the cash-drawers. Fig. 10 represents a diagrammatic view of the relay attachment, whereby the electric alarm when once started will continue to ring until the proprietor or other authorized person stops the same; and Fig. 11 represents a detail front elevation of the special indicator showing the "Sale not registered" sign.

Described in general terms my improvement may be said to comprise a series of independent cash receptacles or drawers arranged to control circuits common to said drawers and to corresponding selective devices of a cash-register, whereby if it is attempted to operate or open a cash-receptacle and actuate a selective device of the register that does not correspond thereto an alarm will be sounded or some form of signal set to indicate that a fraudulent operation has taken place.

For the sake of illustration I have shown my invention as applied to the type of machine disclosed in the above-mentioned patent, and I will therefore refer to said patent for any detail description of the parts thereof not hereinafter given.

By reference to Figs. 2 and 8 it will be seen that I have provided a series of nine cash-drawers 1, which correspond to the nine clerks' or department keys 2 of the cash-register. Each of these clerks' keys, which is substantially of the construction disclosed in the aforesaid patent, is arranged when depressed to be latched in its depressed position and so held until the machine is subsequently

operated. Each of these keys is provided with a pin 3, surrounded by a hard-rubber roller 4. When a key is depressed, these rollers 4 are arranged to pass down beside a segmental metallic plate 6, which is secured to the main frame, as shown in Fig. 2. As each of the rollers passes down it engages a spring contact-plate 7, which is normally engaging the plate 6, and forces the same out of engagement with said latter plate. (See Fig. 3.) The spring-plates or contact-pieces 7 are connected to metallic blocks 8, which are set in a suitable insulating-plate 9, which is also mounted upon the main frame. When one of the spring contact-pieces 7 is depressed, as above described, the circuit from the plate 6 to one of the blocks 8 is broken. Each of said blocks 8, as best shown in Fig. 8, is connected by an insulated wire 10 to one of a series of plates 11, mounted upon the back of the cabinet 12. The plates 11 are suitably insulated from each other and are provided with spring contact-pieces 13. These contact-pieces when released engage a metallic plate 14, mounted on a false wall 15 of the drawer-cabinet. The false wall 15 is provided with a series of apertures 16, through which normally project hard-rubber rollers 17, mounted upon arms 18, carried by the respective cash-drawers. The rollers 17 by their engagement with the spring contact-pieces 13 normally hold the same out of contact with the plate 14. The cash-drawers 1 are suitably mounted in the cabinet or casing and are arranged to be latched in position by vertically-movable latch-plungers 19, which are beveled at their lower ends and engage beveled latch-brackets 20, secured to the rear walls of said drawers. Coil-springs 21 are interposed between the rear walls of the cash-drawers and the false wall 15, whereby the cash-drawers are projected from the cabinet or casing when released. The upper ends of the latch-plungers 19 are provided with pins 21, which project through elongated slots 22, formed in the rear of pivoted key-levers 23. The forward ends of these levers project upward and are provided with heads or buttons 24, marked with characters representing the clerks or departments to which the several cash-drawers pertain. The levers 23 are normally held elevated at their forward ends by coil-springs 25, interposed between said levers and the top of the cabinet or casing. The aforesaid metallic contact-plate 6 is connected by an insulated wire 26 with one binding-post, 27, of an electric bell or any other suitable form of alarm or signal, while the plate 15 is connected by a wire 28 to one end of the elements of a battery 29. The remaining binding-post, 30, of the electric bell or alarm is connected by a wire 31 to the remaining element of the battery 29. From the above connections, all of which will be clearly seen in Fig. 8, it is apparent that all the circuits controlled by the respective clerks'

keys 2 and the cash-drawers are normally made as far as the keys 2 are concerned, but are broken as far as the cash-drawers are concerned. When any one of the keys 2 is depressed, its respective circuit is broken at the plate 7, and when the corresponding cash-drawer 1 is opened the closing of the circuit at the plate 13 will have no effect upon the alarm, as the circuit still remains broken at the plate 7. Should an attempt be made to defraud the machine by opening a cash-drawer without operating the machine or by opening a cash-drawer and operating a different clerk's key of the machine, the alarm will be immediately sounded. For instance, as all of the circuits are normally completed as far as the clerks' keys are concerned, the opening of any cash-drawer without the preceding depression of a clerk's key 2 will result in the circuit pertaining to the drawer opened being completed and the alarm sounded. When the machine is properly operated, however, the circuit pertaining to any drawer which is to be opened is broken by the depression of the corresponding clerk's key before it is completed by the opening of the drawer. The sounding of the alarm would also occur if a certain cash-drawer were opened and a different clerk's key depressed, as the clerk's key in this instance would simply break the circuit that was already broken by the closed cash-drawer pertaining thereto, while the opened cash-drawer would complete a circuit that had not been previously broken by the depression of the corresponding key. It results from the above construction that a clerk is not compelled to operate the machine in connection with the opening of a cash-drawer, nor is he compelled to open a cash-drawer corresponding with the clerk's key depressed; but if he does not operate the machine in the proper manner an alarm is sounded, and this alarm is sufficient indication to the proprietor and the remaining clerks that the machine is not being properly operated. Therefore when this alarm sounds every one having access to the cash-register will immediately be put upon inquiry as to why the alarm was so sounded, and a clerk would find it difficult to explain why he had misoperated the machine.

By reference to Fig. 1 it will be seen that the bank of special drawer-releasing keys 24 is arranged at the right-hand side of the machine entirely clear of the remaining banks of keys, which are located at the left of the machine. This arrangement prevents any confusion between the clerks' keys 2 and the corresponding drawer-keys 24.

In the operation of the machine the clerk first depresses the proper amount-keys 32 and then the particular special key 2. This operation results in the release of the operating-handle 33 and also in the release of the indicators, as hereinafter described. The cash-

drawer still remains closed, and the indicators take up their new indicating positions. The clerk then depresses the proper key 24, and his respective cash-drawer is projected from the casing. As he has operated the proper corresponding keys 2 and 24, no alarm is sounded. He now makes change or places the amount of the sale in the cash-drawer and closes the same prior to the pulling down of the handle 33, which latter movement releases all of the depressed keys and allows the reestablishment of any broken circuits through the plates 7. It will be seen from the above that if a cash-drawer is opened and the circuit thereby established behind the drawer the drawer is first closed and the circuit again broken at this point before the depressed key is allowed to resume its normal position and complete the circuit through its respective plate 7. After the operator has closed the cash-drawer the final movement is to draw down the handle 33 and return the parts to their normal positions.

The devices for controlling the amounts to be indicated and registered are substantially the same as disclosed in the aforesaid patent to Hallwood. The devices which cooperate, however, with the clerks' keys 2 are slightly varied in construction. The pins 3 of each of the clerks' keys are arranged to cooperate with hooked projections 34 of a detent-plate 35, which is hung upon the main shaft 36 and operates to latch the keys in their depressed positions, substantially as described in the aforesaid patent. This detent-plate is normally held up in elevated position by a latch-plate 37, having a shoulder 38, which normally supports a pin 39, projecting from the detent 35. The plate 37, however, is pivoted upon a transverse shaft 40, so that its periphery lies in proximity to all of the pins 3. The plate is normally drawn forward into this position by a coil-spring 41, which connects it to the main frame. When any one of the keys 2 is depressed, the plate 37 is moved rearward to release the detent 35, which falls into position to lock the depressed key in its depressed position and all of the other keys in their normal positions. To accomplish the latter result, each of the hooked projections 34 is formed with a locking edge 42, which when the detent is released drops into a position intermediate its respective pin 3 and the shaft 36. The detent-plate 35 is provided with a pendent operating-arm 43, whereby the detent is finally elevated to release the depressed key. This elevation of the detent as well as the elevation of the detents of the regular-amount banks is accomplished by a transverse rod 44, forming part of a rock-frame 45, mounted upon a transverse shaft 46 and normally held depressed at its forward end by a coil-spring 47, which surrounds the shaft 46 and engages with one end against the

frame 45, the opposite end being made fast to the shaft in any suitable manner. The arm 45 carries a rearwardly-projecting arm 48, which is provided with a pivoted pawl 49, having a cam-flange 50, as more clearly shown in Fig. 2. This pawl is held in its normal position against a stop-pin 51 by a coil-spring 52, which connects it to the lever 48. The main operating-lever 53 of the machine, which is journaled upon the shaft 6, is arranged to actuate all of the auxiliary yokes 54 and the main yoke 55 substantially in the same manner shown in the aforesaid patent and is provided with an antifriction-roller 56. When the operating-lever 53 is allowed to descend, the roller 56 engages the under side of the cam-flange 50 and rocks the pawl 49 upon its pivot without moving the lever 48. When the roller 56 passes free of the flange 50, the pawl 49 resumes its normal position. When the lever 53 is now elevated by the depression of the lever 33, as hereinafter described, the roller 56 engages the outer surface of the cam-flange 50, and as the pawl 49 is locked against any rocking movement in this direction the rear end of the lever 48 is depressed. This operation causes the frame 45 to be rocked and all of the key-detents to be elevated and latched in their upper positions by the plates 37. In order to assure a full movement of the lever 53 in both directions, the same is provided with a spring-drawn pawl 57, which engages a segmental rack 58, mounted upon the main frame. This pawl is arranged to reverse when it reaches the opposite ends of the rack in a manner well known in the art and needing no further description here.

In order to prevent any possibility of a fraudulent manipulation, which might be attempted by depressing a clerk's key and holding down the lever 33, I provide means for allowing the indicators to resume their normal zero-indicating positions whenever any one of the clerks' keys 2 is depressed. This means comprises a spring-pressed pawl 59, mounted near the upper end of the plate 37 of the special-key bank. This pawl is limited in its movement in one direction by a stop-pin 60, but is free to move in the opposite direction against the tension of its spring. The pawl is provided with a lug 61, having beveled front and rear walls and arranged to cooperate with a pin 62, mounted upon a latch arm or pawl 63, which is journaled upon a shaft 64 and is normally forced upward at its forward end by a coil-spring 65, which surrounds it and is secured to said shaft and engages the pawl at one end. When the plate 37 of the clerk's-key bank is forced rearward, the lug 61 engages the pin 62 and depresses the pawl 63 to disengage its forward end from a notch 66, formed in the lower end of a pendent arm 67, fast to a rock-shaft 68, tending to move rearward because of a coil-spring 69, which connects an arm 70, mounted on

the shaft 68, to the main frame, as best shown in Fig. 4. The shaft 68 carries a series of spring-pressed locking-pawls 71, which are arranged to engage toothed wheels 72, fast to the respective amount-indicators 73 and the clerk's indicator 74. These amount and clerks' indicators are actuated by pinions 75 and racks 76 in substantially the same manner as described in the aforesaid patent and as clearly shown in Fig. 4. After the latch-pawl 63 has been depressed and the indicators released they all automatically return to their normal positions. After the indicators have been again set, however, by the descent of the auxiliary yokes 54 it becomes necessary to again force the pawls 71 into engagement with the wheels 72 to lock the indicators in these set positions. This result is accomplished by a link-bar 77. (Best shown in Figs. 4 and 7.) This bar forces the lever 70 forward until the lower end of the same is moved far enough to the front to permit the pawl 63 to again snap into engagement with the shoulder 66 and lock the parts in their set positions. The forward movement of the link 77 is accomplished by a rocking frame 78, mounted upon a transverse shaft 79 and normally forced rearward by a coil-spring 80, which surrounds said shaft and is connected thereto and also to the frame 78. One end of said frame 78 is provided with a laterally-projecting pin 81, which pin is arranged to engage a cam-surface 82, formed on a segmental arm 83, which is slotted, as at 84, and is formed with an operating cam-shoulder 85. The arm 83 is pivotally connected at its lower end to the lever 53 and is normally forced into engagement with the pin 81 by a coil-spring 86, interposed between it and a portion of the main frame. When the arm 83 descends, it is forced to the left by its cam-surface 82 engaging the pin 81. When said arm has fully descended, however, it again snaps to the right upon the pin 82, passing above the shoulder 85. When the arm 83 is now forced upward, the shoulder 85 cams the pin 81 and the frame 78 forward until the pin finally rides down through the slot 84 and then returns to its normal position. (Shown in Fig. 7.) By the above-described means the indicators are unlatched to permit them to automatically return to their normal positions by the depression of one of the keys 2 and are again relatched upon the upward movement of the lever 53, which is caused by the downward movement of the operating-handle 33.

The lever 33 is connected rigidly to the lever 53 and is provided at its forward end with a suitable handle, by means of which it may be grasped and drawn downward. The lever, however, normally tends to assume its elevated position because of the weight of the parts. The lever 33, however, is normally latched in its lower position by a pivoted latch-hook 89, which engages a pin 90, mount-

ed on said lever. The hook 89 is pivoted upon a transverse shaft 91 and is normally forced rearward by a suitable coil-spring 92, which surrounds the shaft 91 and is connected thereto and also to said hook-latch. The latch further carries a pin 93, which is arranged to be engaged and operated by a lever 94, pivoted as at 95 and provided at its lower end with a pin 96, which projects to the rear of the arm 43 of the detent pertaining to the bank of clerks' keys. When its particular detent is released and allowed to descend, as before described, the arm 43 rocks slightly to the rear, and thus rocks the lever 94 upon its fulcrum, causing its upper end to force the hook-latch forward out of engagement with the pin 90. The lever 33 when thus left unrestrained assumes its upper position, permitting the lever 53 to drop, and with it the main auxiliary yokes, so that the parts may take up their positions according to the keys depressed, which latter construction and operation is old and well known in the art.

In order to compel the operator to draw down the handle 33 and complete the operation of the machine before leaving it, I provide the main operating-yoke 55 with a pin 139^a, which plays in an elongated slot 139^b, formed in the lower end of a link-bar 139^c. The upper end of this bar is connected to a rack-bar 140, which is suitably guided in the main frame, as shown in Fig. 5, and is formed at its upper end with gear-teeth, which mesh with a pinion 141, fast to a special indicator 142. This indicator is preferably rectangular in form and is mounted upon a shaft 143, extending above the regular indicators, and is journaled in the main frame. When the lever is moved to its upper position, the pin 139^a engages the lower end of the slot 139^b and turns the special indicator to expose the wording "Sale not registered" to the back and front indicator-openings of the machine. When the handle is drawn downward, however, the indicator 142 is rotated to disclose the signs thereon—such as "Amount of your purchase," "Sale has been recorded," or the like—by the pin 139^a engaging the upper end of the slot 139^b. If the operator should attempt to leave the machine in a partly-operated condition, this special indicator would remain with the "Sale not registered" signs exposed, and thus inform the customer or any other observer that the machine had not been properly operated.

By reference to Figs. 1 and 5 it will be seen that the respective auxiliary yokes 54 are connected to a series of type carriers or segments 97. These segments are arranged to print both the amounts and characters representing the different clerks upon a detail-strip 98, which is fed over a pivoted platen 99. This platen is actuated by a cam 100, mounted upon a sleeve 101, which is journaled upon a shaft 102, secured to the main

frame. A pinion 103, as best shown in Fig. 6, is also journaled upon the shaft 102 and carries a spring-pressed pawl 104, arranged to engage a projection 105, formed on the sleeve 101. A segmental rack 106, mounted on the main yoke, meshes continuously with the pinion 103, whereby as the main yoke is raised and lowered the pinion will be correspondingly moved and will impart its movements in one direction to the sleeve 101, thus causing the cam 100 to actuate the platen once during each operation of the machine.

I have shown my present improvements as applied to the Hallwood type of machine using only one counting mechanism; but it will be readily understood that the invention can be equally well applied to machines containing a plurality of independent counters, one of which may be allotted to each clerk having a cash-drawer. Such machines are old and well known on the market and are shown in patent to J. H. McCormick, No. 610,492, dated September 6, 1898, and no further description of the same is thought to be necessary.

In the present drawings I have shown an electric bell as a preferred form of alarm or signal set in motion by the closing of the electric circuit. It will of course be understood that this bell may be located either in the bottom of the drawer-cabinet above the machine or in the proprietor's office, or a number of bells may be included in the circuit and located at different positions in the store. If so desired, the bells might be replaced by electric lights, electric annunciators, or any other signaling or indicating device which upon the closing of the circuit would become set or operated. It will also be apparent that this invention is not limited to electrical devices for sounding an alarm, setting a signal, or the like, as the same results may be equally well accomplished by mechanical connections—such, for instance, as shown in the modified form of my invention illustrated in Fig. 9.

In this form of my invention it will be seen that each of the clerks' keys 2^a is provided with a pin 108, which normally projects into a cam-slot 109 of one of a series of horizontal sliding plates 110, suitably supported on the main frame. The rear ends of these plates cooperate with laterally-projecting pins 111, mounted on vertically-movable rods or bars 112. Each of these bars or rods carries at its upper end a pin 113, against which the spring-bolt 114 of a lock 115 normally presses. When one of the bars 112 is allowed to descend, its respective bolt 114 snaps over the upward side of its pin 113, and thus prevents the raising of the bar again until the lock is actuated by a suitable key held by the proprietor alone. Each of the bars 112 is provided in proximity to its respective cash-drawer 116 with a laterally-projecting pin 117, which normally rests upon a block 118, secured to the side of its said drawer. The

cash-drawers in this modified form of my invention are released and projected from the casing in substantially the same manner as before described. The lower ends of all the bars 112 project into proximity to a pivoted latch 119, the forward hook end of which engages a pin 120, mounted upon a ratchet escapement-wheel 121, which is suitably connected to a spring 122, so that when said latch is raised the ratchet 121 will immediately commence to rotate. The rotation of this ratchet-escapement will rock an escapement-lever 123, which carries a bell-clapper 124. The oscillation of this clapper or hammer will cause the same to strike and sound a bell 125. By this means the alarm after it is once started will continue to ring until the spring 122 has been unwound, unless the proprietor in the meantime operates the lock 115 to withdraw the spring-bolt 114 from above its pin 113 and again raises the depressed bar 112 into its upper position. The operation of the above devices are as follows: It will be seen that all of the bars 112 are normally supported by the blocks 118 of their respective cash-drawers. Should an attempt be made to open a cash-drawer without previously depressing one of the clerks' keys, the rod 112 pertaining to said drawer being no longer supported will drop and release the alarm. If one of the keys 2^a, however, is first operated, its respective slide 110 will be moved under the pin 111 pertaining thereto, and if the corresponding cash-drawer is thereafter opened its particular rod 112 will not drop, as it will be supported by the slide 110. If one clerk's key is depressed and the drawer of another clerk opened, the alarm will be sounded, as the supporting-slide 110, pertaining to the particular drawer opened, is not operated. For the sake of illustration I have shown only two cash-drawers with this modified form of my invention; but it will of course be understood that any desired number may be provided.

By means of the devices shown in Fig. 10 I am able to provide for a continuous ringing of the electric alarm after it is once set in motion. From this figure it will be seen that the wires 26 and 28 are connected to the bobbins or magnets 126 of a common form of relay instrument. When these bobbins 126, which are provided with soft-iron cores, are magnetized, the cores attract an armature 127, fast to a plate 128, which is mounted upon the base 129 by suitable trunnions 130. The upper end of the plate when drawn forward is arranged to contact with a circuit-closer 131, mounted upon a spindle 132. The plate 127 and the standard 132 are insulated from each other and are connected by wires 133 and 134 to the binding-posts of the alarm or signal. The upper portion of the plate 128 is provided with a lug 135, with which engages a notched gravity-pawl 136. The plate 128 is not provided with the usual retracting-

spring, but is held in one or the other of its adjusted positions by the pawl 136. When the circuit is closed through the bobbins 126, the plate 128 is drawn forward, the lug 135 passing from one to the other of the notches in the pawl 136. As the upper end of the plate 128 completes the local circuit of the alarm or bell the latter is set in motion by a suitable battery 137, included in the local circuit. The alarm will continue to ring even after the circuit through the bobbins 126 is broken, as the pawl 136 will hold the plate 128 against the contact-piece 131 until it is forcibly moved back by hand. As the relay is within the cabinet of the machine and under lock and key, it will be seen that the operator is powerless to arrest the alarm after it is once started, and only the proprietor or other authorized person can stop the ringing of the bell.

It will be seen that the mechanical signals, as well as the electrical signals, may be located at a distance from the machine, so that they will be sounded, if desired, in different parts of a store when the machine is improperly operated.

The front of the case or cabinet is provided with a hinged door 150, normally secured in position by a suitable lock 151. When this door is opened, the bell, battery, relay, and other parts may be reached for adjustment.

While I have shown a series of clerks' keys as controlling the circuits within the machine, it will be understood that I may substitute any other well-known selective devices—such, for instance, as a single movable slide or lever which may be adjusted to different positions for different clerks and when so moved to different positions will disrupt individual circuits correspondingly. I have also shown a series of cash-drawers for the sake of illustration; but it will of course be understood that I may employ any suitable form of cash-safe having a movable member, whereby it may be exposed at will. These cash-safes may take the form of stationary receptacles with sliding or pivoted tops or covers or they might be constructed in the shape of drawers with movable covers or guards.

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

1. In a cash-register, the combination with an operating mechanism, of selecting devices for different clerks or departments connected therewith, a series of independent cash-safes having movable members, a telltale device normally inactive, and means for setting or operating said telltale device when dissimilar selecting devices and cash-safes are operated.

2. In a cash-register, the combination with an operating mechanism, of selecting devices for clerks or departments, a series of cash-drawers, an alarm or signal normally inactive, and means for rendering said alarm or signal

active when dissimilar selecting devices and cash-drawers are operated.

3. In a cash-register, the combination with an operating mechanism, of selecting devices for clerks or departments, a series of cash-receptacles, an alarm or signal normally inactive, means for rendering said alarm or signal active when a cash-receptacle is opened and means for rendering said alarm inactive controlled by the selecting devices.

4. In a cash-register, the combination with an operating mechanism, of selecting devices, means for latching the selecting devices co-operating with the operating mechanism, a series of cash-receptacles, an alarm or signal normally inactive, and means for rendering the alarm or signal active when dissimilar selecting devices and cash-receptacles are operated.

5. In a cash-register, the combination with an operating mechanism, of a series of selecting devices connected therewith, a series of cash-receptacles, an alarm or signal normally inactive, and means for rendering said alarm or signal active when dissimilar selecting devices and cash-receptacles are operated.

6. In a cash-register, the combination with an operating mechanism, of a series of clerks' or department keys, a series of cash-receptacles, an alarm or signal normally inactive, and means for rendering said alarm or signal active when dissimilar keys and cash-receptacles are operated.

7. In a cash-register, the combination with an operating mechanism, of a series of clerks' or department keys connected thereto, a series of cash-drawers, an alarm or signal normally inactive, and means for rendering said alarm or signal active when dissimilar keys and cash-drawers are operated.

8. In a cash-register, the combination with an operating mechanism, of clerks' or department selecting devices connected thereto and accounting devices controlled by the selecting mechanism, a series of cash-receptacles, an alarm or signal normally inactive, and means for rendering said alarm or signal active when dissimilar selecting devices and cash-receptacles are operated.

9. In a cash-register, the combination with an operating mechanism, of clerks' or department selecting devices, a recording device controlled by said selecting devices, a series of cash-receptacles, an alarm or signal normally inactive, and means for rendering said alarm or signal active when dissimilar selecting devices and cash-receptacles are operated.

10. In a cash-register, the combination with an operating mechanism, of a series of selecting devices, a series of electric circuits including contact-pieces operated by said selecting devices, a main circuit controlled by all of the individual circuits, an alarm or signal controlled by the main circuit, a series of cash-receptacles having movable members, and con-

tact-pieces for the individual circuits controlled by said movable members.

11. In a cash-register, the combination with an operating mechanism, of a series of clerks' or department keys, a series of electric circuits controlled by said keys, a series of cash-receptacles also controlling said circuits, and an alarm or signal included in said circuits.

12. In a cash-register, the combination with an operating mechanism, of a series of clerks' or department keys, a printing device controlled by said keys, a series of cash-drawers, a series of electric circuits controlled by said keys and said drawers, and an alarm included in said circuits.

13. In a cash-register, the combination with operating devices, of a series of clerks' or department keys, a series of individual electric circuits controlled by the respective keys, a series of cash-drawers, means independent of the keys for releasing the drawers, contact-pieces for the individual circuits controlled by the drawers, and an alarm or signal included in said circuits.

14. In a cash-register, the combination with operating devices, of a selecting mechanism, a series of cash-receptacles, individual circuits controlled by the selecting mechanism and their respective cash-receptacles, an alarm included in said circuits, and independent means for opening the respective cash-receptacles.

15. In a cash-register, the combination with an operating mechanism, of a series of clerks' or department keys, a printer controlled thereby, a series of cash-drawers, an electric circuit, including an alarm, means for closing said circuit when a cash-drawer is opened, means for breaking the circuit when a key is operated, and independent releasing devices for the respective cash-drawers.

16. In a cash-register, the combination with an operating mechanism, of a series of clerks' or department keys, a series of individual circuits having contact-pieces coacting with the respective keys, a series of cash-receptacles, contact-pieces included in the circuits and co-operating with said receptacles, an alarm or signal included in said circuits, and a series of independent keys for releasing the respective cash-receptacles.

17. In a cash-register, the combination with an operating mechanism, of a series of indicators, selecting devices, means for destroying the indication controlled by said selecting devices, a series of cash-receptacles arranged to be exposed at will, a normally inactive alarm or signal, and means for rendering said alarm or signal active if dissimilar selecting devices and cash-receptacles are operated.

18. In a cash-register, the combination with an operating mechanism, of a series of indicators, means for causing the indicators to return to normal positions when unrestrained, latches for securing the indicators in set positions, a series of clerks' or department keys

controlling said latches, a series of cash-receptacles arranged to be exposed at will, a normally inactive alarm or signal, and means for rendering said alarm or signal active if dissimilar clerks' keys and cash-receptacles are operated.

19. In a cash-register, the combination with operating devices, of a selecting mechanism, a series of cash-receptacles, an alarm or signal normally inactive, means for rendering the alarm or signal active if the operation of the receptacle is not accompanied by the corresponding operation of the selecting mechanism, and means under lock and key for preventing the control of the alarm or signal by the operator after it is once rendered active.

20. In a cash-register, the combination with an operating mechanism, of a series of clerks' or department keys, a detent for holding the keys in their depressed positions, means connected to the operating mechanism for actuating the detent, a series of cash-receptacles, a series of circuits and connections for breaking the circuits by the depression of the keys and making the circuits by the opening of the cash-receptacles, and an alarm or signal included in said circuits.

21. In a cash-register, the combination with an operating mechanism, of selecting devices, a series of cash-receptacles, arranged to be exposed at will, an alarm or signal normally inactive, means for rendering the alarm or signal active when dissimilar selecting devices and cash-receptacles are operated, and a special indicator connected to the operating mechanism for indicating the movements thereof.

22. In a cash-register, the combination with operating devices, of a selecting mechanism, a series of independent cash-receptacles, a normally inactive electric alarm or signal, a relay instrument controlling said alarm, connections for operating the relay whenever a cash-receptacle is opened without a corresponding movement of the selecting mechanism, and devices for holding the contacts of the relay permanently together after they have been electrically operated.

23. In a cash-register, the combination with an operating mechanism, of a series of selecting-keys, a series of individual circuits, a contact-breaker for each key included in said circuits, a series of cash-drawers, a contact-breaker for each drawer also included in the circuits, and an alarm or signal included in the circuits, whereby the alarm will be sounded when dissimilar selecting-keys and cash-drawers are operated.

24. In a cash-register, the combination with an operating mechanism, of a series of indicators, means for automatically returning the indicators to their normal positions when released, a series of special keys, latches for the indicators operated by said keys, a series of cash-receptacles, an alarm normally inactive, and means for rendering said alarm active if

dissimilar keys and cash-receptacles are operated.

25. In a cash-register, the combination with
an operating mechanism, of a series of keys,
5 a series of indicators, latches for the indicators,
a detent for said keys, detents for the indicators,
a latch for the detent operated by the keys,
means connecting said latch to the indicator-latches,
a series of cash-receptacles,
10 an alarm or signal, and means for operating
said alarm or signal if dissimilar keys and cash-receptacles are operated.

26. In a cash-register, the combination with

an operating mechanism, of a series of cash-safes,
means for sounding an alarm when any 15 cash-safe is opened,
and means having an independent function in connection with the operating mechanism and arranged for preventing the sounding of said alarm.

In testimony whereof I affix my signature in 20 the presence of two witnesses.

WILLIAM H. MUZZY.

Witnesses:

W. McCARTHY,

WM. O. HENDERSON.