W. H. MUZZY.

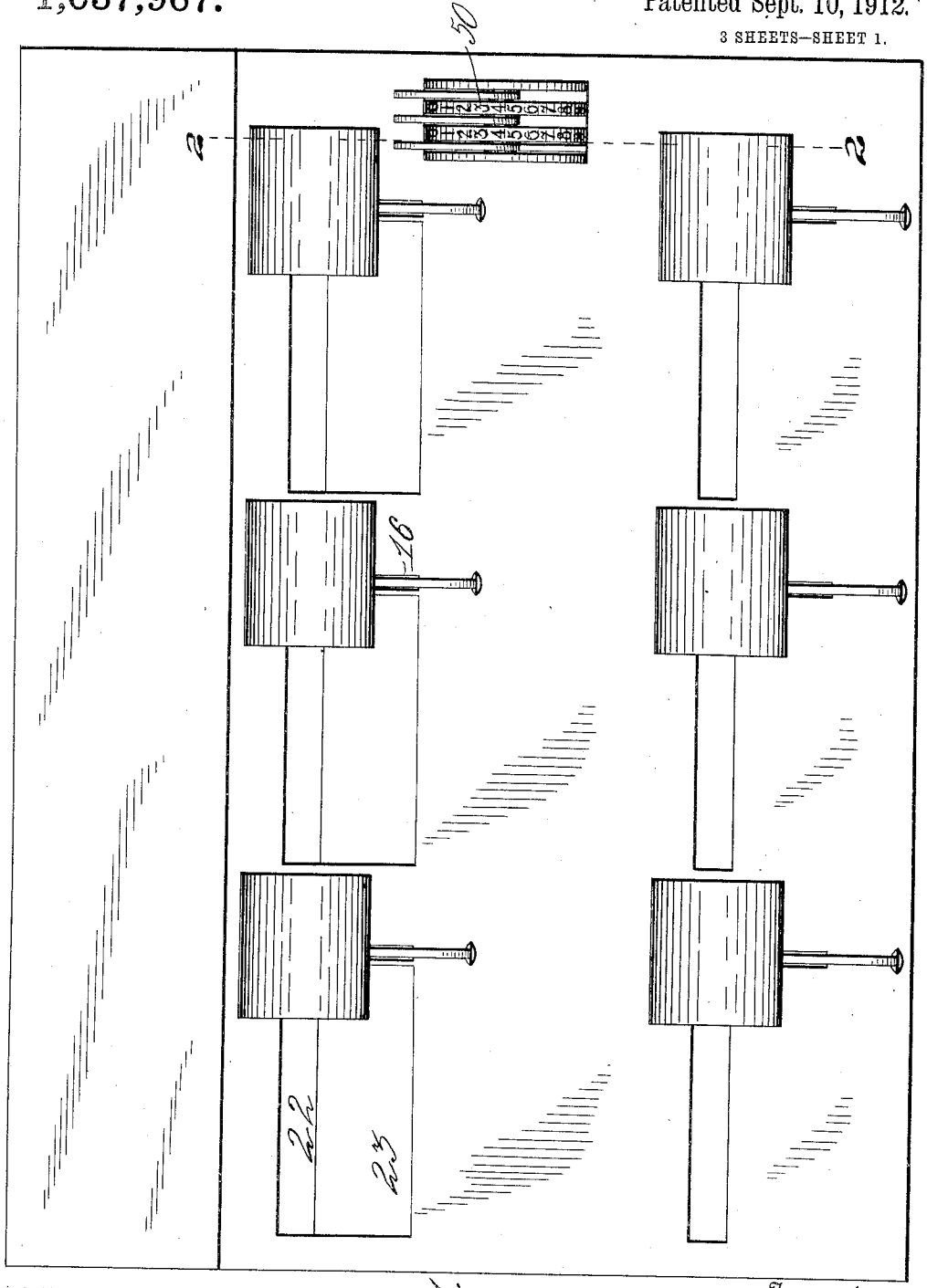
CASH REGISTER.

APPLICATION FILED OCT. 1, 1904.

1,037,967.

Patented Sept. 10, 1912.

3 SHEETS—SHEET 1.



Witnesses

C. Foster

Mildred Monfort.

Fig. 1.

Inventor

W. H. Muzzy

W. H. MUZZY.

CASH REGISTER.

APPLICATION FILED OCT. 1, 1904.

1,037,967.

Patented Sept. 10, 1912.

3 SHEETS—SHEET 2.

Fig. 2.

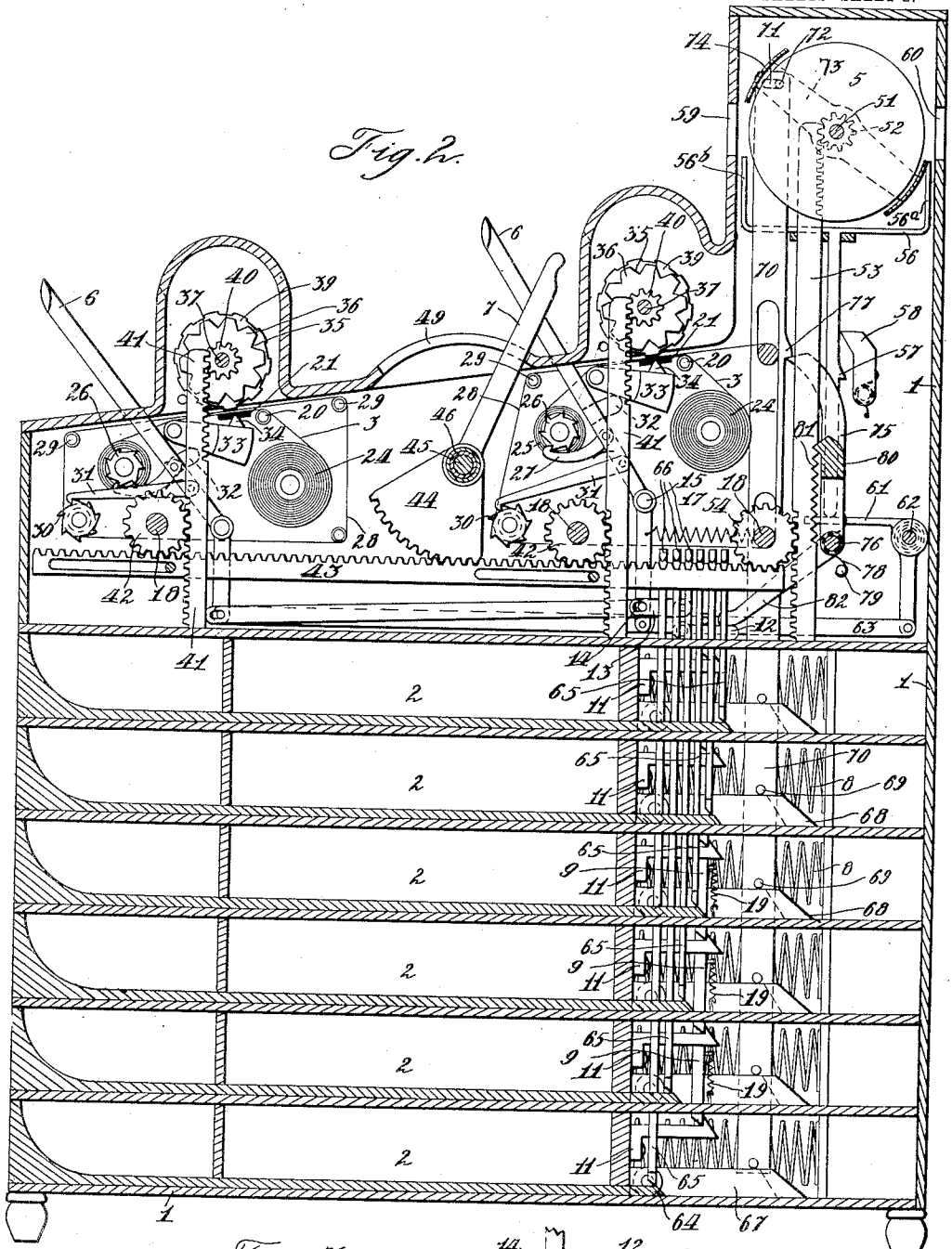
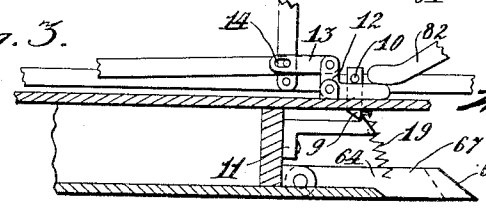


Fig. 3.



Witnesses

C. B. Foster

Mildred Monfort.

Inventor

W. H. Muzzy

W. H. MUZZY.

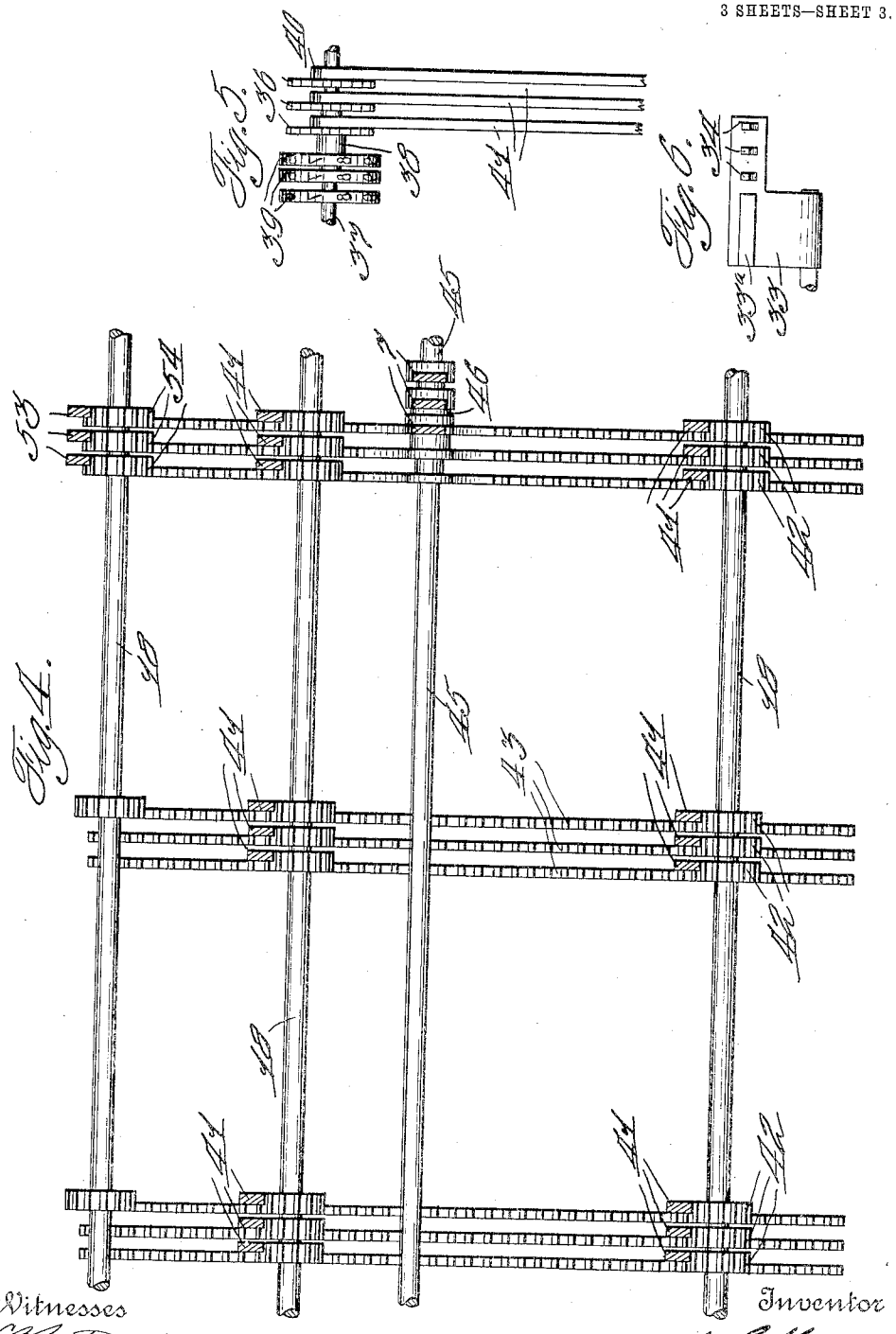
CASH REGISTER.

APPLICATION FILED OCT. 1, 1904.

1,037,967.

Patented Sept. 10, 1912.

3 SHEETS—SHEET 3.



Witnesses

C. Bostedt

Mildred Monfort.

Inventor

W. H. Muzzy

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.

1,037,967. Specification of Letters Patent. Patented Sept. 10, 1912.

Application filed October 1, 1904. Serial No. 226,805.

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 in which a plurality of independent money receptacles are provided, one for each of the clerks whereby the cash pertaining to the several clerks may be kept separate.

One of the principal objects of the invention is to provide a machine in which detail autographic records may be made by the several clerks and amounts recorded in connection with the different autographic records according to the clerk making the particular sale.

A further object is to provide a register having autographic recording devices with multiple drawers or receptacles and improved indicating and printing devices whereby a record is made corresponding to the indication upon the particular autographic device of the clerk whose cash receptacle is opened.

With these and 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 top plan view of the devices embodying my invention applied to a machine of the type shown in Letters Patent of the United States issued to Smith and St. Clair, July 19, 1904, No. 765,602. Fig. 2 represents a vertical section through the same on line 2—2 of Fig. 1. Fig. 3 represents a detail vertical section through the rear of one of the cash drawers showing the latch operating mechanism. Fig. 4 represents a detail top plan view of the groups of operating racks and their connecting devices. Fig. 5 represents a front view of one set of the printing wheels and their connecting gears, and Fig. 6 represents a detail top plan view of one of the platens.

As above indicated the present invention is an improvement on the mechanism shown in the above mentioned patent to Smith and St. Clair. In this patent is shown a series of independent autographic devices and a series of independent cash drawers. When a sale is made and any one of the autographic devices is written upon, a lever is operated which moves the strip of the autographic device forward and simultaneously releases the cash drawer. No means are provided, however, for preventing the clerk marking any amount he chooses upon his autographic strip or upon the strip of another clerk nor is any indication made to the purchaser as to what amount or information the clerk marks upon his particular autographic strip. The present invention is designed to overcome this and other defects by providing printing and indicating devices which compel a clerk to print upon his autographic strip the same amount which he indicates to the customer. By this means a positive record is made of each transaction and the customer at the same time is informed as to what record is being made so that any irregularities in the entry will be at once apparent.

In the said drawings 1 represents the casing or cabinet of the machine, 2—2 the cash drawers, 3 the autographic strips, 39 the printing wheels, 5 the indicators, 6 the special clerk's levers, and 7 the amount levers. The cabinet or casing 1 may be of any desired construction but is preferably of wood and provided with a series of sliding cash drawers 2, back of which are located a series of coil springs 8 whereby the drawers are projected from the casing when released. Each of the drawers is normally held within the casing by a latch plunger 9 suitably mounted in the frame or casing of the machine and provided at its upper end with a laterally projecting pin 10. As best shown in Fig. 3 the lower beveled end of the plunger coöperates with a beveled latching bracket 11 secured to the rear wall of its respective cash drawer. Coöperating with each of the pins 10 is a pivoted bell crank lever 12 suitably mounted upon the frame or cabinet and connected at its upper end to a link 13 which is formed at its forward end with a slot 14 into which projects the

lower end of the clerk's lever 6 which is pivoted upon a cross rod 15 and projects upwardly through an opening 16 formed in the top of the cabinet. A coiled spring 17 connects the lower part of the lever 6 with one of a series of transverse shafts 18 for normally holding each lever 6 in the position shown in Fig. 2.

It will be seen from the above that when any one of the levers 6 is forced rearward at its upper end its respective bell crank lever 12 is actuated and the plunger 9 cooperating with said bell crank elevated and the cash drawer released. Suitable springs 19 are provided to return the plungers 9 to their latching positions when the levers 6 are released. The autographic strips 3 are located equally distant from each other in the upper part of the casing or cabinet and are supported by anti-friction rollers 20 in such positions that the main portion of each strip passes over the writing tablet or support 21 secured in the casing. Under each one of the exposed slots 22 which are formed in the top of the casing and through which the entries are made glass plates 23 are let into the top of the casing so that the different entries after being made are visible under said glasses for several succeeding operations.

Each of the strips 3 passes from its supply roller 24 over its respective guide rollers 20 and onto the winding roller 25, the latter being provided with a ratchet wheel 26 which is engaged by a spring pressed feeding pawl 27 mounted upon its respective lever 6. Each time one of the levers 6 is operated its respective pawl 27 will cause that particular strip to be fed forward one space. The endless inking ribbon 28 is mounted upon supporting rollers 29 and passes over the strip 3 and between it and the printing wheels 39. One of the rollers 29 is provided with a ratchet wheel 30 which is engaged by a gravity pawl 31 mounted on its lever 6 whereby the inking ribbon is given a step by step movement. The lever 6 is also provided with a nose 32 which, when the lever is operated contacts with a pivoted frame 33 having V noses 34 and forces said noses upward into alining notches 35 formed in alining wheels 36. These alining wheels as best shown in Fig. 5 are mounted respectively upon a shaft 37 and nested sleeves 38 mounted over said shaft, said shaft and nested sleeves being provided upon opposite ends with printing wheels 39 and actuating pinions 40. The wheels 39 are provided with printing numerals from zero to nine so that when operated any one of said numerals may be brought into printing position over the frame 33. Each of the frames 33 is provided with a platen 33^a so that when the frame is forced upward the autographic strip together with the inking ribbon will be forced against the types then in printing position. Each of the pinions 40 meshes with a vertical rack 41 suitably mounted and guided in the frame of the machine. These racks 41 mesh at their lower ends with pinions 42 mounted upon the respective shafts 18. The pinions 42 are connected by horizontal rack bars 43 whereby when said horizontal bars are actuated all of the corresponding type wheels are correspondingly set. Movement is imparted to the horizontal rack bars 43 by segmental racks 44. These racks 44 mesh with the respective racks 43 and are mounted upon a short transverse shaft 45 and nested sleeves 46 mounted thereon. This peculiar nested sleeve arrangement is necessary because of the fact that the printing wheels are reversed as shown in Fig. 5, that is, the extreme left hand wheel which represents units of dollars is mounted upon the shaft 37 upon which the extreme right hand pinion 40 is mounted. If the right hand rack 43 representing units of cents were connected directly to the right hand pinion 40 the units of dollars and units of cents would be transposed in printing. To correct this defect the segments 44 are mounted as stated upon the shaft 45 and the sleeves 46. The shaft 45, in this case, which represents the units of cents, would actuate the left hand segment 44 and this in turn would actuate the left hand pinion 40 which is connected to the sleeve 38 carrying the units of cents wheel. The shaft 45 and the sleeves 46 carry actuating handles 7 which project through slots 49 formed in the top of the casing and along the edges of which are provided index numerals 50. Whenever any one of the levers is moved opposite any one of the numbers 50, the proper numbers of the corresponding printing wheels are brought to printing position. The lever 7 besides adjusting the printing wheels also adjusts the indicators 5. These wheels 5 are all loosely mounted upon the transverse shaft 51 and are provided with pinions 52. Each of the pinions 52 meshes with a vertical rack bar 53. The lower end of each of the rack bars 53 meshes with a pinion 54 loose on the shaft 18 and meshing with its respective horizontal rack 43. By this means the indicators are given the same movements that are imparted to the printing wheels.

In the drawings there has been illustrated but a single set of indicating wheels, each of which is provided with a double set of numerals for indicating to both the back and front of the machine. Either one or the other of the sets of numerals reads correctly from its side of the machine. If desired, however, an additional set of indicators may be provided and geared to the

first mentioned set so that the indication for both the back and the front of the machine will read correctly from left to right in each instance. In addition to the amount indicators 5 there is also provided a series of tablet indicators 56, each of which is provided with two indicating tablets 56[a] and 56[b]. The standard for each of these special indicators is provided with a nose 57 which coöperates with a pivoted back rod or wing 58 for latching the indicator in its elevated position so that its two tablet portions will be disclosed through apertures 59 and 60 of the casing. The lower end of each of the special indicators 56 rests upon one of a series of bell crank levers 61 mounted upon a transverse shaft 62. Each of these bell cranks is connected by a link 63 with the lower end of its respective levers 6 so that when any one of said levers 6 is operated, this particular bell crank 61 will be rocked and its tablet 56 elevated. When any tablet is thus moved upward the nose 57 forces the back plate 58 rearward and releases the previously elevated indicator and then passes said plate 58 when the spring of the latter moves the same under the nose 57 and latches the indicator in its elevated position. These indicators 56 are thus disclosed beside the amount indicators to indicate which clerk made any particular sale.

Each of the cash drawers 2 has its bottom board extended to form a beveled ended shelf 64, upon which rests a plunger or gravity rod 65; there being one of these rods for each drawer. The upper ends of said rods 65 are provided with lateral projections 66 which when in their lower positions engage the rack bars 43 and lock the same against movement. It will be seen that by this construction when any one of the cash drawers is opened all of the rack bars [illegible] will become locked and when the drawer is closed the bars will be unlocked again by the lowered rod 65 being again elevated by the beveled end of its particular projection or shelf 64. Each cash drawer is also provided with a pivoted rearwardly projecting arm 67 having a beveled flange 68 at its rear end. The flanges 68 are arranged to co-act with pins 69 projecting laterally from a flash operating bar 70 which is suitably mounted on the main frame, and formed at its upper end with a slot 71 into which projects a pin 72 mounted upon one of two pivoted flash arms 73 which are connected at their outer ends by flash plates 74. The rod 70 is free to drop when all of the cash drawers are closed, but is held elevated by a pivoted latch arm 75 mounted upon the transverse rock shaft 76, and engaging a nose 77 formed on the bar 70. The latch 75 is normally forced forward by a coiled spring 78 which surrounds the shaft 76 and is connected to a pin 79 on the main frame. The shaft 76 is provided with a series of arms 80 which engage teeth 81 upon the respective vertical racks 53. By this means if any one of the setting levers 7 is operated the latch 75 is also actuated to release the flash and permit the same to conceal the indication. The operation of any one of the levers 6 to open a cash drawer will also release the flash whether any one of the levers 7 has been operated or not. This result is effected by a series of arms 82 mounted on a shaft 76 and projecting over the respective bell cranks 12 which are connected to said levers 6. By this means any "repeating sales" is prevented as the machine cannot be operated at all in any manner without concealing the indication, and the flash cannot be again raised until the open cash drawer is closed. As the cash-drawer opens the back of the flange 68 engages its respective pin 69 and the arm 67 is elevated. As the drawer continues its movement, the arm 67 drops back to position. When the drawer is closed the rear edge of the flange 68 engages its pin 69 and as the arm 67 moves rearward the bar 70 is elevated and the indicator latched in its elevated position.

The devices above described absolutely prevent a clerk from indicating any amount other than that printed beside the autographic record of any particular sale. After the movement of any one of the levers 6 is started the printing wheels become locked and their positions cannot be changed until the lever 6 again returns to its normal position. Further as long as any cash-drawer remains open, the indication cannot be changed as all of the rack bars are locked by the plunger 65, which has descended from its normal elevated position. By the above devices it would be impossible to print one amount on the strip and then attempt to set the indicators for a higher amount, as the first movement of one of the setting levers 7 will drop the flash over the indicators, and this flash cannot be again raised until an impression is taken of the amount then indicated and the cash-drawer opened and closed. If the cash-drawer is left open the setting levers 7 will remain locked and no change can be made in their position without first closing the drawer.

While the form of mechanism here shown and described is admirably adapted to fulfil 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 the invention what is claimed as new and desired to be secured by Letters Patent is:

1. In a cash accounting machine, the combination with a series of autographic mechanisms, of a series of corresponding cash re-

ceptacles, a printing device for each of the different autographic mechanisms, and means for operating a particular autographic mechanism and its printing device, and releasing its corresponding cash receptacle.

2. In a cash accounting machine, the combination with a series of independent autographic mechanisms, of a series of independent cash drawers, a printing device for each autographic mechanism, setting means common to all of the printing devices, and means for operating the autographic mechanisms, printing devices, and releasing the cash drawers.

3. In a cash accounting machine, the combination with a series of independent autographic mechanisms, of a printing device for each of said mechanisms, a series of cash drawers, a series of indicators movable with the respective printing devices, and means for operating the printing devices, and releasing the corresponding cash drawers.

4. In a cash accounting machine, the combination with a series of independent autographic mechanisms, of a printing device for each of the same, a series of cash drawers, and means for operating a desired printing device and releasing its corresponding cash drawer.

5. In a cash accounting machine, the combination with a series of autographic mechanisms, a printing device for each of the same, indicators movable with the printing devices, a series of cash drawers, and means for taking an impression from the printing devices and releasing the cash drawers.

6. In a cash accounting machine, the combination with a series of autographic mechanisms, of printing devices for the same, a common setting means for said printing devices, a series of cash receptacles, and means for taking an impression from the printing devices and releasing the cash receptacles.

7. In a cash accounting machine, the combination with a series of independent autographic mechanisms, of a series of printing devices for the same, indicators, a common setting means for the printing devices and indicators, a series of cash receptacles, and means for taking an impression upon the printing devices and releasing the cash receptacles.

8. In a cash accounting machine, the combination with a series of independent autographic mechanisms, of a series of cash receptacles, a printing device for each of the autographic mechanisms, means for adjusting the printing devices, and means for locking the printing devices when any cash receptacle is open.

9. In a cash accounting machine, the combination with a plurality of autographic mechanisms, of a plurality of cash drawers corresponding thereto, a series of indicators, an independent actuator for operating each autographic device and releasing its particular cash drawer, and means for locking the indicators in position when any cash drawer is opened.

10. In a cash accounting machine, the combination with a series of independent autographic mechanisms, printing devices for the same, a series of cash receptacles, an independent means for operating each autographic mechanism and releasing its particular cash receptacle, and devices controlled by said means for locking the printing devices.

11. In a cash accounting machine, the combination with a plurality of autographic mechanisms, of a plurality of cash receptacles, a series of indicators, a flash for the indicators, means for actuating the indicators, independent devices for releasing the respective cash drawers and devices for releasing the flash when said indicator actuating means or drawer releasing means are operated.

12. In a cash accounting machine, the combination with a plurality of autographic mechanisms, of a series of independent cash receptacles, a series of indicators, a flash for the indicators, releasing devices for the cash receptacles arranged to also drop the flash, and means connected to the cash receptacle for again raising the flash.

13. In a cash accounting machine, the combination with a plurality of autographic mechanisms, of printing devices for the same, indicators, a common means for setting the printing devices and the indicators, a series of cash drawers, and independent devices for taking an impression from the desired autographic mechanism and releasing the corresponding cash drawer.

14. In a cash accounting machine, the combination with a plurality of autographic mechanisms, of printing devices for the same, indicators geared to the printing devices, a common setting means for the printing devices, a series of cash drawers, a flash for the indicators, and means for taking an impression upon any one of the autographic mechanisms with provisions for releasing the flash and the corresponding cash drawer.

15. In a cash accounting machine, the combination with a series of autographic mechanisms, of printing wheels arranged to print upon the same, a common setting means for said printing wheels, a series of cash drawers, and devices for taking an impression upon any autographic mechanism and releasing the corresponding cash drawer.

16. In a cash accounting machine, the combination with a series of independent autographic mechanisms, independent printing devices for the same, a series of indicators, a series of cash drawers, a common setting means for all of the printing devices

and the indicators, platens for the different printing devices, and independent operating means for said platens arranged to also release the corresponding cash drawers.

17. In a cash accounting machine, the combination with a plurality of independent autographic mechanisms, a plurality of cash receptacles, special clerk's indicators, and devices for operating the respective autographic mechanisms, setting the corresponding clerk's indicators and releasing the corresponding cash receptacles.

18. In a cash accounting machine, the combination with a plurality of adjustable accounting elements, of a plurality of cash safes each having a movable part, independent adjustable locking devices for the accounting elements and means operated by said movable parts for operating said locking devices when any one of the movable parts of the cash safes is out of its normal position.

19. In a cash accounting machine, the combination with the accounting elements, of a plurality of movable cash receptacles, and independently movable locking devices controlled by said receptacles for locking the accounting elements when any one of the receptacles is open.

20. In a cash accounting machine, the combination with a plurality of printing devices each provided with an impression taking means, of a plurality of corresponding cash receptacles, and separate unitary means for operating the impression taking means of any desired printing device and releasing the corresponding cash receptacle.

21. In a cash accounting machine, the combination with a plurality of cash receptacles, of a plurality of corresponding printing devices each provided with an impression taking means, setting means common to all of the printing devices, and separate unitary means for operating the impression taking means of any desired printing device and releasing the corresponding cash receptacle.

22. In a cash accounting machine the combination with a plurality of cash receptacles, of a plurality of corresponding printing devices, indicators, setting means common to all of the printing devices and indicators, and separate unitary means for operating any printing device and the indicators and releasing the corresponding cash receptacle.

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

WILLIAM H. MUZZY.

Witnesses:
WM. O. HENDERSON,
MILDRED MONFORT.