No. 694,527. Patented Mar. 4, 1902.

W. J. CARROLL.

CASH REGISTER.

(Application filed July 29, 1901.)

(No Model.) 3 Sheets—Sheet 1.

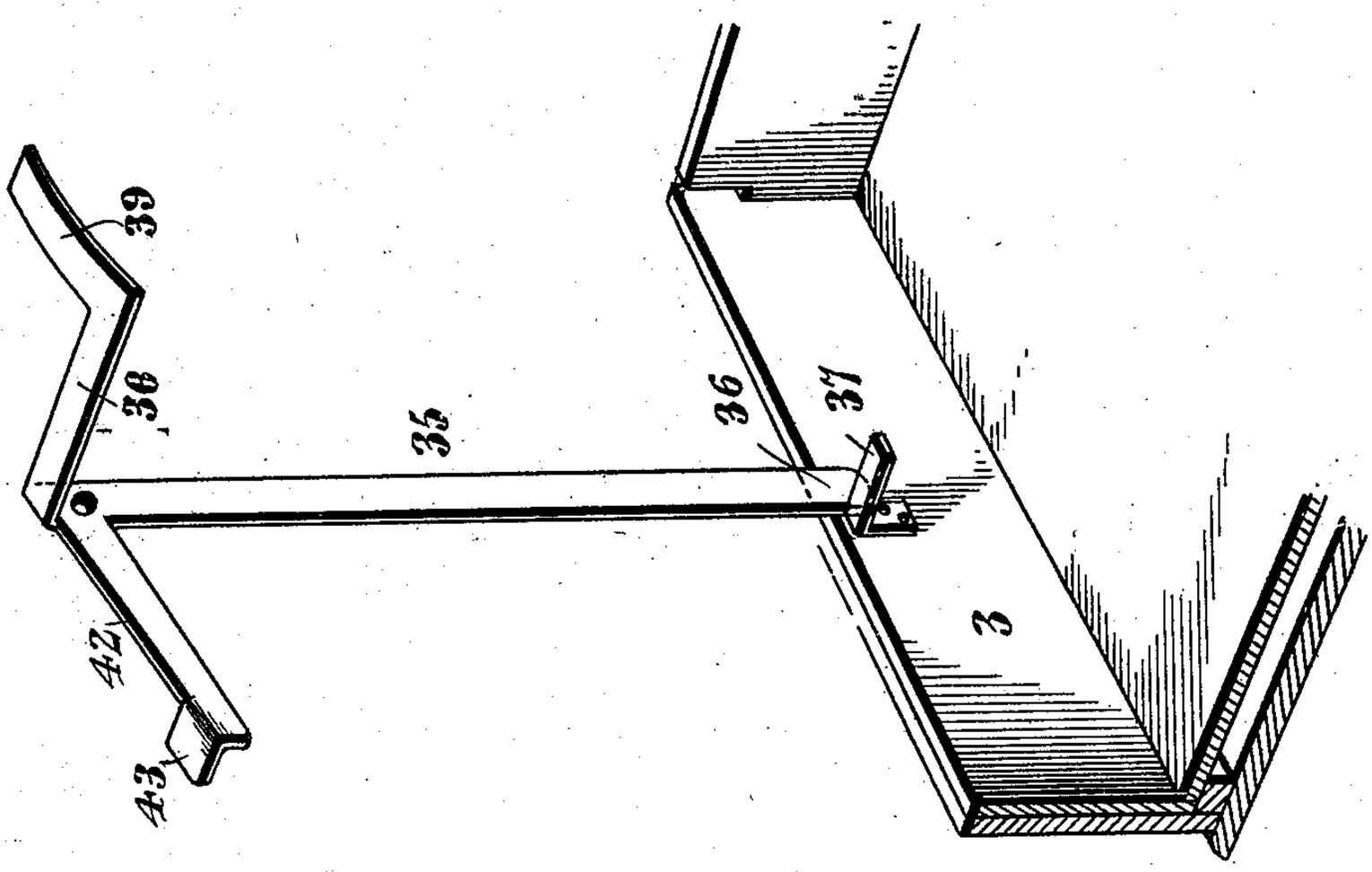

Fig. 7.

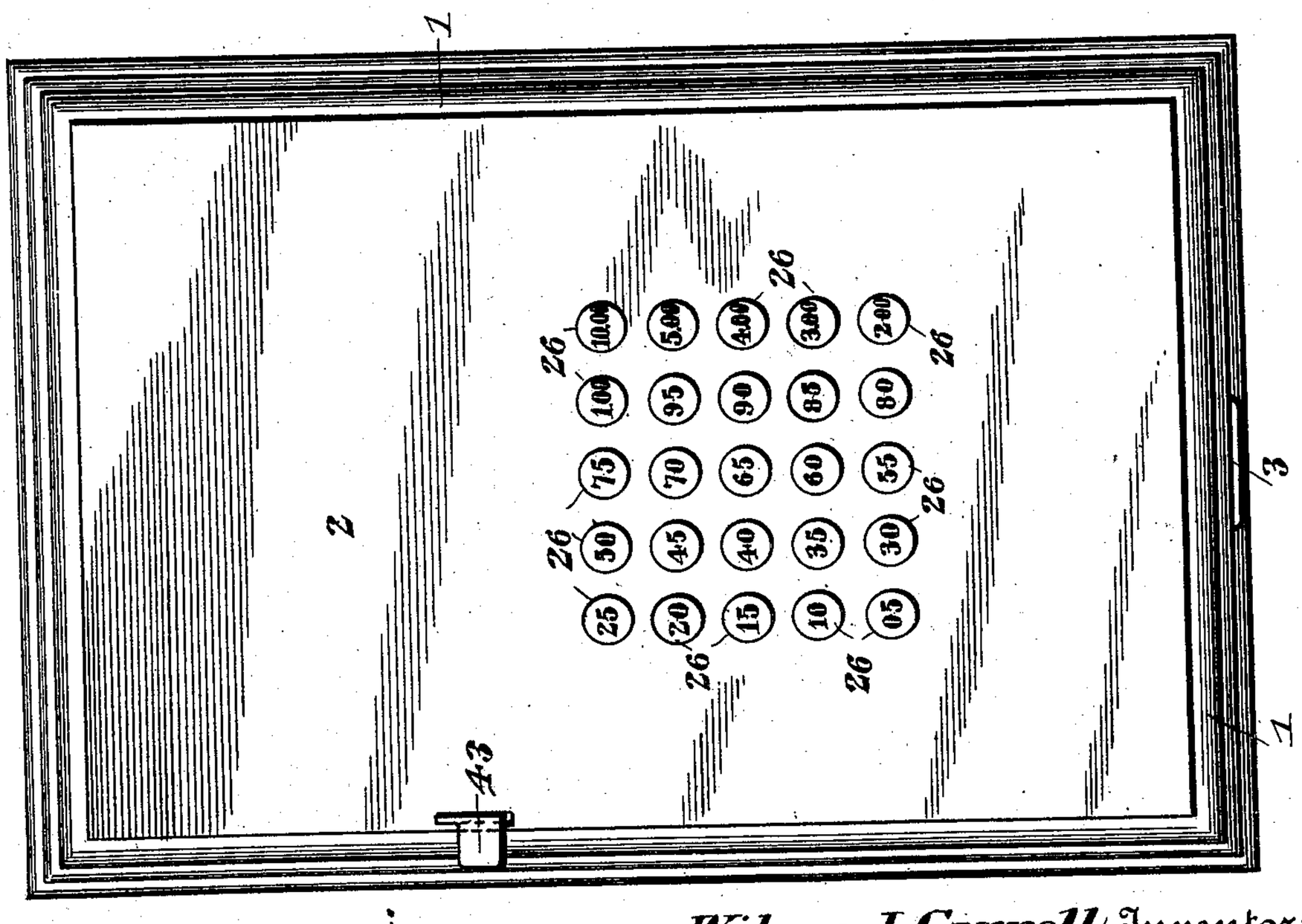

Fig. 1.

Witnesses:
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3 Sheets—Sheet 2.

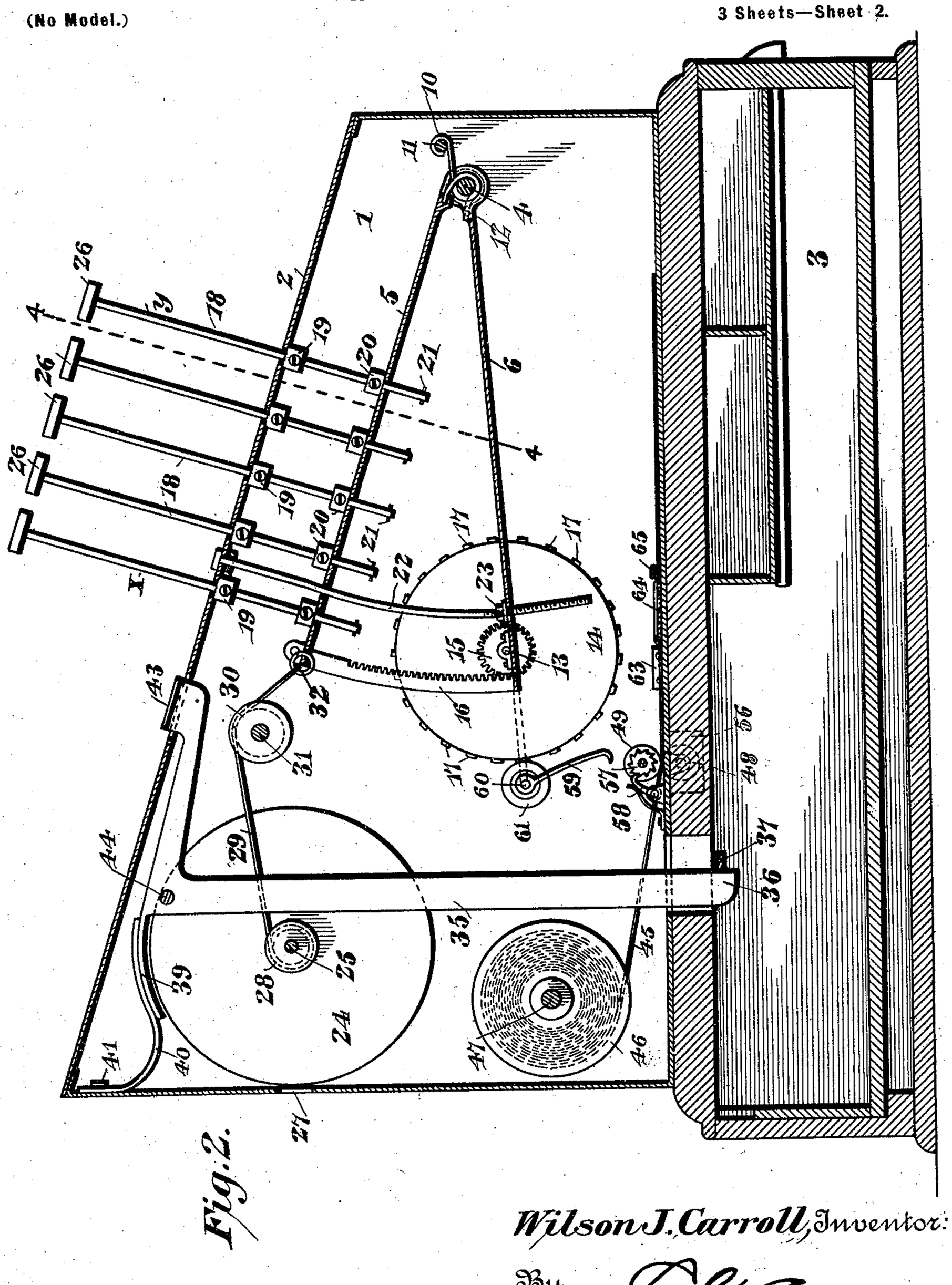

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

Fig. 4.

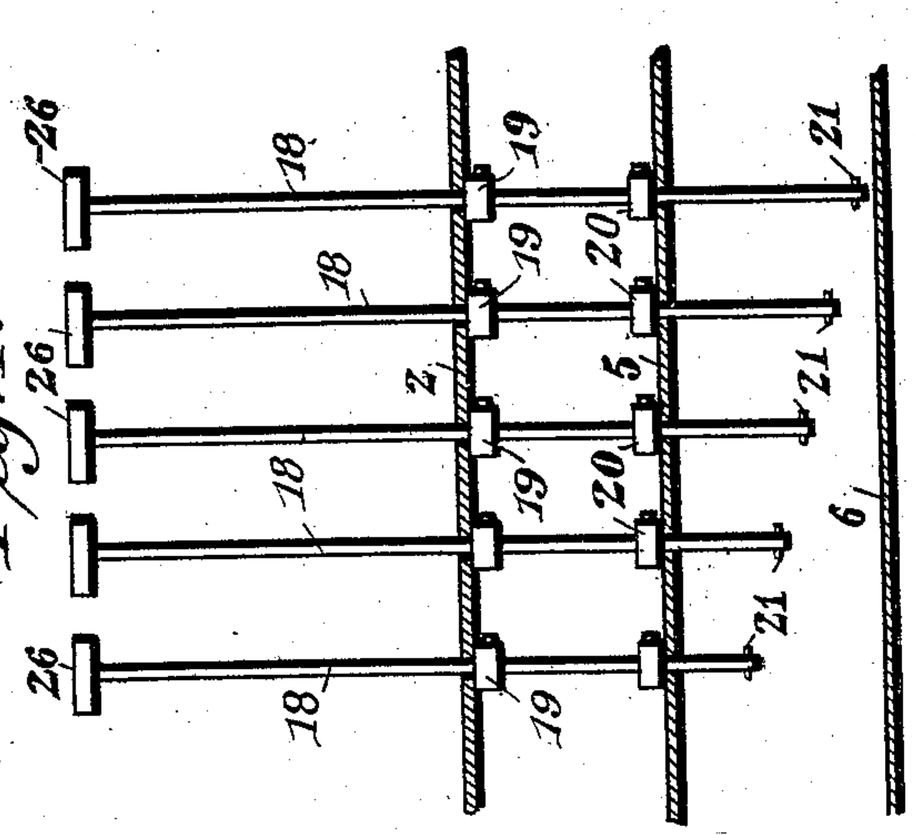


Fig. 5.

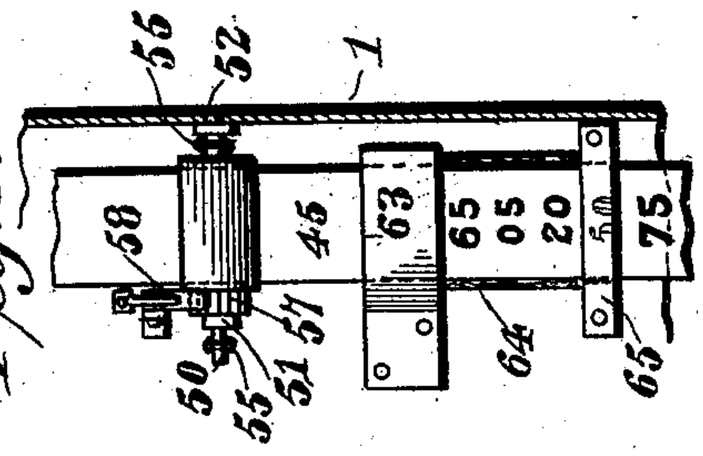


Fig. 6.

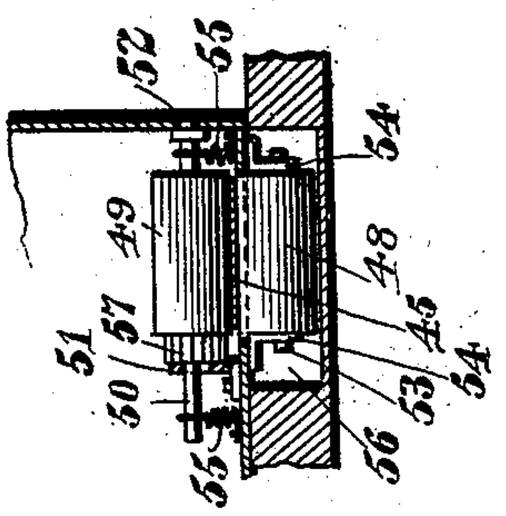
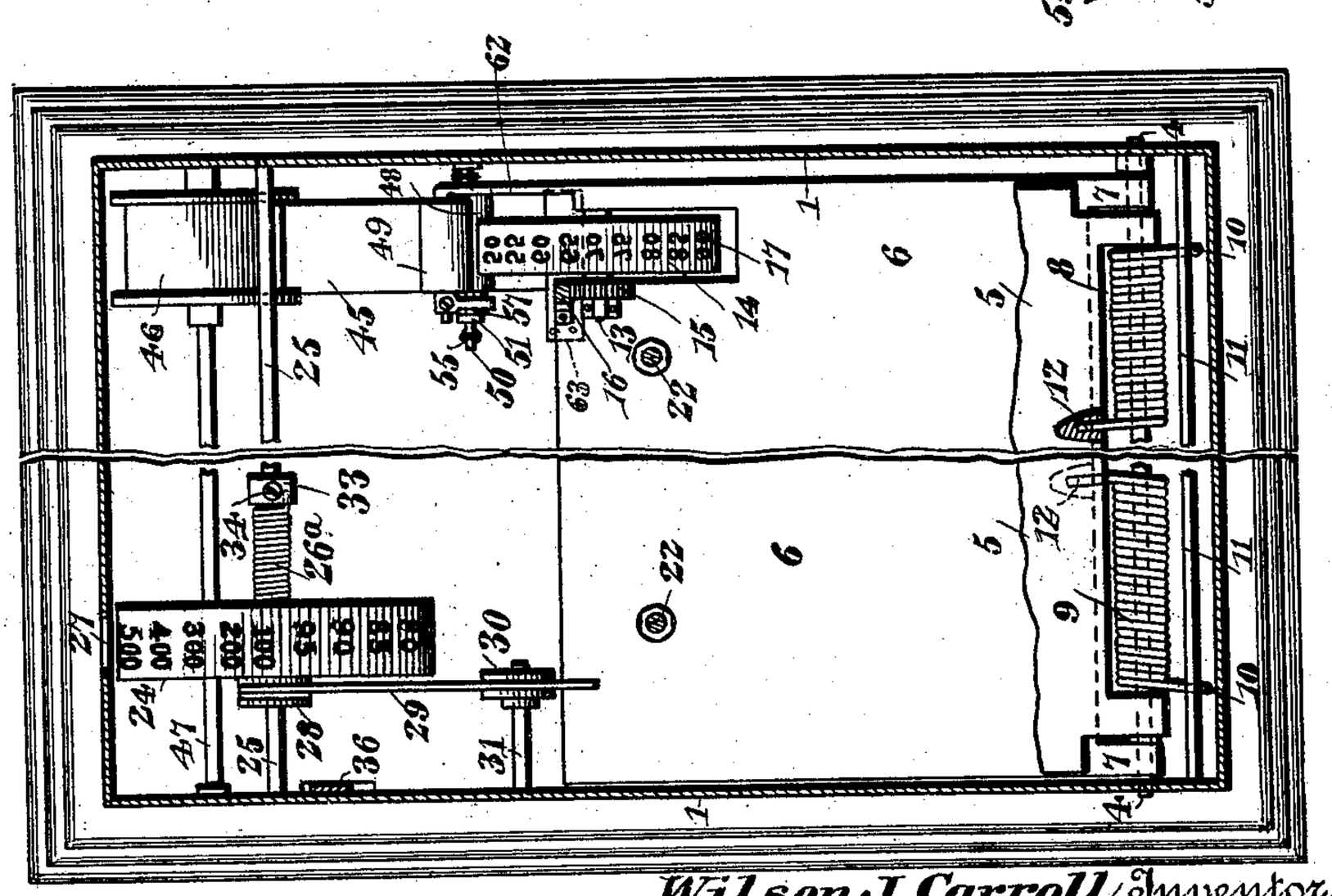


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILSON JOHN CARROLL, OF DENVER, COLORADO.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 694,527, dated March 4, 1902.

Application filed July 29, 1901. Serial No. 70,148. (No model.)

To all whom it may concern:

Be it known that I, WILSON JOHN CARROLL, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Cash-Register, of which the following is a specification.

This invention relates to cash-registers, and more particularly to that class wherein the amount of the sale is recorded by printing the same upon a strip of paper contained within the register.

The object is to present a cheap, simply-constructed, thoroughly efficient, accurate, and durable form of cash-register in which a printed record will be kept of sales as made and in which the amount of each customer's purchase will be presented to view when the sale is recorded and automatically concealed upon return of the recording mechanism to its normal position.

The salient object of the invention is to reduce the number of parts of the register to a minimum and to assemble the combined parts with a view to thoroughly effective and accurate work.

A further object is to present a cash-register adapted more particularly for use in outlying districts, where the employment of the intricate cash-registers in common use is not necessary, and which on account of their high cost cannot in most cases be afforded.

A further object is to operate the impression-strip from the printing-wheel-actuating mechanism on each operation thereof, thus to insure the presentation of a fresh surface for receiving a printed record at each operation of the device.

A further object is to associate the register with a money-drawer in such manner that each time the drawer is closed the sale-indicator, which has previously been actuated to display the amount of sale, will be released, thereby to leave it free to return to its normal position.

A further object is to operate the sale-indicator in such manner as to insure its exposing to view a figure or figures corresponding exactly to the printed record made on the impression-slip.

A further object is to assemble the parts of the apparatus in such manner as practically to obviate their being tampered with by unauthorized persons.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts of a cash-register, as will be hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, I have illustrated a form of embodiment of my invention capable of carrying the same into effect, it being understood that the exact arrangement of parts, their proportions, and the manner in which they coöperate with relation to each other may be modified or changed without departing from the spirit of the invention, and in these drawings—

Figure 1 is a view in plan exhibiting the top of the register-casing, displaying the arrangement of the plunger-keys and also a portion of the lever by which the sale-indicator may be manually released. Fig. 2 is a view in vertical longitudinal section exhibiting the manner in which the different parts of the apparatus are assembled. Fig. 3 is a view in horizontal plan displaying more particularly the printing mechanism and the sale-indicating mechanism. Fig. 4 is a view in transverse section, taken on the line 4 4, Fig. 2, displaying more particularly the manner of arrangement of the plungers. Fig. 5 is a detached detail view in plan, showing more particularly one of the feed-rollers, the shield for preventing an imprint of more than one character on the impression-strip, and the guide for the strip. Fig. 6 is a detail sectional view in elevation displaying more particularly the arrangement of the impression-strip feed-rollers. Fig. 7 is a detached detail view in perspective, showing more particularly the shape of the sale-indicator brake-lever and also the manner in which it coacts with a money-drawer.

Referring to the drawings, 1 designates the casing of the apparatus, the same to be constructed of any suitable material, preferably of metal, and be rectangular in shape with an inclined top 2. As here shown, the register is associated with a money-drawer 3, which

may be of any preferred construction, and therefore needs no further description.

Mounted upon a transverse shaft 4, extending from side to side of the casing, are two plates 5 and 6, the plate 5 constituting a plunger-carrying plate and the plate 6 a printing-wheel-depressing plate. These plates are associated with the shaft in any suitable manner, as by providing the end of each plate with two eyes or guides 7, through which the shaft passes, or these eyes or guides may be separate structures secured to the plates. As here shown, the eyes or guides of the plates 6 are in line with the sides of the plate, and the eyes or guides of the plate 5 are inset in order to lie between those of the plate 6, as clearly shown in Fig. 3. It is to be understood that while this form of mounting the two plates upon their supporting-shaft will be effective for operation I do not desire to limit the invention to this particular arrangement, as other ways for supporting the plates may be employed without departing from the spirit of the invention. The end portion of the plate 5 is cut away to present a recess 8, between which is mounted two springs 9, carried by the shaft 4, these springs being coiled around the said shaft, one end 10 of each spring bearing against a cross-rod 11, secured transversely of the case. The other end 12 of these springs bears one against the under side of the plate 5 and the other against the upper side of the plate 6, as clearly shown in Figs. 2 and 3, thereby causing the plates normally to be held separated in the position shown in Fig. 2. The outer portion of the plate 6 supports a shaft 13, upon which is mounted the printing-wheel 14, the latter having rigidly associated with it a pinion 15 to mesh with a curved rack-bar 16, constituting the printing-wheel actuator carried by the plate 5, as shown in Fig. 2. The printing-wheel is to be made of any suitable material and carries on its periphery the printing characters 17, which in this instance are composed of figures ranging from five cents to ten dollars, as designated by the buttons of the plungers. (Shown in Fig. 1.) It is to be understood that the characters herein exhibited as being carried by the printing-wheel is merely illustrative, as they may be changed to suit the requirements of different cases, or a greater number of plungers may be employed than those shown. The rack-bar 16, as stated, is curved thus to insure proper mesh between it and the pinion 15 throughout the entire arc of movement of the plunger-carrying plate 5, the rack-plate 5 being associated with the plunger-carrying plate in such manner as to render it rigid and thoroughly effective in use.

The mechanism for actuating the plunger-carrying plate to cause it to move through a prescribed arc, thus to bring the desired character on the printing-wheel over the printing-point, comprises a plurality of groups of plungers 18, in this instance twenty-five in number, the succeeding groups from the group containing the five-cent plunger being progressively shorter, this being rendered necessary from the fact that under the construction presented it will require a greater rotation of the printing-wheel 14 to bring, say, the character "$1" over the printing-point than to bring the character "25c." As shown in Fig. 1, each group of plungers is of the same length—that is to say, each of the plungers in the group running from five cents to twenty-five cents projects the same distance below the plunger-carrying plate, as shown in Fig. 4, the same arrangement being observed throughout the succeeding groups. In order to effect proper printing, or, in other words, to cause movement of the printing-wheel through an arc to bring the desired characters over the printing-point for each group of plungers, the angular disposition of the plunger-carrying plate 5 with relation to the printing-wheel-depressing plate 6 is rendered necessary, as it will be readily apparent by reference to Fig. 2 that it will require a greater range of movement of the plate 5 when the plunger *x* of a group is depressed and before the end of the plunger will contact with the printing-wheel-depressing plate than it will for the depression of the plunger *y* before it will contact with the said plate. The arc of movement described by the plunger-carrying plate before the plunger depressed contacts with the printing-wheel-depressing plate will determine the character to be printed, all of which will appear further. To hold the plungers in proper position with relation to the top of the casing and at the same time to prevent too great upward movement, each plunger carries a collar 19, which bears against the under side of the top and will in a manner readily appreciable perform the function designed. To cause printed plungers to effect depression of the plunger-carrying plate 5, each plunger carries a collar 20, rigidly secured therewith and bearing upon the upper side of the plunger-carrying plate 5, and to prevent detachment of the plungers from the plunger-carrying plate when the same is depressed each plunger carries a pin or stop 21, which will contact with the under side of the plunger-carrying plate when the same is depressed. To guide the plunger-carrying plate in a right line with relation to the printing-wheel-depression plate 6, two guides 22 are employed, these being suitably secured to the top of the casing and passing down through openings in the plates 5 and 6, the guides being curved, as shown in Fig. 1, to permit proper operation of the plates. To limit the upward movement of the plate 6, the guides are provided with nuts 23, which bear upon the upper side of the plate 6, as clearly shown in Fig. 2, the upward movement of the plate 5 being checked by the collars 20 on the plungers 18.

The sale-indicator wheel 24 is mounted on a shaft 25, suitably held assembled with the casing, and bears upon its periphery charac-

ters corresponding in number and arrangement with those on the buttons 26 of the plunger, a sight-opening 27 being provided in one end of the casing, through which the number on the sale-indicator wheel opposite the opening may be read. This sale-indicator may be made of any suitable material and the characters associated therewith in any desired manner, as by being painted, printed, or otherwise exhibited thereon. The indicator carries a sheave 28, around which is wound a flexible connection 29, such as a cord or the like, this to pass over the sheave 30, supported on a stud 31, projecting from one side of the casing, the flexible connection 29 being secured to the plunger-carrying plate 5, as by a ring 32, or in any other suitable manner, as shown in Figs. 2 and 3. The shaft 25 carries a coiled spring 26ª, one end of which is connected with the wheel and the other end to a collar 33 upon the shaft, the collar being held from turning thereon by a screw 34, as shown in Fig. 3. The tension of this spring is normally to keep the zero-mark thereon opposite the sight-opening 27 in the casing, so that when the plunger-carrying plate is pressed through the medium of a plunger the indicator will be turned to present the character opposite the sight-opening, in which operation the spring 26 will be placed under tension, whereby upon release of the wheel through the medium of the brake-lever 35 this wheel will, through the medium of the spring 26ª, be automatically returned to its normal position—that is, with the zero or blank portion opposite the sight-opening. The brake-lever 35 comprises a three-armed member, (clearly shown in Fig. 7,) one arm 36 of which extends down into the money-drawer 3 and into the path of movement of a lug or projection 37, secured therein. A second arm 38, extending at right angles to the arm 36, has a curved projection 39 to bear upon the periphery of the sale-indicator, the arm 39 being curved to conform to the indicator and is kept in normal contact therewith by a spring 40, secured to the end of the casing, as at 41. The third arm 42 of the lever extends at right angles to the arm 38 and is provided with a finger-piece 43, which projects through the opening in the top of the casing, whereby it will be in position to be depressed by the finger of the operator, thus manually to effect the release of the sale-indicator wheel. As here shown, the lever 35 is pivoted upon a stud or projection 44, secured to the side of the casing; but any other suitable way of mounting the lever may be employed and still be within the scope of my invention. Where the device is associated with the money-drawer, the arm 36 will be of the length shown to permit it to contact with the lug 37 of the drawer; but should the cash-register be used independently of the money-drawer this arm 36 will not be necessary, as the sale-indicator would then be released through the medium of the thumb-piece 43, above described.

The means for receiving imprints from the printing-wheel comprises an impression-strip 45, which may be a strip of paper of the desired width and wound upon a reel 46, suitably journaled upon a shaft 47 within the casing, this strip passing between feed-rollers 48 and 49, respectively arranged one above and one below the bottom of the apparatus. The shaft 50 of the roller 49 is journaled in this instance at one end in a bracket 51, secured to the bottom of the apparatus, and in a bearing 52, formed in the side of the casing, and the roller 48 has a shaft 53, journaled in hangers 54, secured to the under side of the bottom of the casing, as clearly shown in Fig. 6. To cause the two feed-rollers to bear with sufficient pressure upon each other to effect feeding of the impression-strip 45 through the machine, two coiled springs 55 are employed, one end of each of which is suitably secured to the bottom of the casing and the other end formed into a hook to pass over the shaft 50, as also shown in Fig. 6. This arrangement of springs will be effective for causing the roller 49 to exert a proper pressure upon the roller 48; but it is to be understood that I do not limit the invention to this particular arrangement of pressure-exerting means, as any other form of spring for performing the same function may be employed and still be within the scope of the invention. As here shown, the roller 48 is housed in a chamber 56, formed in the bottom of the apparatus; but the roller may be otherwise arranged, if preferred, without departing from the invention. The roller 48 carries on one end a ratchet-wheel 57, which is normally engaged by a spring-pressed pawl 58 to hold the roller against backward movement. Motion is imparted to the roller 49 through a pawl or catch 59, carried by the outer end of the printing-wheel-depressing plate 6, the pawl 59 being resilient in character, whereby upon downward movement of the plate 6 it will ride over the teeth of the ratchet-wheel 57, and upon upward movement of the plate will rotate the roller 49, and thus feed a length of paper through the machine, automatic disengagement of the pawl 59 from the roller 49 being effected when the tooth of the ratchet-wheel with which it engages assumes a practically vertical position. The pawl 59 is carried by a shaft 60, upon which is mounted an inking-roller 61, normally in contact with the face of the printing-wheel, the shaft 60 being supported by or constituting a portion of an arm 62, secured to the plate 6, as shown in Fig. 3. The surface of the inking-roll is to be of an absorbent character to retain a sufficient quantity of ink to ink the type of the printing-wheel for a considerable period of time, and when the ink is exhausted it may be readily supplied by means of a brush or the like. The impression-strip 45 after passing through the feed-rollers passes under a shield 63, preferably of a resilient character and designed to prevent the impression of more than one

amount upon the strip at a time, and thence the strip passes over a printing-pad 64, of any suitable material, and thence under a guide 65. By coaction between the feed-rollers and the guide 65 the strip is always caused to move in the proper direction to receive an imprint from the printing-wheel, and as the strip is fed through the machine it accumulates in one end thereof, whence it may be removed after the day's work by lifting the top 2 and detaching the printed portion of the strip from the unprinted portion immediately in front of the guide 65.

The operation of the device is as follows: Suppose that a sale has been made amounting to twenty-five cents. To effect recording of this amount, the plunger bearing the button with that number on it is pushed down, thereby depressing the plate 5, and with it projecting downward the printing-wheel actuator, which in turn through the medium of the pinion 15 rotates the printing-wheel. The rotation of the wheel continues until the lower end of the plunger so pushed down contacts with the plate 6, and upon further depression of the plunger the printing-wheel is thrown downward and the character corresponding to that of the button makes an imprint upon the impression-strip. In the downward movement of the plate 6 the pawl 59 rides over the teeth of the ratchet-wheel 57, so that upon release of the plunger and the return of the plates 5 and 6 to their normal positions through the medium of the springs 8 and 9 the pawl 59 will turn the roller 57, and thus feed a length of paper through the machine necessary to receive the next impression. As the plate 5 is depressed the sale-indicator through the flexible connection 29 is rotated against the stress of the spring 26 to bring the number "25" opposite the sight-opening 27, and the wheel will be held at this point through the medium of the brake-arm 39 and spring 40 until the lever 35 is released either by the lug 37 of the cash-drawer or by the depression of the thumb-piece 43, whereupon the spring 26 will immediately exert its power to return the indicator to its normal position. The same operation occurs as the different plungers are actuated, except that the arc described by the plate 5, say, in printing five cents will be less than that described in printing ten cents, and so on up, as will be readily understood. As the impression-strip is fed through the apparatus it will gather up in the rear end thereof, whence, as before stated, it may be removed at the end of each day.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is—

1. A cash-register comprising a frame composed of two yieldingly-supported members movable independently of each other, printing mechanism carried by one of the members, and groups of plungers carried by the other member, the plungers of the different groups, in progressive order, projecting different distances below the plunger-supporting plate.

2. A cash-register comprising a frame composed of two yieldingly-supported members movable independently of each other, printing mechanism carried by one of the members, plungers carried by the other member to actuate the printing mechanism, a sale-indicator, and a flexible connection between the sale-indicator and the plunger-carrying member.

3. A cash-register comprising two spring-pressed diverging plates, a printing-wheel, and inking means therefor carried by one plate, and means carried by the other plate to actuate the printing-wheel.

4. In a cash-register, a casing, a shaft carried thereby and supporting two plates arranged at an angle to each other, a plurality of groups of plungers carried by one of the plates and arranged to contact with the other plate to actuate the same, each plunger of all the groups being movable through a different arc of a circle, printing mechanism carried by the last-named plate, and means carried by the plunger-carrying plate to actuate the printing mechanism.

5. A cash-register comprising a casing, printing mechanism, means for actuating the latter, an indicator-wheel movable upon actuation of the printing mechanism to exhibit the amount of the sale, a lever having a portion to bear upon the sale-indicator to hold it in a shifted position, an arm to release the sale-indicator, and means for returning the indicator to its normal position.

6. The combination with a money-drawer, of a cash-register comprising printing mechanism, and means for actuating the same, an indicator-wheel movable upon actuation of the printing mechanism to exhibit the amount of the sale made, a spring-pressed brake-lever having a part to engage the sale-indicator, and a projection to extend downward into the path of movement of the money-drawer, an abutment on the money-drawer to move the lever to release the indicator when the drawer is moved in, and means for returning the indicator to its normal position.

7. In a cash-register, a two-membered supporting-frame, one of the members bearing printing mechanism and the other a plurality of plungers, operating mechanism connecting the plunger-bearing member with the printing-wheel, whereby upon depression of said member, the printing-wheel will be shift-

ed to bring the appropriate type over the printing-point, a reel bearing a strip of paper to be passed under the printing-point of the wheel, feeding mechanism for the strip, and means carried by the wheel-carrying member to engage with the feeding mechanism to effect feeding of the strip through the machine.

8. In a cash-register, the combination with a movable printing-wheel plate, and a printing-wheel mounted thereon for movement therewith, of a movable plunger-carrying plate disposed above the printing-wheel plate, a plurality of plungers extended through the plunger-carrying plate and disposed to contact with the printing-wheel plate, and means operated by the relative movement of the plates for rotating the printing-wheel, whereby the depression of a plunger will effect predetermined relative movement of the plates to properly position the printing-wheel, and said plunger will then contact with the printing-wheel plate to depress the latter for the purpose of presenting the printing-wheel at the printing-point.

9. In a cash-register, the combination with a movable printing-wheel plate, and a printing-wheel carried thereby, of an independently-movable plunger-carrying plate disposed above the printing-wheel plate to rotate the printing-wheel, and a plunger disposed to impart independent movement to the plunger-carrying plate and extended below the same, for subsequent direct contact with the subjacent printing-wheel plate to depress the latter for the purpose of presenting the printing-wheel to the printing-point.

10. In a cash-register, the combination with a printing-wheel plate and a plunger-carrying plate swung from a common axis and capable of independent movement, of a printing-wheel carried by the printing-wheel plate and provided with a pinion, a rack meshing with said pinion and disposed for actuation by the plunger-carrying plate, and a plunger disposed to impart independent movement to the plunger-carrying plate to operate the rack-bar, and extended below said plate for direct contact with the subjacent printing-wheel plate subsequent to the independent movement of the plunger-carrying plate, and preparatory to the depression of the printing-wheel.

11. In a cash-register, the combination with a printing-wheel plate, and a printing-wheel carried thereby, of a superposed plunger-carrying plate, mechanism operated by the relative movement of the plates for effecting the rotation of the printing-wheel, and a plurality of plungers extended through the plunger-carrying plate, and terminating at different distances from the printing-wheel plate, whereby the relative movement of the plates will be limited by the contact of the plunger with the printing-wheel plate prior to the depression of the printing-wheel.

12. In a cash-register, the combination with a movable printing-wheel plate, and a printing-wheel carried thereby, of a superposed independently-movable plunger-carrying plate, a plunger passed through the plunger-carrying plate and extended below the same for contact with the printing-wheel plate after predetermined independent movement of the plunger-carrying plate, and means for rotating the printing-wheel through the initial movement of the plunger.

13. In a cash-register, the combination with a movable printing-wheel plate, and a printing-wheel carried thereby, of an independently-movable superposed plunger-carrying plate, said plates being disposed in divergent relation, several groups of plungers extended through the plunger-carrying plate and disposed to directly engage the printing-wheel plate to depress the latter, each of said groups of plungers projecting different distances below the plunger-carrying plate, and means for rotating the printing-wheel through the initial movement of any one of the plungers.

14. In a cash-register, the combination with a movable printing-wheel plate, and a superposed independently-movable plunger-carrying plate, said plates being disposed in divergent relation, of a printing-wheel carried by the printing-wheel plate, several groups of plungers extended through the plunger-carrying plate, and disposed to contact with the printing-wheel plate, the individual plungers of each group terminating at different distances from the printing-wheel plate, and the several groups of plungers being extended to different distances below the plunger-carrying plate, and means for rotating the printing-wheel through the relative movement of said plates.

15. In a cash-register, the combination with a swinging printing-wheel plate, and a printing-wheel carried thereby, of a paper-carrier designed for the support of an impression-strip extended from said carrier and passed under the printing-wheel, feeding mechanism for said strip, and means carried by the printing-wheel plate for operating the feeding mechanism as the printing-wheel is withdrawn from the strip.

16. In a cash-register, the combination with a swinging printing-wheel plate, a printing-wheel carried thereby, and a paper-carrier, designed to support an impression-strip extended under the printing-wheel from said carrier, of feeding mechanism for said strip, a device operated by the printing-wheel plate for actuating the strip-feeding mechanism, a plunger disposed to contact with the printing-wheel plate to depress the same, and having independent initial movement, means for rotating the printing-wheel through the initial movement of the plunger, and means for retracting the printing-wheel.

17. In a cash-register, the combination with a spring-retracted printing-wheel, and means for urging said wheel in opposition to the spring, to present the wheel to an impression-

strip led under the printing-wheel, of feed mechanism for said strip, and means operated by the retraction of the printing-wheel for effecting the actuation of the feeding mechanism.

18. In a cash-register, the combination with a printing-wheel plate, and a printing-wheel carried thereby, of a plunger disposed to rotate the printing-wheel and to subsequently depress the printing-wheel plate, an indicator, means operatively connecting the plunger and indicator, and means for holding the indicator against movement when the plunger is retracted, and a plurality of independent devices for effecting the release of the indicator.

19. In a cash-register, the combination with a printing-wheel plate and a printing-wheel carried thereby, of a plunger disposed to depress the plate, an indicator operatively related to the plunger for actuation thereby, and means for holding the indicator against movement when the plunger is retracted, and a money-drawer disposed to release said holding means to permit the return of the indicator to its normal position.

20. In a cash-register, the combination with a printing-wheel plate, and a printing-wheel carried thereby, of a superposed independently-movable plunger-carrying plate, a plunger arranged to impart independent movement to the plunger-carrying plate and to subsequently depress the printing-wheel plate, an indicator designed to exhibit a character corresponding to the character to be printed, and mechanism operatively connecting the plunger-carrying plate with the printing-wheel and indicator, respectively, the connection between the plunger-carrying plate and the indicator comprehending a flexible element, whereby the plunger-carrying plate may be retracted without necessitating corresponding movement of the indicator.

21. In a cash-register, the combination with a printing-wheel plate, and a printing-wheel carried thereby, of a superposed independently-movable plunger-carrying plate, a plunger disposed to operate the plunger-carrying plate and to subsequently contact with the printing-wheel plate to depress the same, means for effecting the rotation of the printing-wheel through the independent movement of the plunger-carrying plate, a rotary indicator designed to exhibit a character corresponding to the character to be printed, a flexible connection between the plunger-carrying plate and the indicator, whereby the indicator is operated by the depression of the plunger-carrying plate, but may be retained stationary during the retraction of said plate, a brake device disposed to retain the indicator in its set position, and means for automatically returning the indicator to its initial position upon the release of the brake device.

22. In a cash-register, the combination with a printing-wheel plate, and a printing-wheel carried thereby, of an inking-roll contacting with the wheel, and means for rotating the wheel and depressing the plate.

23. In a cash-register, the combination with printing mechanism, an indicator, and means for imparting simultaneous movement to the printing mechanism and indicator, whereby the indicator will exhibit a character corresponding to the character to be printed, of a retaining device independent of the printing mechanism, for retaining the indicator in its set position, and a money-drawer operatively related with said retaining device to effect its actuation and the consequent release of the indicator, and a finger piece or key likewise operatively related to the retaining device to permit the actuation thereof independently of the drawer.

24. In a cash-register, the combination with a printing-wheel plate, and a printing-wheel disposed for depression thereby, of a superposed plunger-carrying plate, means for rotating the printing-wheel through the independent movement of the plunger-carrying plate, and a plunger disposed to impart such independent movement to the plunger-carrying plate and to thereafter engage the subjacent printing-wheel plate to move the latter for the purpose of depressing the printing-wheel.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILSON JOHN CARROLL.

Witnesses:
R. T. CASSELL,
WM. B. THOMPSON.