

J. F. LYNCH.
CHECK RECEIVING AND SALES INDICATING MACHINE.
APPLICATION FILED SEPT. 8, 1908.

930,872.

Patented Aug. 10, 1909.
2 SHEETS—SHEET 1.

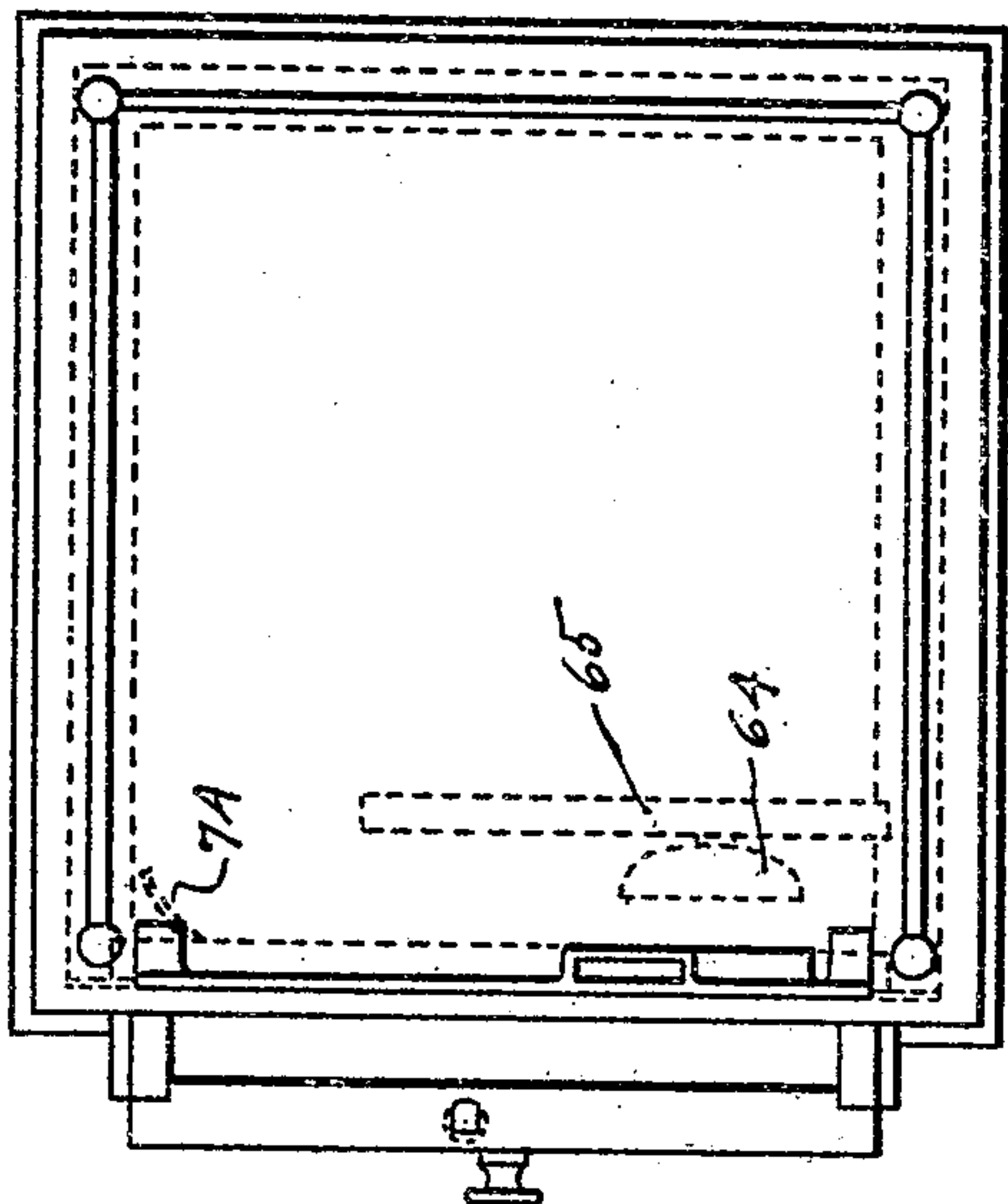


Fig. 2.

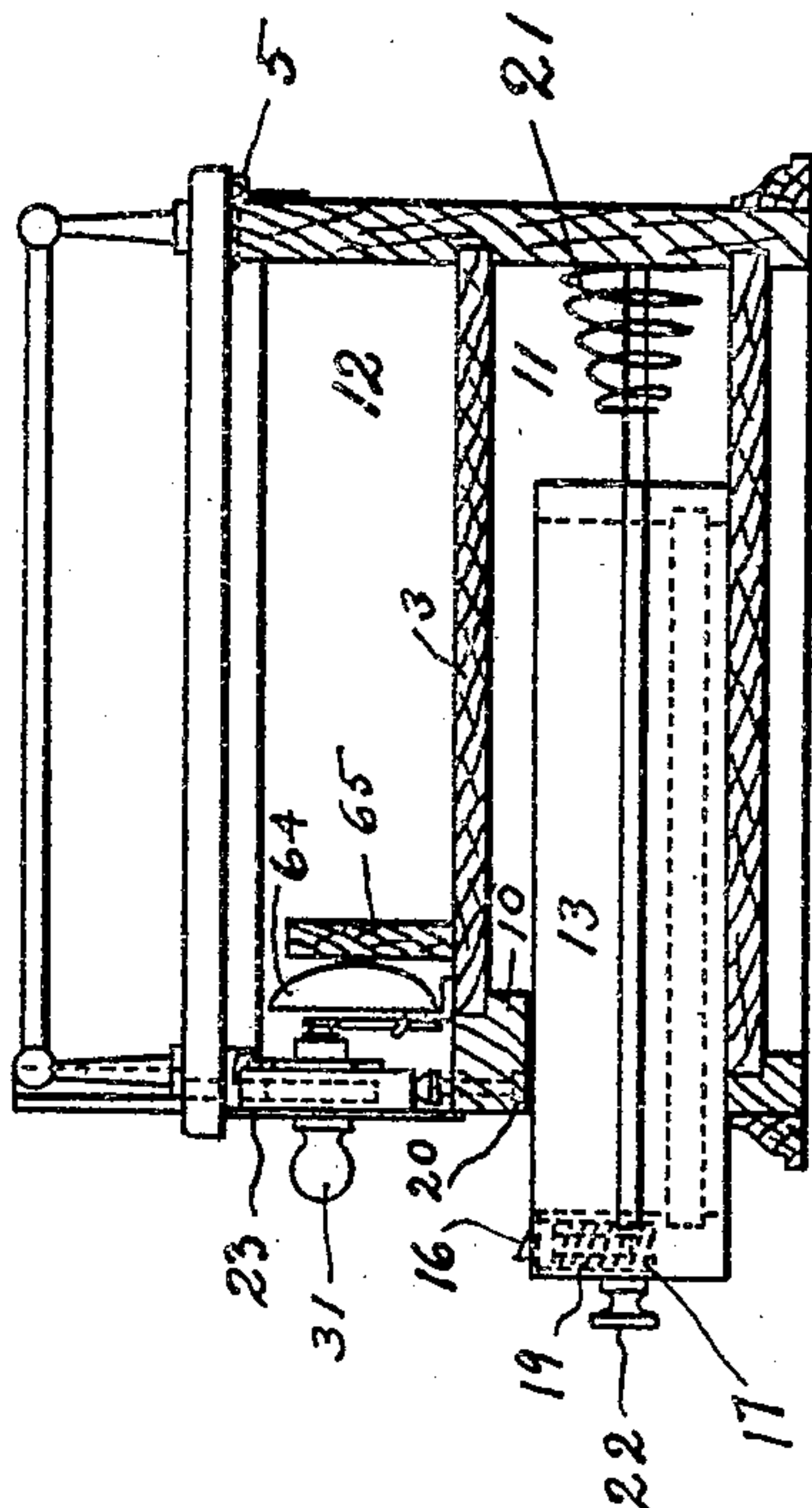


Fig. 3.

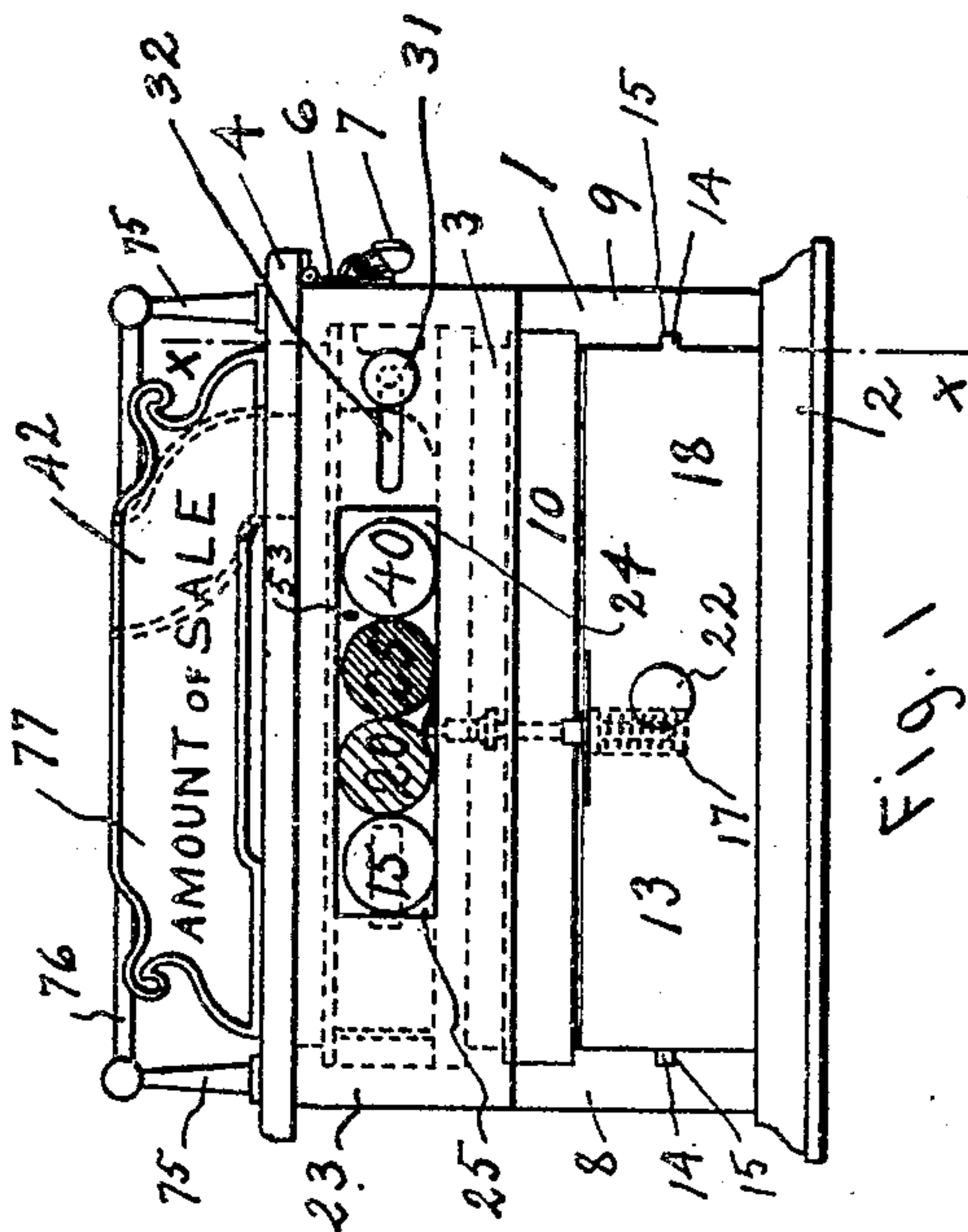


Fig. 1.

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2 SHEETS—SHEET 2.

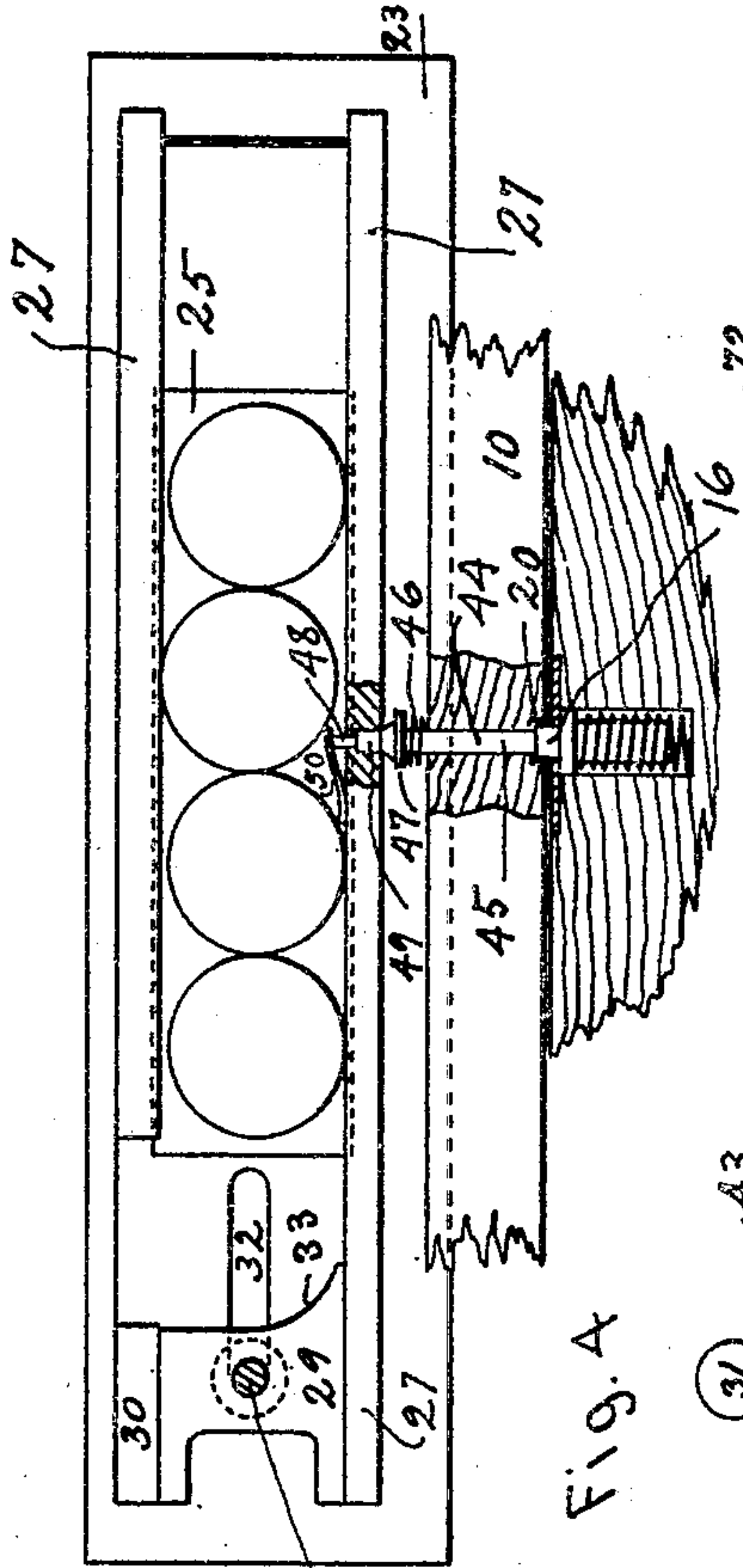


Fig. 4

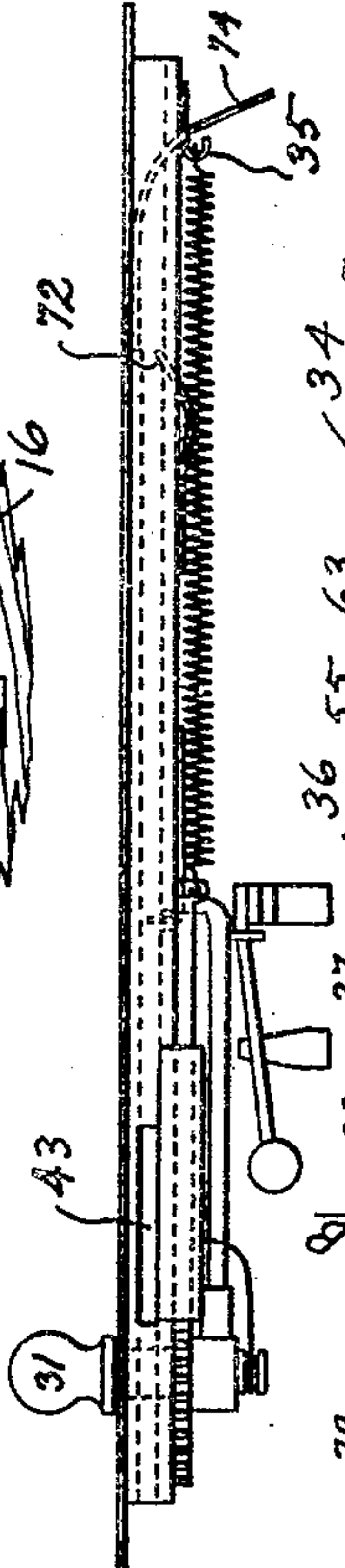


Fig. 5

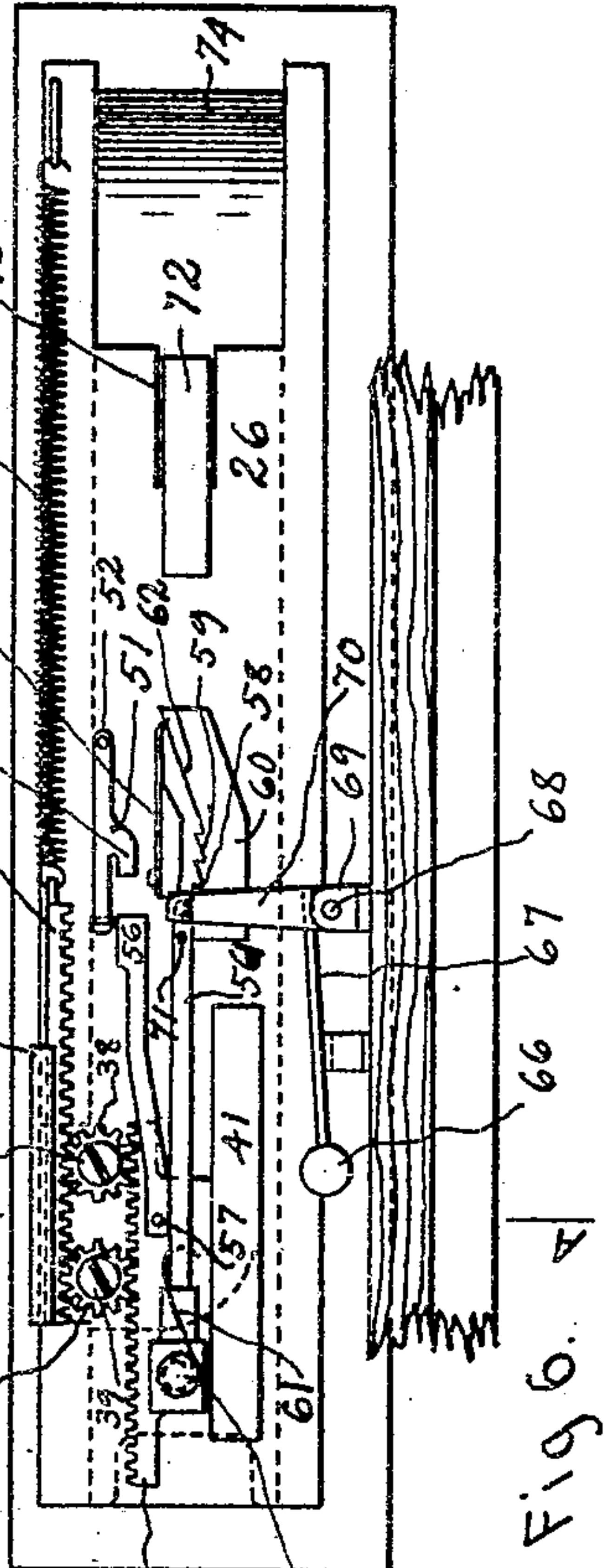


Fig. 6

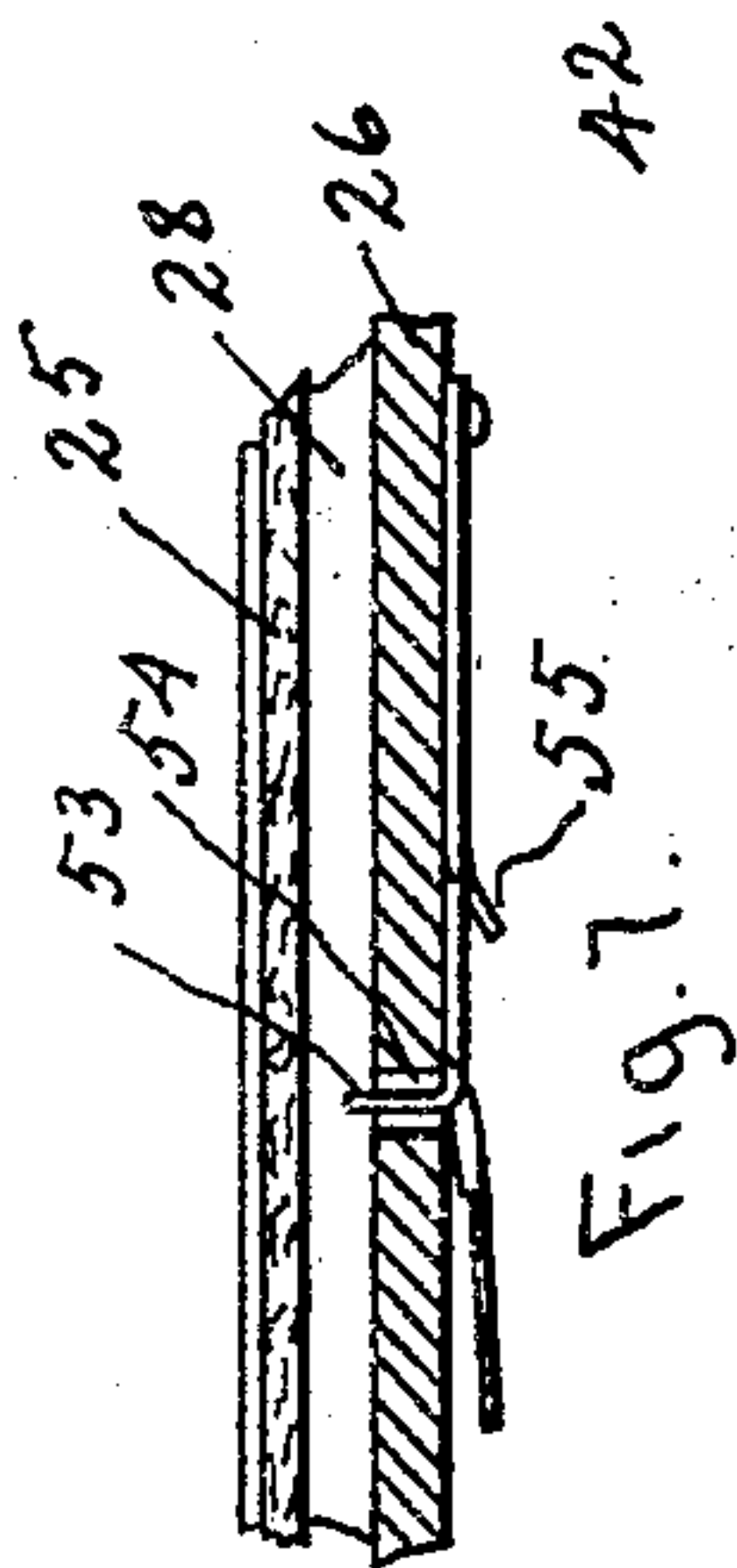


Fig. 7

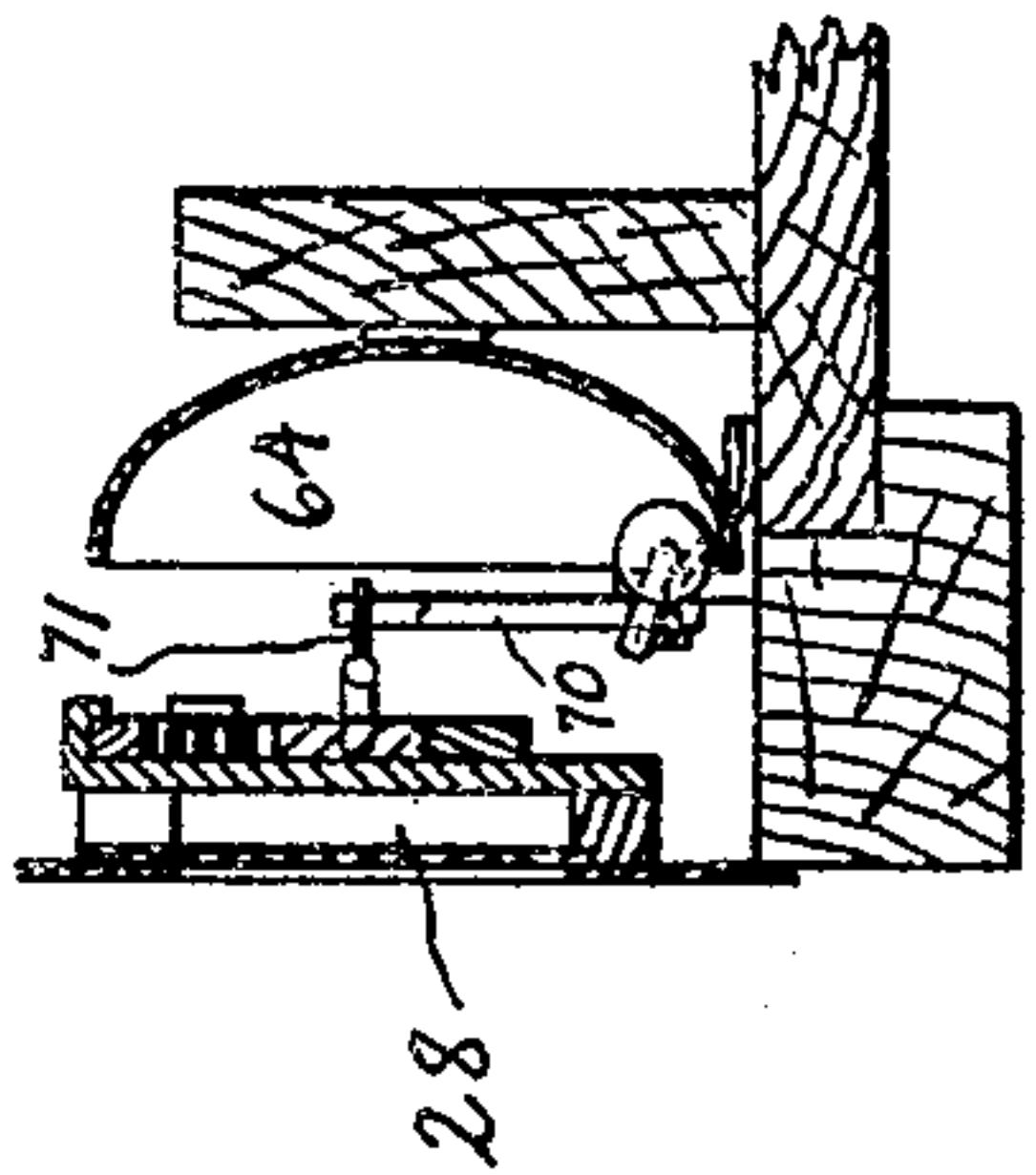


Fig. 8

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UNITED STATES PATENT OFFICE.

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CHECK-RECEIVING AND SALES-INDICATING MACHINE.

No. 930,872.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed September 8, 1908. Serial No. 452,054.

To all whom it may concern:

Be it known that I, JAMES F. LYNCH, a citizen of the United States, residing at Swampscott, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Check-Receiving and Sales-Indicating Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to a check receiving and sale indicating receptacle and it has for its object to provide in compact form a case or cabinet containing a cash drawer or receptacle and a check receptacle to receive one at a time the circular disks or checks now so commonly used by barbers and soda dispensers, so constructed and arranged that one or more of the last checks inserted will be exposed to view, thus indicating the amount of one or more of the last sales made, so constructed and arranged that the cash receptacle can be opened only by the advance movement of the checks as they are inserted and progressively advanced along their race-way or passage.

Further objects of the invention will appear in connection with the description of its construction and mode of operation.

The invention, therefore, consists of the devices and combinations of devices which will be hereinafter described and claimed.

The present invention is shown in the accompanying drawings, in which:—

Figure 1 shows a front elevation of the device. Fig. 2 shows a top plan view with the cash drawer open. Fig. 3 shows a sectional view taken on the dotted line $x-x$, Fig. 1. Fig. 4 shows a rear view of the race-way for the checks with the back plate removed and also showing the mechanism for operating the cash drawer release. Fig. 5 shows a top plan view of the check race-way and the operating mechanism removed from the machine. Fig. 6 shows a back view of the mechanism shown in Fig. 5. Fig. 7 shows in a longitudinal sectional view the safety detent for preventing the irregular advance of the line of checks. Fig. 8 shows a detail of the alarm mechanism which indicates the operation of the check advancing mechanism.

Similar reference characters will be employed throughout the specification and drawings to designate corresponding parts.

The device comprises a case 1 having a bottom 2 and intermediate partition 3, and a top 4, the whole being substantially rectangular in shape and constructed of any suitable material, either wood or metal. The top 4 will be preferably hinged at 5 so that it may be raised to remove the checks from the check receptacle when desired, and it may be held securely fastened by any suitable fastening means, such as the hasp and bail 6 and the lock 7, all as clearly shown in Fig. 1 of the drawing. At the front of the case and between the sides 8 and 9 there extends a cross bar 10, the forward edge of the partition resting upon the cross bar 10, as clearly shown in Fig. 3. The construction thus far described forms two chambers or recesses 11 and 12, the chamber 11 receiving the cash drawer 13 and the chamber 12 adapted to receive the checks as they are progressively inserted and advanced along and discharged from their race-way. The cash drawer 13 may be of any usual or preferred construction, and it is arranged to slide between the sides 8 and 9 and the cross bar 10 and the bottom 2, and if desired it may be provided with the longitudinal ribs 14 arranged to take into grooves 15 formed upon the inner surface of the sides 8 and 9.

To normally hold the cash drawer locked, it is provided with a beveled bolt 16, arranged in a vertical recess 17 in the front 18 of the drawer, which bolt 16 is normally held elevated by a spring 19 contained in the recess 17, the beveled end of the bolt engaging a locking recess 20 in the under side of the cross bar 10. (See Figs. 1, 3 and 4.) When the drawer is pushed in, the locking bolt 16 engaging the recess 20 will hold the drawer locked and as will be hereinafter described it cannot be unlocked until a disk or check is introduced and the line of checks advanced, which advancement of the line of checks will, through the mechanism to be hereinafter described, release the bolt 16 and permit the coiled spring 21 fastened at the back of the chamber 11 and bearing against the back of the cash drawer 13, to project or partially open the drawer, as shown in Fig. 3 of the drawing. The front of the drawer will be preferably provided with a suitable hand-

hold or knob 22. It will be understood that the cash drawer may have any suitable form of partitions or cash receptacles.

The check receiving chamber 12 is closed at the front by a plate, 23, preferably formed of metal and said plate will be provided with an opening 24 of a length to expose one or more of the circular or other shaped disks or checks, that shown in the drawing being constructed of a size to expose four such checks, as clearly indicated in the drawing. The opening 24 in the plate 23 will be covered by a transparent panel 25, which may be made of any suitable transparent material, preferably glass, so as to expose the checks remaining in the race-way. A back plate 26, also formed of metal, is firmly secured to the plate 23 or to the longitudinal guides 27, connected to the plate 23, thus forming a passage or race-way 28 of a height corresponding approximately to the diameter of the checks and of a width corresponding approximately to the thickness of the checks, so that the checks will be caused to pass along the race-way 28 in a single line. To advance the line of checks along their race-way 28 there is provided a slide 29 arranged to slide between the guide 27 and a similar guide 30 attached to the back of the plate 23, and the slide 29 is provided with a knob or handle 31, the shank of which passes through a slot 32 formed in the plate 23, and connected to the slide 29. The slot 32 is of a length to permit sufficient movement of the slide to advance a distance corresponding to the diameter of a single check. Thus, as shown in Fig. 4 of the drawing, should another check be inserted between the forward curved edge 33 of the slide and the next adjacent check, the advancement of the slide toward the right would, through the intervention of the inserted check, cause an advance movement of the line of checks, so as to eject from the race-way the check at the extreme right of the line of checks, and cause the inserted check to be moved to the position of the check at the extreme left of the line of checks, as shown at Fig. 4. Thus, it will be seen that at each reciprocation of the slide 29, the line of checks will be advanced a distance corresponding to the diameter of a single check. The slide 29, it will be understood, is moved to advance the line of checks by the operator grasping the knob 31 and pushing it toward the left, as shown in Fig. 1, but it is retracted by means of the coiled spring 34 one end of which is fastened to a hook at 35 and the opposite end to a rack bar 36, the rack bar being arranged to slide along a suitable guide way 37 and engaging a pair of pinions 38 mounted upon screws 39 connected to the back plate 26. The pinions 38 also mesh with a rack bar 40 arranged to slide along a suitable guide 41 attached to the back plate 26, and connected to the shank

42 of the knob 31. The foregoing arrangement is such that when the knob 31 and its connected slide 29 are moved toward the right, as shown in Fig. 6, it also advances toward the right the rack bar 40, which revolves the pinions 38, causing the rack bar 36 to be moved in the opposite direction to the direction of movement of the rack bar 40, thus drawing upon the spring 34 which, when the knob 31 is released, will cause a reverse operation of the rack bar 36, the pinions 38 and rack bar 40 to return the slide 29 to its original or starting position, as shown in Fig. 4. A chute 42 is provided which leads through an opening 43, whereby a single check may be dropped into the receptacle and by gravity fall into the space between the forward edge 33 of the slide 29 and the next adjacent check in the line of checks.

Fitted in a vertical bearing 44 formed in the cross bar 10 is a plunger 45, the lower end of which is arranged to engage and rest upon the locking bolt 16 of the cash drawer and this plunger 45 is normally held elevated by a light spring 46, engaging a collar 47 on the plunger 45. The upper end of the plunger has a post 48 which passes through an opening 49 in the guide 27 and engages a light flat spring 50 fastened to the upper edge of the guide 27 and which projects into the path of movement of the checks, so that when the checks are advanced along their passage or race-way 28 they will as they pass over the spring 50 depress the plunger 45 against the tension of its spring 46 and cause said plunger to depress the locking bolt 16, whereupon the cash drawer will be projected by the spring 21, as shown in Fig. 3 of the drawing.

It will be observed that no means are shown for releasing the cash drawer except through the instrumentality of the advancing checks projected along the race-way by the slide 29, and that said slide 29 will be ineffective unless a check is interposed between the slide and the next adjacent check in the race-way, so that no amount of movement of the slide without the interposed check will cause any operation or any movement either of the checks which have been inserted in the race-way or the locking mechanism of the cash drawer. So that if for any purpose access is desired to the cash drawer it can only be secured by the insertion of a check representing a sale, or by a blank check, if such should be provided.

The checks generally bear upon their sides figures denoting their value or the amount of sales, and therefore the amount of the latest sale or several of the later sales can be determined by an inspection of the line of checks exposed to view through the transparent panel, as clearly shown in Fig. 1 of the drawing. So that the purchaser or customer and the owner of the shop whenever

the cash drawer is released and the mechanism operated, will be able to determine by looking at the last check inserted (which is the one at the right of the line in Fig. 1) the amount of the purchase.

It is of course important that the checks cannot be advanced in an irregular manner, as by the insertion of a hooked wire or other implement, and to insure against this irregular advancement of the line of checks there is provided a pawl or detent 51 made of spring metal and fastened at 52 to the back of the plate 26 and provided at its forward end with a point or projection 53, which passes through an aperture 54 in the back plate 26, and projects some distance into the passage or race-way 28, as shown in Figs. 1, 6 and 7 of the drawing. This detent 53 is interposed between the last check advanced and the next adjacent check and effectually prevents the advancement of the line of checks by engaging the last check advanced so that they cannot be advanced until the detent is retracted. To retract the detent it is provided with a projecting finger 55 along its lower edge, which is arranged to be engaged by the forward end of a bar 56 fastened at 57 to a plate carrying the rack bar 40, and projecting in advance of the rack bar and normally in close juxtaposition to the finger 55, so that at the first movement of the slide 29 the bar 56 will pass under the finger 55 to retract the detent 53 to permit the line of checks to pass and upon the retraction of the slide 29 by means of the spring mechanism which has been described, the spring detent 53 will automatically assume the position shown in Fig. 7.

It being understood from the foregoing that no advance movement of the checks can take place until a check is inserted between the slide 29 and the last check which was advanced it is essential that when once an advance movement of the checks is started, the slide cannot be retracted until it has made a complete stroke to the extent allowed by the length of the slot 32, in order that the last check inserted may be advanced to the position shown by the check marked 40, in Fig. 1, and the check at the extreme left ejected from the passage or race-way 28 into the check receptacle 12, and to secure this result there is provided a safety device consisting of a lever 561 pivoted at 571 to the plate carrying the rack bar 40, and carrying at its forward end a pawl 58, which pawl is normally held in engagement with the ratchet teeth 59 of a plate 60 by means of a light spring 61. Thus as the slide is advanced the arm 56 by means of the spring 61, will be thrown down to engage the teeth 59 of the plate 60, and thus when started in its advance movement, unless the slide is moved to the full extent it cannot be retracted to its

starting position, for the pawl 58 engaging the teeth 59 effectually prevents such retractive movement. However, when moved to the full extent in the direction to advance the checks, the arm 56 will be elevated by means of the inclined forward end 62 of the plate 60, and passing off of the plate 60 will be prevented from again engaging said plate by means of the spring pawl 63, which, as soon as the end of the arm 56 carrying the pawl 58 passes beyond and off of the beveled end 62 of the plate 60, drops down to the position shown in Fig. 6 and causes the end of the arm 56 to pass over the upper surface of the pawl 63, in order to resume its normal position. So that when once the advance movement of the slide 29 is started, said slide will not be permitted to resume its starting position until the arm 56 with its pawl 58 has passed beyond the plate 60 and retracted above the pawl 63, at which time the spring 61 will cause the arm 56 to drop to the position shown in Fig. 6, in position for another operation.

It is desirable that every operation of the slide and cash drawer shall be indicated by a suitable signal and for this purpose I have provided a gong or bell 64, fastened to partition 65 located in the check receptacle 12 and adjacent to and parallel to the plate 23, the said partition, as shown in Fig. 2, being somewhat shorter than the distance across the receptacle, whereby the checks as they are ejected from the race-way may be thrown back of the partition, as will be hereinafter described.

The gong is sounded by a hammer 66 carried by one arm, 67, of a bell crank lever, pivoted at 68 to a stand 69. The other arm, 70, of the bell crank lever projects vertically and in position to be engaged by a finger 71 carried by the arm 56, so that as the arm is advanced by the advancement of the slide, the finger 71 engages the arm 70 of the bell crank lever, rocking it about its pivot 68, thus raising the hammer 66, so that when the finger 71 passes off and releases the arm 70 of the bell crank lever, the hammer 66 will be permitted to drop by its own weight under the force of gravity and strike the gong 64, a single blow, thus warning and signaling to the purchaser or owner of the shop that the apparatus has been operated and the cash drawer released and opened.

In order to prevent the line of checks from being advanced along the race-way improperly, as by lifting the apparatus and tipping it in the attempt to slide the checks from the race-way or passage 28, the rear or inner end of the passage will be provided with a spring detent 72 fastened to the back plate 26, and arranged to engage the last check in the line of checks toward the left, as shown in Fig. 1, through a slot 73, cut in the plate 26, and for

the purpose of insuring the ejecting of the last check in the direction to cause it to pass back of the partition 65 and into the check receptacle 12, a curved deflecting plate 74 is provided (as shown clearly in Figs. 2, 5 and 6 of the drawing) the arrangement being such that as the last check is forced from beneath the spring detent 72, the deflecting plate 74 will cause it to be snapped backward into the check receptacle 12.

The casing of the apparatus may be ornamented in any suitable manner, as by providing the top with the posts 75 and the bars 76, having a rail about the top and also an ornamental cap plate 77 may be provided upon which may be placed the name of the owner of the shop or any suitable inscription, as the words, "Amount of sale", as shown in Fig. 1 of the drawing.

It is of course obvious that instead of the apparatus being arranged to retain four checks at all times in the race-way or passage 28, it may be arranged so that but a single check will remain and be exposed therein, or on the other hand, it may be so constructed that any given number of checks corresponding to the number of clerks or salesmen or barbers, (if the device be used in a barber shop) be retained in the race-way or passage and exposed to view, in which event the checks could be of different colors, each salesman having a distinctive color of check and in that event it could be always ascertained just what salesman or barber had caused the last operation of the apparatus, and in like manner, to the extent of the number of checks exposed, who and when, with relation to the times of operation corresponding to the number of checks exposed, any given salesman or barber had caused the operation of the apparatus.

It is thought that the mode of operation of the device has been sufficiently described in connection with the foregoing description of its construction and arrangement and that a further description of its operation will be unnecessary.

Having described my invention I claim as new and desire to protect by Letters Patent of the United States:—

1. In a check receiving and sales indicating apparatus, in combination, a frame or casing, a raceway for the checks extending horizontally in said frame or casing and comprising a transparent front panel and a back plate spaced apart a distance substantially the thickness of the checks, a slide located in said raceway and arranged to engage and move the line of checks along said raceway to discharge the end check at the opposite end of said raceway, a slot in said casing extending horizontally therein and a knob or handle having a shank passing through said slot and connected directly to said slide, said slot being of a length substantially the di-

ameter of a single check, substantially as described.

2. In a check receiving and sales indicating apparatus, in combination, a raceway comprising a front plate and a back plate, a slide for engaging and moving the checks along said raceway in peripheral contact with each other, a spring detent mounted upon the back plate and normally projected within the path of movement of the line of checks and means carried by the slide for withdrawing said detent as said slide is moved to advance the checks, substantially as described.

3. In a check receiving and sales indicating apparatus, in combination, a raceway for the checks extending horizontally comprising a front plate and a back plate, a slide in said raceway fitting the space between the front and back plate, a slot in the front plate and an operating handle or knob connected directly to the slide and passing through said slot, a slot in the back plate and means connected to the slide through said slot to return said slide to its starting position, a pivoted pawl connected to said slide arranged to engage a notched ratchet plate mounted upon the back plate and a detent mounted upon the back plate and projected through an opening therein into the raceway and means connected with the slide for withdrawing said detent, substantially as described.

4. In a check receiving and sales indicating apparatus, in combination, a check receptacle, a race-way arranged to receive and guide the checks, a slide for advancing the checks along the race-way, means for operating said slide, a detent projected into the race-way across the path of movement of the checks, and means carried by said slide for retracting said detent as said slide is moved to advance the checks along the race-way, substantially as described.

5. In a check receiving and sales indicating apparatus, in combination, a check receptacle, a race-way for receiving the checks, a transparent panel for said race-way, whereby the checks are exposed to view in said race-way, a slide for advancing the checks along the race-way, means limiting the movement of said slide to a distance corresponding to the diameter of a single check, a pivoted lever connected to said slide, and provided at its outer free end with a pawl, a fixed ratchet plate arranged to be engaged by the pawl and a deflecting guide and safety latch arranged to prevent said pawl from engaging the ratchet plate after it has completed a maximum advance movement and during its return movement, substantially as described.

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

JAMES F. LYNCH.

Witnesses:

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MARY A. KENNEY.