No. 774,322. PATENTED NOV. 8, 1904.

H. HEPFER.

PROFIT SHARING SALES COUNTER.

APPLICATION FILED AUG. 14, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

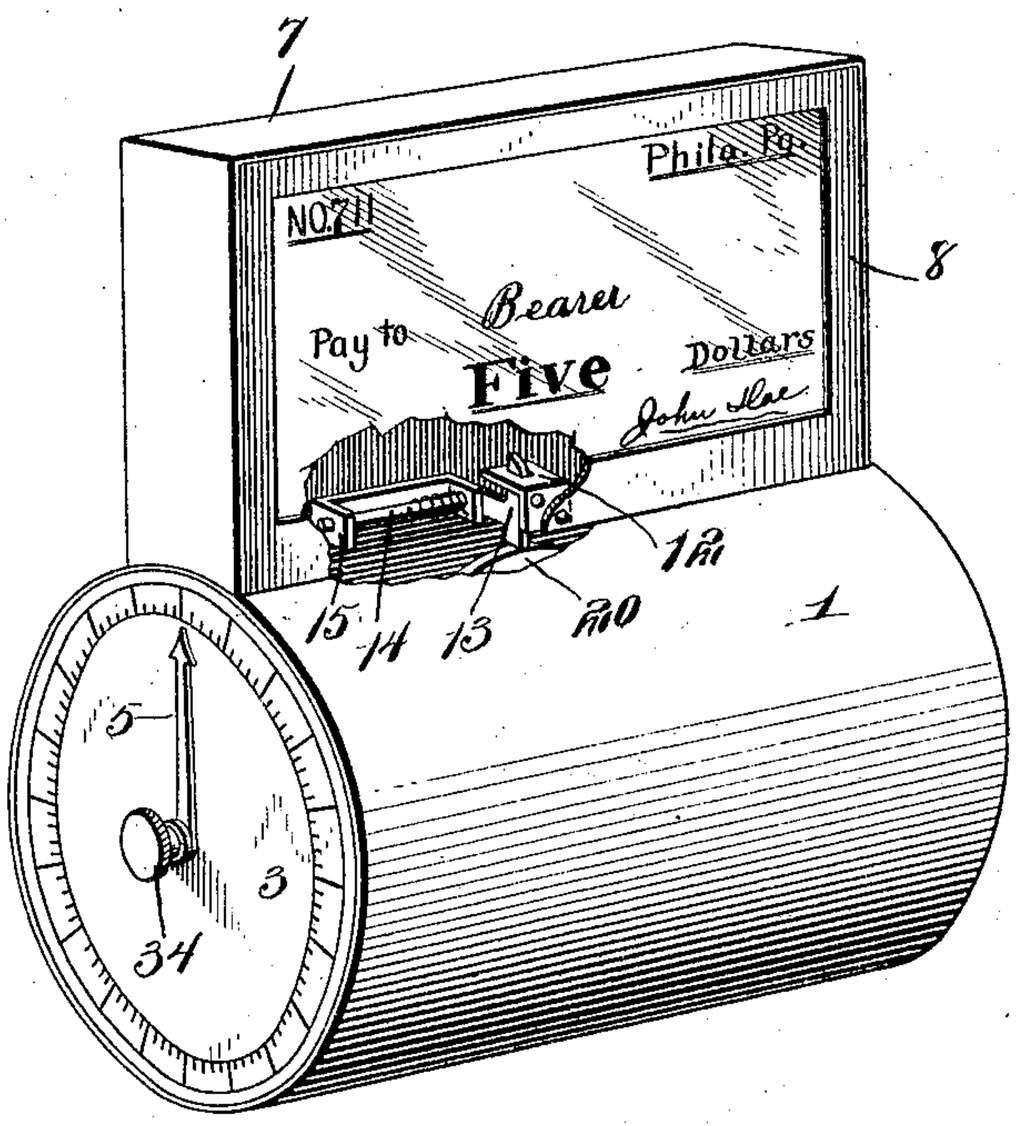

Fig. 1.

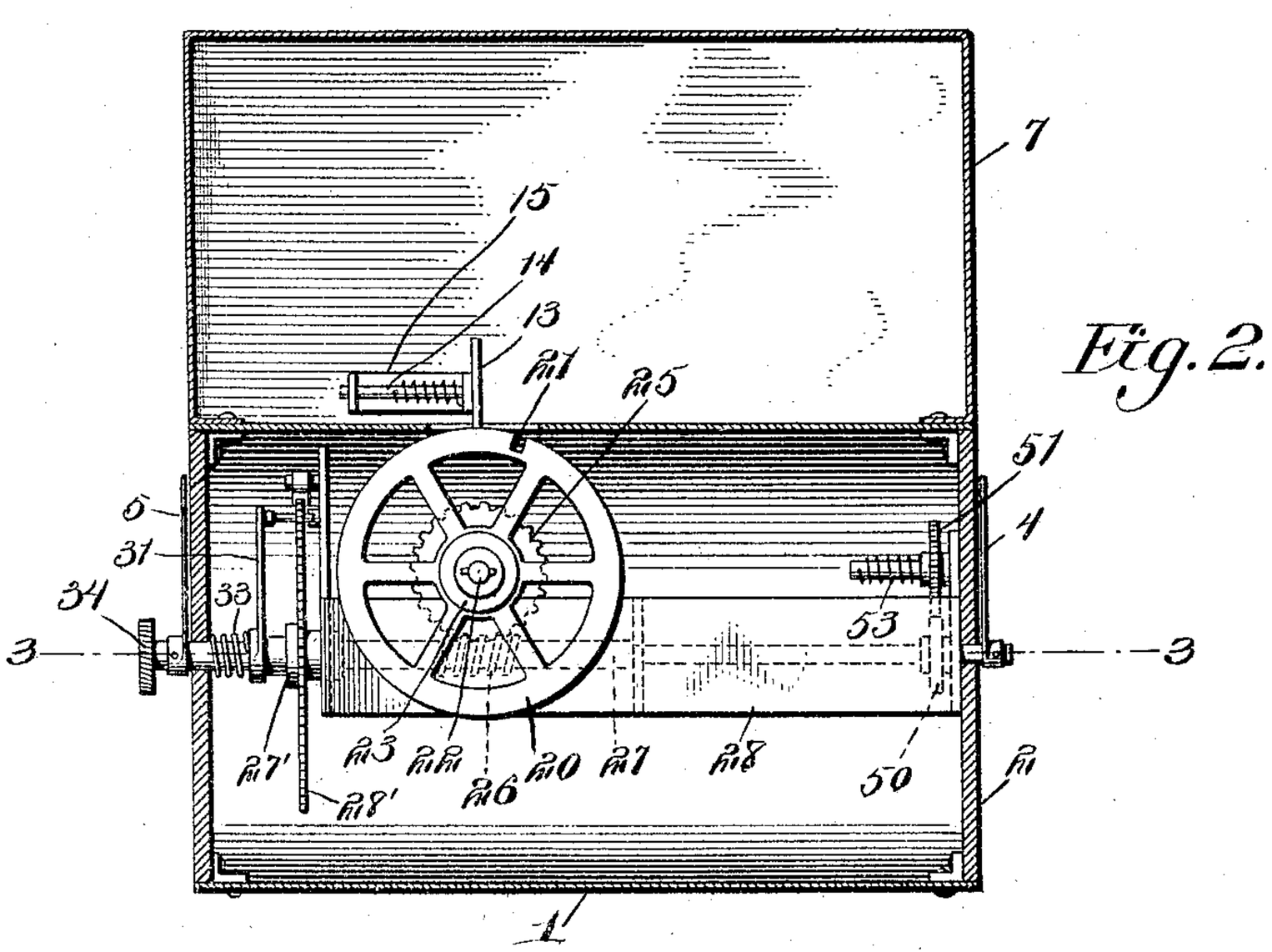

Fig. 2.

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NO MODEL. 2 SHEETS—SHEET 2.

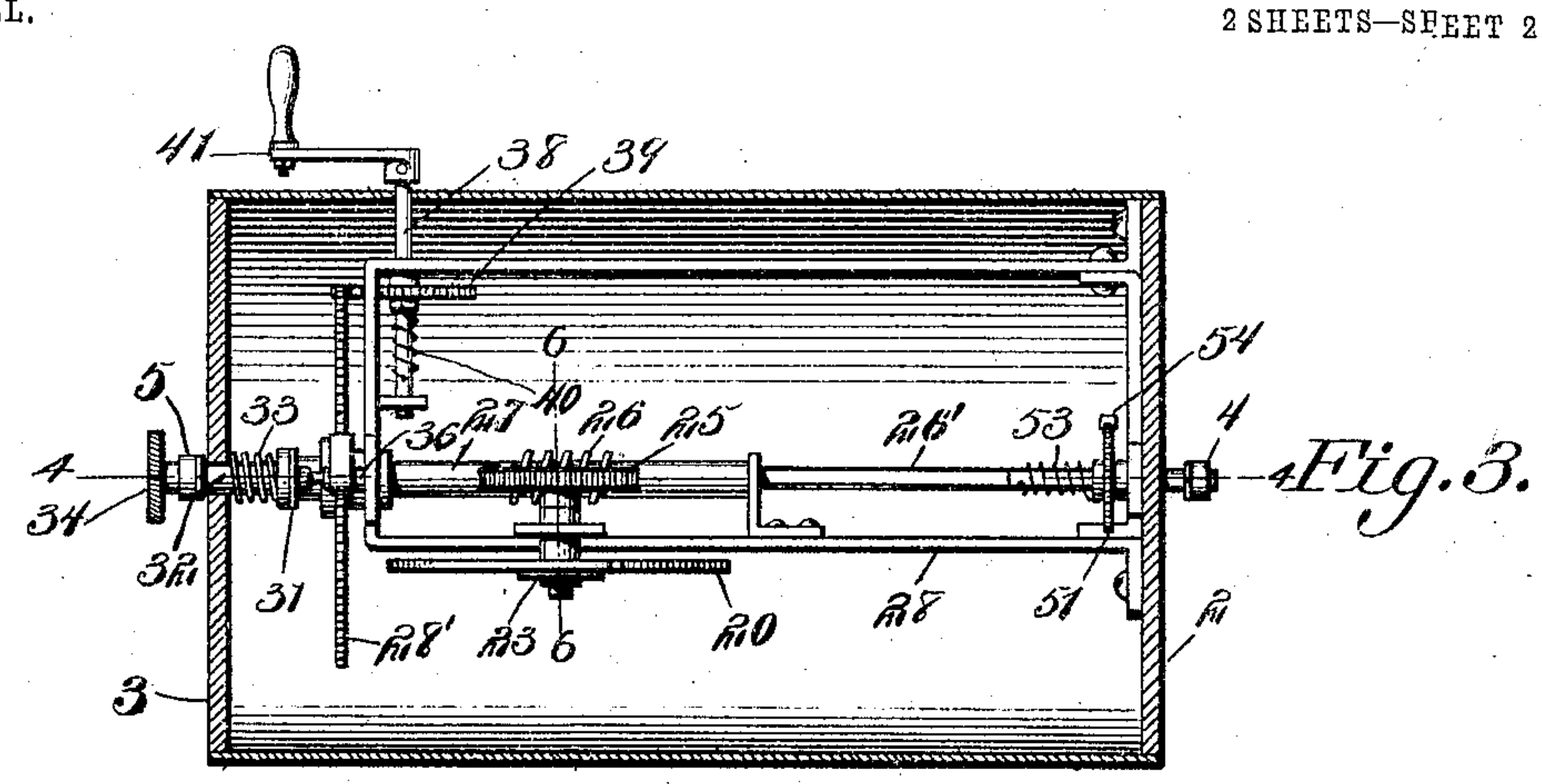


Fig. 3.

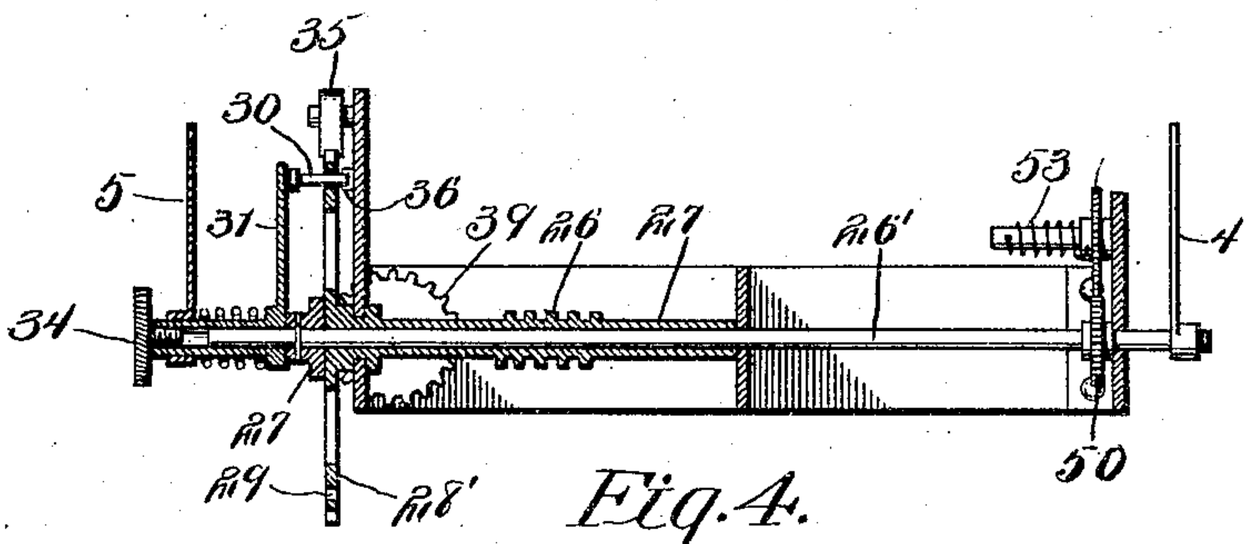


Fig. 4.

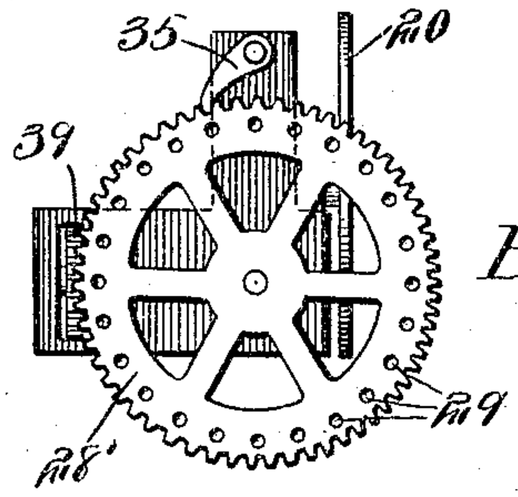
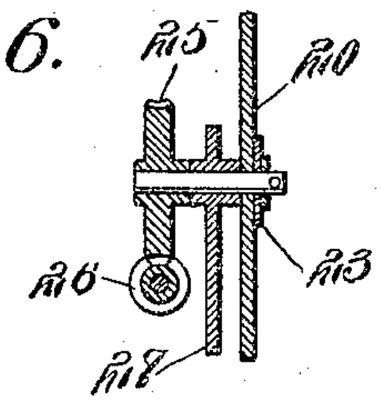


Fig. 5.

Fig. 6.



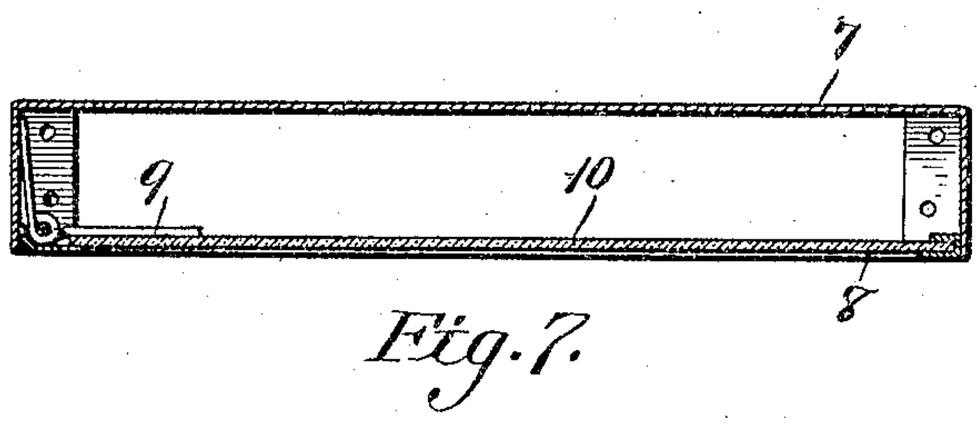


Fig. 7.

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No. 774,322. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

HARRY HEPFER, OF LANARK, ILLINOIS, ASSIGNOR OF ONE-HALF TO OLIVER M. DITSWORTH, OF LANARK, ILLINOIS.

PROFIT-SHARING SALES-COUNTER.

SPECIFICATION forming part of Letters Patent No. 774,322, dated November 8, 1904.

Application filed August 14, 1903. Serial No. 169,514. (No model.)

To all whom it may concern:

Be it known that I, HARRY HEPFER, a citizen of the United States, residing at Lanark, in the county of Carroll and State of Illinois, have invented a new and useful Profit-Sharing Sales-Counter, of which the following is a specification.

The present invention has for its principal object to provide a device for stimulating trade by offering to customers a chance to share the profits or to obtain a prize in the nature of a rebate or otherwise, such prize being awarded by a mechanism that arrives at the awarding-point after an indeterminate number of operations.

A further object of the invention is to provide a device of this character in which the prize will be awarded only after the sale of goods of a predetermined value, the mechanism being operated after each sale to an extent proportionate to the amount of such sale.

A still further object of the invention is to provide a mechanism of this character that will at first be set or adjusted for operation by the clerk or salesman and then operated by the customer, so that the latter will be certain of obtaining the prize or rebate in the event that the machine arrives at the proper point while being operated by said customer.

A still further object of the invention is to provide a mechanism of simple and economical construction in which provision is made for the employment of a pair of indicating-dials, of which one is visible by the customer and the other by the clerk or salesman.

A still further object of the invention is to provide a mechanism which can only be turned or operated to an extent determined by previous adjustment and cannot be turned either forward or backward until a subsequent adjustment.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view, partly in section, of the profit-sharing sales-counter constructed in accordance with the invention. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is a sectional plan view of the device on the line 3 3 of Fig. 2. Fig. 4 is a longitudinal sectional elevation of a portion of the mechanism on the line 4 4 of Fig. 3. Fig. 5 is an end elevation of a portion of the selecting mechanism. Fig. 6 is a detail transverse section on the line 6 6 of Fig. 3. Fig. 7 is a sectional view of a portion of the upper casing, showing the door and its opening-spring.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The operating mechanism of the device is placed within a preferably cylindrical casing 1, provided at each end with an indicating-dial, these being designated by reference-numerals 2 and 3, respectively, and each dial is provided with corresponding divisions and provided with appropriate designating-marks that preferably are of the form of numerals indicating values in dollars or fractions thereof. Over the dial 2 travels a pointer 4, and over the dial 3 travels a pointer 5, these two pointers traveling in unison, but being movable independently to zero position. Above the casing 1 is a casing 7, which may be rectangular in form. This casing is provided with a hinged door 8, movable to open position by a suitable spring 9. The door is provided with a transparent panel 10 and on its inner face has a suitable clasp or other securing device to receive and hold the prize, which may be displayed through the transparent panel. This door is provided with a suitable keeper 12, with which engages the catch or dog 13, carried by a pin 14, that is mounted in bearings in a suitable bracket 15, carried by the casing 7. The pin is surrounded by a torsion-spring that normally tends to move the dog or catch from engagement with the keeper, and when this occurs the door will

open under the influence of the spring and permit the removal of the prize, which may be in the form of money, a check, or other token representing value. The dog or catch rests on a periphery of a wheel 20, and said wheel has a single notch 21, which must be moved into alinement with the dog or catch before the latter is allowed to descend and permit opening of the door. This wheel or disk 20 is moved after each purchase to an extent dependent on the amount of such purchase, so that the prize will at all times represent a given percentage of the amount of cash taken in.

The wheel 20 is rigidly secured to a shaft or arbor 22, or it may be held in position by a suitable spring-washer 23 in order to permit any desired manual adjustment of the position of the wheel or disk without rendering it necessary to turn the gearing by which such wheel or disk is actuated.

On the shaft or arbor is rigidly secured a worm-wheel 25, with which intermeshes a worm 26, mounted on a hollow shaft 27, held in a suitable framework 28, that is secured to the rear face of one of the indicating-disks in order to facilitate assemblage of the parts. The shaft 26 forms in part a bearing for a main arbor 26′, the opposite ends of which extend through the frame members, and one end of said arbor extends through the disk 2 and carries the hand or pointer 4. Near the opposite end of the main arbor is secured a friction-disk 27, adapted to frictionally engage the hub portion of a gear-wheel 28′, through which initial movement is imparted to the apparatus.

The gear-wheel 28′ is provided with a number of perforations or notches 29 for the reception of a selecting-pin 30, carried by a radially-disposed arm 31, and through which the mechanism is set for movement to an extent dependent on the amount of the sale. These notches or perforations are equidistantly spaced, and under ordinary circumstances each will represent a value of one dollar, so when the selecting-arm is turned to a position in accordance with the amount of the sale it may engage a notch or perforation representing that amount nearest the amount of cash paid.

On the end of the main arbor 26 is mounted a sleeve 32, which extends out through a central opening in the dial 3 and carries the hand or pointer 5. This sleeve carries the selecting-arm 31 and also furnishes a support for a compression-spring 33, extending between the arm 31 and the inner face of the dial 3, so that the friction-disk 27 will under normal conditions be forced into engagement with the central or hub member of the gear-wheel 28′ and the main arbor and its hollow shaft will be clutched together for mutual movement.

To the outer end of the sleeve 32 and within convenient reach of the clerk or salesman is an operating-knob 34, and it being understood that the arm 31 and the pointer 4 are both in radial alinement the clerk or salesman to impart a movement to the device in accordance with the amount of the sale will exert pulling strain on the knob and the sleeve, and thus withdraw pin 30 from engagement with any one of the notches or perforations which it may have entered and will turn the same clockwise until the pointer indicates an angular movement proportionate to the sale, and thus enters, after release of the knob, the pin 30 in a selected notch or perforation. This constitutes the selecting mechanism, and as each notch or perforation represents a predetermined unit of value—as, for instance, one dollar—the clerk or salesman may readily determine the extent of movement of the selecting-arm necessary to effect a corresponding angular movement of the locking wheel or disk 20.

On the frame is pivoted a pawl 35, that engages the teeth of the gear-wheel 28′ and at all times serves to prevent backward movement thereof. The frame also carries a stop pin or lug 36 at the same radial distance from the axis of the main arbor as the annular row of notches or perforations, so that when the selecting-arm has been released and the pin 30 allowed to enter one of the notches or perforations its movement will be stopped by contact of the pin 30 with the pin or lug 36 at the completion of the predetermined movement, and gear 28′ will thus be locked from movement in one direction by the pawl 35 and in the opposite direction by the engagement of pin 30 with the stop pin or lug 36.

The frame is further provided with bearings for the support of a transversely-extending shaft 38, on which is mounted a pinion or crown-gear 39, the teeth of which intermesh with those of the gear 28′, and said pinion is clutched to its shaft by means of a torsion-spring 40, so as to permit yielding movement when the crank-shaft is turned in the wrong direction. This crank-shaft extends out through a suitable opening in the cylindrical wall of the casing and is provided with a hand-crank 41 to be manipulated by the customer.

In the operation of the device as thus far described the salesman operates the selecting-arm by pulling on the operating-knob and turning the arm until pin 30 is opposite the selected notch or recess. The arm is then released, and the compression-spring serves to force the pin 30 into the selected notch or perforation, it being noted that at this time the movement in outward direction of the knob has unclutched the disk of the main arbor from the hub of wheel 28′, so that the selecting movement will not be indicated on the dial 2, but will only be indicated on the dial 3. The purchaser, or in some cases the clerk, then turns crank 41 until the hand or pointer 5 reassumes the initial or zero position, and during this time the compression-spring keeps the clutching-disk in engagement with the hub

of the gear-wheel 28′, so that the main arbor receives movement to a corresponding extent and the hand or pointer 4, carried thereby, will be traveled over the dial 2 to an extent corresponding to the selecting movement of arm 31, thus indicating to the purchaser that the device has been turned to an extent corresponding with the amount of his purchase, and this hand or pointer 4 will remain in position until such time as the selecting-arm is again operated on a subsequent purchase, this being due to the fact that the clutch-disk of the main arbor is still held in operative engagement with the gear 28′ by the stress of the compression-spring.

In order to return the hand or pointer 4 of the customer's indicating-disk to its initial position, the main arbor is provided with a pinion 50, and with this pinion engages a small gear-wheel 51, mounted on a stationary stud or pin carried by the frame. This stud or pin serves also as a support for a torsion-spring 53, of which one end is secured to the stud and the opposite end to the gear-wheel. The rotative movement of said gear-wheel is limited by providing said wheel with an elongated tooth 54 that comes into contact with the teeth of the pinion, so that said gear can never make a complete rotation and in the event of breakage of any of the other parts of the mechanism it will be impossible to effect the unlocking of the prize-awarding device by continued turning of the operating-crank.

It is obvious that the apparatus may be employed in connection with mechanisms of various character for registering or indicating the amount of sales, such as ordinary cash-registers, fare-indicators, and the like; but as at present constructed it is designed more especially as an independent machine for the purpose of attracting and stimulating trade in retail stores, where a customer will be awarded a prize at the end of a predetermined amount of sales.

Having thus described the invention, what is claimed is—

1. In a device of the class described, a mechanism operable to an extent proportionate to the amount received, a selecting means for determining the extent of movement of such mechanism, and a prize-awarding mechanism controllable by said mechanism.

2. In a device of the class specified, a normally locked prize-holding device, a manually-manipulated releasing mechanism, and a selecting means for determining the extent of movement of such releasing mechanism.

3. In a device of the class described, a normally locked prize-holding means, a manually-manipulated releasing mechanism, a selecting mechanism for determining the extent of movement of said releasing mechanism, and means for indicating the extent of such movement.

4. In a device of the class described, a normally locked prize-holding device, a locking-catch therefor, a revoluble disk for holding the catch in locking position, said disk being provided with a releasing-notch, and means for turning said disk for angular distances determined by the amount of sales.

5. In a device of the class described, a prize-holding means, a locking-catch therefor, a revoluble disk having a notch for the reception of said catch, means for revolving the disk, and means for determining and indicating the extent of movement of said disk.

6. In a device of the class described, a normally locked prize-holding means, a notched disk for releasing said means, mechanism for revolving the disk, and a pair of indicating-dials of which one keeps a record of previous movements of the disk between intervals of adjustment of the disk-operating mechanism.

7. In a device of the class described, a normally locked prize-holding means, a notched disk controlling the same, an operating mechanism for said disk, a pair of indicating-disks, hands or pointers adapted to travel over said disks, and means for clutching the pointer-carrying members to each other for mutual movement.

8. In a device of the class described, a selecting means, an indicating-disk, a pointer movable over the disk to indicate the extent of angular movement of the selecting means, a second indicating-disk, and a hand or pointer connected thereto and serving to register the extent of movement of said selecting means and the first hand or pointer during the returning movement of the latter to zero position.

9. In a device of the class specified, a pair of indicating-disks, hands or pointers adapted to travel over said disks, means for connecting the two hands or pointers for mutual movement, and means for adjusting the position of the initial hand or pointer whereby movement of said initial hand or pointer from its adjusted position to zero will operate the second hand or pointer and register the extent of such movement.

10. In a device of the class specified, a pair of indicating-disks, pointers adapted to travel over the same and connecting means between the two pointers whereby movement of one pointer from an adjusted position to zero will result in a registering movement of the other pointer.

11. In a device of the class specified, a pair of indicating disks or dials, pointers moving thereover, means for adjusting the position of the first pointer, means for turning the first pointer from its adjusted position to zero, and means for connecting the two pointers whereby the movement of the first will result in a corresponding registering movement of the second.

12. In a mechanism of the class described,

a pair of indicating disks or dials, pointers movable thereover, means for clutching the pointers together for mutual movement, and means for returning the secondary pointer to zero position on the unclutching of the two pointers.

13. In a mechanism of the class described, a pair of indicating disks or dials, hands or pointers movable thereover, means for manually moving the first pointer to an initial indicating position and for returning the same to zero position, means for connecting the two pointers for mutual movement during the movement of the initial pointer toward zero, and an independent means for automatically restoring the secondary pointer to zero position.

14. In a mechanism of the class described, a pair of indicating disks or dials, pointers movable thereover, a main arbor carrying one of these pointers, a hollow shaft mounted on the main arbor, a gear carried by the hollow shaft and provided with an annular row of perforations, means for clutching the hollow shaft to the main arbor, a sleeve mounted on said main arbor, a selecting-arm carried by the sleeve and having a pin adapted to enter a selected perforation, a spring normally maintaining the pin in adjusted position, an initial pointer carried by the sleeve to permit manual adjustment thereof, and a crank-shaft having a gear connection with said gear-wheel.

15. In a mechanism of the class described, a pair of indicating disks or dials, a main arbor, a hand or pointer carried thereby and movable from one of the dials, a hollow shaft mounted on the arbor, a gear-wheel secured to said shaft and provided with an annular series of perforations, a hand-crank geared to said wheel, a pawl for preventing backward movement of the gear, a sleeve mounted on the arbor, a selecting-arm carried by the sleeve and having a pin adapted to enter any one of the perforations, a clutch-disk carried by the arbor and adapted to engage against the hub portion of the gear-wheel, a spring surrounding the sleeve and tending to force the disk into clutching position, a pointer carried by the sleeve, and a knob also carried by the sleeve to permit manual adjustment thereof.

16. In a mechanism of the class described, a pair of indicating disks or dials, hands or pointers movable thereover, a main arbor carrying one of the pointers, a hollow shaft encircling the main arbor, a gear-wheel carried by the hollow shaft and provided with perforations, means for revolving said gear-wheel, a pawl for preventing movement of said gear-wheel in one direction, a friction-clutch disk carried by the main arbor and adapted to frictionally engage the hub portion of the gear-wheel, a sleeve carried by the arbor, a selecting-arm secured to the sleeve, a pin carried by said arm and adapted to enter the perforations, a stop pin or lug secured to the main frame and serving to limit the movement of the selecting-arm, a spring encircling the sleeve and serving to force the friction-disk into engagement with the gear-wheel, said sleeve carrying one of the pointers, and a knob also carried by said sleeve.

17. In a mechanism of the class described, a pair of indicating disks or dials, pointers movable thereover, a main arbor carrying one of the pointers, a hollow shaft operatively connected to the second pointer, a clutching means between the hollow shaft and the arbor, means for revolving said hollow shaft, a pinion carried by the arbor, a gear intermeshing with the pinion, and a spring subjected to the torsional strain during the registering movement of the machine, said spring serving to return the main arbor and its pointer to initial position when the clutching mechanism is released.

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

HARRY HEPFER.

Witnesses:
J. H. JOCHUM, JR.,
J. ROSS COLHOUN.