June 15, 1937. S. A. GROSSER 2,084,197

COIN CONTROLLED APPARATUS

Filed Nov. 17, 1933 2 Sheets-Sheet 1

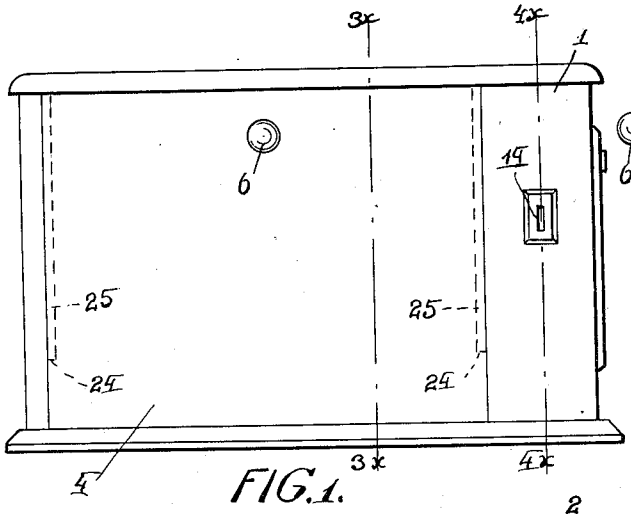


FIG. 1.

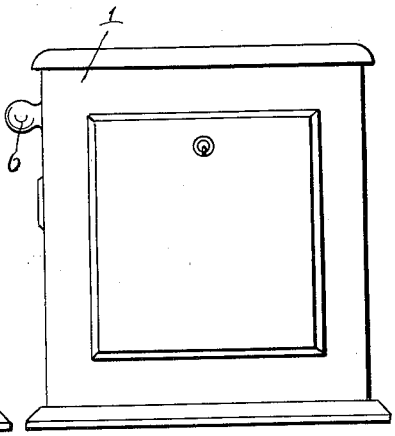


FIG. 2.

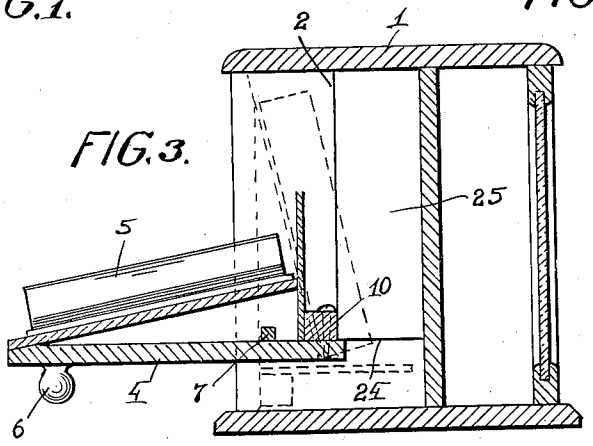


FIG. 3.

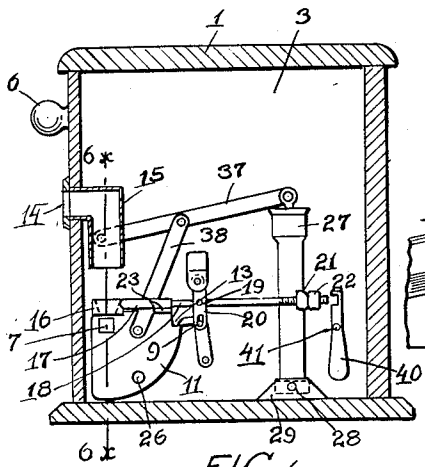


FIG. 4.

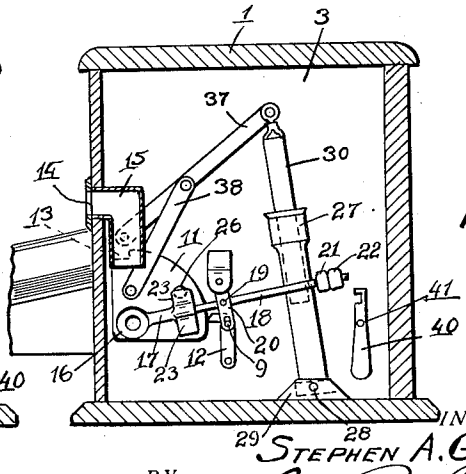


FIG. 5.

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June 15, 1937. S. A. GROSSER 2,084,197

COIN CONTROLLED APPARATUS

Filed Nov. 17, 1933 2 Sheets-Sheet 2

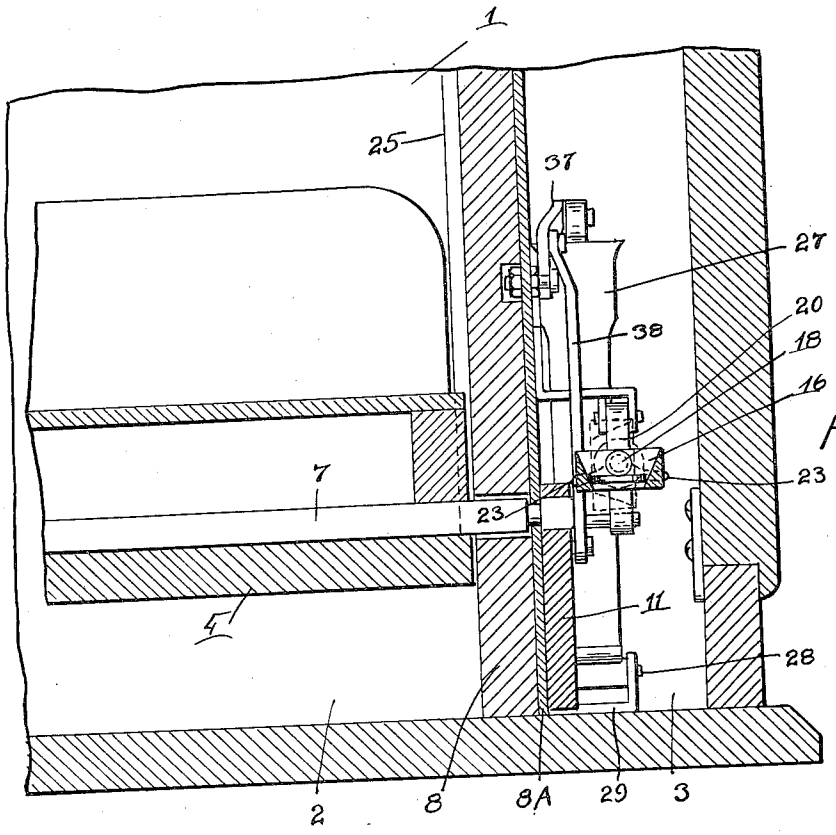


FIG. 6.

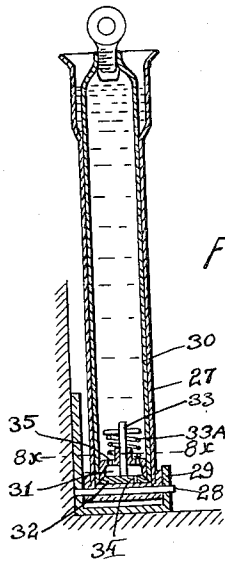


FIG. 7.

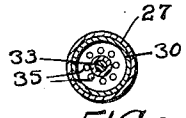


FIG. 8.

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UNITED STATES PATENT OFFICE

2,084,197

COIN CONTROLLED APPARATUS

Stephen A. Grosser, Rochester, N. Y., assignor of one-third to Alois A. Grosser, one-third to Arthur A. Eagle, and one-third to Camillus J. Kesselring, all of Rochester, N. Y.

Application November 17, 1933, Serial No. 698,397

4 Claims. (Cl. 194—4)

This invention relates to book vending machines and has for its object to provide a book cabinet with a novel form of mechanism which unlocks the cabinet on the insertion of a coin and permits the depositor of the coin to place the reference book into a convenient position to examine it and after he has done so automatically returns the book into the cabinet and locks it up therein for withdrawal by the next depositor of a coin.

This and other objects and attendant advantages will become more readily apparent from the detailed description of one embodiment of my invention which follows, reference being had to the accompanying drawings in which

Figure 1 is a front elevation of the book vending cabinet.

Figure 2 is an end elevation thereof.

Figure 3 is a vertical cross section of the cabinet, with the section taken on the line 3*x*—3*x* of Figure 1.

Figures 4 and 5 are vertical sectional views of the cabinet taken on the line 4*x*—4*x* of Figure 1 showing the mechanism in its inoperative and operative positions.

Figure 6 is an enlarged detail sectional view of a portion of the cabinet and the operating mechanism, the section being taken on the line 6*x*—6*x* of Figure 4.

Figure 7 is a vertical sectional view of the retarding cylinder and dashpot of the operating mechanism.

Figure 8 is a horizontal sectional view of the cylinder and dashpot, the section being taken on the line 8*x*—8*x* of Figure 7.

In the several figures of the drawings like reference numerals indicate like parts.

The book vending cabinet forming the subject matter of this invention is adapted to provide means whereby a reference book, such as a city directory, may be consulted and examined in public places, such as stores, depots and public buildings on the payment of a coin. The book is mounted in the cabinet so that it can be handled only by those who wish to use it for reference purposes.

As illustrated in the drawings the cabinet 1 is divided into the book compartment 2 and the mechanism compartment 3. The book compartment is provided with the combined swinging door and book support 4 to which the covers of the book 5 are attached so as to make the pages of the book readily available for examination when the door is released and swung open into the position illustrated in Figure 3. For this purpose the combined cover and book support is mounted on the square shaft 7, one end of which is journaled in a suitable bearing in the left hand end of the cabinet, while the other end projects thru the partition 8 between the compartments 2 and 3 and is rotatably supported in the vertical base plate 8A on which the operating mechanism is mounted. The inside of the combined door and book support is inclined so as to support the book at an angle.

The combined door and book support has a suitable counterweight 10 fastened thereto as illustrated in Figure 3 so as to slowly swing the support and the book back into the cabinet and close the door whenever the user has finished his examination of the book and takes his hands off from it.

The mechanism for locking the door and book support comprises the segmental plate 11 which is mounted to the end of the square shaft and has the swinging latch 12 normally engage the notch 13 thereof. This keeps the square shaft from rotating and holds the door locked in its closed vertical position.

To release the door 4 a coin must be inserted into the coin slot 14 so as to have it pass thru the coin chute 15 and drop into the temporary coin receptacle 16. This receptacle has no bottom but its inner wall is inclined so as to provide a large opening for the top of the receptacle and a small opening for the bottom thereof. In this way the opening in the top is made large enough to receive the size coin which is to operate the releasing mechanism while the opening in the bottom is made small enough to prevent this coin from passing thru the receptacle but allow other smaller coins to do so. The receptacle is carried on the outer end of the sleeve 17 which is rotatably mounted on one end of the lever 18. This lever is fastened to the link 20 at 19 and its opposite end is counterbalanced by the adjustable weights 21 and 22 which are threaded thereon.

From opposite sides of the sleeve 17 project the wings 23, 23 and these wings and the temporary receptacle 16 are so arranged with relation to the sleeve that the center of gravity of these combined parts will normally keep the receptacle in a vertical position with the large opening at the top and the wings in a horizontal position while the counterweights 21 and 22 balance the lever 18 with the sleeve 17 in a horizontal position.

The temporary receptacle is thus normally held ready to receive any coin that is inserted into the coin slot and drops thru the coin chute. A coin inserted of the proper size is retained in the re-

ceptacle 16 and its weight overbalances the lever 18 so that the link 20 on which the lever is fulcrumed is swung to the right as illustrated in Figure 5. The latch 12 which is connected with the link 20 by means of the pin 9 is thus rocked to the right out of engagement with the notch 13 in the segmental plate 11.

The segmental plate and the shaft 7 on which it is mounted is then free to be rotated and permits the door 4 to be swung open by means of the handle 6 until the combined door and book support is brought into the position illustrated in Figure 3 in which a further movement of the door is arrested by the engagement of the inner end of the door with the shoulders 24, 24 provided by the plate members 25, 25 at each end of the book compartment.

While the combined door and book support 4 is being moved into the position illustrated in Figure 3, the segmental plate 11 swings up and the pin 26 carried thereby engages one of the wings 23 and rocks it so as to turn the temporary coin receptacle into the vertical position illustrated in Figure 5 in which the coin deposited therein is allowed to slide out therefrom. With the extra weight removed from the temporary coin receptacle, the lever 18 will then assume its original balanced position as soon as the segmental plate 11 is moved back to its starting position on the closing of the door 4. When the lever 18 assumes its normal counterbalanced horizontal position, the latch 12 is moved by it to again engage the notch 13 in the segmental plate and hold this plate locked until the next coin is inserted for the release of the door and book support.

To prevent the combined door and book support from moving too quickly while it is being opened and closed, a retarding mechanism is provided. This mechanism comprises the cylinder 27 which is mounted to swing at 28 in a suitable bracket 29. As illustrated in Figure 7 a hollow piston 30 is mounted to reciprocate in the cylinder 27. In the bottom of this hollow piston is formed a small chamber 31, the bottom of which is normally closed by the check valve 32. The valve stem 33 of this valve passes thru chamber 31 and a spring 33A which surrounds the valve stem within the hollow piston normally holds the valve seated to close the bottom of the chamber. In the valve 32 is provided a small opening 34 and in the closed top of the chamber 31 are provided a series of holes 35 so that the liquid used to retard the motion of the piston will have to leave the hollow piston thru the openings 35 and enter the piston thru the opening 34 in the valve 32.

The hollow piston is pivotally connected to the arm 37 which is pivoted on the vertical base plate 8A. A link 38 connects the arm 37 with the segmental locking plate 11 in order that the arm 37 is raised to pull the hollow piston outwardly on the opening of the door 4 and force it inwardly on the closing thereof. The restricted passage provided for the liquid in its flow from the hollow piston and back again thus operates to retard the movement of the combined door and book support.

To prevent the locking latch from being disengaged from the segmental locking plate 11 by keeping the counterbalanced lever 18 from swinging when the cabinet is tilted towards the rear, a pendulum latch 40 is pivotally mounted at 41. The upper end of this latch is recessed to have it engage over the end of the counterbalanced lever 18 as it swings on the tilting of the cabinet. In this way the mechanism is locked while the cabinet is in an abnormal position.

I claim:

1. In a book vending machine adapted to be released by a coin, the combination of a cabinet, a combined door and book support pivotally mounted in said cabinet, a segmental locking plate movable with said combined door and book support, a swinging latch for locking and releasing said locking plate, a counterbalanced lever connected to said latch, and means carried by said lever to receive and hold a coin and be overbalanced thereby to move said latch and release said locking plate, and means carried by said locking plate and cooperating with said first mentioned means to eject the coin from said first mentioned means on the operation of said combined door and book support.

2. In a book vending machine adapted to be released by a coin, the combination of a cabinet, a combined door and book support pivotally mounted in said cabinet, a segmental locking plate movable with said door and book support, a latch for locking said segmental plate, a counterbalanced lever connected to said latch, a coin receptacle rotatably mounted on one end of said counterbalanced lever and normally held in a horizontal position on said lever by gravity, a lug carried by said coin receptacle and a pin carried by said locking plate, said pin being adapted to engage said lug and turn said coin receptacle to eject a coin therefrom on the movement of said locking plate by means of said combined door and book support.

3. In a book vending machine adapted to be released by a coin, the combination of a cabinet, a combined door and book support pivotally mounted in said cabinet, a segmental locking plate movable with said combined door and book support, a swinging latch for locking and releasing said locking plate, a counterbalanced lever connected to said latch, and means carried by said lever to receive and hold a coin and be overbalanced thereby to move said latch and release said locking plate, and means carried by said locking plate and cooperating with said first mentioned means to eject the coin from said first mentioned means on the operation of said combined door and book support, a dash pot having a movable piston for retarding the movement of said locking plate, an arm pivotally connected to said piston and a link connecting said locking plate with said arm.

4. In a book vending machine the combination of a swinging locking plate for locking and releasing vending machines, a pivotally suspended link, a counter balanced arm carried by said link, a swinging latch connected to said link to have said link swing said latch into and out of engagement with said locking plate on the overbalancing of said arm.

STEPHEN A. GROSSER.