May 26, 1936. A. A. EAGLE ET AL 2,041,994

COIN CONTROLLED CABINET FOR BOOKS

Filed March 15, 1933 2 Sheets-Sheet 1

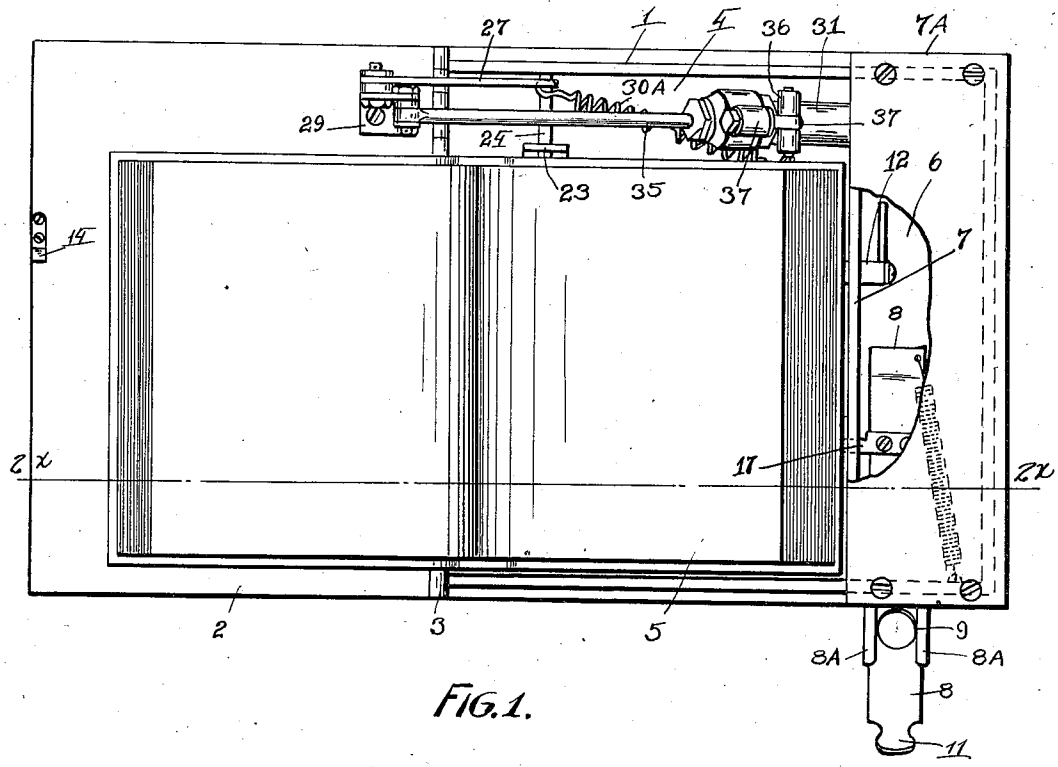


FIG. 1.

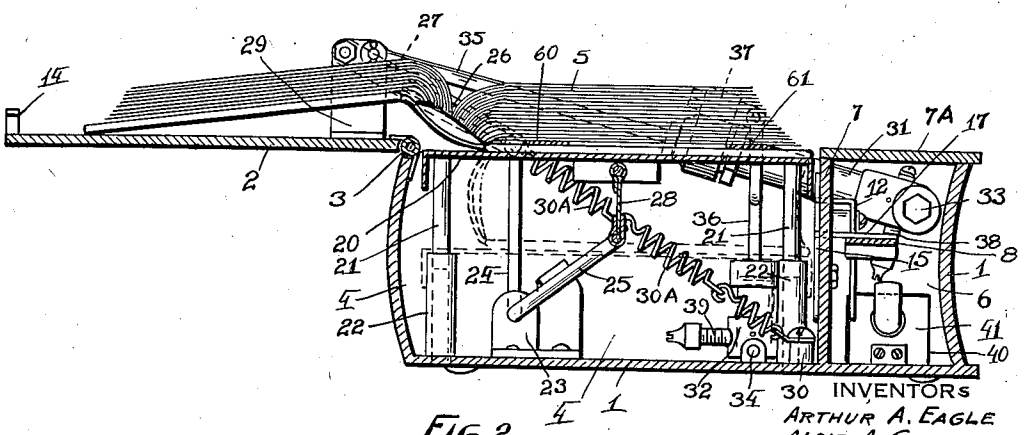


FIG. 2.

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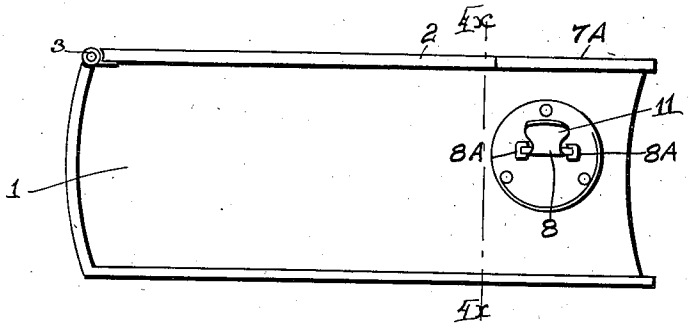


FIG. 3.

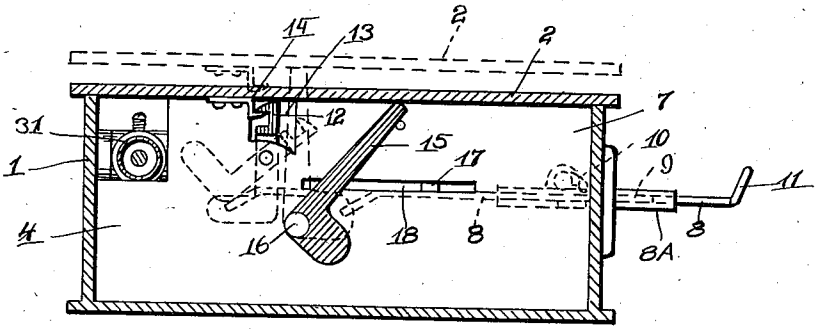


FIG. 4.

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COIN CONTROLLED CABINET FOR BOOKS

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Application March 15, 1933, Serial No. 660,881

10 Claims. (Cl. 45—85)

This invention relates to coin controlled cabinets and has for one of its objects to provide a cabinet for the reception of a book of reference, such as a directory so that when reference to the book is desired, access may be had thereto on the deposit of a coin.

Another object of this invention is to so construct the mechanism of the cabinet that the cover thereof will be partially opened at the time it is released by the coin-controlled mechanism.

A further object of this invention is to provide the cabinet with a mechanism which will automatically move the book from within the cabinet on the opening of the cover thereof and thus permit an unobstructed use thereof.

A further object of this invention is to provide the cabinet with a mechanism which will automatically replace the book and lock it into the cabinet as soon as it is released by the user of it.

These and other objects of this invention will become more readily apparent from the detailed description thereof which follows, reference being had to the accompanying drawings in which

Figure 1 is a top plan view of the cabinet as it appears when opened.

Figure 2 is a vertical sectional view of the cabinet on the line $2x$—$2x$, Figure 1.

Figure 3 is an end elevation of the cabinet when closed.

Figure 4 is a vertical sectional view of the cabinet, the section being taken on the line $4x$—$4x$ of Figure 3.

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

The coin controlled cabinet forming the subject matter of our invention is especially adapted for books of reference such as city and trade directories so that such books may be kept in good condition in suitable public places and consulted there on the payment of a coin.

As illustrated in the figures the cabinet 1 is constructed so as to have the appearance of a large book. A large part of the top of the casing is formed by the cover 2 which is hinged at one side of the casing at 3 in order to provide a supporting shelf for part of the book to rest thereon after the cabinet has been opened as illustrated in Figures 1 and 2. The cover 2 opens and closes the compartment 4 in which the reference book 5 is located and the mechanism hereinafter described automatically cooperates with the cover to raise the book from this compartment on the opening movement thereof and lowers the book into the compartment on the closing movement thereof.

A small compartment 6 is separated from the compartment 4 by the partition 7. This smaller compartment is closed by the fixed cover 7A and contains the coin-controlled mechanism which releases the cover 2 on the deposit of a coin. This mechanism comprises a suitable coin slide 8 which partially projects from the casing and is mounted to slide between suitable guides 8A provided within and without the casing 1. The coin slide has an opening 9 which is normally located on the outside of the casing so as to receive the coin. Closing the opening 9 in the slide with a coin prevents the dog 10 (Fig. 4) within the cabinet from dropping into the opening to stop the movement of the slide as the coin opening passes the dog so that the slide can be pushed into the cabinet the full length it projects therefrom between the guides 8A. A handle 11 is provided on the outer end of the slide for the purpose of pushing the coin slide and this handle is undercut on both sides to permit its movement between the guides 8A. The inner end of the coin slide is inclined downwardly and engages the lower portion of the swinging locking latch 12 when the slide is moved the full length of its travel. The latch portion of the locking latch 12 projects thru an opening 13 in the partition 7 and normally engages the fixed latch 14 provided on the under side of the cover 2. When the locking latch is operated by the end of the coin slide it is moved into the dotted line position illustrated in Figure 4 while it is being disengaged from the fixed latch 14 of the cover. The cover is thus released and is free to be raised by the swinging arm 15. This arm is pivoted at 16 in the partition 7 and is adapted to swing from the angular full line position to the vertical dotted line position illustrated in Figure 4. This is done by the laterally projecting lug 17 carried by the coin slide 8 which projects thru the horizontal slot 18 in the partition 7. The lug 17 is located on the coin slide so as not to engage the arm 15 until the latch 12 has released the cover. The arm 15 is thus swung into its vertical position during the last part of the movement of the coin slide so as to slightly raise the cover as soon as it has been released to show the person desiring the use of the book that the cover has been unlocked and is ready to be opened.

The cover remains supported on the arm 15 until it is raised by the hand of the operator but as soon as the cover is raised and the weight

of it removed from the top of the arm, the overweighted side of the arm will swing it back into its angular starting position in order to allow the cover to close the cabinet on the release thereof by the user of the book as will hereinafter be described.

The reference book is mounted on the platform **20** which is provided on the under side thereof with suitable guide pins **21**. These pins are telescopically mounted in the sleeves **22, 22** which guide the pins in a vertical movement and keep the platform in a horizontal position while it is being raised and lowered by the elevating mechanism that will now be described.

This mechanism comprises a double crank which is mounted to swing in the bearing block **23** and is provided with the crank arms **24** and **25**. Crank arm **24** engages into the slot **26** of the link **27** and crank arm **25** is pivotally connected to the under side of the platform **20** by means of the link **28**. Link **27** in turn is pivotally connected to the bracket **29** on the under side of the cover **2**. Attached to the crank arm **24** is one end of a series of connected expansion springs **30A** which are anchored with their other end to the lug **30** in the bottom of the cabinet. These expansion springs normally draw the crank arm to the right in Figure 2 and swing the crank arm **25** downwardly until the platform connected thereto is lowered to a position in which the book carried thereby is completely located within the cabinet. Suitable stops, as for example the upper ends of the sleeves **22**, support the platform in this position. With the cover closed the book is thus concealed within the cabinet and held locked therein until released by the deposit of a coin and the operation of the coin controlled mechanism heretofore described.

After the cover has been released as above pointed out, the operator takes hold of it and swings it open into the horizontal position illustrated in Figures 1 and 2. As the cover is swung open the slotted link **27** is pulled out of the cabinet but due to the slot **26** into which the crank arm engages the cover is partially opened before the crank arm **24** is drawn upward by the link **27** and the platform consequently raised by the crank arm **25** and link **28**. The movement of the cover with relation to that of the platform is thus timed so that the platform is elevated to bring the book supported thereon to the top of the casing by the time the cover has reached a horizontal position to one side of the casing. The book may then be opened to have one side of it supported on the cover while the book is being examined.

The crank arm **24** is moved by the link **27** against the resistance of the springs **30A** which are expanded when the cover has been opened. The action of these springs on the release of the cover after the book has been examined is to swing the cover shut with a quick movement. To prevent this and make the cover shut slowly, a pair of air checks are provided. These air checks comprise the cylinders **31** and **32** of which cylinder **31** is pivotally mounted to the side of the cabinet at **33** while cylinder **32** is pivotally mounted close to the bottom of the cabinet at **34**. In each of these cylinders is mounted a piston and piston rod **35** connects the piston of cylinder **31** with the bracket **29**, while piston rod **36**, which is bifurcated at the top and encircles the cylinder **31**, connects the piston of cylinder **32** with the offset bracket **37** carried by the cylinder **31**.

In closing the cover the piston rod **35** is thus forced to the right to have the piston in the cylinder **31** compress the air therein while the piston rod **36** is forced down on the swinging motion of cylinder **31** to have its piston compress the air therein. Both cylinders are provided with valve controlled intakes indicated at **38** and **39** respectively in the form of tire valves which permit air to freely enter the cylinders on the opening of the cover as the pistons are moved outwardly by their respective piston rods. Besides the intake valves each cylinder is also provided with a small exhaust opening thru which the air is gradually allowed to escape as the pistons compress the air on the inward movement thereof. In this way the movement of the pistons in the cylinders is retarded and this keeps the springs **30A** from closing the cover too fast. Cylinder **31** checks the movement of the cover from the beginning of its closing movement until its retarding action has been spent at the end of the compression movement of its piston after which cylinder **32** and its piston act to check the final closing movement of the cover thru the piston rod **36** and its connection with the cylinder **31**.

The coin which has been inserted into the coin opening of the coin slide is deposited into the compartment **6**. The coins accumulated in this compartment may be withdrawn from this compartment thru the opening **40** which is normally closed by the door **41** which may be opened by a suitable locking mechanism.

The book may be fastened to the platform in any suitable manner as for example by clamping one of the covers thereof to the platform by means of the clamping straps **60** and **61**.

We claim:

1. In a device of the character described, a cabinet, a platform mounted to move up and down in said cabinet, a cover for said cabinet, locking means for said cover, means for releasing said cover, means for slightly raising said cover after the release thereof by said locking means and means connecting said cover with said platform to raise said platform on the opening of said cover and lower said platform on the closing of said cover.

2. In a device of the character described, a cabinet, a platform mounted to move up and down in said cabinet, a cover for said cabinet, connecting means having a lost motion between said cover and said platform for elevating said platform after a predetermined opening movement of said cover without said platform spring means for closing said cover and means for retarding the closing movement of said cover and the descending movement of said platform.

3. In a device of the character described, a cabinet, a movable platform in said cabinet adapted to have a book supported thereon, a cover for opening and closing said cabinet, an actuating member, a latch for locking said cover to said cabinet, and means carried by said actuating member for unlocking said latch on movement of said actuating member, an arm mounted to swing in said cabinet below said cover and means carried by said actuating member to operate said arm to raise said cover on movement of said actuating member after said latch has been unlocked thereby.

4. In a device of the character described, a cabinet, a movable platform in said cabinet adapted to have a book supported thereon, a cover for closing the top of said cabinet above

said platform, an actuating member cooperating with said cover to release said cover, spring means connected to said cover for closing said cover on the release thereof and checking means connected to said cover for checking the closing movement thereof, said checking means comprising a pair of swinging cylinders each having a piston mounted to slide therein, a piston rod for each of the pistons, the piston rod of one of said cylinders being connected to said cover to check the first part of the movement of said cover and the piston rod of the other of said cylinders being connected to said first cylinder to check the swinging movement of said cylinder and in turn the latter part of the closing movement of said cover.

5. In a device of the character described, a cabinet, a cover mounted to freely swing on said cabinet, a book support associated with said cover to move therewith by swinging said cover on said cabinet, latch means within said cabinet for locking said cover to said cabinet, an actuating member within said cabinet and operable from the outside of said cabinet for releasing said latch means.

6. In a device of the character described, a cabinet, a cover mounted to freely swing on said cabinet, a book support associated with said cover to move therewith by swinging said cover on said cabinet, a latch means within said cabinet for locking said cover and the book support against movement, an actuating member within said cabinet for releasing said latch means from said cover and permitting a manual operation of said cover and book support without said actuating member, a cylinder mounted to swing within said cabinet, a piston movable in said cylinder and means connecting said piston to said swinging cover to retard the closing movement thereof.

7. In a device of the character described, a cabinet, a swinging cover for said cabinet, a platform movable up and down in said cabinet, a pair of crank arms mounted on a rock shaft below said platform, one of said crank arms being connected to said platform, the other of said crank arms being connected to said swinging cover whereby movement of the cover causes movement of the platform.

8. In a device of the character described, a cabinet, means for holding a book in place in said cabinet, a cover for said cabinet and connecting means between said cover and said book holding means for moving said book out of said cabinet on the movement of said cover by the hand, said connecting means having a lost motion therein to permit a partial raising of the cover without the book holding means for the insertion of the fingers of the hand behind the cover.

9. In a device of the character described, a cabinet, a movable book support in said cabinet adapted to have a book fixedly anchored thereto, a cover mounted to freely swing on said cabinet so as to open and close said cabinet above said book support, said cover being operatively connected with said book support to move said book support on the swinging of said cover in opening and closing said cabinet, an actuating member, a latch for locking said cover to said cabinet and holding said book support against movement in said cabinet, and means carried by said actuating member for unlocking said latch to allow said cover to freely swing on said cabinet and move said book support.

10. In a device of the character described, a cabinet, a movable platform in said cabinet adapted to have a book supported thereon, a cover mounted to freely swing on said cabinet for opening and closing the top of said cabinet above said platform, said cover being operatively connected with said platform to move said platform on the opening and closing of said cover, locking means for locking said cover to said cabinet, an actuating member for releasing said locking means to permit the swinging of said cover and the movement of said platform by said cover, spring means connected to said cover for closing said cover on the release thereof and checking means associated with said cover for checking the closing movement thereof.

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