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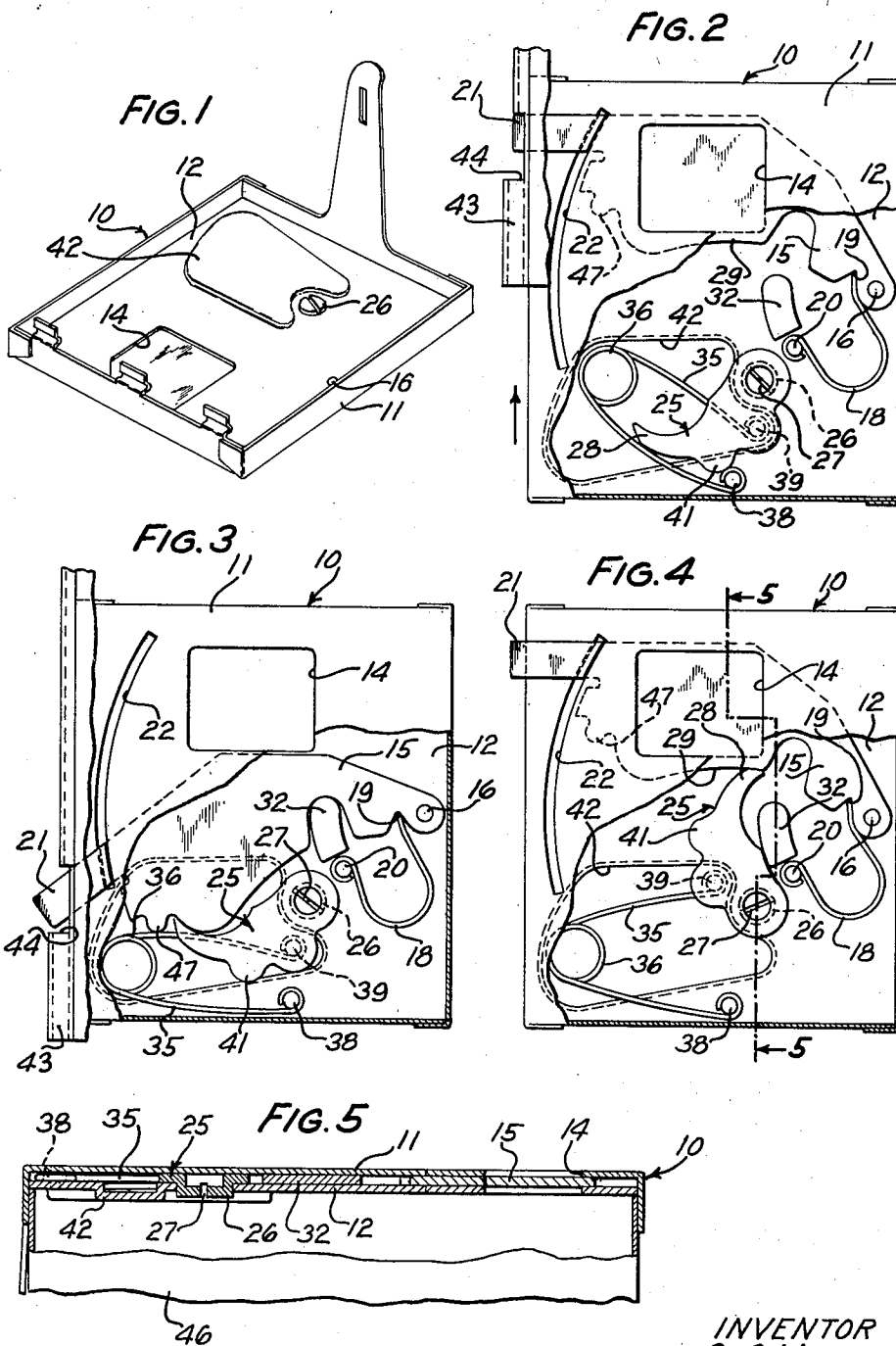
C. C. VEALE

2,096,476

COIN RECEPTACLE COVER

Filed April 17, 1936

2 Sheets-Sheet 1



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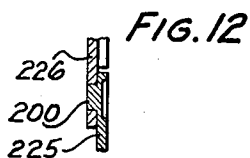
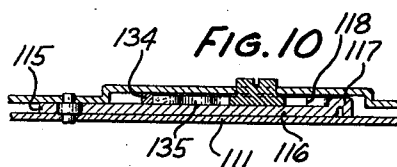
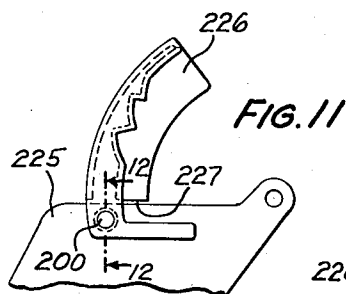
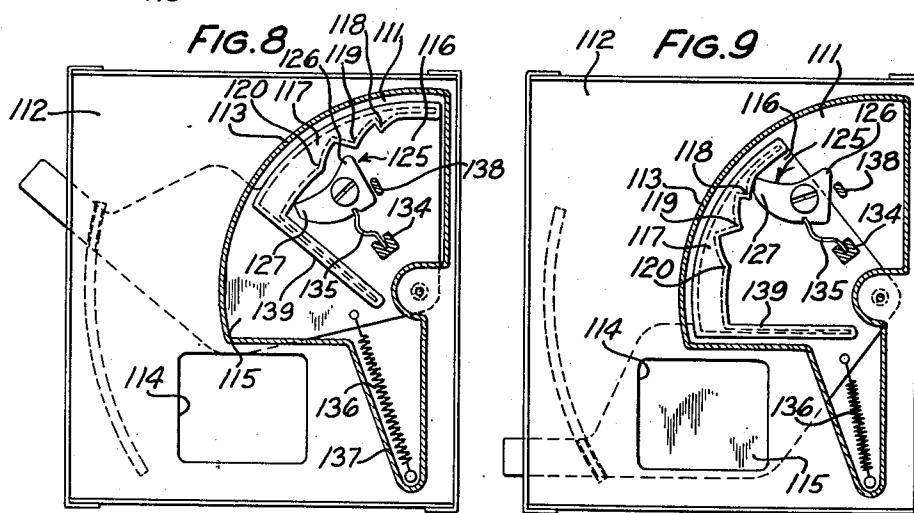
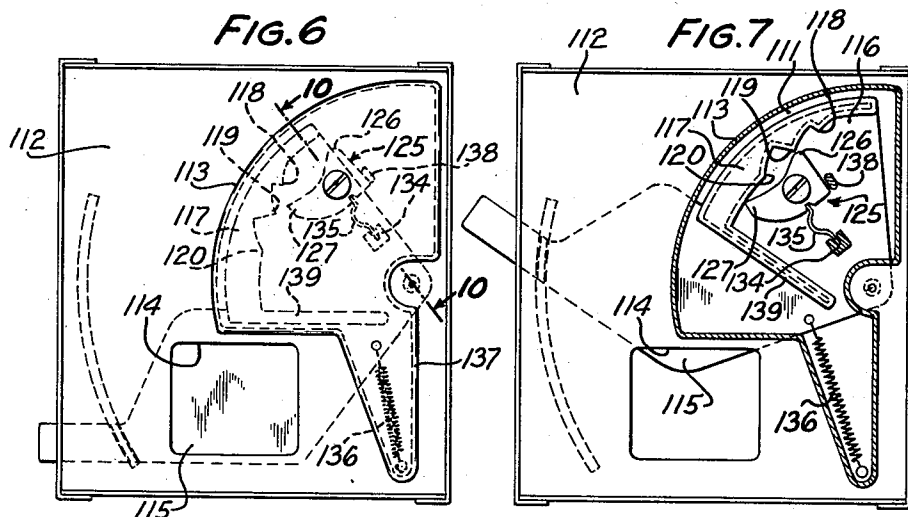
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COIN RECEPTACLE COVER

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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COIN RECEPTACLE COVER

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11 Claims. (Cl. 232—15)

This invention relates to covers for coin boxes or receptacles and more particularly to covers for coin receptacles of the type used in telephone coin collectors, such a receptacle being described, for example, in United States Patent 1,121,063, issued December 15, 1914 to W. O. Beck.

Cash receptacles used in telephone coin collectors are ordinarily furnished with a hinged cover which has an opening therein through which the collected coins pass into the receptacle. A sliding shutter is usually provided for closing the coin receiving opening. A projection carried by an extension of the shutter is adapted to engage with a portion of the coin collector housing when the coin receptacle is placed therein, this engagement being effective, when the receptacle is being inserted in the housing to move the shutter to open position and being effective, when the receptacle is being removed, to move the shutter to closed position. Means is ordinarily provided for automatically locking the shutter in closed position.

In accordance with the usual practice the empty coin receptacles are prepared for distribution at a central cashier's office. Before the cover is placed on the receptacle the shutter locking means is set in "free" position, i. e., a position which allows the shutter to move to open position. The cover is then placed in position on the receptacle and suitably secured thereto, for example, by means of a special seal. The receptacles are then taken by designated employees to be placed in the telephone coin collectors. As the receptacle is inserted in the housing the shutter is moved to open position as stated above and the locking means is ordinarily so arranged that before the receptacle is fully inserted, the locking means is tripped and moved into locking position. Now when the filled receptacle is later withdrawn the shutter is closed as above mentioned, the locking means then being effective to hold the shutter in closed position.

Objects of the present invention are to simplify and improve the construction of coin receptacle covers of the above mentioned type and to provide a simple and reliable shutter locking device therefor.

In accordance with one embodiment of the invention, there is provided a coin receptacle cover having a coin receiving opening adapted to be closed by a slidable shutter arranged to be locked in closed position. The shutter locking means comprises a pawl mounted on the underside of the cover, the pawl being biased in either of two positions, "locking" or "free", by a spring. When

in "locking" position the pawl engages an edge of the shutter and prevents moving the shutter to open position, and when in the "free" position the pawl is out of the path of the shutter and permits the shutter to move to open position.

Other features and advantages of the coin receptacle cover contemplated by the invention will be apparent from a consideration of the following detailed description and the annexed drawings in which

Fig. 1 is a view of the underside of a coin receptacle cover embodying the invention;

Fig. 2 is a plan view of the cover with a portion of the upper or outer plate removed to show the position of the shutter when the coin receiving opening is closed. In this view the locking pawl is shown in free position, i. e., in the position which permits the shutter to be moved to open position;

Fig. 3 is a view similar to Fig. 2, the shutter being shown in open position and the locking pawl in active position, i. e., in condition to follow the closing movement of the shutter and then lock the shutter in closed position;

Fig. 4 is a view similar to Fig. 2, with the shutter in closed position and the pawl in locking position;

Fig. 5 is an enlarged sectional view on line 5—5 of Fig. 4, and shows a portion of the coin receptacle;

Fig. 6 is a plan view of the underside of another form of coin receptacle cover embodying the invention, showing the shutter in closed position and the locking pawl in free position;

Fig. 7 is a view similar to Fig. 6, with a portion of the inner plate removed to show more clearly the shutter locking device. In this view the locking pawl is shown as it is being tripped from the free position to the locking position;

Fig. 8 is a view similar to Fig. 7 showing the shutter in the open position and the locking pawl in the tripped position;

Fig. 9 is a view similar to Fig. 7, showing the shutter in closed position and the locking pawl in locking position;

Fig. 10 is an enlarged sectional view on line 10—10 of Fig. 6;

Fig. 11 is a fragmentary plan view illustrating an alternative construction for the shutter shown in Figs. 6 to 10, and

Fig. 12 is an enlarged sectional view taken on line 12—12 of Fig. 11.

Referring now to the drawings, and first to Figs. 1 to 5, a coin receptacle cover 10 is shown which comprises a flanged outer plate 11 and an

inner plate 12 secured together in spaced relation by rivets or otherwise. A coin receiving opening 14 is provided in the plates and the plates are spaced apart sufficiently to slidably accommodate therebetween a shutter plate 15 for closing the opening. The shutter is rotatably mounted on inner plate 12 by a pivot pin 16. A formed U-shaped spring 18, also mounted on inner plate 12, serves to normally hold shutter 15 in closed position with respect to opening 14. One end of spring 18 presses against the shutter at 19 and the other end of the spring is attached to a pin 20 secured to inner plate 12. An extension arm 21 of shutter 15 extends upward through an arcuate slot 22 provided in outer plate 11 and then laterally beyond the edge of the cover as shown.

A pawl 25 is rotatably mounted on inner plate 12 on the same side as shutter 15. An embossed projection 26 on the pawl serves as a pivot for the pawl and extends through a bearing hole in the inner plate so that when the cover is removed from the receptacle the pawl may be rotated by means of a screw driver or similar tool applied to a slot 27 of the pivot screw. Obviously, this pivot screw is accessible only from the underside of the cover.

When the locking pawl 25 is in locking position, as shown in Fig. 4, a projecting tip 28 of the pawl engages with an arcuate edge surface 29 of the shutter 15 to hold the shutter in closed position and prevent moving it to open position. In the locking position the pawl engages a fixed stop 32 to prevent further movement of the pawl in a clockwise direction (Fig. 4). The stop 32 also serves as a spacer for the inner and outer cover plates. A formed spring 35 holds the pawl in locking position against stop 32. As shown, this spring is of "hairpin" or U-shape form, having a loop portion 36 intermediate its ends to increase its flexibility. Spring 35 is pivotally attached at one end to a pin 38 fixed to inner plate 12 and is pivotally attached at its other end to a pin 39 fixed to locking pawl 25 eccentrically with respect to the pivot 26 of the pawl.

In Fig. 2 the locking pawl 25 is shown in the free position, wherein it is out of the path of shutter 15 and permits free movement of the shutter to the open position shown in Fig. 3. When the pawl is in the free position, a projection 41 on the pawl engages the fixed pin 38 to prevent further movement of the pawl in a counter-clockwise direction (Fig. 2). It will be apparent from an examination of Fig. 2 that the spring 35 serves to hold the locking pawl in the free position against stop pin 38, since the spring pivot pin 39 is now beyond the dead center position with respect to locking pawl pivot 26 and spring pivot pin 38. It will be obvious, also, that the spring 35 tends to bias the locking pawl in whichever direction it may be rotated beyond the dead center position. Thus, the spring 35 serves to bias the locking pawl in either of the two positions, namely, the locking position shown in Fig. 4 and the free position shown in Fig. 2. A portion of the inner cover plate 12 is recessed or embossed, as indicated at 42, to provide sufficient clearance for free movement of biasing spring 35.

The manner in which the shutter 15 is moved to open position with respect to coin receiving opening 14 as the coin receptacle is inserted in the coin collector housing, is illustrated in Figs. 2 and 3. A portion 43 of the guide rail which is attached to the coin collector housing is shown, the guide rail being provided with an aperture 44 in which the arm 21 of the shutter is positioned,

as shown in Fig. 2, when the receptacle is placed in the housing. Then, as the receptacle is pushed back into position in the housing in the direction indicated by the arrow, arm 21 is prevented from moving by its contact with the rear edge of aperture 44 so that the shutter is, in effect, moved to open position (Fig. 3) with respect to coin receiving opening 14. Conversely, when the receptacle is being moved in the opposite direction, that is, when it is being withdrawn from the housing, the shutter is, in effect, moved to closed position with respect to opening 14. The respective dimensions and arrangement of the coin receptacle and the coin collector housing are such that it is impossible to insert the receptacle in the housing without first positioning shutter arm 21 in the guide rail aperture 44.

Before the coin receptacle is inserted in the coin collector housing, locking pawl 25 should, of course, be set in free position to allow shutter 15 to be moved to open position as above described. In order to move the pawl from the locking position shown in Fig. 4 to the free position shown in Fig. 2, a screw driver or similar tool is inserted in the slot of pivot 26, this action taking place, of course, before the cover has been placed in position on the coin receptacle, and the pawl is rotated by said tool to the free position, wherein it is held by the biasing spring 35.

Locking pawl 25 having been set in the free position, as above mentioned, cover 10 is placed on a coin receptacle 46, a portion of which is shown in Fig. 5, and sealed, after which the receptacle may be inserted in the coin collector housing. As stated above, the shutter is opened as the receptacle is pushed into the housing. As the shutter moves to the open position a projection 47 on the shutter engages the loop end of the spring 35 and pushes the spring from the position shown in Fig. 2 to the position shown in Fig. 3, wherein the spring pivot pin 39 is on the opposite side of the dead center position. The biasing action of spring 35 is now in the opposite direction to that of Fig. 2 and the spring now holds the pawl against the shutter, as shown in Fig. 3, as it tends to rotate the locking pawl to the locking position.

As long as the coin receptacle remains in the coin collector housing, shutter 15 remains in open position and locking pawl 25 remains biased in the position shown in Fig. 3. Upon withdrawing the coin receptacle from the housing the shutter is moved to closed position, as above stated. Pawl 25 follows the closing movement of the shutter under the biasing action of spring 35. Before the shutter completely closes, the projecting tip 28 of the locking pawl engages arcuate edge 29 of the shutter and prevents movement of the shutter to open position. As the shutter continues its movement to closed position the pawl projection 28 slides along arcuate edge 29 of the shutter until the shutter reaches the completely closed position shown in Fig. 4, where it is locked by the pawl.

After the coin receptacle has been removed from the coin collector housing, the seal is broken by an authorized person and the cover is removed from the receptacle. Before the cover is replaced, the locking pawl is reset in free position as mentioned above.

Referring now to Figs. 6 to 10, a modified form of the locking arrangement is disclosed. In accordance with this modified form, pivoted shutter 115 has an extension 116 formed with an arcuate embossment 117. Teeth 118, 119, and 120 are 75

provided on an arcuate edge of embossment 117 for cooperating with a locking pawl 125 pivotally mounted on inner cover plate 112. It will be noted that the pivotal axis of pawl 125 is parallel to the pivotal axis of shutter 115, i. e., the pawl moves in a plane which is parallel to the plane of the shutter. The pawl, however, in cooperating with the teeth on the embossed portion 117 of the shutter, moves in a plane slightly below the plane of the main portion of the shutter. Therefore, inner cover plate 112 is formed with a recessed portion 113 to allow for free movement of the pawl 125 and the embossed toothed portion 117 of the shutter.

A bowed leaf spring 135 serves to bias pawl 125 in either of two positions, locking or free. One end of spring 135 engages a V-notch in the pawl and its opposite end engages a V-notch in a fixed projection or block 134 on plate 112.

In Fig. 6, shutter 115 is shown in closed position and locking pawl 125 is shown in free position. A coil spring 136 serves to normally hold shutter 115 in closed position. Inner cover plate 113 is embossed, as indicated at 137, to provide sufficient clearance for the spring. As the shutter is moved to open position, tooth 118, which is of lesser depth than teeth 119 and 120, passes freely beyond projection 126 on locking pawl 125, but tooth 119 strikes said projection and trips the pawl beyond the dead center position, as shown in Fig. 7. Locking tip 127 of the pawl is now biased by spring 135 against the untoothed portion of the inner edge of arcuate embossment 117 of the shutter, so that the shutter is free to continue its opening movement until it reaches the completely open position shown in Fig. 8.

Upon movement of the shutter from open position to closed position, teeth 120, 119, and 118 of the shutter slide past locking pawl tip 127, the biasing spring 135 causing the pawl tip 127 to drop into the depression of each of the shutter teeth as they pass beyond the pawl. It will be obvious, therefore, that after the first tooth 120 passes the locking tip of the pawl during the closing movement of the shutter, it is impossible to again open the shutter completely without first resetting the locking pawl to free position. This prevents the insertion of the coin receptacle to the proper position in the coin collector housing if the locking pawl has been tripped to locking position either accidentally or otherwise. The pawl, however, does not prevent the shutter from continuing its closing movement to the completely closed position, in which the pawl engages the tooth 118 to prevent opening movement of the shutter, as will be apparent by referring to Fig. 9.

After the coin receptacle has been removed from the coin collector housing, the cover is removed from the receptacle. Before the cover is replaced on the receptacle, locking pawl 125 is reset to free position in the same manner as locking pawl 25 previously described. When in the free position, pawl 125 is biased by spring 135 against a fixed stop 138, as shown in Fig. 6. Stop 138 may consist of a pin or lug fixed on the inside of inner cover plate 112, or it may comprise an embossment on the inner cover plate.

As will be apparent by reference to Figs. 6 to 9, extension plate 116 of the shutter separates locking pawl 125 from outer cover plate 111 at all times. This arrangement together with the embossed radial rib 139 on the shutter precludes access to the locking pawl through the coin receiving opening 114.

Referring now to Figs. 11 and 12, an alternative form of shutter construction for use in conjunction with the locking pawl arrangement shown in Figs. 6 to 9 is disclosed. In this form of shutter, a separate toothed extension 226 is provided which is pivotally connected to main portion 225 of the shutter. An end edge 227 of toothed extension 226 cooperates with an edge of shutter portion 225 to allow only slight rotary movement of extension 226 relative to shutter portion 225, this relative movement being sufficient to compensate for slight variations in the relative dimensions of the parts. Conveniently, the pivot for the toothed extension 226 may comprise an embossment 200 on shutter portion 225, as shown in Fig. 12.

While certain specific embodiments of the invention have been selected for detailed description, the invention is not limited in its application to the embodiments described. The embodiments described should be taken as illustrative of the invention rather than as restrictive thereof.

What is claimed is:

1. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a shutter on said cover for closing said opening, a pawl mounted on said cover and movable thereon to either of two positions, means on said shutter for cooperating with said pawl to hold the shutter in closed position and means effective when said cover is in position closing said box for biasing the pawl in one direction in one of said positions and in another direction in the other of said positions, the pawl being in the path of said first means in one of said positions and being out of the path of said first means in the other of said positions.

2. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a shutter on said cover for closing said opening, a pawl rotatably mounted on said cover and movable to either of two positions, means on said shutter for cooperating with said pawl to hold the shutter in closed position and a spring for biasing the pawl in one direction in one of said positions and in a different direction in the other of said positions, the pawl being in the path of said means in one of said positions and being out of the path of said means in the other of said positions.

3. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a shutter on said cover for closing said opening, a pawl mounted on said cover and movable to either of two positions, means on said shutter for cooperating with said pawl to hold the shutter in closed position and means effective when said cover is in position closing said box for biasing the pawl in one direction in one of said positions and in another direction in the other of said positions, the pawl being effective to cooperate with said means on the shutter in one of said positions and being ineffective to cooperate with said means in the other position.

4. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a shutter on said cover for closing said opening, a pawl rotatably mounted on said cover and movable to either of two positions, means on said shutter for cooperating with said pawl to hold the shutter in closed position, means for biasing the pawl in one direction in one of said positions and in another direction in the other of said positions, the pawl being effective to coop-

erate with said means on the shutter in one of said positions and being ineffective to cooperate with said means in the other position, and means carried by the shutter for causing movement of the pawl from the ineffective position to the effective position.

5. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a shutter on said cover for closing said opening, a pawl mounted on the cover for cooperating with an edge of the shutter to hold said shutter in closed position, said pawl being movable to either of two positions and means effective when said cover is in position closing said box for biasing the pawl in one direction in one of said positions and in a different direction in the other of said positions, the pawl being in the path of said edge of the shutter in one of said positions and being out of the path of said edge in the other of said positions.

6. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a shutter on said cover for closing said opening, a locking member pivotally mounted on said cover and movable to either of two positions, said shutter having a portion for cooperating with said locking member to hold the shutter in closed position, and means for biasing the locking member in one direction in one of said positions and in another direction in the other of said positions, said locking member being in the path of said shutter portion in one of said positions and being out of said path in the other of said positions.

7. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a movable shutter on said cover for closing said opening, a movable member on said cover for locking the shutter in closed position, means for biasing the locking member in either of two positions, the member being effective for locking the shutter in one of said positions and being ineffective for locking said shutter in the other of said positions, and means on the shutter effective upon moving the shutter to open position for engaging and moving said biasing means to thereby move the locking member from the ineffective position to the effective position.

8. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a movable shutter on said cover for closing said opening, a pawl mounted on said cover for movement about an axis perpendicular

to the plane of movement of the shutter, spaced projections on said shutter for cooperating with said pawl to prevent movement of the shutter to open position, and means for biasing the pawl in either of two positions, said pawl being effective in one of said positions for cooperating with either of said projections to prevent opening movement of the shutter and being ineffective in the other of said positions, one of said projections on the shutter being effective, upon moving the shutter to open position, for moving the pawl from the ineffective position to the effective position.

9. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a movable shutter on said cover for closing said opening, a pawl mounted on said cover, two spaced projections on said shutter for cooperating with said pawl, and means for biasing the pawl in either of two positions, said pawl being effective in one of said positions for cooperating with either of said projections on the shutter to prevent movement of said shutter to open position and being ineffective in the other of said positions, only one of said projections on the shutter being effective, upon moving the shutter to open position, for moving the pawl from the ineffective position to the effective position.

10. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a movable shutter on said cover for closing said opening, an arm pivotally connected to said shutter, a projection on said arm, a pawl mounted on the cover and movable to either of two positions, and means for biasing the pawl toward said arm in one of said positions, said pawl being effective when in said position for cooperating with said projection to hold the shutter in closed position.

11. A coin receptacle comprising a coin box, a cover therefor having a coin receiving opening therein, a movable shutter for closing said opening, an arm pivotally connected to said shutter, means for limiting the movement of said arm relative to the shutter, a pawl mounted on the cover and movable to either of two positions, and means for biasing the pawl toward said arm in one of said positions, said pawl being effective in said position for cooperating with said arm to prevent movement of the shutter to open position.

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