

Dec. 11, 1934.

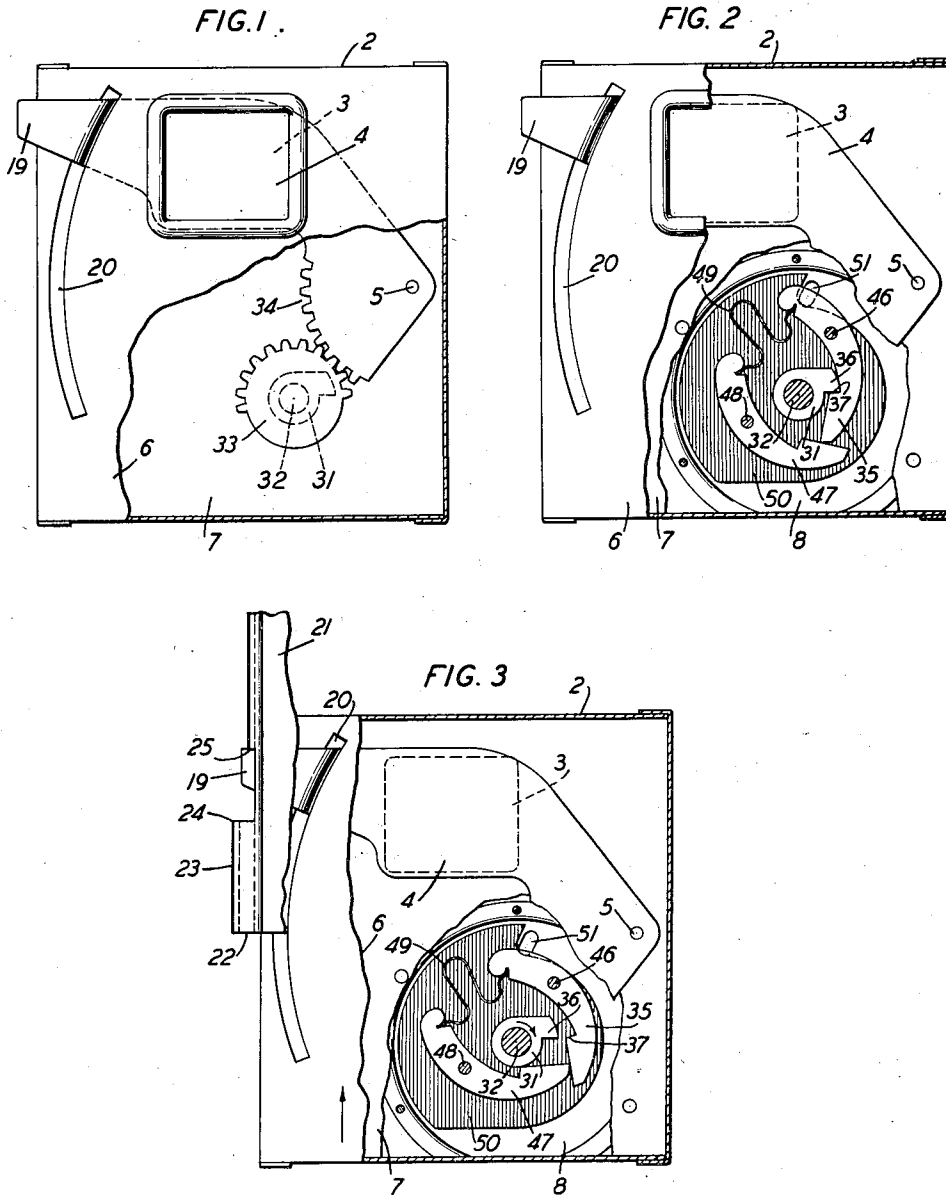
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1,984,037

COIN RECEPTACLE COVER

Filed March 8, 1932

2 Sheets-Sheet 1



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FIG. 4

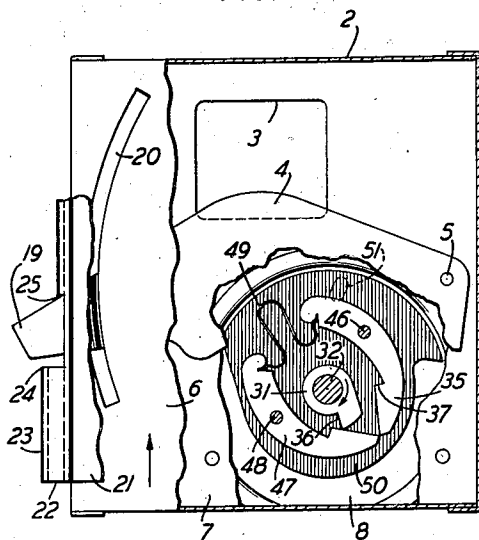


FIG. 5

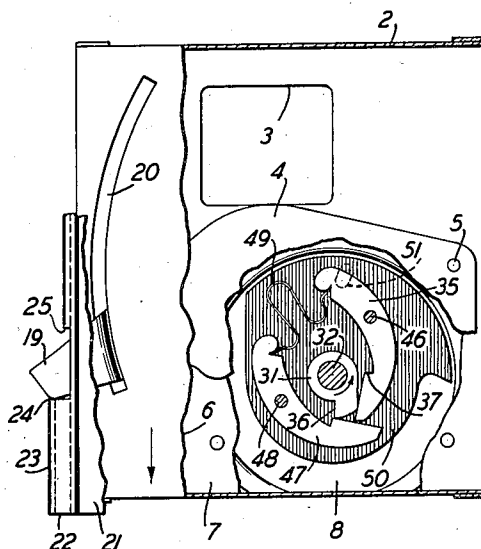
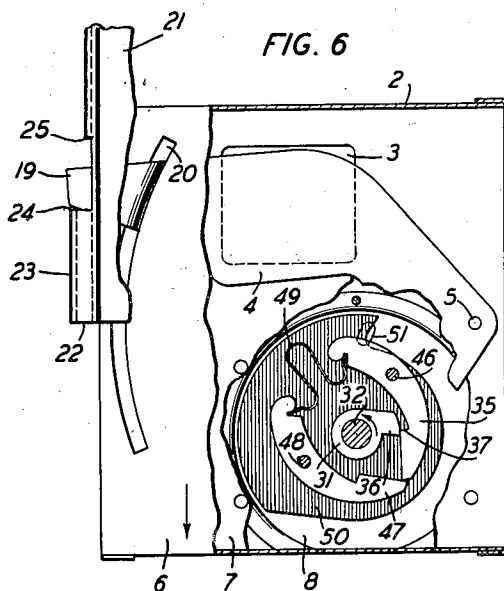


FIG. 6



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COIN RECEPTACLE COVER

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9 Claims. (Cl. 232—15)

This invention relates to coin receptacles and more particularly to self-locking detachable cash boxes for use with coin collectors for telephone systems but is not limited exclusively to such use.

The object of this invention is to provide a positive and simple locking device which operates upon the withdrawal of the coin receptacle from its housing to close and lock the coin opening therein.

In accordance with the above object this invention provides a coin receptacle having a cover provided with a coin receiving opening, a shutter therefor and a lock controlled by the shutter. The lock which is mounted on the underside of the cover comprises a cam which is operated by the shutter through the medium of a shaft carrying a pinion which meshes with gear teeth on the shutter, a locking pawl which engages the cam to lock the shutter in its closed position, and a resetting pawl which holds the locking pawl out of contact with the cam until tripped by the shutter through the medium of the cam.

Referring to the drawings:

Fig. 1 is a plan view of the coin receptacle cover showing the shutter in its closed position with a portion of the upper wall broken away showing gear teeth on the shutter which engage a pinion controlling the movement of a locking cam;

Fig. 2 is a plan view of the coin receptacle cover showing the shutter in its closed and locked position with a portion of the upper and lower walls broken away showing the locking mechanism which is contained in a separate housing on the under side of the cover in its locked position;

Fig. 3 is a plan view of the coin receptacle cover with a portion of the upper and lower walls broken away showing the locking mechanism in set position with the shutter about to begin its opening movement as the coin receptacle is inserted in the coin collector;

Fig. 4 is a plan view of the coin receptacle cover with a portion of the upper and lower walls broken away showing the relation of the elements when the coin receptacle has been inserted into the coin collector to a point where the self-locking mechanism is about to be tripped;

Fig. 5 is a plan view of the coin receptacle cover with a portion of the upper and lower walls broken away showing the shutter in its fully opened position with the locking mechanism in the tripped position; and

Fig. 6 is a plan view of the coin receptacle cover with a portion of the upper and lower walls broken away showing the position of the elements when

the cover is almost entirely removed from the coin collector.

The coin receptacle (not shown) upon which the cover 2 is placed when in position in a coin collector, (not shown) which may be of any of the forms well known in the art, such for example, as that shown in Patent 1,104,042 to O. F. Forsberg, July 21, 1914, rests within a compartment situated beneath a coin distributing mechanism. The coin receptacle cover 2 is provided with a coin opening 3 through which the deposited coins from the distributing mechanism (not shown) pass on their way to the coin receptacle. The cover 2 which is removably secured to the coin receptacle may be swung back on hinges located on the back thereof and not shown in the drawings, in order to open up the coin receptacle for the removal of the coins.

The cover 2 comprises upper and lower plates 6 and 7, respectively, between which is located a shutter 4 adapted to rotate about a pivot 5 to close the coin opening 3. The shutter 4 is provided with a portion 19 which extends upwardly from the inside of the cover 2 to the outside through a slot 20 in the upper wall 6 and then laterally beyond the edge of the cover 2 as indicated in Figs. 1 and 2. Integral with or attached to the upper side of the compartment in the coin collector (not shown) is a member 21 which is partially shown in Figs. 3, 4, 5 and 6. This member through engagement with the cover 2 guides the coin receptacle within the compartment provided in the coin collector (not shown). At one side the member 21 is provided with an opening 22 through which the portion 19 may extend. Edge 25 of the opening 22 is for the purpose of removing the shutter 4 from before the coin opening 3 through engagement with portion 19 when the coin receptacle is inserted within the compartment provided in the coin collector. The opening 22 is partially closed by a laterally extending pocket 23 of the member 21. The rear edge 24 of the pocket 23 is adapted to engage the portion 19 when the coin receptacle is being withdrawn from the compartment provided in the coin collector to rotate the shutter 4 to a position before the opening 3 as will be hereinafter described.

Attached to the under side of the lower plate 7 of the cover 2 is a housing 8 containing a locking mechanism to automatically lock the shutter 4 in its closed position when the coin receptacle is withdrawn from the coin collector. The locking mechanism comprises a cam 31 having a portion 36 which is adapted to engage a hook-shaped

locking pawl 35 at 37 as shown in Fig. 2. The cam 31 is fastened to a shaft 32 which extends up through the bottom plate 7 of the cover 2 into the space between the upper and lower plates 6 and 7, respectively. Attached to the end of the shaft 32 which terminates between the upper and lower plates 6 and 7 is a pinion 33 which meshes with gear teeth 34 on the shutter 4. By this structure cam 31 is caused to rotate about the shaft 32 in a direction counter to that of the shutter 4 whenever the latter is opened or closed. The locking pawl 35 swings about a fulcrum 46 as shown in Fig. 2. A resetting pawl 47 swinging about a fulcrum 48 is disposed on the other side of the cam 31 opposite the locking pawl 35 and is adapted to hold the latter in a retracted position when said pawl 35 is forced from the cam 31 by suitable means inserted through the opening 51 in the lower end of the mechanism housing 8. Both the locking pawl 35 and the resetting pawl 47 are given a tendency to swing inward at their lower ends by suitable springing means such as the compression spring 49. An auxiliary shutter 50 is provided just inside the mechanism housing 8 and is attached to the cam 31 so that it will close the resetting opening 51 at all positions except when the shutter is fully closed. This feature is to preclude having both the coin and resetting openings 3 and 51, respectively, open at the same time which would allow unauthorized persons to tamper with the locking mechanism.

When the coin receptacle, (not shown) is ready to be inserted in the compartment provided for it in the coin collector, (not shown) the shutter 4 is closed and the locking elements are approximately in the position shown in Fig. 3. It will be noticed that the locking pawl 35 is held in a retracted position by the resetting pawl 47 against the pressure of spring 49. As the coin receptacle is inserted in said compartment, the portion 19 of the shutter 4 projects through the opening 22 and passes inside of the pocket 23. The projection 19 thereupon engages the rear edge of the opening 22 at 25 and as the coin receptacle is forced back into place in the direction shown by the arrow in Fig. 3, the shutter 4 is rotated in a counter clockwise direction about its pivot 5 thus uncovering the opening 3. Movement of the shutter 4 causes the pinion 33 to turn in a clockwise direction about its axis through the medium of gear teeth 34. The pinion 33 in turn rotates the shaft 32 and causes the cam 31 to move in a clockwise direction. When the cam 31 has rotated sufficiently it comes in contact with the resetting pawl 47 and upon further opening of the shutter 4 bears against the pawl 47 forcing it outward. Fig. 4 shows the positions of the elements when the cover has been inserted into the coin collector to the point where the self-locking mechanism is about to be tripped. The cam 31 has forced the resetting pawl 47 outward to a point where the locking pawl 35 is about to slip off the resetting pawl 47. Fig. 5 shows the position of the elements when the coin receiver has been fully inserted in the coin collector. The shutter is fully open and the resetting pawl 47 has been forced back by the cam 31 to such a point that the locking pawl 35 has slipped off and under the pressure of spring 49 has moved inward to bear on the cam 31. The mechanism remains in this tripped position while the coin receptacle is in the coin collector.

When it is desired to remove the coin re-

ceptacle from the coin collector, (not shown) to empty the contents of the former, portion 24 of the pocket 23 bears against portion 19 of the shutter 4 and forces it over the opening 3. Rotation of the shutter 4 about its pivot 5 moves the cam 31 in a counter clockwise manner through the medium of pinion 33 and shaft 32. As the cam 31 rotates portion 36 bears against portion 37 of the locking pawl 35 and forces it outward as shown in Fig. 6. When the shutter has been closed sufficiently by edge 24 due to the receptacle being withdrawn, portion 36 of the cam 31 clears portion 37 of the locking pawl 35 and the latter under the pressure of spring 49 snaps inwardly. Portion 37 of the locking pawl 35 then blocks clockwise movement of the cam 31 as shown in Fig. 2 and locks the shutter 4 in its closed position.

After being removed, the coin receptacle may be opened by an authorized person. To reset the locking mechanism suitable means may be inserted in the resetting opening 51 to bear against the locking pawl 35 and cause it to rotate about its pivot 46 against the pressure of spring 49 to a point where the resetting lever 47 will clear the end of pawl 35 and snap inward under the pressure of spring 49. The locking pawl 35 is retained in this position until released by the cam 31 as hereinbefore described. The cover 2 is then ready to be placed on the coin receptacle for reinsertion in the coin collector.

When the coin receptacle is inserted in the coin collector the auxiliary shutter 50 which is attached to the shaft 32 is also caused to rotate when the shutter 4 is forced open and closes the opening 51. The shutter 50 is so designed that while the opening 3 is uncovered to any degree by the shutter 4, the opening 51 will be closed.

What is claimed is:

1. A coin receptacle having a coin receiving opening therein, a shutter for said opening, means for locking said shutter in closed position, said locking means comprising a cam controlled by said shutter, a pawl to engage and lock said cam when said shutter is in closed position, and means to hold said locking pawl in unlocked position, said holding means being controlled by said cam to release said locking pawl.

2. The combination of a cover for a coin receptacle having a coin receiving opening therein, a shutter for said opening, means for locking said shutter in closed position, said means comprising a cam, and means associated with said shutter for controlling said cam, said means comprising gear teeth on said shutter, a pinion engaging said gear teeth, a shaft supporting said pinion, said shaft also supporting said cam.

3. A coin receptacle having a coin receiving opening therein, a shutter for said opening, gear teeth on said shutter, a pinion meshing with said gear teeth, a shaft supporting said pinion, a cam mounted on said shaft, a locking pawl cooperating with means formed on said cam to lock said shutter in closed position.

4. In combination a coin receptacle, a cover therefor having a coin receiving opening therein, a shutter for said opening, means for locking said shutter in closed position, said locking means contained in a separate housing on the underside of said cover, and means to connect said locking means with said shutter, said means comprising a shaft, a pinion mounted on said shaft, gear teeth on said shutter, said pinion meshing with said gear teeth.

5. A coin receptacle having a coin receiving

opening therein, a shutter for said opening, means for locking said shutter in closed position, said locking means comprising a pawl, a second pawl for locking said first pawl in a predetermined position, a rotating cam cooperating with said second pawl to release said first pawl and means for simultaneously moving said first pawl into engagement with said cam and in the path of said second pawl to arrest the movement of both.

6. A coin receptacle having a coin receiving opening therein, a shutter for said opening, means for locking said shutter in closed position, said locking means comprising a rotatable cam controlled by said shutter and a pair of interlocking pawls disposed on opposite sides of said cam and in operative relation thereto, said pawls having means for alternately holding each other out of engagement with said cam.

7. The combination of a cover for a coin receptacle having a coin receiving opening therein, a shutter for said opening, means for locking said shutter in closed position, said means comprising a cam rotatably driven by said shutter, a pawl to engage and lock said cam when said shutter is in closed position and a resetting pawl

for holding at times said locking pawl in unlocked position, said pawls being mounted and biased to have a portion of one pawl contact with a portion of the other pawl for substantially all positions of said cam.

8. In combination, a coin receptacle, a cover therefor having a coin receiving opening therein, a shutter for said opening, gear teeth on said shutter, a pinion meshing with said gear teeth, a shaft supporting said pinion, a cam mounted on said shaft, a locking pawl for engaging said cam to lock said shutter, a resetting pawl to hold said locking pawl in unlocked position, said cam actuating said resetting pawl to release said locking pawl.

9. A coin receptacle having a coin receiving opening therein, a shutter for said opening, means for locking said shutter in closed position, said means comprising a rotatable cam controlled by said shutter, a pair of pivotal interlocking pawls disposed on opposite sides of said cam, and means common to both pawls to hold them in engagement with each other and to move them into engagement with said cam.

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