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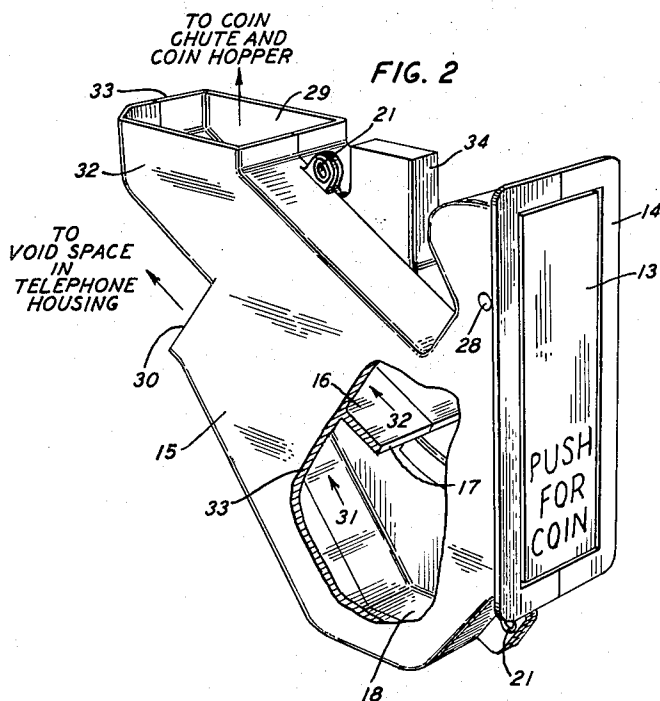
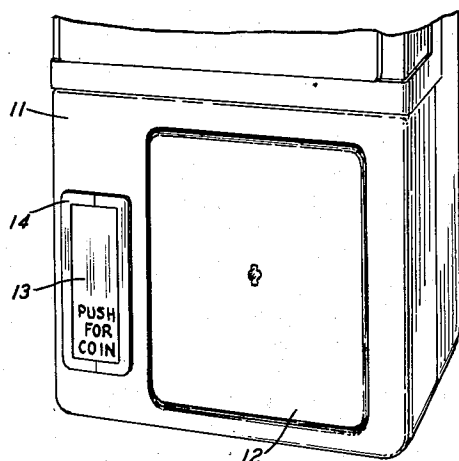
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TELEPHONE COIN RETURN ASSEMBLY

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FIG. 1



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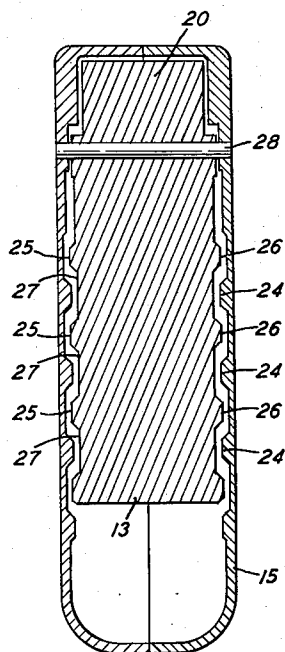
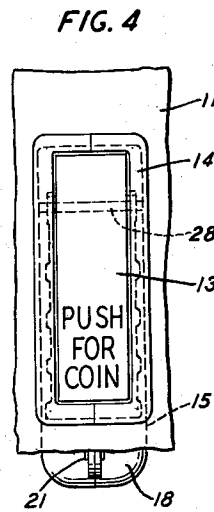
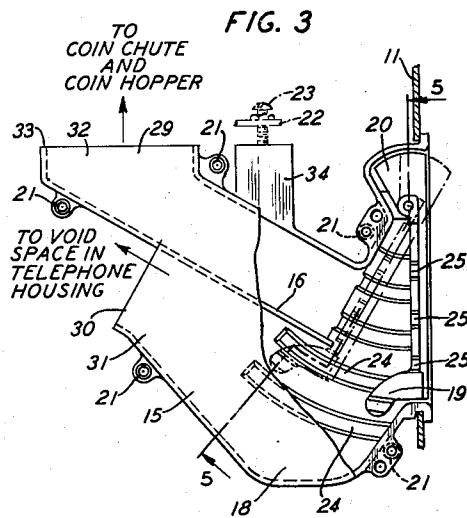
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TELEPHONE COIN RETURN ASSEMBLY

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2 Sheets-Sheet 2



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TELEPHONE COIN RETURN ASSEMBLY

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This invention relates to coin telephones and more specifically to coin telephone, coin-return apparatus and its principal object is to enhance the security aspects of such apparatus.

Coin telephones typically include a means for refunding deposited coins in the event of an uncompleted call. Coins accepted as genuine by the coin chute mechanism are normally directed to a coin hopper. In the hopper coins are controlled by a three-position vane mechanism which in its normal or unoperated position blocks each of two hopper coin outlet channels pending a determination of whether a call is completed or uncompleted. Upon the completion of a call, the operator applies a signal of a particular polarity to operate the vane mechanism to direct the coins in the hopper to the coin box for collection. For an uncompleted call the operator transmits a signal of opposite polarity and the vane mechanism swings in the opposite direction, thereby releasing the coins to a coin return receptacle where they are made available to the customer. Coins may also enter the coin return receptacle directly from the coin chute if they have been rejected as spurious as a result of failing to pass one or more of the tests imposed by the chute mechanism.

Heretofore, the construction of coin return receptacles has permitted unscrupulous persons to stuff the lower portion of the coin channel in the receptacle with foreign material such as a sponge or crumpled paper for example, thereby blocking the return of coins to the lower portion of the receptacle enclosure where they are intended to be made available to customers entitled to a refund. After a period of time the fraudulent person may return to the coin telephone, removing the stuffing material and collect all the coins that were intended to be refunded during his absence.

Although swinging bucket-type entrance doors for coin return receptacles have reduced the type of fraud indicated above, such fraud has not been eliminated. Presently known arrangements merely require the exercise of more ingenuity on the part of the person with fraudulent intent. For example, bent wire hooks have been employed to force stuffing material around the bucket-type entrance doors in order to block off the coin return channel. Additionally, bits of sheet metal or wires are frequently jammed between the side of the entrance door and the body of the coin return receptacle to jam the entrance door shut. Such action is of course done with the same fraudulent intent as the action of stuffing the coin return channel which has been described above. Another type of fraud centered around the coin return receptacle is the insertion of a wire between the receptacle door and the receptacle housing in an attempt to reach a point in the coin telephone control circuit to which a false ground may be applied in order to circumvent the requirement for the deposit of the initial rate.

Accordingly, a specific object of the invention is to reduce the possibility of blocking-off the coin return channel of a coin telephone with foreign material.

Another object of the invention is to reduce the possibility of inserting foreign material between the entrance door of a coin return receptacle and the body of the receptacle.

These and other objects are achieved in accordance

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with the principles of the invention by a coin return receptacle which includes a dummy or false coin return channel which is fully exposed upon the opening of the entrance door. Further, in accordance with the invention the position of the swinging access door when in the fully open position fully blocks off the true coin return channel from any possible access by the customer. An inner wall member of the coin return receptacle partially isolates the true coin return channel from the dummy coin return channel. This isolation becomes complete upon the opening of the access door. The access door is pivoted at its upper end and, upon being opened, its free end is designed in accordance with the invention to come to rest against the wall which divides the true coin channel from the dummy coin channel.

With the access door in the fully open position, the mouth of the dummy coin channel is fully exposed to view. From all outward appearances, this channel appears to be a true coin channel and therefore the logical place to block off if it is desired to prevent coins from being returned. The insertion of foreign material into this channel, however, achieves no purpose since, in accordance with the invention, the back of the channel is open to the inside of the telephone housing and stuffing material, when rammed in the full length of the dummy coin return channel, merely falls harmlessly to the bottom of the coin telephone housing. More typically, however, stuffing material will merely remain in the mouth of the dummy coin channel.

In accordance with another aspect of the invention, the access door and the walls of the return receptacle which frame the access door are so constructed that the insertion of foreign material between the door and the receptacle walls is exceedingly difficult, if not impossible. The two sides of the rectangular access door are cast in a series of lands and grooves. The inner faces of the receptacle walls are similarly formed in lands and grooves which are arranged for cooperative meshing with the lands and grooves of the access door. Additionally, the return receptacle access door frame includes a raised lip member which further protects the spaces between the sides of the access door and the walls of the housing.

Accordingly, one feature of the invention is a coin telephone, coin return receptacle which includes a false coin return channel.

Another feature of the invention is a pivotally mounted coin return receptacle access door which, in its open position, positively blocks off a true coin return channel and which exposes to view a dummy coin return channel.

An additional feature of the invention is a coin return receptacle with lands and grooves on its inner walls which mesh cooperatively with corresponding lands and grooves on the sides of a pivotally mounted access door.

Another feature of the invention is a coin return receptacle access door frame which includes a lip member which covers any gap between the sides of the access door and the inner walls of the receptacle which bear against the sides of the access door.

These and other objects and features of the invention will be fully apprehended from the following detailed description of an illustrative embodiment of the invention and from the appended drawings in which:

FIG. 1 is a front view of a coin return receptacle in accordance with the invention as it appears installed in a coin telephone housing;

FIG. 2 is a perspective view of a coin return receptacle in accordance with the invention;

FIG. 3 is a partially cut-away cross-section view of a coin return receptacle in accordance with the invention;

FIG. 4 is a side view of the coin return receptacle shown in FIG. 3; and

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FIG. 5 is a cross-section view of the receptacle shown in FIG. 3, taken along the dotted line 5—5.

The over-all outside configuration of a coin return receptacle in accordance with the invention is best shown in FIG. 2. The receptacle 15 defines an essentially enclosed space with three openings. Top opening 29 provides an entry path for coins from the coin chute and coin hopper (not shown). Rear opening 30 merely connects the interior of coin return receptacle 15 to a void space in telephone housing 11, thus providing a ready outlet path for any foreign material which may be stuffed into receptacle 15. The front opening is provided with an access door 13 which is pivoted on pin 28. The front of receptacle 15 includes a flange 14 which is designed to fit against the outside of the telephone housing proper as shown in FIG. 1. In FIG. 1 the coin return receptacle is shown positioned just to the left of a door 12 which provides a means of access to the coin box (not shown). FIG. 2 shows the end portion of an internal wall 16 which divides the false coin channel 31 from the actual coin channel 32. The body portion of receptacle 15 which curves below the level of access door 13 provides a pocket-like collection area 18 which is designed to hold returned coins until they have been collected by a customer.

The receptacle 15 may advantageously be constructed in the form of two separate castings each provided with suitable drilled tabs or lugs 21 to accommodate fasteners. The receptacle itself is held in position in the telephone housing by flange member 14 and by connecting bolt 23, shown in FIG. 3, which extends from a suitable supporting structure, not shown, in the telephone housing. Connecting bolt 23 is threaded into a drilled and tapped projecting lug 22, which is affixed to the supporting structure, and bears down on raised positioning pad 34.

A more complete view of the internal structure of the coin receptacle is shown in FIG. 3. Internal wall 16 isolates dummy coin return chute 31 from actual coin return chute 32. This isolation is complete up to the end 17 of interior wall 16, shown in FIG. 2. With access door 13 in the fully open position, which is shown by dotted access door 13, FIG. 3, isolation between the two coin channels is complete since the lower portion of access door 13 bears against the end portion 17 of interior dividing wall 16.

The bottom portion of access door 13, FIG. 3, is formed into a tongue member 19 which protrudes downwardly, thereby permitting only a very limited access between the door frame opening and coin channel 32 even when access door 13 is in a midway or half-open position. The top portion of access door 13 is formed into a substantially wedge-shaped counterweight member 20 which enhances the free pivoting of access door 13.

The cross-section view shown in FIG. 5 illustrates, in particular, that the sides of access door 13 include a series of lands 26 and grooves 27. The sides 33 of receptacle 15 include arcuately disposed lands 24 and grooves 25 which are designed to mesh cooperatively with the lands and grooves on access door 13 as the door is pivoted on pin 28. In FIG. 4 it is evident that when access door 13 is in the closed position the land and groove joint between access door 13 and housing 15 is protected and hidden from view by flange member 14. Accordingly, with access door 13 in the closed position, it is impossible to wedge foreign material between access door 13 and receptacle walls 33. Even with door 13 in a partially or fully opened condition, the meshing lands and grooves between access door 13 and receptacle walls 33 make it difficult, if not impossible, to wedge in foreign material of any significant size.

With reference once again to FIG. 3, it is evident that when access door 13 is in the fully open position, false coin return channel 31 is accessible to the extent that it is possible to stick one's finger through the entrance-way in order to lodge foreign material in false coin re-

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turn channel 31. It is also evident, however, that stuffing foreign material in false coin return channel 31 in the manner described can in no way interfere with the proper operation of the coin return receptacle. Access door 13 may still be operated freely and coins directed to coin return channel 32 may still drop freely into the lower collection area 18. In the event that successive attempts are made to stuff the coin return channel with foreign material, back-opening 30 provides a free path for such foreign material to drop harmlessly into a void space in telephone housing 11.

The embodiment of the invention shown and described herein is intended as merely illustrative of the principles of the invention. Numerous other arrangements may be devised by persons skilled in the art without departing from the spirit and scope of the invention.

What is claimed is:

1. In a coin telephone, apparatus for receiving returned coins and for making such coins available to a customer comprising, in combination, a returned-coin housing member including a first opening for the receipt of returned coins, a second opening having customer-actuated access means, and a third opening providing access to the interior of the main housing of said telephone, an inner wall member dividing the interior of said housing into first and second channels, the lower portion of said housing including an internally concave bowl portion as a collection point for returned coins, said first channel connecting said bowl portion to said first opening, said second channel connecting said bowl portion to said third opening, said customer actuated access means comprising dual means for blocking off said first channel from exterior view and exposing said second channel to exterior view, whereby the possibility of introducing foreign material to block off said first channel from said bowl portion is substantially eliminated.

2. Apparatus in accordance with claim 1 wherein said customer-actuated access means comprises an access door, said returned-coin housing including a door frame defining the limits of said second opening, said door being pivotally mounted on said door frame, said door bearing against said frame in its closed position and having its free end bearing against said wall in its open position.

3. Apparatus in accordance with claim 2 wherein said door frame includes a raised lip member covering the space between the free end and the sides of said door and the walls of said returned-coin housing.

4. Apparatus in accordance with claim 2 wherein the outer edges of said access door include a first plurality of lands and grooves and wherein the inside surfaces of the walls of said returned-coin housing which guide the path of said door in its pivotal movement include a second plurality of lands and grooves located for cooperative meshing relation with said first plurality of lands and grooves.

5. In a coin telephone, apparatus for receiving returned coins and for making such coins available to a customer, said apparatus comprising a housing including a receptacle portion for storing returned coins until collection by a customer, said housing further including a first coin channel for guiding coins to said receptacle portion and a dummy coin channel providing an apparent but false location for blocking off said receptacle portion from said first coin channel, thereby reducing the possibility of effectively blocking off said first channel from said receptacle portion.

6. Apparatus in accordance with claim 5 wherein said housing includes an internal wall member partially isolating said first coin channel from said dummy coin channel, one end of said wall member terminating against said housing and the other end of said wall member being exposed to said receptacle portion.

7. Apparatus in accordance with claim 6 wherein said apparatus includes a manually operated access door having an open and a closed position, said access door in

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said open position bearing against said other end of said wall member thereby to complete the isolation between said first coin channel and said dummy coin channel.

8. In a coin telephone, apparatus for receiving returned coins and for making such coins available to a customer, said apparatus comprising a housing including a receptacle portion for storing returned coins until collection by a customer, said housing further including a first coin channel for guiding coins to said receptacle portion, an access door mounted in an accommodating opening in said housing and mounted for pivotal movement in said opening, said door including lands and grooves on its nonpivoted edges, the inner surfaces of the walls of said housing forming a guiding passageway for the pivotal movement of said door, said passageway having arcuately disposed lands and grooves for cooperative meshing relation with the lands and grooves of said door during the pivotal travel of said door, a dummy coin channel, substantially adjacent to said first coin channel, said door in its fully open position blocking off said first coin channel and exposing said dummy coin channel to said receptacle portion, providing thereby an apparent but false location for blocking off said receptacle portion from said first coin channel, whereby the possibility of

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effectively blocking off said first channel from said receptacle portion is substantially reduced.

9. In a coin telephone, a coin return receptacle for receiving returned coins and for making said coins available to a customer, said receptacle comprising, in combination, a housing member including an internally concave portion for receiving returned coins, a first channel for directing returned coins to said concave portion, a second channel adjacent said first channel, and manually operable common means for exposing said concave portion and said second channel to a customer for ready access and for blocking off said first channel, whereby a customer is prevented from temporarily blocking said first channel and whereby said second channel, which in effect appears to a customer to be said first channel, may be blocked without impeding the fall of returned coins in said first channel.

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