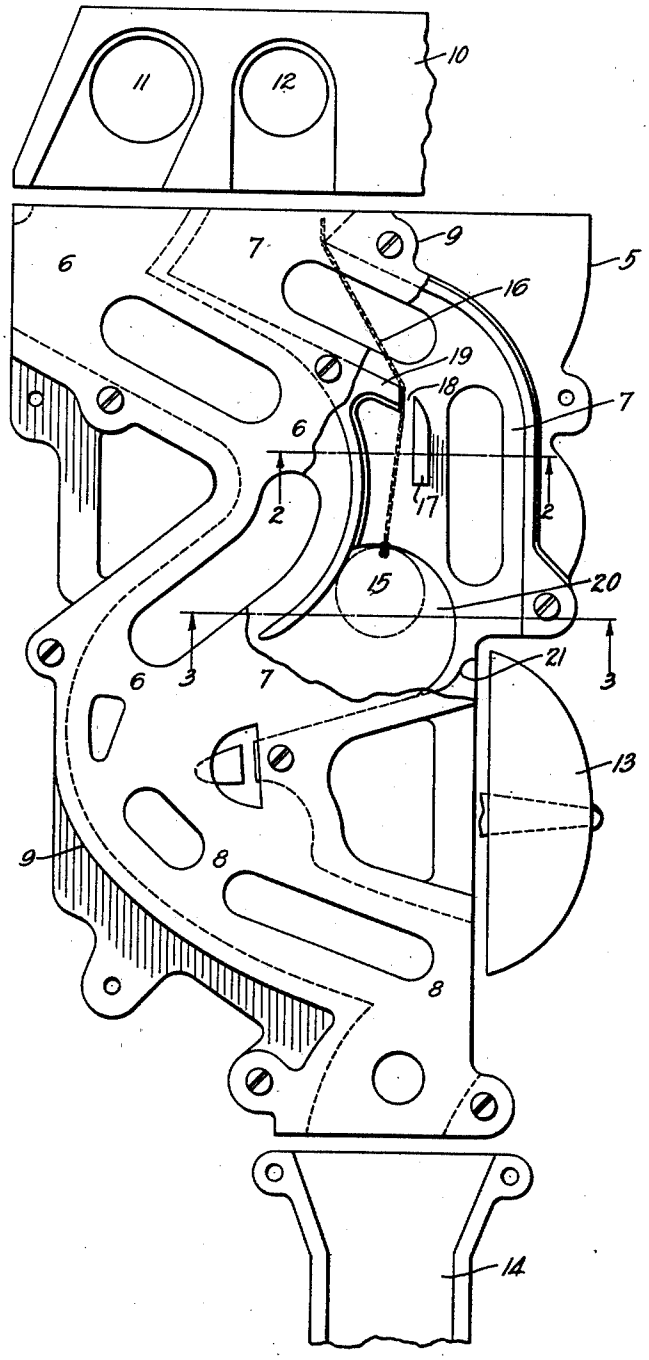
May 6, 1930. J. M. MELICK 1,757,464

COIN COLLECTION APPARATUS

Filed March 15, 1928 2 Sheets-Sheet 1

FIG. 1



INVENTOR
JOHN M. MELICK
BY Walter C. Kiesel
ATTORNEY

May 6, 1930. J. M. MELICK 1,757,464

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FIG. 2

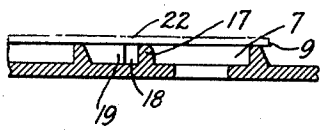


FIG. 3

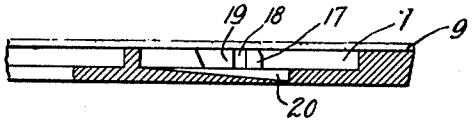


FIG. 4

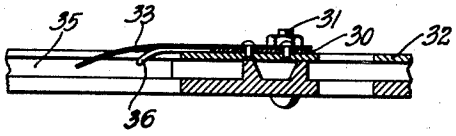


FIG. 5

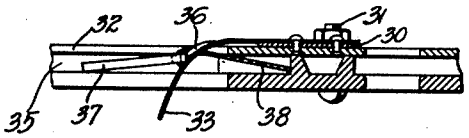
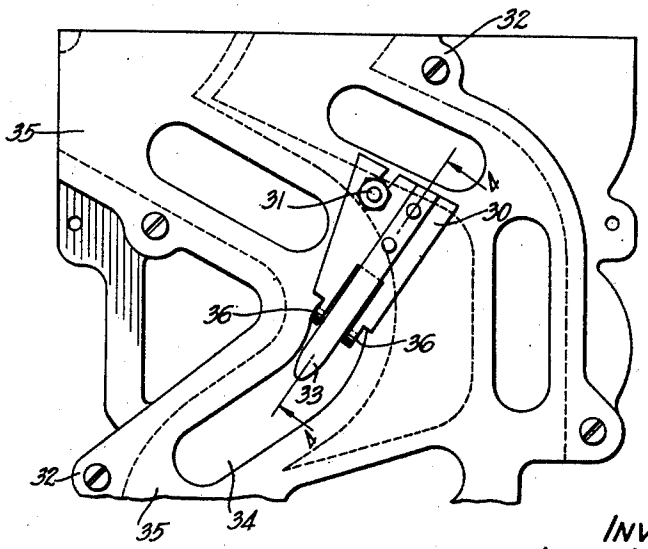


FIG. 6



INVENTOR
JOHN M. MELICK
BY Walter C. Kiesel
ATTORNEY

Patented May 6, 1930 1,757,464

UNITED STATES PATENT OFFICE

JOHN M. MELICK, OF CRESSKILL, NEW JERSEY, ASSIGNOR TO BELL TELEPHONE LABORATORIES, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

COIN-COLLECTION APPARATUS

Application filed March 15, 1928. Serial No. 261,792.

This invention relates to coin collection apparatus in which a coin or token is deposited for the use of an instrument or for the purchase of services or supplies from a vending device.

More particularly the invention relates to telephone toll apparatus such as that described in Patent No. 1,043,219 to O. F. Forsberg, patented November 5, 1912, where one or more coins are deposited for the use of a telephone instrument, the deposited coins indicating to a telephone operator through the instrumentality of a signal, the fact that they have been deposited. This type of apparatus is incorporated in what are known as telephone pay stations.

A common form of signaling apparatus used in connection with telephone pay stations or the like includes a coin chute in which channels are formed and along which the deposited coins travel and are guided to a signal device that is sounded or operated by the impact of the coin, or otherwise.

An object of the present invention is to prevent the fraudulent use of coin collecting apparatus.

In accordance with one feature of the invention an improved trap in a coin chute is provided, to prevent the partial or complete withdrawal of a coin attached to a string after it has passed far enough through the chute to operate the signal.

Another feature of the invention resides in the provision of means for preventing the repeated operation of the signal by the repeated raising and lowering of a coin attached to a string.

Referring to the drawings,

Fig. 1 shows a front view of the coin chute, a coin gauge for receiving coins of two different sizes, a signaling device and a portion of a hopper or coin receptacle. A coin attached to a string is shown suspended within the chute.

Fig. 2 is a sectional view along the line 2—2 of Fig. 1, looking in the direction indicated by the arrows, with a cover for the chute in place.

Fig. 3 is a sectional view along lines 3—3 of Fig. 1.

Fig. 4 is a sectional view along lines 4—4 of Fig. 6.

Fig. 5 is a view of the portion of the chute shown by Fig. 4 with a coin attached to a string in position for an attempted withdrawal.

Fig. 6 is a view of a portion of a coin chute with a trap externally attached for preventing the withdrawal of a coin attached to a string.

The location and method of use of the coin chute and its cooperating apparatus are readily understood by those acquainted with the art and for the purpose of clearness in the description and illustration of the invention, only such apparatus is shown as is necessary for a clear conception of the invention.

The coin chute shown by Fig. 1 comprises a member 5 having two channels 6 and 7 which merge into a common channel 8 at their lower end, and a cover 9. Above the chute 5 is a coin gauge 10 in which coin slots 11 and 12 are provided for depositing of coins of different denominations. A gong 13 is provided for signaling purposes. A portion of a hopper for receiving deposited coins is shown at 14. A coin 15 is shown in channel 7 attached to string 16. A portion of the cover 9 is shown cut away to present a view of the details of the trap. The channel 7 is made slightly wider, from the top of the chute to portion 19 of one of its walls, than the width of a coin which travels through it to strike signal 13. Below wall portion 19 the channel 7 is widened considerably and is deepened to form depression 20 into which a coin attached to a string falls after passing wall portion 19. Sloped projection 17 having a height greater than the depth of the channel 7 is placed in the widened portion of the channel 7 adjacent wall portion 19 and is spaced from wall portion 19 to form the slot 18. The lower wall of channel 7 immediately adjacent gong 13 is raised to form inclined portion 21 which serves to prevent a coin attached to a string after falling into depression 20 from being raised by the string to strike against gong 13.

A sectional view of projection 17 is shown by Fig. 2. The projection is seen to have a

height greater than the depth of channel 7 and to extend into an opening of cover 9. Fig. 3 shows how channel 7 has been widened and deepened to form depression 20.

It will now be explained how the trap illustrated by Figs. 1, 2 and 3, functions. Suppose, for example, that coin 15 attached to string 16 is inserted in coin slot 12. The coin by force of gravity will travel along channel 7 past the projection 17 and will strike the upper portion of the gong 13 thus signaling the operator that a coin has been deposited. Up to the time that the coin 15 has struck the gong the attached string 16 has followed the coin 15 along through the channel 7. If, after the signal has been given, an attempt is made to withdraw the coin by the string, the coin falls into depression 20 and the string is forced against the projection 17 and as the string is pulled taut it will slide up projection 17 and into groove 18. Due to the fact that the projection 17 has a height greater than the depth of the channel 7, it is not possible by alternately slackening and tugging the string to throw it out of the groove 18 back into the channel. On further withdrawal of the string the coin is caught against the lower portion of projection 17 and cannot be further withdrawn. Since depression 20 into which channel 7 has been widened is directly under projection 17 the coin, while the string is in the groove 18 will hang beneath projection 17 so that it is not possible by repeatedly raising and lowering the coin to cause it to strike gong 13 repeatedly thereby deceiving the operator into the belief that a plurality of coins have been deposited. If the channel 7 had the same width adjacent the upper portion of gong 13 as it has above projection 17, a suspended coin would hang above the gong, and it would be possible to give repeated signals by raising and lowering the string. Inclined portion 21 of the lower wall of channel 7, adjacent the upper portion of gong 13 prevents the coin on being raised from striking the upper portion of the gong. The depression 20 is made deeper than channel 7 in order that the suspended coin when the coin is raised will catch against the walls of the depression thus interfering with the upward movement and the movement towards the gong, of the coin, making it still more difficult to agitate it in such a manner as to strike the gong.

Fig. 6 shows a portion of a coin chute provided with a trap which may be readily attached to the cover of a coin chute. This trap comprises a metal member 30 which is secured by means of bolt 31 to cover 32. A flexible metal tongue 33 is attached to member 30 and extends through opening 34 of cover 32 into channel or slot 35. Curved portions 36 of member 30 also extend into slot 35.

Fig. 4 shows clearly how tongue 33 and curved portions 36 extend into slot 35. The tongue is so arranged that a coin attached to a string, traveling downwardly in slot 35 will press against the lower portion of tongue 33 lifting is sufficiently to permit the coin to pass underneath. After the coin has passed the tongue will spring back into its former position in the slot. Then if an attempt to withdraw the coin by an attached string is made the coin will ride up the lower portion of the tongue, bending the tongue undereneath it so that it will ride up against the curved portions 36 of member 30 and strike the cover 32 where it can move no further upward. Fig. 5 shows a coin 37 attached to a string 38 in its arrested position. The coin is shown bearing on the tongue bending it underneath and in an arrested position against curved portions 36 and cover 32.

What is claimed is:

1. A coin chute for collecting coins comprising a curved channel through which deposited coins travel having an opening in one wall thereof, a signal associated with said chute adjacent said opening adapted to be operated by deposited coins, and a trap in said chute for preventing coins attached to a string from being retracted comprising a sloped projection in said channel spaced from one wall of said channel to form a slot and a recessed portion in said channel.

2. A coin chute for collecting coins comprising a curved channel through which a deposited coin travels to operate a signal, a slot and a projection in said channel, and a recessed portion in said channel beneath said projection whereby if a string is attached to said coin for the purpose of withdrawing it, said string is forced into said slot upon attempted withdrawal of said coin and said coin is restricted in lateral movement by said recessed portion.

3. A coin chute for collecting coins comprising a curved channel through which a deposited coin travels, and a signal to be operated by said coin projecting into said channel, the lower wall of said channel adjacent said signal being provided with an inclined portion to deflect a retracted coin from said signal.

4. A coin chute for collecting coins comprising a curved channel through which a deposited coin travels, a slot and a projection in said channel and a signal to be operated by said coin extending into said channel below said projection, the portion of said channel adjacent said signal being widened and provided with a recessed portion so that if a string is attached to a deposited coin for the purpose of withdrawing it after said signal has been operated to operate said signal again, said string is caught in said slot and said coin falls in the widened portion of said channel away from said signal and into the recessed portion in said channel.

5. A coin chute for collecting coins com-

prising a curved channel through which a deposited coin travels, a projection in said channel, one side of said projection forming with a portion of one wall of said channel a slot, said channel being of greater width immediately below said slot and projection than above and having a recessed portion and a signal to be operated by a coin projecting into said channel, the portion of said channel adjacent said signal being provided with an inclined portion to deflect a retracted coin from said signal.

6. In a coin chute for collecting coins, a curved channel through which a deposited coin of the size for the channel travels, a signal projecting into said channel to be operated by said coin, and means in said channel for trapping a suspension element attached to said coin for the purpose of fraudulently operating said signal, said means acting upon entrapment of the suspension element to remove the deposited coin from that portion of the channel leading to the signal whereby said coin cannot, by being alternately raised and lowered, be made to repeatedly operate the signal.

7. In a coin chute for collecting coins, a curved channel through which a deposited coin travels, and a signal projecting into the lower portion of said channel to be actuated by a coin, the upper portion of said channel being relatively narrow compared to its lower portion and the lower portion of said channel having a raised portion which forms with the wall of the upper and narrow portion of the channel a groove, said raised portion having a curved surface whereby if a suspension element is attached to a deposited coin it will be drawn into said groove and said coin will be removed from the path leading to the signal thereby preventing the repeated operation of the signal by alternately raising and lowering the suspended coin.

In witness whereof, I hereunto subscribe my name, this 13th day of March, 1928.

JOHN M. MELICK.