July 18, 1961 L. B. McCLUNG 2,992,771

COIN COLLECTION APPARATUS

Filed Dec. 14, 1959 4 Sheets-Sheet 1

Fig. 1

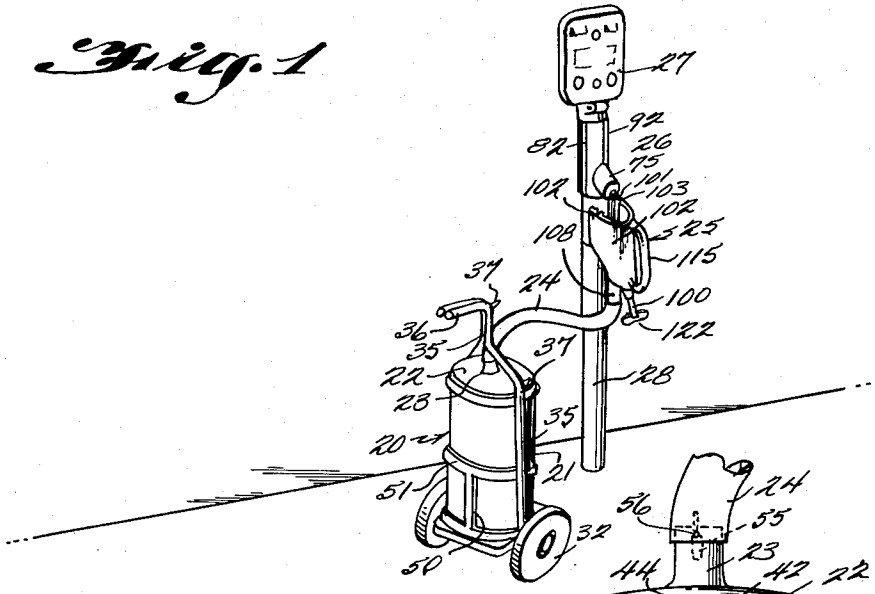
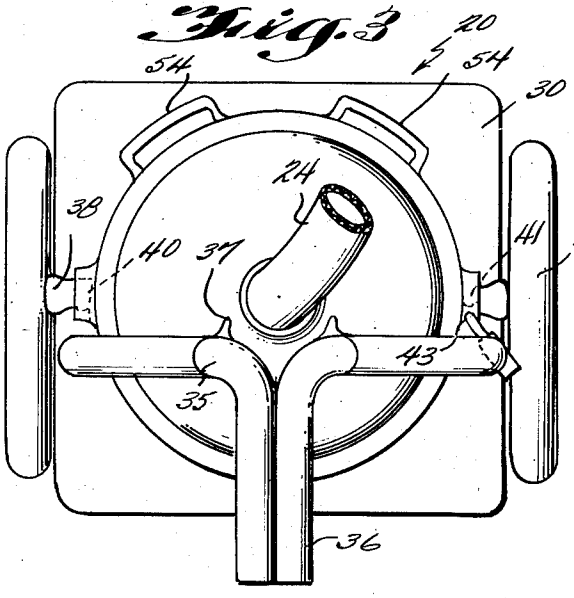


Fig. 3



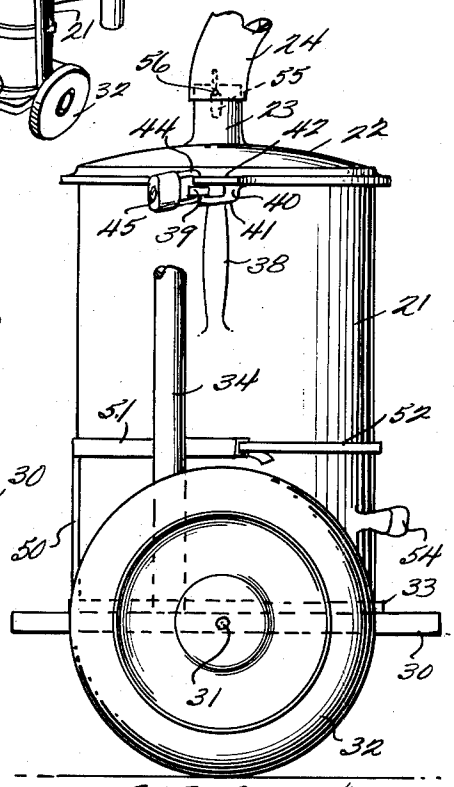


Fig. 2

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COIN COLLECTION APPARATUS

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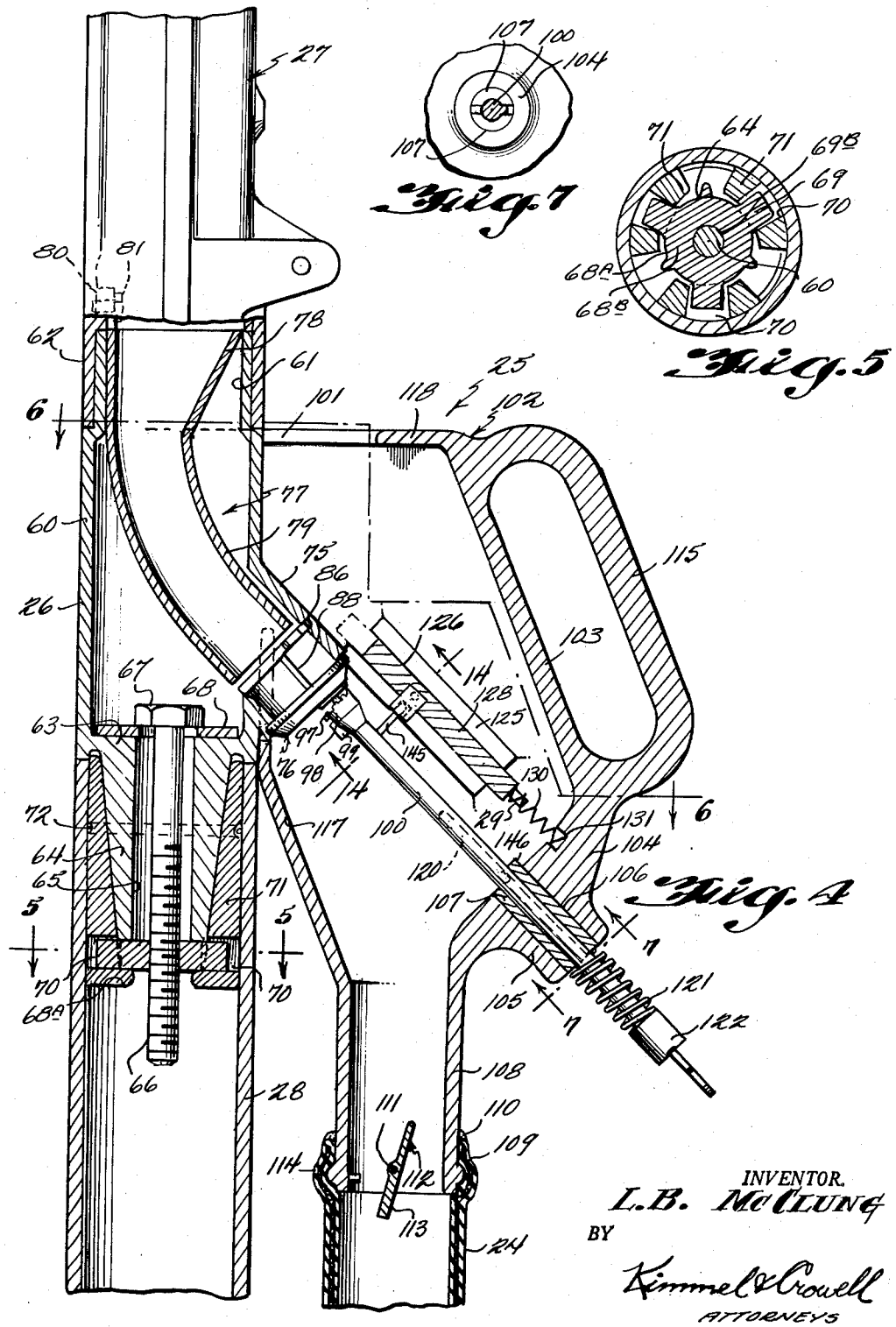


Fig. 7

Fig. 5

Fig. 4

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COIN COLLECTION APPARATUS

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Fig. 6

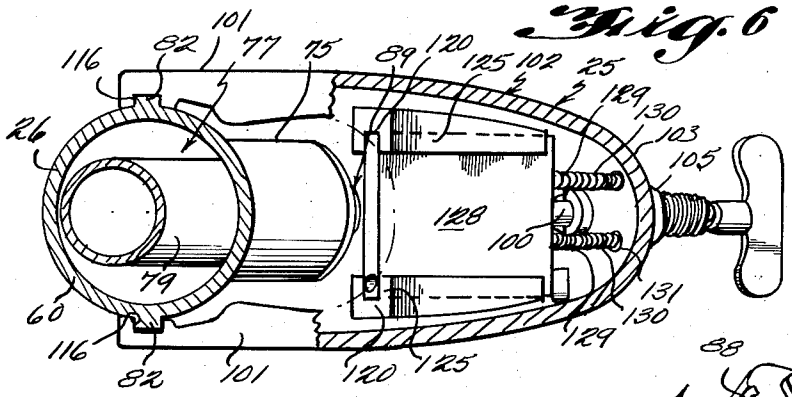


Fig. 10

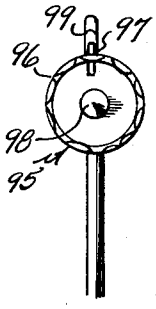


Fig. 11

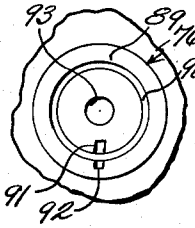


Fig. 8

Fig. 9

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COIN COLLECTION APPARATUS

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Fig. 11

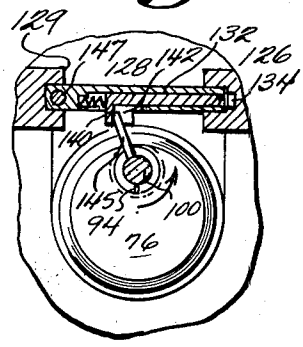


Fig. 12

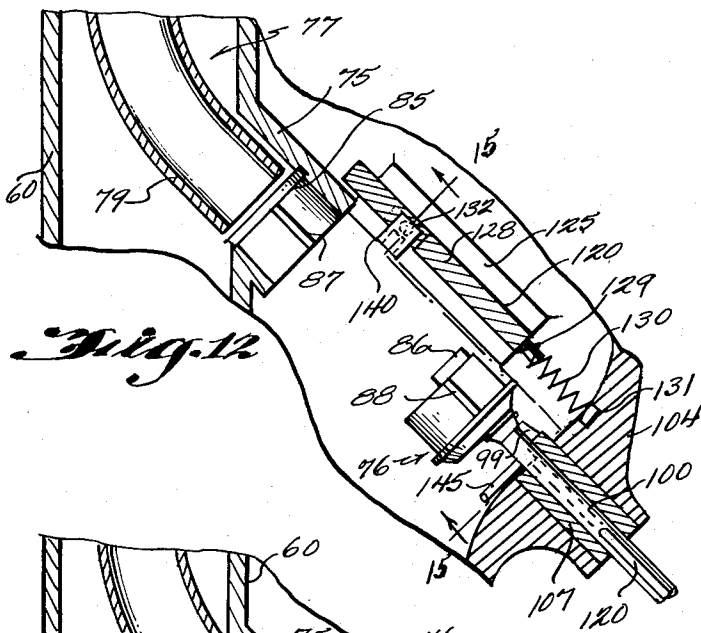


Fig. 15

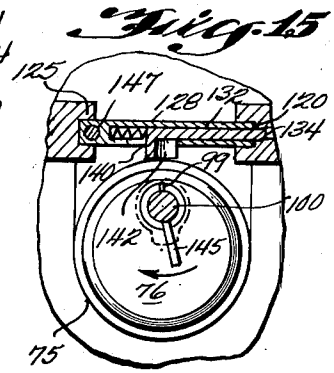


Fig. 13

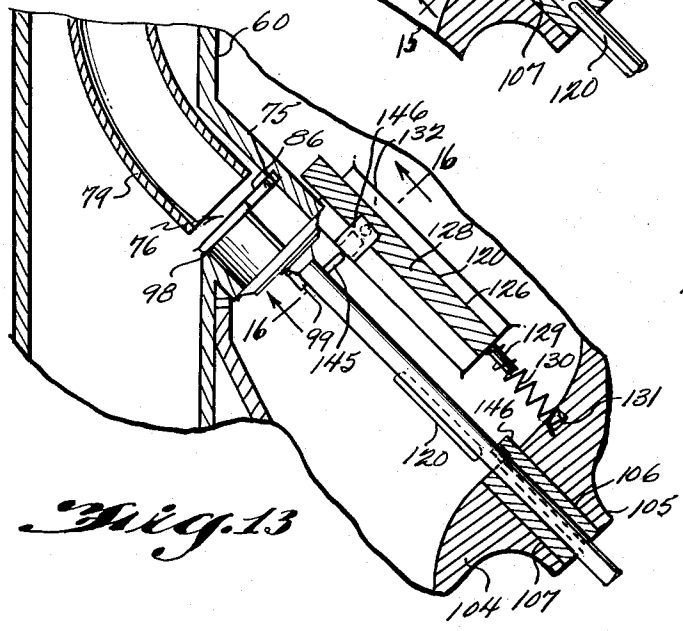
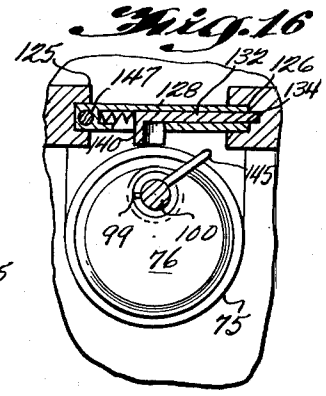


Fig. 16



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United States Patent Office 2,992,771 Patented July 18, 1961

2,992,771

COIN COLLECTION APPARATUS

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Filed Dec. 14, 1959, Ser. No. 859,509
9 Claims. (Cl. 232—16)

This invention relates to a coin collecting apparatus, and has particular applicability to a device for collecting coins from parking meters or similar devices.

A primary object of the invention is the provision of an improved apparatus by means of which coins may be collected from parking meters or the like in such manner as to render them completely inaccessible to the collector at all times, thus obviating the possibility of minor thefts by dishonest employees.

An additional object of the invention is the provision of a device of this character comprising a locked wheeled receptacle for storing coins collected from parking meters which is connected by means of a reinforced cable with a collector unit, the latter being so arranged as to lock to the parking meter when the coin box of the meter is emptied, and having means rendering the same incapable of removal from the meter until the coin box is relocked.

An additional object of the invention is the provision of a device of this character which may be readily adapted to a wide variety of types of parking meters.

Still another object of the invention is the provision of such a device which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture, assemble and utilize.

Other objects reside in the combinations of elements, arrangements of parts, and features of construction.

Still other objects will in part be obvious and in part be pointed out as the description of the invention proceeds, and shown in the accompanying drawings wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

FIGURE 1 is a perspective view of one form of apparatus embodying the instant invention shown in association with a parking meter;

FIGURE 2 is a fragmentary side elevational view of the apparatus of FIGURE 1, parts thereof being broken away;

FIGURE 3 is a top plan view of the apparatus of FIG-1, parts thereof being broken away;

FIGURE 4 is an enlarged vertical sectional view taken substantially along the center line of the collecting unit of the apparatus shown in association with a parking meter and an adaptor therefor;

FIGURE 5 is a sectional view taken substantially along the line 5—5 of FIGURE 4, as viewed in the direction indicated by the arrows;

FIGURE 6 is a sectional view taken substantially along the line 6—6 of FIGURE 4, as viewed in the direction indicated by the arrows;

FIGURE 7 is a sectional view taken substantially along the line 7—7 of FIGURE 4, as viewed in the direction indicated by the arrows;

FIGURE 8 is an exploded perspective view of elements of the locking mechanism removed from the coin collecting housing;

FIGURE 9 is a sectional view taken substantially along the line 9—9 of FIGURE 8, as viewed in the direction indicated by the arrows;

FIGURE 10 is an enlarged sectional view taken substantially along the line 10—10 of FIGURE 8, as viewed in the direction indicated by the arrows;

FIGURE 11 is an enlarged sectional view taken substantially along the line 11—11 of FIGURE 8, as viewed in the direction indicated by the arrows;

FIGURE 12 is a fragmentary view similar to FIGURE 4 but showing certain parts of the apparatus in a different position of adjustment;

FIGURE 13 is a view similar to FIGURE 12 but showing the parts in still another position of adjustment;

FIGURE 14 is a sectional view taken substantially along the line 14—14 of FIGURE 4, as viewed in the direction indicated by the arrows;

FIGURE 15 is a sectional view taken substantially along the line 15—15 of FIGURE 12, as viewed in the direction indicated by the arrows; and

FIGURE 16 is a view taken substantially along the line 16—16 of FIGURE 13, as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawings in detail, and more particularly to FIGURES 1 to 3 inclusive, the apparatus of the instant invention comprises broadly a wheeled cart, generally indicated at 20, which carries a metal tank 21, provided with a removable cover 22. The cover 22 has a central apertured boss 23, which is connected by a flexible reinforced tubular cable 24 to a hand carried collector funnel, generally indicated at 25. The funnel 25 is adapted to be secured, in a manner to be more fully described hereinafter, to an adaptor 26 which may comprise an integral part of, or, alternatively, to be secured to a parking meter 27 of any desired conventional type. The adaptor is mounted on a parking meter post 28 in the usual manner.

The wheeled cart 20 may be of any desired configuration, although in a preferred form of this invention it includes a base plate 30, which carries an axle 31, upon the opposite ends of which are mounted suitable rubber tired wheels 32. The base plate 30 carries a cylindrical flange 33, within which the tank 21 is adapted to seat. Oppositely disposed vertical handle members 34 extend upwardly from opposite sides of the plate 30, and converge, as at 35, above the top 22 of the tank or receptacle 21. The converging portions 35 extend upwardly, and at their extremities are turned rearwardly as at 36 to form a handle grip. A hook 37 is positioned on the handle member adjacent the bend thereof, and is adapted to support the collecting funnel 25 when not in use.

The container or tank 21 has a pair of oppositely disposed vertically extending handles 38 on opposite sides thereof, from the top portion of one of which extends an apertured lug 39. The lid 22 has a pair of oppositely disposed depending ears 40, each having an oppositely disposed projecting tongue 41, the tongues being adapted to hook beneath the upper extremities of the handle portions 38. One of the lugs 42 which carry the ears 40 is apertured, as at 43, for the reception of the hasp 44 of a padlock 45. The padlock 45 is preferably of a strong Underwriter's approved type, and the only key therefor is in the hands of a supervisor at the home base of the collector, so that the collector cannot, under any circumstances, obtain access to the tank 21 while on his collection routes.

An upright 50 extends from the rear center of plate 30, and has secured thereto a semi-circular metal strap 51, to the opposite ends of which are secured the ends of a leather strap 52 which is removably positioned about the receptacle 21 to hold the same in position within the flange 33. A pair of horizontally disposed handles 54 are fixed to the lower portion of receptacle 21 to facilitate the dumping of the receptacle after the cover 22 has been

removed at the receiving point for the collectors. A one-way check valve 55 is pivotally mounted, as on a pin 56, in the top of boss 23, and is so arranged that upon inversion of the tank 21 no coins may fall outwardly through the boss 23 into the hose 24, or, alternatively, fall free if the hose 24 is removed.

The adaptor 26 comprises, as best shown in FIGURE 4, a vertically disposed hollow tubular member 60, having a reduced upper extremity 61, which is adapted to fit within the depending skirt 62 which forms a part of the majority of conventional parking meters, of the type indicated at 27.

The bottom of the adaptor tube 60 is provided with a closure 63 having a tapered frusto-conical end portion 64 with a central bore 65 extending therethrough. A bore 65 accomodates a bolt 66 provided with a head 67 seating on a washer 68 on bottom 63 of tubular member 60, the bolt 66 engaging in the threaded central aperture 68A of a spider 68B. The spider 68B has three radially disposed lugs 69, which engage in openings 70 in the lower portions of wedge-shaped elements 71, the wedge-shaped elements being held in engagement with the frusto-conical portion 64 by means of a resilient wire member 72. The wedge-portions 71 and their associated frusto-conical members 64 are adapted to be inserted in the top of a parking meter post 28. The arrangement is such that when the head 67 of bolt 66 is tightened, from the interior of the adaptor, the elements 71 are expanded into wedging relations with the interior of the mounting post 28 to hold the adaptor securely in position thereon. The adaptor 60 is suitably secured to the meter itself in any desired manner, as by interior bolts, rivets, or the like.

The adaptor tube 60 is provided with a downwardly and outwardly inclined outlet 75, within which is positioned a tubular removable lock 76. A funnel, generally indicated at 77, includes a flaring upper inlet 78 which seats within the top of reduced portion 61 of adaptor tube 60, and an arcuate curved tubular portion 79 which abuts the inner end of the lock 76. Funnel 78 is provided with a projecting tab 80, as best shown in FIGURE 4, which is secured by a suitable bolt or rivet 81 to the interior of the meter 27.

As best shown in FIGURE 6, the sides of adaptor tubes 60 are provided with a pair of vertically extending oppositely disposed parallel flange members 82, the purpose of which will be more fully described hereinafter.

The interior of outlet portion 75 is best shown in FIGURE 12, and includes an internally positioned annular groove 85, which is adapted to receive the rotatable locking lug 86 carried by the lock 76. Longitudinally extending oppositely disposed ridges 87 in the interior of outlet 75 engage in corresponding grooves 88 in lock 76 for alignment purposes.

FIGURE 11 discloses the front of the lock 76, which is of the type which includes a lock barrel 89, provided with a circular keyhole 90 for the reception of an appropriate key, to be more fully described hereinafter, the circular keyhole being provided with oppositely disposed aligned slots 91 and 92, and a central centering detent 93. The keyhole 90 is adapted to be engaged by a circular key 95, which is carried on a stem 100 interiorly of the collecting funnel or member 25. Key 95 includes an annular key surface 96 adapted to engage in circular keyhole 90, and is provided with an aligning lug 97 which seats in the slots 91 and 92. A tapered centering pin 98 is also provided and is adapted to engage in the centering opening 93 of the lock to assure proper alignment of the parts. Circular key 95 is also provided with an additional lug 99 aligned with the lug 97, the purpose of which will be more fully described hereinafter.

The collector funnel or receptacle 25 includes a pair of side plates 101, which extend outwardly in parallel relation from a housing, generally indicated at 102, which includes an arcuate curved rear wall 103, and an inclined lower portion 104 which is provided with a boss 105, having a central aperture 106 therein, within which seats a bearing 107. The rod 100 extends outwardly through the bearing 107. Below the boss 105 the housing 102 tapers to a tubular member 108, which is provided at its lower end with a bead 109, about which the end of the reinforced conduit or hose 24 is suitably secured as by soldering 110. A transverse pin 111 extends across the mouth of tube 108 and has mounted thereon a pivoted valve 112, one side of which 113 is weighted so as to retain the valve in the open position shown as long as the funnel 25 is in upright position. Inversion of the funnel will, however, tilt the valve to closed position, a stop 114 being positioned interiorly of the tube 108 to hold the valve in horizontal position. The valve 112 is identical in construction to the previously described valve 55 carried by the lid 22 of receptacle 21.

The housing 102 is provided with a handle 115, by which the same may be gripped and applied to the parking meter, and which is also adapted to engage over the previously described hook 37 for securing the funnel in carrying position when not in use.

The parallel side walls 101 are each provided with an internally positioned groove 116, which grooves are slidably engageable over the flanges 82 on the sides of adaptor tube 60. The housing 102 has an inclined lower wall portion 117, which, when grooves 116 are engaged by flanges 82, seats closely beneath the outlet 75 effectively to preclude the insertion of the fingers, or of any member interiorly of the funnel from the bottom. A slight clearance is provided between the top 118 of housing 102 and the ends of walls 101, but access to the coins which pass interiorly of the funnel 25 is precluded from the top in a manner to be more fully described hereinafter.

Bushing 107 is split, as best shown in FIGURE 8, to proivde a pair of oppositely disposed grooves or channels 119, which are adapted to permit the passage of a lug 120 carried by the rod 100, for a purpose to be described more fully hereinafter. Exteriorly of boss 105, rod 100 is surrounded by a compression spring 121, and has secured to its end a winged operating handle 122, the arrangement being such that the spring normally biases rod 100 outwardly to the position as shown in FIGURE 12.

The opposite side walls of housing 102 are provided with spaced apart pairs of flanges 125, which define channels 126 in opposite parallel alignment, the channels extending substantially in alignment with the upper portion of outlet 75, and being spaced slightly thereabove. The channels 126 have slidably mounted therein a rectangular plate 128, which is provided at its lower end with a pair of spaced guide pins 129. The pins 129 engage the ends of compression springs 130, the lower ends of which seat in recesses 131 in the bottom 104 of housing 102, the arrangement being such as to normally bias plate 128 inwardly in a direction towards outlet 75, the plate being so dimensioned that when it is in extended position, as shown for example in FIGURES 12 and 13, it overlies the upper end of outlet 75 positively to preclude the downward movement of the funnel or receptacle 25 and the consequent disengagement of flanges 82 and channels 116.

Plate 128 is provided with a transversely extending closed bore 132, which carries a bolt 133 which is engageable in a recess 134 in the side wall of one of channels 126. Bolt 133 has fixed thereto a boss 140, which extends outwardly through a slot 141 in the inner side of plate 128, the boss being provided with a slot 142 on the side thereof extending in parallelism to the bolt 133. A spring 143 seating in a recess 144 normally biases bolt 132 into engagement with recess or keeper 134.

The shaft 100 carries a transversely extending pin 145,

which is adapted under conditions to be more fully described hereinafter to engage in the slot **142** of boss **140**, and upon rotation of shaft **100** by means of key or handle **122**, to move boss **140** to withdraw bolt **132**, thus permitting sliding movement of plate **128**.

One side of bushing **107** is higher than the other and extends interiorly of opening **106** into housing **102**, as indicated at **146**. The projecting portion **146** when engaged by stop **99** limits the rotation of rod **100**, for a purpose to be more fully described hereinafter.

Means are provided to permit the complete withdrawal of plate **128** from the slots **126**, when the funnel **25** is in inoperative position, and take the form of a pin **147**, which extends through a bore **148** in plate **128**, the pin carrying at its lower end a lug **149** which is adapted to engage normally under the end of one of members **125** to prevent complete withdrawal of the plate. The pin **147** may be turned by the insertion of a suitable instrument to bore into bore **148**, but, in order to avoid unauthorized removal of plate **128**, the bore **148** may be so sealed, as by solder or the like, that any tampering therewith will be immediately apparent.

From the foregoing the operation of the device should now be readily understandable. Collecting funnel **25** is first placed in position on adaptor **26**, with the grooves **116** engaging the flanges **82**, and moved to the position as shown in FIGURE 4. As the device is moved upwardly the end of plate **128** cams over outlet **75**, against the pressure of springs **130**, when the rod **100** is pressed inwardly to the position shown, with the pin **145** engaging in slot **142** to disengage bolt **132** from its keeper **134**. As the rod **100** is then moved inwardly so that the rim **96** of key **95** engages in keyhole **90**, plate **128** moves to the dotted line position of FIGURE 4, or the full line position of FIGURES 12 and 13. At this point the pin **145** and the bolt **132** are in the position shown in FIGURE 14. Movement of the handle **122** turns the key **95** to release the lock **76**, by rotation of the cam member or locking bolt **86**, at which time the rod **100** may be withdrawn to the position as shown in FIGURE 12. At this time lug **120** of shaft **100** is aligned with the slots **119** of bushing **107** to prevent rotation of the shaft and hence any disalignment of the lock **76**. At this time coins may pour through the tube **79** and the outlet **75** downwardly through the tube **108** into the conduit **24** past valve **112**, and thence into receptacle **21** past valve **55** and through the opening in the lid **22** of the container. With the lock in the position as shown, in FIGURE 12, it will be readily apparent that the position of the locking plate **128** positively precludes removal of the funnel from the parking meter. Similarly, the plate **128** prevents any access to the outlet, or any coins passing therefrom through the funnel. After the meter is emptied, the parts are returned to the position shown in FIGURE 13, at which time the pin **145** may be again rotated into the slot **142** to move bolt **132** to disengaged position. At this time after the lock bolt **86** is engaged in the groove **85**, the collector funnel **25** may be slid downwardly relative to adaptor tube **60** to disengage grooves **116** from flanges **82**, and permit removal of the device.

The pin **98** with its engagement in centering aperture **93**, as well as the engagement of lug **97** with the slots **91** and **92**, serves effectively to center the key relative to the lock. Similarly, the engagement of the stop **99** with the raised extremity **146** serves to prevent rotation of either shaft **100** or lock **95** beyond a predetermined position.

Obviously, after the coins have reached the container **21**, they may not be removed therefrom until the padlock is unlocked, and in the office of the collector. Since the full container may easily weigh several hundred pounds, the auxiliary handles **54** and **38** permit the same to be lifted by two men, for dumping after the lid **22** is removed.

From the foregoing it will now be seen that there is herein provided an improved coin collecting receptacle which, while described as particularly adaptable to parking meters, may, with suitable minor modifications, be made equally adaptable to public telephones, to vending machines, or to any coin utilizing apparatus.

It will also be seen that there is herein provided an apparatus which accomplishes all of the objects of this invention, and many others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In combination with a parking meter having a coin receptacle and a projecting outlet, a lock for said outlet, and vertical flanges on the sides of said meter, a coin collection apparatus comprising a funnel having side walls provided with grooves slidably engageable with said flanges, a key for said lock in said funnel, means for actuating said lock from the exterior of said funnel, means in said funnel engageable with said projecting outlet operable to secure said funnel against slidable disengagement of said grooves and flanges, and means connecting said last mentioned means with said means for actuating said key precluding operation of said key unless said means securing said funnel is operative.

2. In combination with a parking meter having a coin receptacle and a projecting outlet, a lock for said outlet, and vertical flanges on the side of said meter, a coin collection apparatus comprising a funnel having side walls provided with grooves slidably engageable with said flanges, a key for said lock in said funnel, means for actuating said lock from the exterior of said funnel, means in said funnel engageable with said projecting outlet operable to secure said funnel against slidable disengagement of said grooves and flanges, means connecting said last mentioned means with said means for actuating said key precluding operation of said key unless said means securing said funnel is operative, and means operable by said key actuating means for releasing said funnel for sliding movement upon relocking of said lock.

3. The structure of claim 1 wherein said funnel is provided with an internal slide comprising the means engageable with said projecting outlet, and said key is mounted on a rotatable and slidable rod having an exterior operating handle, comprising the means for actuating said key, and means carried by said rod engageable with said slide to move said slide into projection engaging position when said rod is rotated to unlock said lock and move said slide into disengaged position when said lock is relocked.

4. The structure of claim 3 wherein said means carried by said rod comprises a laterally extending pin and said slide carries a boss having a slot therein engageable by said pin, a bolt carried by said slide secured to said boss, spring means urging said bolt into slide locking position, movement of said boss by said pin releasing said bolt, and spring means urging said slide to projection engaging position.

5. The structure of claim 4 wherein said parking meter is provided with an internal arcuate tube extending into said projecting outlet, and said projecting outlet is inclined downwardly and outwardly.

6. The structure of claim 5 wherein said lock comprises a completely removable cylinder lock and said funnel is dimensioned to permit complete withdrawal of said lock from said outlet interiorly of said funnel, sliding movement of said rod permitting continuous engagement of said key in said lock during such withdrawal.

7. The structure of claim 6 wherein spring means are carried by said rod normally urging said rod outwardly of said funnel.

8. The structure of claim 7 wherein said lock is provided with a central depression and said rod carries an aligning pin at its end engageable in said depression.

9. The structure of claim 1 wherein said parking meter includes a separate adaptor comprising a tubular member carrying said flanges and said projecting outlet fixedly secured to the parking meter.

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