May 9, 1961 H. GREENWALD 2,983,436

COIN DRAWER WITH INTERCHANGEABLE LOCK BOLT

Filed Oct. 30, 1958

FIG. 2

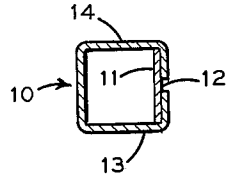


FIG. 1

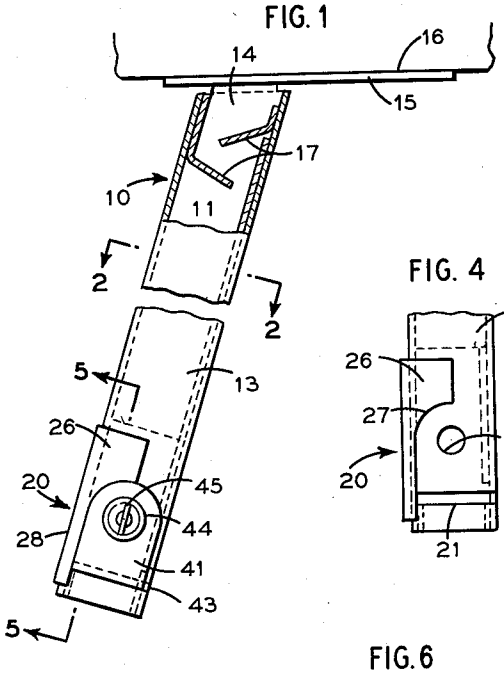


FIG. 3

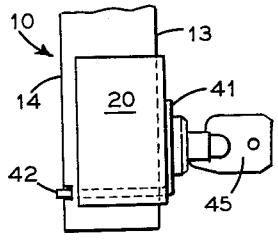


FIG. 4

FIG. 5

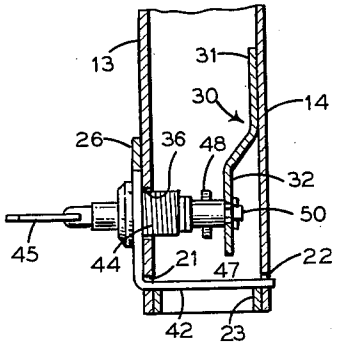


FIG. 6

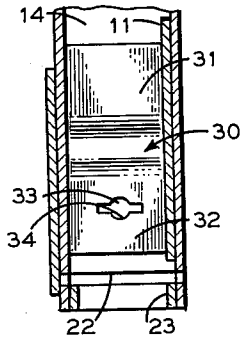


FIG. 7

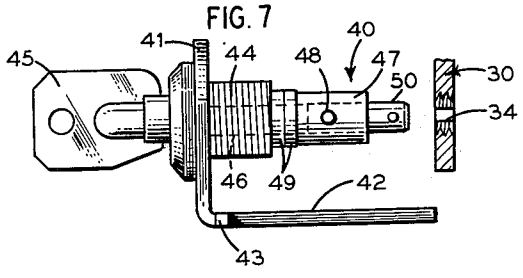
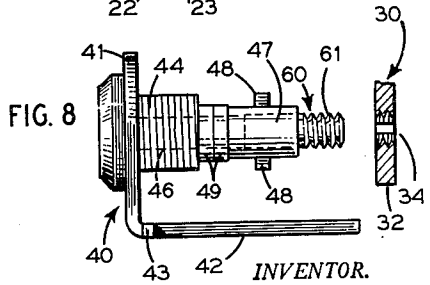


FIG. 8



INVENTOR.

Harry Greenwald

BY Irving Seidman

ATTORNEY

United States Patent Office 2,983,436 Patented May 9, 1961

2,983,436

COIN DRAWER WITH INTERCHANGEABLE LOCK BOLT

Harry Greenwald, Brooklyn, N.Y., assignor to H. Greenwald & Co. Inc., Brooklyn, N.Y., a corporation

Filed Oct. 30, 1958, Ser. No. 770,657

3 Claims. (Cl. 232—1)

This invention relates to coin controlled devices and appliances and, more particularly, to a novel and simplified coin drawer keeper plate which may be used with either of two types of coin drawer latches.

In coin controlled devices, insertion of a coin together with operation of a control element to activate the device causes the coin to fall through a discharge chute into a locked coin drawer or receptacle. These receptacles are emptied periodically by a collector having a key to the coin drawer or receptacle. To keep the operating and maintenance costs of such devices at a minimum, it is desirable to expedite and simplify the collection operation as much as possible so as to permit each collector to service as many devices as possible. This, in turn, reduces the collection labor cost per unit.

These objectives are attained by a coin chute in the form of a rectangular cross-section metal tube having a mounting plate for securing it to its appliance. A forward wall of the chute has a narrow slot extending thereacross adjacent its lower end and aligned with a similar slot in the opposite or rear wall, and a square metal "ring" may be welded to the inside of the tube below the slots and with its upper edge flush with the lower edges of the slots. An angularly offset plate is welded to the rear wall above the slots and has an inwardly offset end extending generally parallel to said rear wall toward the slots. This offset end is formed to act as a "keeper" for the locking bolt of the coin drawer.

The coin drawer is a plate bent to form perpendicularly related bottom and front walls. The bottom wall has a width substantially equal to the inside width of the chute and a length such that, when the coin drawer front wall engages the chute front wall, the bottom wall extends at least fully into the slot in the chute rear wall. This bottom wall may have an ear or abutment for engaging the chute side wall to limit inward movement of the coin drawer.

The front wall of the drawer carries a key operated lock having a body extending through an aperture in the chute front wall, and the key rotates a locking bolt projecting toward the "keeper" plate on the chute rear wall. These locking bolts have ends cooperable with either a nut on the keeper plate or a double keyhole aperture in the latter.

Due to the differences in the latching ends of the two types of bolts, it has heretofore been necessary to provide the coin chute with a keeper plate designed to cooperate with the particular type of bolt provided on the coin drawer, and coin drawers with different types of bolts could not be used interchangeably with a given coin chute. This has necessitated maintenance men keeping on hand both types of coin drawers for any needed replacements, which results in increased stock expense as well as increased replacement time in finding out which drawer to use with a particular coin chute.

In accordance with the present invention, these difficulties are avoided in a novel manner by threading the central hole of a keeper plate provided with a double keyhole type of latch opening. These threads mate with those on a latch bolt having a threaded end, and thus the keeper plate is cooperable with either type of latch bolt. As a consequence, the maintainer need carry only one type of coin drawer, thus reducing the number of drawer stock required. Also, the installation time is reduced as either type of drawer will fit a coin chute provided with a latch plate embodying the invention.

For an understanding of the invention principles, reference is made to the following description of typical embodiments thereof as illustrated in the accompanying drawings. In the drawings:

Fig. 1 is a part sectional and part front elevation view of a coin chute and coin drawer embodying the invention;

Fig. 2 is a transverse sectional view of the chute, taken on the line 2—2 of Fig. 1;

Fig. 3 is a partial side elevation view of the lower end of Fig. 1;

Fig. 4 is a partial front elevation view of the chute with the coin drawer removed;

Fig. 5 is a sectional view on the line 5—5 of Fig. 1, one type of coin drawer being shown in elevation;

Fig. 6 is an inside elevation view of the chute rear wall, showing the keeper plate;

Fig. 7 is a side elevation view of the coin drawer showing a locking bolt having a pinned end cooperable with the double keyhole slot; and

Fig. 8 is a similar view showing a screw type of locking bolt cooperable with the threaded central hole.

Referring to Figs. 1 through 6, a typical coin chute **10** usable with the invention is a rectangular cross-section metal tube formed by bending a strip of metal to the desired shape and with a reinforcing plate **11** welded over the meeting edges of the strip to close the slot **12**. The upper edges of front wall **13** and rear wall **14** are flanged for welding to mounting plate **15** which may be bolted or otherwise secured to the wall **16** of a coin-controlled appliance. Below plate **15** are the usual interference baffles **17**.

Just above the lower edge of tube or chute **10**, front wall **13** and rear wall **14** are formed with transversely aligned slots **21** and **22**, respectively, extending partly into the chute side walls. A square metal ring **23** is welded into chute **10** below the slots and with its upper edge flush with the lower edges of the slots. An angular reinforcing plate **20** has a wall **24** overlying the side wall opposite strip **11** and a wall **26** overlying part of front wall **13**. Plate **20** is welded to chute **10** and augments the reinforcing action of strip **11**. For a purpose to be described, the edge of wall **26** is concavely curved as illustrated at **27**.

Just above slots **21**, **22**, a keeper plate **30** embodying the invention is mounted on rear wall **14**. Plate **30** has a mounting section **31** welded to wall **14** and a keeper section **32** offset inwardly from wall **14**. In accordance with the invention, keeper section **32** is formed with a double keyhole aperture **33** including a central hole or aperture **34** which is threaded. Aperture **34** is aligned coaxially with a larger aperture **36** in front wall **13**.

Referring to Figs. 1, 3 and 5 through 8, coin drawer **40** comprises an elongated metal plate bent at right angles to form a front wall **41** and a bottom wall **42**. Bottom wall **42** has a width just less than the inside width of chute **10** and a length such as to seat in both slots **21**, **22** when wall **41** engages wall **13**. Preferably, in this position, the rear edge of wall **42** projects rearwardly beyond slot **22**. Wall **42** has an ear **43** engageable with a side wall to act as a limit stop, and rides on square ring **23** in its inward and outward movement, ring **23** cooperating with slots **21** and **22** in supporting drawer **40**.

The upper edge of wall **41** is convex and mates with

edge 27 of reinforcement member 20. The front wall of drawer 40 is apertured to receive a lock cylinder 44 operable by a key 45. This lock cylinder is firmly secured in wall 41 and projects through aperture 36 when drawer 40 is in position.

When key 45 is inserted into lock cylinder 44, it is effective to rotate a stub shaft 46 on which is secured a sleeve 47. This sleeve is provided with set screws 48 for interchangeably securing extension shafts 50 or 60 in the sleeve. Washers 49 may be interposed between cylinder 44 and sleeve 47.

Extension shaft 50 is cooperable with the keyhole slot 33 in keeper 30 and, for this purpose, has diametrically opposite radial pins 51 on its end. One quarter turn of shaft 50 by key 45 locks or unlocks drawer 40 relative to keeper 30.

Extension shaft 60 has a threaded end 61 cooperable with the threaded aperture 34. When drawer 40 is equipped with shaft 60, it is locked and unlocked by rotation of shaft 60 by key 45 to engage or disengage threaded section 61 relative to threaded hole 34.

By virtue of the threaded central hole 34 of key-hole aperture 33, coin chute 10 can be interchangeably equipped with a coin drawer 40 equipped with either shaft 50 or shaft 60, so that only a single form of keeper plate is needed. To empty the coin chute, the service operator merely pulls a bag or sack over the end of chute 10 and unlocks and withdraws drawer 40.

While specific embodiments of the invention have been shown and described in detail to illustrate the application of the invention principles, it will be understood that the invention may be embodied otherwise without departing from such principles.

What is claimed is:

1. In a coin chute having a removable closure plate equipped with a locking bolt cooperable with a keeper plate on the inner surface of a wall of the coin chute, the improvement comprising a keeper plate on the chute rear wall formed with a slot substantially aligned with an aperture in the chute front wall, the slot including a circular aperture alignable with a locking bolt inserted through the aperture in the front wall and a pair of diametrically opposed substantially rectangular apertures extending from said circular aperture; said circular aperture being threaded for cooperation with a threaded locking bolt; whereby coin drawers equipped with either a locking bolt having a pair of diametrically opposed pins on its inner end, or a locking bolt having a threaded inner end, may be used with said coin chute.

2. In an upwardly extending coin chute in a form of a substantially rectangular cross-section tube including front and rear walls having aligned transverse slots adjacent their lower ends, and equipped with a closure in the form of a metal plate bent at right angles to form a bottom wall engageable through said slots and a front wall engageable with the front wall of said chute, the closure having a lock cylinder on its front wall engageable through an aperture in the chute front wall when the coin drawer is positioned in the chute, and a locking bolt rotatable by a key cooperable with said cylinder and extending toward the chute rear wall; the improvement comprising a keeper plate on the chute rear wall formed with a slot substantially aligned with the aperture in the front wall, the slot in the keeper plate including a circular aperture alignable with a locking bolt and a pair of diametrically opposed substantially rectangular apertures extending from said circular aperture; the circular aperture being to receive the latter threaded for cooperation with a threaded locking bolt; whereby closures equipped with either type of locking bolt having a pair of diametrically opposed pins on its inner end, or a locking bolt having a threaded inner end, may be used with said coin chute.

3. The improvement as claimed in claim 2 wherein said keeper plate includes a section secured to said rear wall and a cantilever section offset from said rear wall and formed as a lock bolt keeper.

References Cited in the file of this patent

UNITED STATES PATENTS

148,102	Williamson	Mar. 3, 1874
756,839	Edmonds	Apr. 12, 1904
798,548	Wheeler	Aug. 29, 1905
1,700,799	Inglis	Feb. 5, 1929
2,128,704	Hall	Aug. 30, 1938
2,399,016	Gits	Apr. 23, 1946
2,877,637	Greenwald	Mar. 17, 1959