

- [54] **METER BOX WITH VAULT LATCH**
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- [51] Int. Cl. **A47b 88/22, E05c 3/00**
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ABSTRACT

A coin vault is held in a meter box by an auxiliary latch which prevents removal of the vault from the box even if the lock at the front of the vault is picked. The auxiliary latch may be released through a normally locked service opening in the side of the meter box.

References Cited

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8 Claims, 4 Drawing Figures

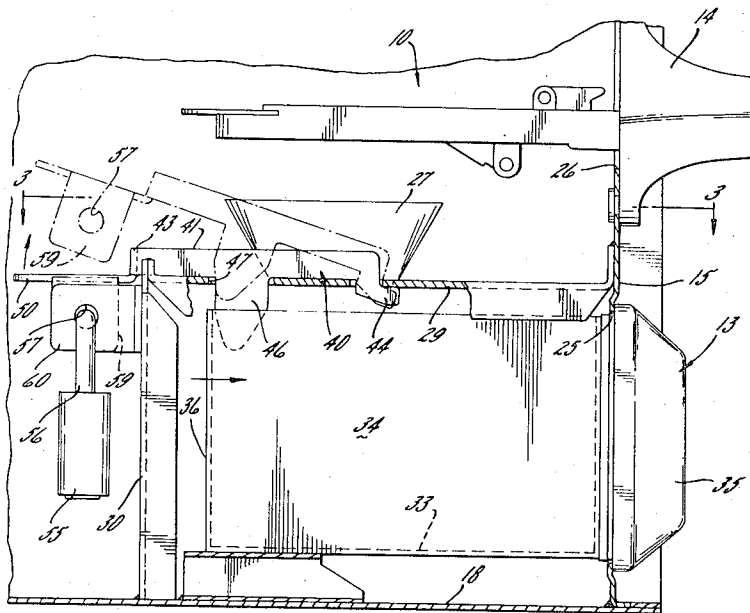


FIG. 1

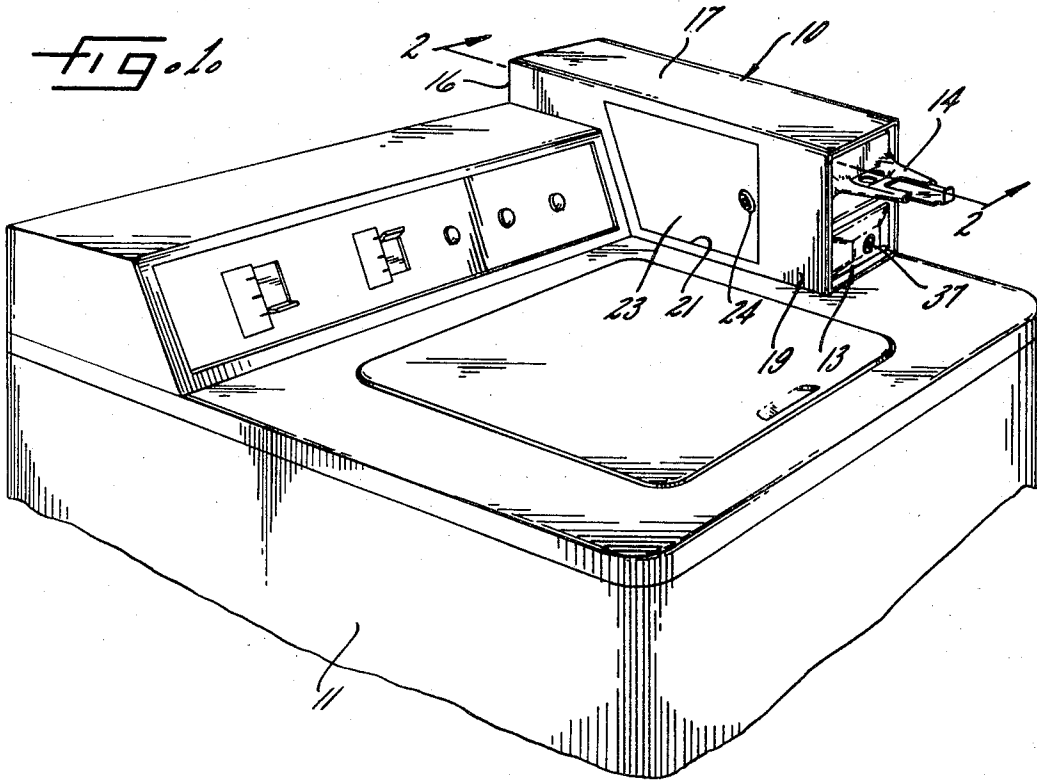


FIG. 2

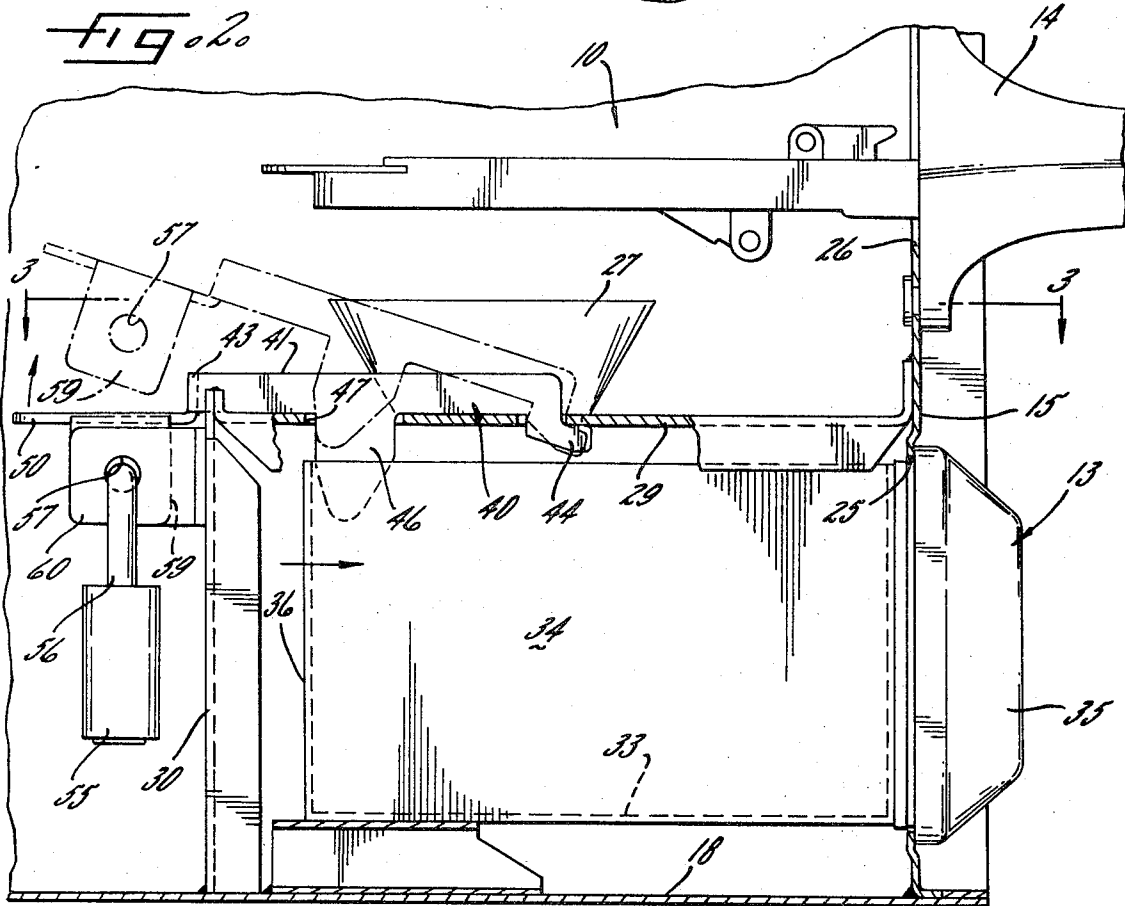


Fig. 3

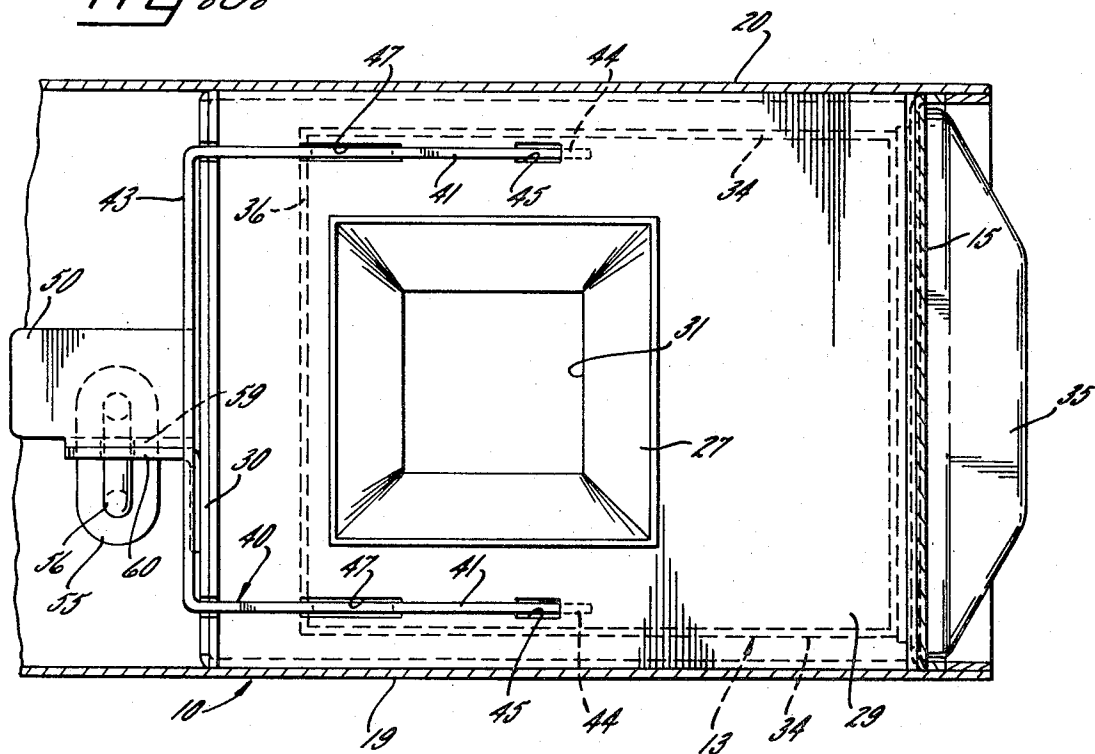
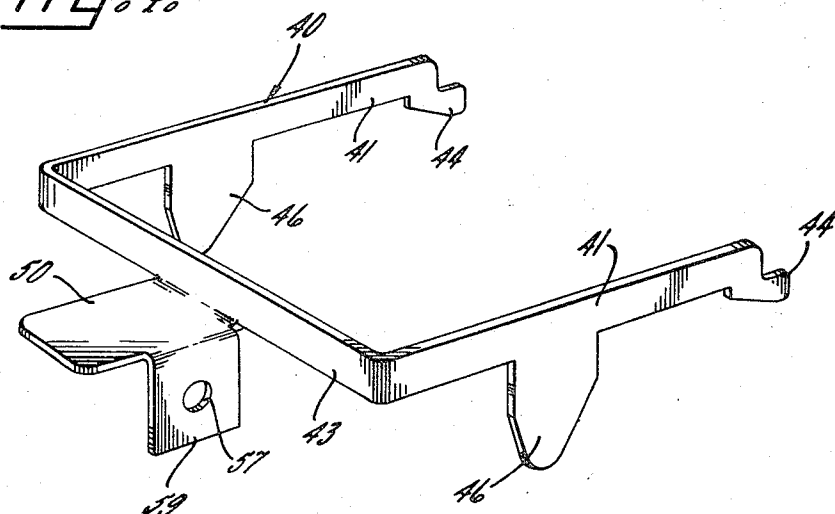


Fig. 4



METER BOX WITH VAULT LATCH

BACKGROUND OF THE INVENTION

This invention relates to a meter box for use with a coin operated laundry machine or the like and, more particularly, to a meter box which houses both a timing meter for controlling the machine and a cash drawer or vault for receiving coins deposited into the machine. Usually, the front wall of the cash drawer is locked to the front wall of the meter box by a key-operated lock while the timing meter is located behind the drawer and is accessible through a service opening which is formed through one of the sides of the box and which is normally closed by a locked door.

SUMMARY OF THE INVENTION

The general aim of the present invention is to provide a new and improved meter box with which it is more difficult for a thief to gain access to the cash drawer even if the thief succeeds in picking the lock of the cash drawer.

A more detailed object is to equip the meter box with an auxiliary latch for preventing removal of the cash drawer from the meter box, the auxiliary latch being inaccessible to a thief from the front of the box but being releasable by an authorized person through the service opening after the service door has been unlocked and opened.

A further object is to provide a unique auxiliary latch which automatically latches against the cash drawer when the latter is pushed into the meter box.

Still another object is to provide an auxiliary latch which may be locked in its latched position to provide still another deterrent to a thief who might be successful in gaining access to the service opening.

An additional object is to provide an auxiliary latch which may be easily removed from the meter box and not used if the coin-operated machine is located in a low risk area where the auxiliary latch is not needed.

The invention also resides in the comparatively simple and inexpensive construction of the auxiliary latch and in the unique manner of attaching the latch to the meter box.

These and other objects and advantages of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a fragmentary perspective view of a typical coin-operated machine having a meter box equipped with a new and improved auxiliary latch embodying the novel features of the present invention.

FIG. 2 is an enlarged fragmentary cross-section taken substantially along the line 2-2 of FIG. 1.

FIG. 3 is a fragmentary cross-section taken substantially along the line 3-3 of FIG. 2.

FIG. 4 is a perspective view of the auxiliary latch.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in the drawings for purposes of illustration, the invention is embodied in a meter box 10 of the type which is used with a coin-operated washing machine 11 or the like and which houses a timing meter (not shown) and other mechanism for controlling operation of the machine. The meter box also houses a cash vault

13 which receives coins deposited into the machine by way of a coin chute 14 associated with the meter box.

More specifically, the meter box 10 is made of sheet metal and includes upright front and rear walls 15 and 16, top and bottom walls 17 and 18 and two upright side walls 19 and 20 (FIGS. 1 to 3). A service opening 21 (FIG. 1) is formed through the side wall 19 to enable a serviceman to gain access to the timing meter, the service opening normally being closed by a door 23 which normally is locked to the side wall 19 by a key-operated locking mechanism 24.

openings 25 and 26 (FIG. 2) are formed through the front wall 15 of the meter box 10 and receive the cash vault 13 and the inner end portion of the coin chute 14, respectively. A funnel 27 is located below the inner end portion of the chute and is mounted on a generally horizontal support or plate 29 connected to the side walls 19 and 20 and overlying the cash vault, there being a vertical plate 30 extending downwardly from the horizontal plate and located just to the rear of the vault. An opening 31 (FIG. 3) is formed through the horizontal plate 29 in alignment with the funnel 27 and thus coins delivered into the meter box 10 by the chute 14 drop into the funnel and then fall into the cash vault 13.

The cash vault 13 is in the form of a drawer and includes a bottom wall 33, upright side walls 34 and front and rear walls 35 and 36 (FIGS. 2 and 3). The vault is slidable within the opening 25 and normally is located in a closed position within the meter box 10 but may be pulled out of the box to permit emptying of the coins. A key-operated locking mechanism 37 (FIG. 1) is carried by the front wall 35 of the vault and is operable to lock the vault to the front wall 15 of the meter box. For a more detailed disclosure of an exemplary vault which may be used with the meter box, reference may be made to the copending application of Donald E. Schmitt, Ser. No. 410,980, filed Oct. 30, 1973 and assigned to the assignee of the present invention.

Attempts are frequently made to steal the coins in the vaults of machines in coin-operated laundries since such laundries for the most part are left unattended for long periods of times. In many instances, a thief will attempt to gain access to the vault 13 by picking the lock 37 at the front of the vault.

In accordance with the present invention, the meter box 10 is equipped with a unique auxiliary latch 40 (FIGS. 2 to 4) which acts independently of the lock 37 to prevent removal of the cash vault 13 from the box and which cannot be released from the front of the box. As a result of the auxiliary latch 40, a thief who succeeds in picking the lock 37 still cannot gain access to the coins in the vault and is likely to be discouraged from making further efforts to invade the vault or similar vaults in the same area. The auxiliary latch can, however, be easily released by an authorized person having access to the service opening 21 and, in addition, the latch is adapted to re-latch the vault automatically when the latter is re-inserted into the meter box and is slid rearwardly into its closed position.

More specifically, the auxiliary latch 40 is supported on the horizontal plate 29 and is formed by a generally U-shaped member having two spaced legs 41 (FIG. 4) and having a bridge 43 extending between the rear ends of the legs. The legs overlie the top plate 29 and are located in straddling relation with the funnel 27. At their forward ends, the legs 41 are formed with depending

and generally L-shaped lugs 44 which fit into slots 45 (FIG. 3) in the plate 29 to mount the latch 40 for upward and downward pivoting on the plate about an axis extending transversely of the legs. By virtue of the shape of the lugs 44, the latch 40 may be removed easily from the top plate by swinging the latch to a generally vertical position to enable the lugs to be withdrawn from the slots 45. When the latch is substantially horizontal, however, the lugs are captivated in the slots and support the latch for upward pivoting to an unlatched position shown in phantom lines in FIG. 2, the latch being biased downwardly by its own weight and normally resting in a latched position shown in solid lines.

Formed intermediate the ends of the legs 41 are depending detents 46 (FIGS. 2 and 4) which are accommodated by slots 47 (FIG. 3) in the horizontal plate 29. When the latch 40 is in its lowered or latched position, the detents project downwardly into the cash vault 13 adjacent the rear corners thereof and the rear surfaces or edges of the detents engage the front side of the rear wall 36 of the vault. Accordingly, the detents prevent the vault 13 from being pulled out of the meter box 10 even if the lock 37 is released and thus a thief who picks the lock 37 still cannot gain access to the coins in the vault.

Because of the auxiliary latch 40, an authorized route man cannot remove the vault 13 merely by unlocking the front lock 37. He may, however, unlock and open the service door 23 and gain access to the auxiliary latch 40 through the service opening 21. As shown in FIGS. 2 to 4, a rearwardly projecting tab member or handle 50 is attached to the bridge 43 of the latch 40 and may be reached by the route man through the service opening 21. By manually pivoting the latch upwardly to its unlatched position, the route man may release the detents 46 from the rear wall 36 and slide the vault outwardly from the meter box 10, assuming, of course, that he first has unlocked the front lock 37.

It is possible for a persistent thief to gain access to the cash vault 13 by picking the service door lock 24 as well as the front lock 37 and by manually releasing the auxiliary latch 40. However, the additional time required to gain access to the auxiliary latch presents a greater risk to the thief and he may abandon his effort without attempting to open the service door 23 or without attempting to invade other vaults in the laundry. In very high risk areas, an additional measure of protection may be obtained by locking the latch 40 in its latched position. This may be achieved by means of a padlock 55 (FIG. 2) whose shackle 56 is inserted through aligned holes 57, one of the holes being formed in a depending flange 59 (FIG. 4) integral with the handle 50 and the other hole being formed in a bracket 60 (FIGS. 2 and 3) attached to the vertical plate 30. The padlock presents yet another deterrent to the thief. Regardless of whether the padlock is used, it may be desirable to thread a wire (not shown) through the holes 57 and to connect the ends of the wire with a distinctive seal. The owner of the coinoperated machine 11 then can determine if the vault has been broken into since either the wire or the seal must be broken before the vault can be removed.

In low risk areas, the owner of the machine 11 may not wish to use the auxiliary latch 40 in order to avoid the need for the route man to open the service door 23 when collecting the coins. If the latch 40 is not desired,

it may be left out of the meter box 10 or, if the latch has been installed, it may be easily removed in the manner described above.

An important advantage of the present invention is that the latch 40 automatically re-latches itself when the route man returns the vault 13 to the meter box 10 and thus the route man need not manually reset the latch. As shown in FIGS. 2 and 4, the forward surfaces or edges of the detents 46 are inclined downwardly and rearwardly. When the route man removes the vault 13 and releases the handle 50, the latch 40 automatically swings downwardly to its lowered position by virtue of its own weight. When the vault is subsequently pushed back into the meter box, the rear side of the rear wall 36 of the vault engages the forward edges of the detents 46 and cams the latch upwardly to allow the vault to be pushed into its fully closed position. When the vault reaches such position, the latch automatically returns downwardly and the detents 46 latch against the front side of the rear wall 36 as shown in FIG. 2. Accordingly, there is no need for the route man to manually hold the latch in its released position when he returns the vault to the meter box.

We claim as our invention:

1. Apparatus for use with a coin-operated machine and comprising a box having upright side walls and an upright front wall, an opening formed through said front wall, a cash drawer having upright front and rear walls, said drawer normally being in a closed position within said box but being removable from said box through said opening, a key-operated locking mechanism mounted on one of said front walls and engageable with the other of said front walls to lock said drawer within said box, an access opening formed through one of the side walls of said box, a door normally covering said access opening and normally locked to said one side wall, and a support attached to at least one of the walls of said box, the improvement in said apparatus comprising, a latch mounted on said support and biased to a latched position, said latch having a first surface which, when said latch is in said latched position and said drawer is in said closed position, engages the rear wall of the drawer to hold the drawer in its closed position, said latch being accessible through said access opening when the latter is uncovered and being manually movable to an unlatched position releasing the rear wall of said drawer, and said latch having a second surface positioned to engage the rear wall of said drawer as the latter is moved rearwardly toward said closed position and operable as an incident to such engagement to cause camming of said latch to said unlatched position to enable movement of said drawer into said closed position whereupon the latch automatically returns to said latched position.

2. Apparatus as defined in claim 1 in which said latch includes a detent which projects downwardly into said drawer when said latch is in said latched position and said drawer is in said closed position, said first and second surfaces being formed on said detent with said first surface being engageable with the front side of the rear wall of said drawer when the latter is in said closed position, said second surface being engageable with the rear side of the rear wall of said drawer as the latter is moved toward said closed position.

3. Apparatus as defined in claim 2 in which said latch includes two detents, the detents being positioned adjacent the rear corners of said drawer when the latter is

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in said closed position and said latch in said latched position.

4. Apparatus as defined in claim 3 in which said latch is generally U-shaped and includes two legs and a bridge extending between the rear ends of said legs, said detents projecting downwardly from said legs intermediate the ends thereof, and means on the forward ends of said legs and mounting said latch to pivot upwardly and downwardly between said latched and unlatched positions.

5. Apparatus as defined in claim 4 in which said support comprises a generally horizontal plate fastened to the side walls of said box and overlying said drawer, slots formed through said plate, said means comprising lugs on the forward ends of said legs and fitted releasably into said slots to mount said latch pivotally on the

upper side of said plate while allowing removal of the latch from the plate.

6. Apparatus as defined in claim 5 further including additional slots formed in said plate and aligned with said detents to enable the latter to move into and out of said drawer.

7. Apparatus as defined in claim 4 further including a member projecting rearwardly from said bridge and defining a handle facilitating manual pivoting of said latch to said unlatched position.

8. Apparatus as defined in claim 1 further including means mounting said latch on said support for pivoting between said latched and unlatched positions, said means being releasable from said support to enable removal of said latch from said meter box.

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