May 29, 1962 J. W. GREENBANK ETAL 3,036,758

COLLECTION BOX

Filed March 3, 1961 2 Sheets-Sheet 1

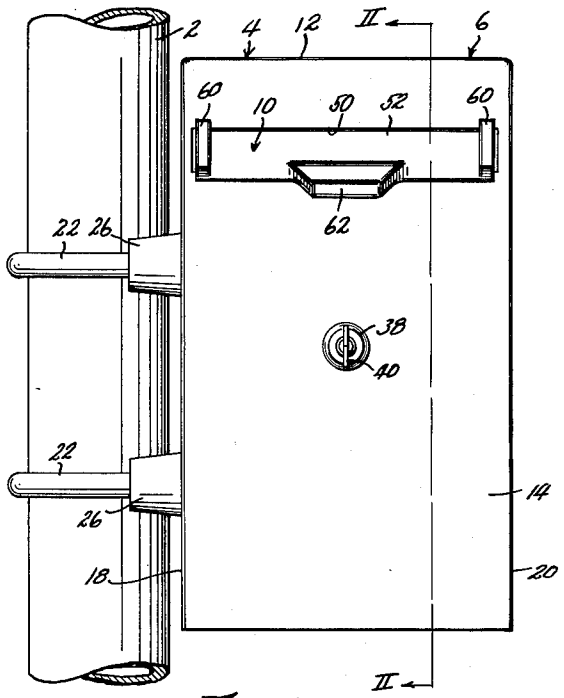


Fig. 1

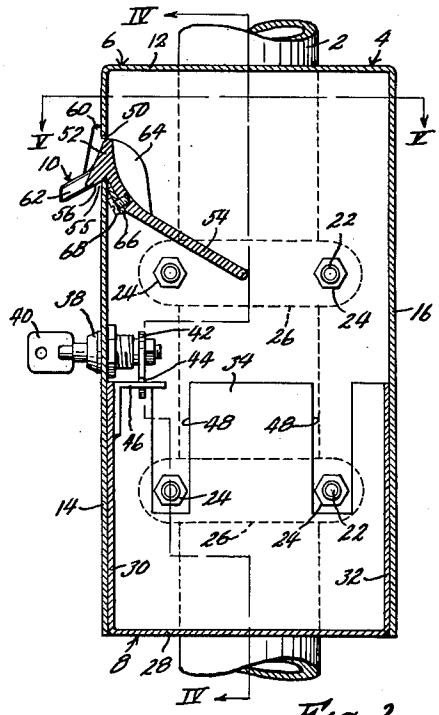


Fig. 2

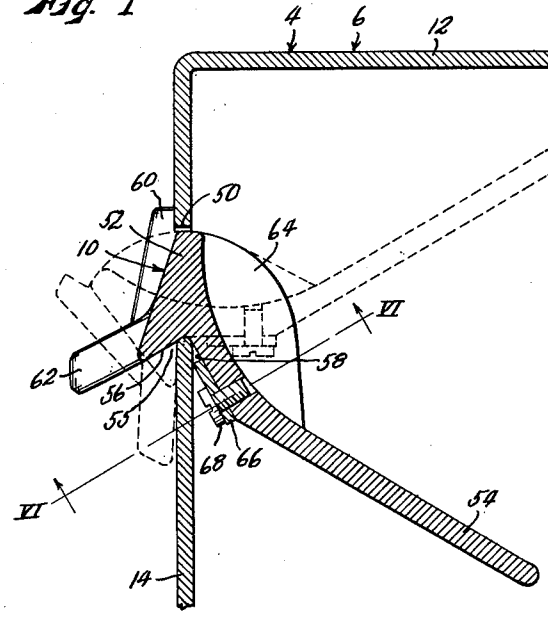


Fig. 3

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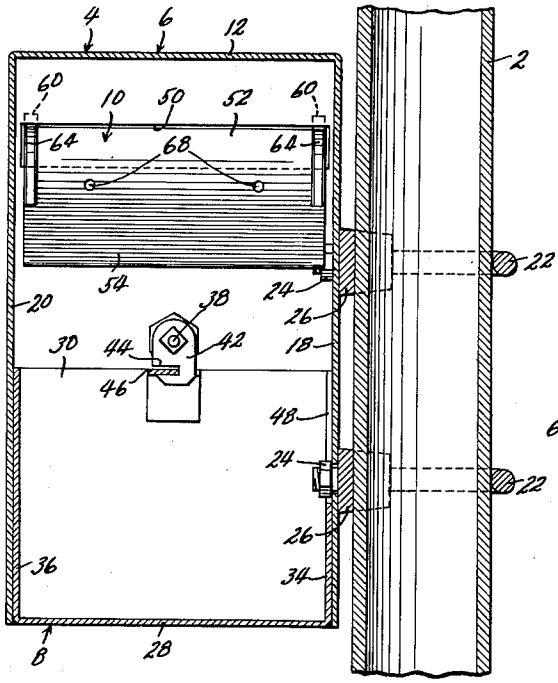


Fig. 4

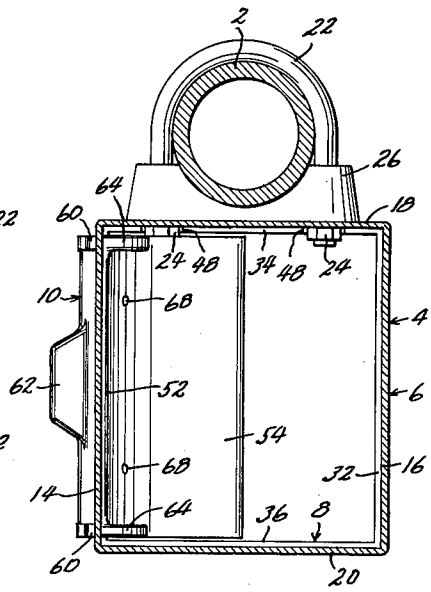


Fig. 5

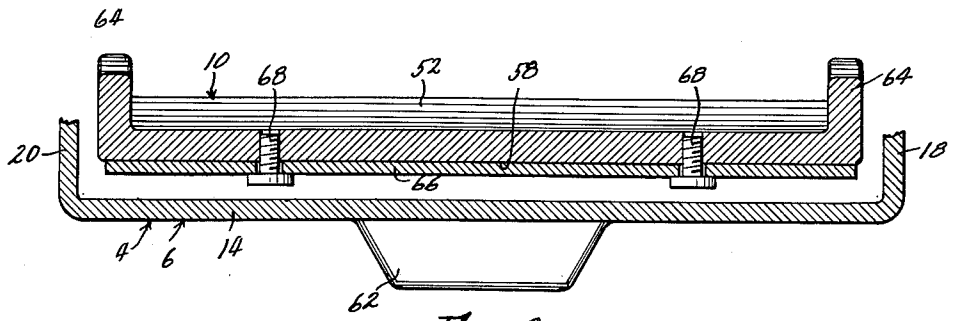


Fig. 6

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COLLECTION BOX

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4 Claims. (Cl. 232—44)

This invention relates to new and useful improvements in collection boxes and has particular reference to collection boxes intended for the deposit and safe retention of small articles. The contemplated use of the specific collection box forming the subject matter of this invention is for the collection of traffic fines, although it will be readily apparent that it has many other possible applications. A traffic system in very wide usage contemplates the use of traffic violation citations or "tickets" which are left on the automobile of the violator, and which have the form of envelopes, with instructions that the fine may be paid by placing the money in the envelope and depositing the envelope in a collection box provided for that purpose.

The principal object of the present invention is the provision of a collection box of the character described having a deposit door possessing certain novel advantages. Said door is freely pivotal to an open position to permit deposit of objects therein at any time, yet positively prevents pilfering from said box. While pivotal between open and closed positions, it does not have a hinge in the usual sense of the word, having no hinge pin or pintle, but is retained pivotally in the door opening of the box by interlocking configuration of the box and door opening. In this manner the construction is rendered much more rugged and less subject to damage from the battering and rough usage to which it is often subjected, since the pivot pins or hinge pintles of such doors are usually the weakest part of the structure and the first to be damaged by such rough usage. Also, the elimination of hinge pins prevents the collection and freezing of water thereabout in cold weather, which otherwise would immobilize the door and render it temporarily inoperative.

Another object is the provision of a collection box of the character described having a removable receptacle in which all objects deposited in the box are collected, the removability of said receptacle contributing to greater ease and convenience of emptying the contents of the box. The saving of time thus effected is of considerable importance when servicing a large number of such boxes.

Other objects are simplicity and economy of structure, efficiency and dependability of operation, and adaptability for use in a wide variety of applications.

With these objects in view, as well as other objects which will appear in the course of the specification, reference will be had to the drawings, wherein:

FIG. 1 is a front elevational view of a collection box embodying the present invention, mounted operatively on a standard,

FIG. 2 is a sectional view taken on line II—II of FIG. 1,

FIG. 3 is an enlarged fragmentary view similar to FIG. 2, showing the deposit door closed in solid lines and open in dotted lines,

FIG. 4 is a slightly irregular sectional view taken on line IV—IV of FIG. 2,

FIG. 5 is a sectional view taken on line V—V of FIG. 2, and

FIG. 6 is an enlarged, fragmentary sectional view taken on line VI—VI of FIG. 3.

Like reference numerals apply to similar parts throughout the several views, and the numeral 2 applies to a post or standard, which may be the mounting post of a parking meter or the like, and to which the collection box forming the subject matter of this invention is to be attached,

said collection box being indicated generally by the numeral 4, and including a housing 6, receptacle 8 and deposit door 10.

Housing 6 is hollow and of rectilinear form and is open at the bottom, having a top wall 12, front wall 14, rear wall 16, and side walls 18 and 20, all of said walls being integral. Said housing is mounted on post 2 by a pair of U-bolts 22 encircling said post and projecting through holes provided therefor in side wall 18 of the housing, and secured by nuts 24 threaded thereon interiorly of the housing. A cradle member 26 is disposed between the post and the housing at each of the U-bolts. It will be seen that nuts 24 can be loosened only from the interior of the housing, and that hence the housing can be removed from the post only when access can be had to said interior.

Receptacle 8 has a rectilinear form open at the top, having a bottom wall 28, front wall 30, rear wall 32, and side walls 34 and 36. Said receptacle is engaged slidably and telescopingly in the lower portion of housing 6, and is retained releaseably therein by a lock mechanism 38 of any suitable design affixed in front housing wall 14 and operable by a key 40. Said lock mechanism includes a crank 42 disposed interiorly of the housing and rotatable by means of key 40 to engage a notch 44 thereof with a keeper 46 affixed to front wall 30 of the receptacle. When said lock is released, the receptacle may be lowered from the housing. Side wall 34 of the receptacle is notched as at 48 to clear the nuts 24 of the lower U-bolt 22.

A horizontally elongated rectangular door opening 50 is formed in the upper portion of front wall 14 of housing 4, well above receptacle 8, and deposit door 10 is supported in said opening. Said door includes a front panel 52 which normally closes the door opening, and a guard panel 54 which extends rearwardly from the lower edge of the front panel and which is inclined downwardly to the rear when said front panel is closed. A downwardly opening groove 55 is formed in the lower edge of front panel 52 and extends the full width of said panel. Said groove is defined by a front wall 56 and a rear wall 58, said walls being planar and downwardly divergent when front panel 52 is in its closed position. The edge of wall 14 defining the lower edge of door opening 50 is engaged in said groove, whereby to support the door for pivotal movement on a horizontal axis. The supporting edge of wall 14, and the base of the groove, may be rounded as best shown in FIG. 3 to provide smoother pivotal movement of the door. At each extreme side of front panel 52, said panel is provided with a lug 60 which extends above door opening 50 and abuts the forward face of wall 14 to prevent inward movement of said panel. When said lugs are abutting wall 14, the door is in its closed position. Panel 54 of the door serves as a counterweight urging the door at all times toward its closed position.

Door panel 52 may be pivoted forwardly to its open position, as shown in dotted lines in FIG. 3, by pressing downwardly on a finger tab 62 formed integrally with said panel and projecting forwardly therefrom. Opening movement of the door is arrested by the engagement of groove wall 56 with housing wall 14, and the total operating angle of the door is represented by the angle between said walls when the door is closed. When the door is tilted as described to its open position, the upper portion of door opening 50 is unobstructed, and an object to be deposited in the box may be passed therethrough to rest on panel 54, which is then inclined upwardly to the rear. When the door is again allowed to close, panel 54 is again tilted downwardly, and the object resting thereon will slide therefrom and fall into receptacle 8. Panel 54 prevents pilfering of the contents of the box when the door

is open. In order that said panel be inclined upwardly when the door is open, the downward slope of the panel when the door is closed must be less than the operating angle of the door as represented by the angle between groove wall **56** and housing wall **14**.

When the door is closed, the upper edge of front panel **52** thereof extends to within close proximity of the upper edge of door opening **50**, having only an operating clearance therewith. Also, the vertical depth of groove **55** is greater than said operating clearance. Therefore the door, when closed, cannot be lifted sufficiently to free groove **55** from housing wall **14**. When the door is in any position other than fully closed, lifting of the door to free groove **55** from wall **14** is prevented by a pair of vertical guard walls **64** formed integrally with the door respectively at the opposite sides thereof. Said walls extend between door panels **52** and **54**, merging with the upper edge of panel **52**. The upper edges of said walls are arcuate and concentric with the pivotal axis of the door, to an angular extent from panel **52** at least as great as the operating angle of the door. Thus as the door is pivoted, the upper edges of walls **62** maintain operating clearance from the upper edge of the door opening, and prevent the door from being lifted appreciably.

It will be noted also that rear wall **58** of groove **55**, when the door is closed, is inclined downwardly from the horizontal at an angle substantially equal to the operating angle of the door, so as to be disposed substantially horizontally when the door is open. Also, guard walls **64** at no point extend farther from wall **58** than a plane parallel to wall **58** and tangent to the arcuate edges of walls **64**. Thus when the door is opened it can be slid forwardly to free it from the housing. This provision is necessary to permit assembly of the door in the housing, or to permit replacement of damaged doors. However, special provision is made to prevent such removal of the door by unauthorized persons. This provision constitutes a straight retainer bar **66** releasably secured to wall **58** of groove **55** by a pair of screws **68**, said bar extending substantially the full width of the door and being parallel to and spaced apart from the base of the groove. The thickness of said bar, at right angles to wall **58**, is greater than the clearance between walls **64** and the upper edge of opening **50**, and thus said bar positively prevents the removal of the door as described. The door can of course be removed when bar **66** is detached therefrom, but screws **68** are accessible for this purpose only from the interior of the housing. It will be seen that the space between the base of groove **55** and the adjacent edge of bar **66** is greater than the thickness of housing wall **14**. This looseness, without in any way lessening the security of the box, permits a degree of shaking or wobbling of the door on its axis relative to the housing. This looseness or freedom of the door permits efficient operation of the door even though it may be considerably deformed by pounding as by vandals and thieves, and the wobbling tends to break or prevent the formation of ice in cold weather.

While we have shown and described a specific embodiment of our invention, it will be readily apparent that many minor changes of structure and operation could be made without departing from the spirit of the invention as defined by the scope of the appended claims.

What we claim as new and desire to protect by Letters Patent is:

1. A collection box comprising a hollow housing having a generally rectangular door opening formed in a vertically extending wall thereof, and a deposit door controlling said door opening, said deposit door including a panel generally covering said opening and having a downwardly opening groove in the lower edge thereof extending the full width of the panel and defined by downwardly divergent generally planar forward and rearward walls, said panel having operating clearance from the upper edge of said door opening and being pivotally supported by engagement in said groove of the portion of said housing wall bounding the lower edge of said door opening, said panel being pivotal outwardly to uncover said door opening, stop members preventing inward pivotal movement of said panel, means limiting outward movement of said panel, whereby the maximum pivotal angle of said panel is fixed, vertical guard walls affixed to and extending inwardly from said panel, the upper edges of said guard walls being arcuately concentric with the pivotal axis of the panel and having the same operating clearance with the upper edge of the door opening as said panel, at any angular position of said panel, the vertical depth of said groove being greater than said operating clearance, whereby said panel is locked in assembly with said housing.

2. A collection box as recited in claim 1 wherein the rearward wall of said groove, when said panel is closed, is inclined downwardly from the horizontal at an angle substantially equal to the maximum angle of movement of said panel, so as to be substantially horizontal when said panel is open, and wherein said guard walls at no point extend farther from said rearward groove wall than a plane parallel to said groove wall and tangent to the arcuate upper edges of said guard walls, whereby said panel may be slid forwardly from said door opening when said panel is open, and with the addition of a retainer bar affixed to said rearward groove wall, said bar being parallel to and spaced apart from the base of said groove, and having a thickness at right angles to said wall greater than the operating clearance between the upper edge of said door opening and said panel and guard walls.

3. A collection box as recited in claim 2 having means releaseably affixing said retainer bar to said rearward groove wall, said affixing means being accessible only from the interior of said housing, and with the addition of key-operated locking means providing access to the interior of said housing.

4. A collection box as recited in claim 2 wherein said retainer bar is spaced apart from the forward wall of said groove a distance greater than the thickness of said housing wall, whereby said panel is permitted to wobble to a limited degree with respect to its normal pivotal axis.

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