PARK & NOTE STALL NUMBER
DEPOSIT COINS IN SLOT OF CORRESPONDING NUMBER

FIG. 1

FIG. 5
 COLLECTION DEVICE FOR PARKING FEES

1 Claim. (Cl. 232—1)

The present invention deals with the problem of collecting the parking fees in automobile parking lots. It deals particularly with the problem of collecting the parking fees in parking lots that are too small to warrant the employment and continuous presence of a human supervisor or the installation of costly parking ticket dispensing machines.

It is an object of my invention to provide an inexpensive fee collection device for small parking lots.

More particularly, it is an object of the invention to provide a fee collection device, of the type referred to, that makes it possible to check periodically whether the operators of the cars parked in the lot have paid the required fee, without need for a ticket dispensing mechanism.

These and other objects of the present invention will be apparent from the following description of the accompanying drawings which illustrate a preferred embodiment thereof and wherein

FIGURE 1 is a front elevation of the parking fee collection device of my invention;

FIGURE 2 is a rear elevation of the collection device with a door at its rear open to expose the interior thereof; and

FIGURE 3 is a fragmentary perspective illustrating the manner in which the coin receiving compartments of the device may be operated to discharge the collected coins:

FIGURE 4 is a section taken along line 4—4 of FIGURE 2 and viewed in the direction of the arrows associated with said line, to illustrate the mechanism for locking the door at the rear of the device; and

FIGURE 5 is a plan view of the device.

The parking fee collection device of the invention is essentially a strong box 20 that is placed in upright position upon one of its end walls 22 and is securely bolted to a suitable base (not shown). Its rear wall 24 is hingedly connected to the side wall 26 as shown at 28 to form a door which provides access to the interior of the box (FIGURE 2). The face of its front wall 30 is suitably divided into a plurality of superposed rows 34 of juxtaposed fields 32 in the manner of a checkerboard, such as by means of heavy vertical and horizontal lines of paint 35 and 36, respectively, or by raised ridges embossed into the front wall of the box. Written into said fields are the marks which identify the various stalls of a particular parking lot such as the Arabic characters 1 to 12, and provided in said front wall along the top edge of every one of said fields are coin receiving slots 38. Arranged adjacent the rear surface of front wall 30 in the interior of the box in congruence with the fields on its front surface are compartments or cubicles 40 which are designed to receive and retain temporarily the coins inserted into the slots 38.

Having reference to FIGURES 2 and 3, these compartments are formed by a pair of vertically disposed channel bars 42a and 42b that are bolted to the wall 30 at either side of the slots 38; and secured to the wall above and below said side bars 42a and 42b are cross bars 44 and 46, respectively. Firmly supported between said cross bars along lines corresponding to the vertical divisions 35 of the fields upon the front face of wall 30 are partitions 48, and hingedly supported between said partitions corresponding to the border lines 36 of the fields on the front face of wall 30 are individual trap doors that form the floors of the compartments 40.

For this purpose horizontally disposed hinge rods 52 are rotatably supported in and between the side channels 42a and 42b at the level of the dividing lines 35 of the superposed rows 34 of the fields 32 on the front face of wall 30, and firmly secured to each of said hinge rods in the spaces between the side channels 42a and 42b, and partitions 48, respectively, are rectangular plates 50. The rear wall of all the compartments 40 is formed by a transparent plate 51 (FIGURE 2) which may be made of glass or plastic material, and which is detachably held behind the inwardly turned flanges 43a and 43b of the side bars 42a and 42b, respectively, rear wall 51 are marked opposite each compartment 40 the numbers of the congruent fields upon the front face of box wall 30, as indicated at 53 in FIGURE 2.

To maintain the plates 50 in the horizontal position illustrated in FIGURE 2 wherein they form the floors of the compartments 40, and to enable an operator to depress them all in unison, the hinge rods 52 are mechanically coupled for rotation in synchronism. For this purpose, the hinge rods 52 protrude beyond the side flange 43a and their ends 54 are bent radially in a direction toward the rear wall of the box, and these bent ends are loosely engaged in apertures 55 provided in a vertically disposed coupling bar 56. Furthermore, one of said hinge rods 52, for instance, the hinge rod 52* is arranged to protrude through the right side channel 42a and its end 58 is bent radially in the manner of a crank handle; and a spring 60, tensioned between said handle 58 and a lug 62 projecting laterally from the upper cross bar 44 yieldably urges said hinge rod 52 in a counter-clockwise direction as viewed in FIGURE 3, into a position wherein all the floor plates 50 assume a horizontal position. The defined position of the floor plates 50 is determined by studs 64 that project laterally from the side channel 42a and which engage slots 65 provided in the side flange 63 of coupling bar 56. When during upward movement of the coupling bar under the urgency of spring 60 the bottom end of said slots 65 come against the studs 64, the floor plates 50 then are all horizontally disposed; and by depressing the crank-shaped right end 58 of said rod 52* against the urgency of spring 60, all the floor plates 50 may simultaneously be tilted into the positions shown in phantom lines in FIGURE 3, causing any coins in the compartments to be discharged onto the bottom 12 of the box from where they can readily be picked up by an attendant.

It remains to point out that means are provided to keep the box locked so that only authorized personnel has access to its interior, and any suitable door lock may be provided for this purpose. In the exemplary embodiment of the invention illustrated in the accompanying drawings, a lock 70 is provided in the left side wall 73 of the box 20 (as viewed in FIGURE 2), which permits rotation of a cylinder 74 by means of an appropriate key 76. Firmly secured to said cylinder 74 is a two-armed lever 78 that is normally horizontally disposed. Pivoted to the opposite ends of said lever are bolt bars 80a and 80b, respectively, that extend in opposite directions and engage apertured ears 82a and 82b secured to the inner face of the side wall 73 near the top and bottom thereof (FIGURE 4). Similar ears 84a and 84b are provided on the inner surfaces of door 24 near its outer top and bottom corners (FIGURE 2) in such positions that they slide over and register with the ears 82a and 82b when the door 24 is closed. When the two-armed lever 78 is in the horizontal position illustrated in full lines in FIGURE 4, the ends of the bolt bars 80a and 80b engage, but do not project materially beyond, the apertures of ears 82a and 82b, respectively. When the door 24 is closed, however, and the key 76 is turned and turns the cylinder 74 by an angle of 90° in a counter-clockwise direction as viewed in FIGURE 4, said lever...
and the bars 80a and 80b align themselves vertically as shown in phantom lines in said FIGURE 4, and the ends of said bolt bars are thrust through the aligned apertures in the ears 84a and 84b, respectively, of door 24, and securely lock said door in closed position so that no one can tamper with the mechanism in the interior of the box.

A slot 86 for the reception of envelopes may be provided in the top wall 85 of the box rearwardly of the space taken up by the compartments 40 (FIGURE 5) and a memo pad or writing tablet 90 may be attached to the inner surface of the door 24 (FIGURE 2) for reasons to be presently explained.

In practice the fee collection device of my invention is set up at an appropriate place in a parking lot whose stalls are identified by the numbers that appear in the fields 34 on the front face of the box. By a suitably placed notice which may be provided on the front face of the box directly below the fields 34, as indicated in FIGURE 1, an arriving customer is directed, first, to park his car in any available stall and to note the number of the stall; and, secondly, to deposit the parking fee in coins through the slot 26 in the field that bears the number of the stall in which he has parked his car. This is all that is necessary. At certain intervals, say, every two hours, an attendant may come to the parking lot and check on the situation. He will first find out which of the stalls are occupied. He will then open the door with the key 76 whereupon he can see at a glance through the transparent rear wall 51 of the compartments 40 which customers have paid their fees. If he finds that there is no deposit in a compartment which bears the number of a stall that is occupied, or that the deposit in one or the other compartment is inadequate, he may place an envelope with a request for payment and bearing the identifying mark of the stall, on the windshield of the car in the particular stall. The honest customer who has inadvertently forgotten to pay the fee may, upon return to the parking lot, place the fee into the envelope and drop it into the slot 86 provided in the top wall 85 of the box 20 from where the attendant may collect it when he checks the parking lot the next time. Before collecting the coins in the compartments 40 the attendant will note down on the tablet 90, on the inner surface of the door 24, the license numbers and location of the cars for which no fee has been paid. He may also note down the license numbers and location of cars of, and the amounts paid by, customers who have paid more than the required minimum fees so that he may not inadvertently consider them delinquent on his next round. Before leaving the lot he will collect all the money in the compartments 40 by simply depressing the crank handle 58 which tilts the floors 90 of all the compartments causing the coins to drop onto the bottom of the box. Before leaving the parking lot, he will, of course, re-lock the door 24.

The described coin collection device is of simple and inexpensive construction compared with the costly and complex ticket dispensing machines now commonly in use. It relieves the customer of the task of operating a ticket dispensing machine and avoids the confusion and annoyance occasioned when tickets are removed from the windshields of parked cars by mischievous or dishonest persons or are blown away by wind and rain. The device of the invention affords an effective degree of supervision and if a customer has paid his fee, he is duly credited for it, and no one can tamper with the evidence in the box. Furthermore, the device of the invention is easy to handle even by inexperienced attendants and may readily be serviced in a matter of minutes so that a single attendant may take care of a substantial number of small parking lots.

While I have described my invention with the aid of an exemplary embodiment thereof, it will be understood that the invention is not limited to the specific constructional details shown and described by way of example, which may be departed from without departing from the scope and spirit of the invention.

I claim:

A fee collection device for parking lots and like establishments comprising a strong box having a front wall containing an array of vertically superposed and horizontally juxtaposed coin-receiving slots; associated with said slots on the outer surface of said front wall identifying marks corresponding to the identifying marks of the individual stalls of a parking lot; within said box adjacent the inner surface of said front wall vertical partitions at either side of the vertical rows of coin-receiving slots, horizontally disposed hinge rods rotatably supported adjacent said partitions below each horizontal row of coin-receiving slots, plates secured to said hinge rods between said partitions, means coupling said hinge rods for rotation in unison, means yieldably urging said rods into a rotary position wherein said plates are horizontally disposed to form with said partitions individual coin-receiving compartments for said slots, a transparent rear wall for said compartments adjacent said partitions, and for each of said compartments an identifying mark on said transparent rear wall corresponding to the identifying mark associated with the coin-receiving slot leading into the compartment, and means on one of said hinge rods for manipulating said rod to turn all the hinge rods in unison and thus cause all of said plates to tilt and discharge coins deposited into said compartments in unison; at the back of said strong box a door of such size and location as to permit, upon opening, a view of the transparent rear wall of all the compartments comprised in the device, and means for locking said door in closed position; said box being constructed to form a space behind the rear wall of said compartments and having a top wall containing above said space a slot of a size adapted to receive an envelope.

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