March 4, 1952 T. J. MORGAN ET AL 2,588,271

DISCONNECTIBLE HINGE CONSTRUCTION FOR PARKING METER DOORS

Filed March 12, 1951 2 SHEETS—SHEET 1

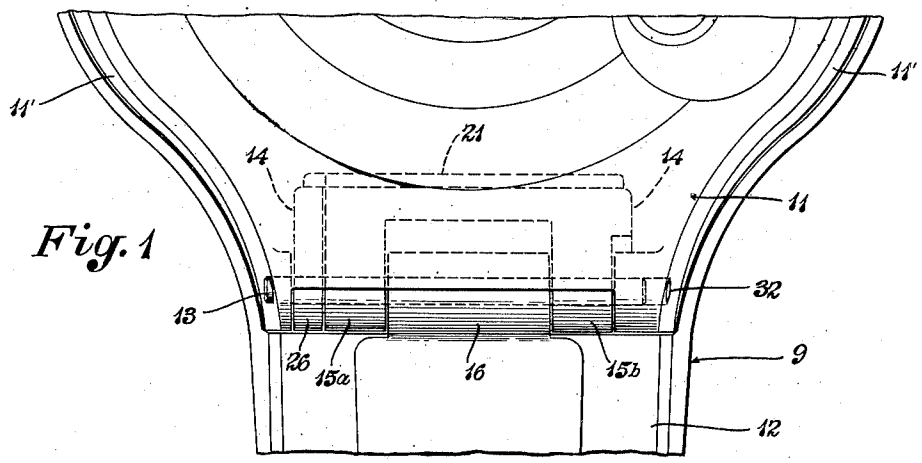


Fig. 1

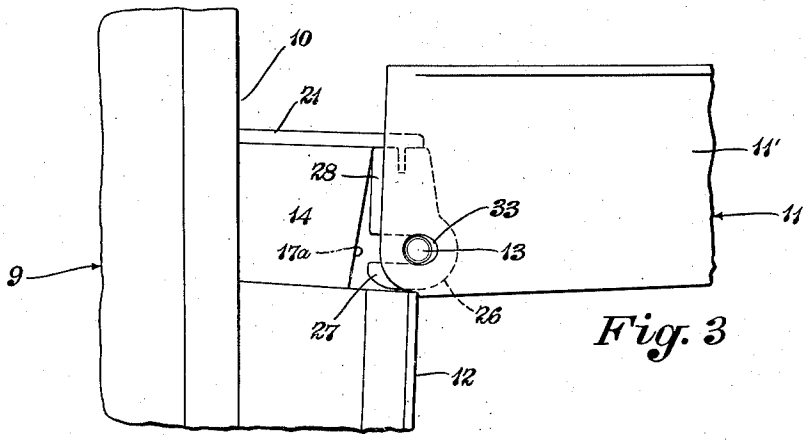


Fig. 3

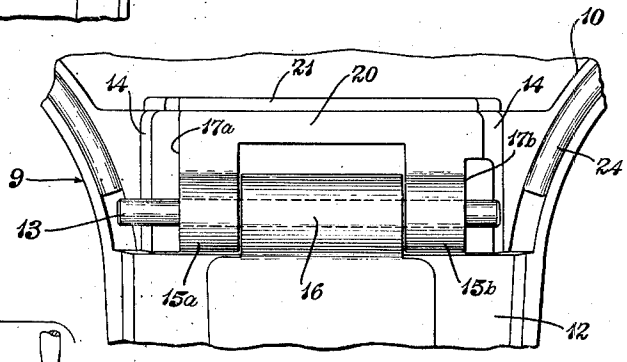


Fig. 4

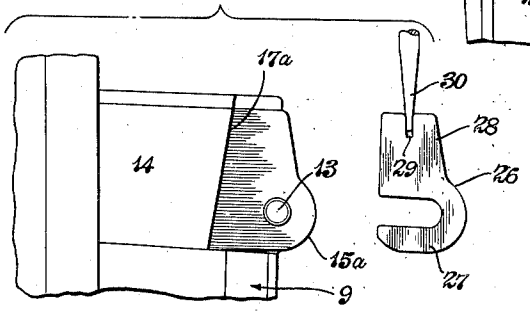


Fig. 2

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DISCONNECTIBLE HINGE CONSTRUCTION FOR PARKING METER DOORS

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2 SHEETS—SHEET 2

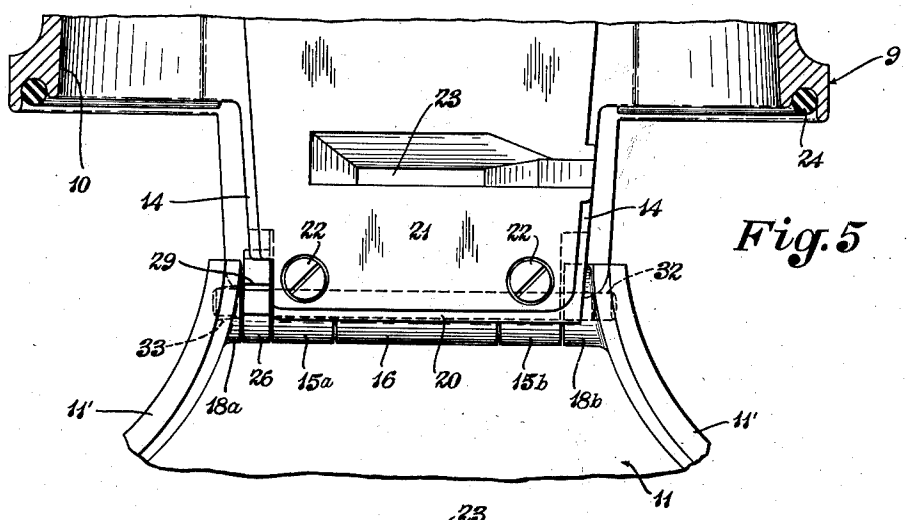


Fig. 5

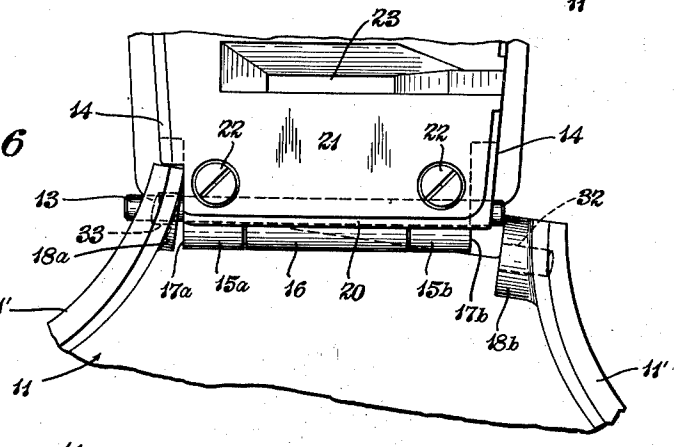


Fig. 6

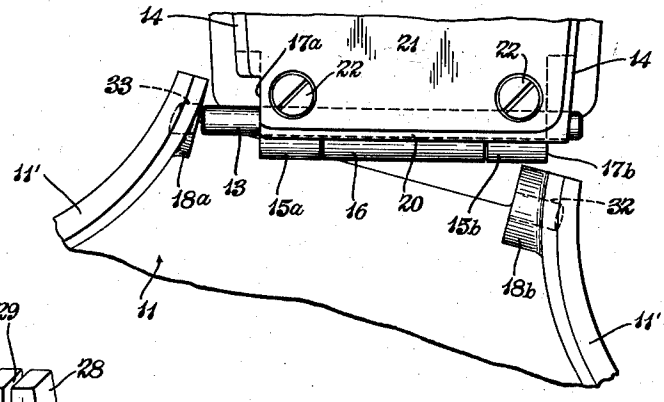


Fig. 7

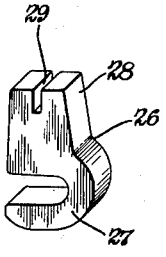


Fig. 8

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DISCONNECTIBLE HINGE CONSTRUCTION FOR PARKING METER DOORS

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10 Claims. (Cl. 16—175)

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The invention relates generally to packing meters, and more particularly to a novel disconnectible hinge construction for quick removal of the meter compartment door by an authorized person.

Certain conventional parking meters have an upper meter compartment and a lower coin collecting compartment, the doors for both compartments being hinged on a pin located between the compartments. In many parking meters, some of the meter mechanism is a part of or is fixedly mounted on the inside of the meter compartment door, so that in replacing the meter it is necessary to remove the door and meter as a unit, and this requires removal of the hinge pin.

The hinge pin cannot be made removable from outside of the meter housing because in such case an unauthorized person could break into the meter; nor should the hinge pin be made removable from within the meter compartment because this would give access to the coin compartment, and in many localities the meter maintenance man is denied access to the coin compartment and it is accessible only to an authorized collector.

Accordingly, removal of the hinge pin should be made possible only from within the coin compartment, in which case the presence of both the meter maintenance man and the authorized collector would be required. Moreover, where the hinge pin is held in place by a set screw located within the coin compartment, the presence of a coin box carried on the coin compartment lid makes the set screw difficult of access.

It is an object of the present invention to provide a novel hinge construction which is easily disconnectible from within the meter compartment without requiring or giving access to the coin compartment.

A further object is to provide a novel hinge construction in which the hinge pin for the meter compartment door and coin compartment door need not be removed in order to remove the meter compartment door.

Another object is to provide a novel disconnectible hinge construction for a meter compartment door in which the door in open position may quickly be disconnected from the hinge.

Another object is to provide a novel quickly disconnectible hinge construction for a parking meter door, which is inaccessible from the exterior of the meter housing and easily operable from within the meter compartment.

A still further object is to provide a novel

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quickly disconnectible hinge construction for a parking meter door which is easily applied to conventional parking meter constructions.

These and other objects are accomplished by the parts, constructions, arrangements and combinations comprising the present invention, the nature of which is set forth in the following general statement, a preferred embodiment of which is disclosed in the accompanying drawings and specification as exemplifying the best known mode of carrying out the invention, the scope of the invention being defined in the appended claims.

In general terms, the invention is applied to a parking meter housing having an upper meter compartment door and a lower coin compartment door hinged on a pin located between the doors, and includes a laterally removable clip inserted around one end of the hinge pin between a hinge ear of the meter compartment door and the housing, said door being slidable axially on the pin when the clip is removed, to detach the opposite hinge ear of the door from the other end of the pin, and the hinge pin hole in said first ear of the door being enlarged to permit swinging the opposite ear laterally away from the opposite end of the hinge pin for removing the door therefrom.

Referring to the drawings in which a preferred embodiment of the invention is shown by way of example;

Figure 1 is a fragmentary front elevation of a parking meter embodying the invention, showing the hinge connection between the upper meter compartment door and the lower coin compartment door;

Fig. 2 is a similar view with the meter compartment door entirely removed;

Fig. 3 is a fragmentary side elevation showing the meter compartment door swing about the hinge pin to fully open position;

Fig. 4 is an expanded view similar to Fig. 3, showing the door removed and the locking clip also removed;

Fig. 5 is a fragmentary plan sectional view through the meter compartment with the door swung to fully open position and the locking clip in place;

Fig. 6 is a similar view showing the clip removed and the door partially removed;

Fig. 7 is a similar view showing the door completely disconnected from the hinge pin; and

Fig. 8 is a detached oblique view of the locking clip.

Similar numerals refer to similar parts throughout the drawings.

In the drawings, the housing of the parking meter is indicated generally at 9, and has an upper meter compartment 10 having a door 11, and a lower coin compartment door 12. The door 11 has side flanges 11' hinged at their lower ends on a horizontal hinge pin 13, and the door 12 is hinged at its upper end on the same pin 13, the door 11 being adapted for swinging outwardly downward as indicated in Fig. 3, and the door 12 being adapted for swinging outwardly upward.

Between the meter mechanism compartment and the coin compartment, the housing is provided with forwardly extending side walls 14 which terminate in forwardly projecting laterally spaced ears 15*a* and 15*b* in which the hinge pin 13 is mounted. As best shown in Figs. 2 and 4, the ears 15*a* and 15*b* are offset laterally inwardly of the walls 14. The coin compartment door 12 is provided with a central upwardly extending ear 16 which is pivoted on the central portion of the hinge pin, and a set screw (not shown) may be screwed through the ear 16 from within the coin compartment to engage the hinge pin 13 and prevent its removal.

As shown in Fig. 2, a recess 17*b* is provided in the housing wall 14 around one end of the hinge pin 13, to allow a rounded boss or hinge ear 18*b* on the flange 11' in one side of the door 11 to fit against the adjacent housing ear 15*b*, as indicated in Figs. 5 and 6. A similar recess 17*a* is formed in the other housing wall 14, but the recess 17*a* is extended through the top of the housing wall for a purpose to be described. As shown in Figs. 5, 6 and 7, the rounded boss or hinge ear 18*a* on the opposite side of the door 12 is cut off substantially flush with the other side flange 11', so that when the door is in connected position a space is provided between the boss 18*a* and the adjacent housing ear 15*a*. The hinge pin 13 is extended sufficiently beyond the ear 18*a* to extend across the space between the ear 18*a* and the ear 15*a* and have its outer end journaled in the ear 18*a*.

As best shown in Fig. 2, the tops of the housing ears 15*a* and 15*b* are connected by a vertical plate and transverse web portion 20 and a partition wall 21 rests on top of the web and the housing walls 14. As shown in Figs. 5, 6 and 7 the front end of the partition wall 21 may be secured to the web 20 by screws 22. The partition wall separates or divides the meter mechanism compartment from the coin compartment and a coin receiving slot 23 may be provided in the partition wall for receiving coins discharged from the meter mechanism and discharging them into the coin compartment. As shown in Figs. 2 and 5, the housing walls around the meter compartment 10 may be provided with a gasket 24 against which the inner edges of the door flanges 11' seat to make a tight seal.

The novel means for making the meter compartment door 11 quickly removable, by an authorized person having access to the interior of said door, preferably includes a locking clip 26 which normally occupies the space between the housing ear 15*a* and the hinge ear 18*a* of the door, when the door is in place as in Figs. 1 and 5. The clip 26 is made with a lower hook portion 27 which fits around the extended end portion of the hinge pin 13, and the upper end 28 of the clip terminates at the top of the housing wall 14 and at the bottom surface of the partition wall 21, as best shown in Fig. 3. The upper portion 28 of the clip is provided with a narrow slot 29 for wedgeably engaging the blade 30 of a screw driver or the like, as indicated in Fig. 4, to facilitate quick removal of the clip when the meter door 11 is in open position. However, the clip may be removed with the fingers although not as conveniently.

In order to remove the door 11 and the meter mechanism attached thereto when the door is in the open position as shown in Fig. 5, the locking clip is first removed by inserting the blade 30 in the slot 29 and lifting the clip outwardly and upwardly. With the clip removed, the door 11 may be manually moved axially of the hinge pin to the right, whereupon the hinge ear 18*b* of the door will be moved so that the hinge pin hole 32 therein is moved beyond and free of the end of the hinge pin.

The hinge pin hole 33 which is provided in the hinge ear 18*a* is slightly tapered or enlarged as shown, so that when the hinge ear 18*b* is thus moved free of the other end of the hinge pin, the door 11 may be swung laterally with the extended end of the hinge pin still pivoted in the hinge ear 18*a* in the manner indicated in Fig. 6. After the ear 18*b* is swung in this fashion to clear the housing ear 15*b*, the door is then moved manually to the left, as in Fig. 7, to disengage the hole 33 from the extended end of the hinge pin, whereupon the door is entirely disconnected, and the door with the meter mechanism attached thereto may be removed as a unit, and replaced.

The disconnectible hinge construction comprising the present invention is easily applied to a conventional parking meter, for making the meter compartment door quickly removable by the maintenance or repair man who has access to the meter compartment. All that is necessary to make the application is to shift the hinge pin 13 bodily to the left to provide a slightly extended portion on the left end, cut out or extend upwardly the recess 17*a*, enlarge the hole 33, and cut off the ear or boss 18*a* on the door, so as to provide the space for receiving one of the locking clips 26. It is understood that the hinge pin 13 will be secured in its shifted position as by a set screw screwed through the ear 16 from within the coin compartment, so that the hinge pin cannot be removed from the exterior of the meter or from within the meter compartment.

Accordingly, the novel disconnectible hinge construction provides for quick removal of the meter compartment door only by an authorized person who has access to the meter compartment, without giving access to or affecting in any way the coin compartment or the coin compartment door. Moreover, the meter compartment door may be disconnected and removed without the use of special tools, and may be accomplished by the use of an ordinary screw driver, or merely by using the fingers if no screw driver is available. The novel hinge construction is simple and economical to make, and extremely easy to operate.

In the foregoing description, certain terms have been used for brevity, clearness and understanding, but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art, because such words are used for descriptive purposes herein and are intended to be broadly construed.

Moreover, the embodiment of the improved construction illustrated and described herein is by way of example, and the scope of the present

invention is not limited to the exact details of construction.

Having now described the invention, the construction, the operation and use of a preferred embodiment thereof, and the advantageous new and useful results obtained thereby; the new and useful constructions, and reasonable mechanical equivalents thereof obvious to those skilled in the art, are set forth in the appended claims.

We claim:

1. In a parking meter including a housing and a door having interfitting ears mounted on a hinge pin, means for removably mounting said door including a laterally removable locking clip engaged around the hinge pin between the housing ear and the door ear at one end of said pin, said door being slidable axially on said pin when the clip is removed to detach its opposite ear from the opposite end of the pin, and the door ear at said one end of the pin having an enlarged hole receiving said pin for lateral swinging of said opposite door ear when it is detached from the pin.

2. In a parking meter including a housing and a door having interfitting ears mounted on a hinge pin, means for removably mounting said door including a laterally removable locking clip engaged around the hinge pin between the housing ear and door ear at one end of said pin, a slot in the clip for wedgeably engaging the blade of a tool for removing said clip, said door being slidable axially on said pin when the clip is removed to detach its opposite ear from the opposite end of the pin, and the door ear at said one end of the pin having an enlarged hole receiving said pin for lateral swinging of said opposite door ear when it is detached from the pin.

3. In a parking meter including a housing and a door having interfitting hinge ears mounted on a hinge pin, means for removably mounting said door including a laterally removable locking clip having a hook portion engaged around the hinge pin between the housing ear and door ear at one end of said pin, said door being slidable axially on said pin when the clip is removed to detach its opposite ear from the opposite end of the pin, and the door ear at said one end of the pin having an enlarged hole receiving said pin for lateral swinging of said opposite door ear when it is detached from the pin.

4. In a parking meter including a housing and a door having interfitting hinge ears mounted on a hinge pin, means for removably mounting said door including a laterally removable locking clip having a hook portion engaged around the hinge pin between the housing ear and door ear at one end of said pin, a slot in the clip for wedgeably engaging the blade of a tool for removing said clip, said door being slidable axially on said pin when the clip is removed to detach its opposite ear from the opposite end of the pin, and the door ear at said one end of the pin having an enlarged hole receiving said pin for lateral swinging of said opposite door ear when it is detached from the pin.

5. In a parking meter having a housing and a door hinged on a hinge pin mounted in said housing, means for disconnecting the door from said hinge pin including a laterally removable locking clip fitting within the door and between a first side of the door and housing at one end of said hinge pin, said door being movable axially on said pin when the clip is removed, the opposite side of the door being disengaged from the opposite end of the hinge pin when said first side of the door abuts the housing at said one end of said hinge pin, and said first side of the door having a laterally enlarged hinge pin hole for lateral swinging of said door about said one end of said hinge pin and subsequent detachment of the door therefrom.

6. In a parking meter having a housing and a door hinged on a hinge pin mounted in said housing, means for disconnecting the door from said hinge pin including a laterally removable locking clip fitting within the door and between a first side of the door and housing and having a hook portion fitting around one end of said hinge pin, said door being movable axially on said pin when the clip is removed, the opposite side of the door being disengaged from the opposite end of the hinge pin when said first side of the door abuts the housing at said one end of said hinge pin, and said first side of the door having a laterally enlarged hinge pin hole for lateral swinging of said door about said one end of said hinge pin and subsequent detachment of the door therefrom.

7. In a parking meter having a housing and a door hinged on a hinge pin mounted in said housing, means for disconnecting the door from said hinge pin including a laterally removable locking clip fitting within the door and between a first side of the door and housing at one end of said hinge pin, means on the upper end of the clip to facilitate lifting it out from between said door and housing, said door being movable axially on said pin when the clip is removed, the opposite side of the door being disengaged from the opposite end of the hinge pin when said first side of the door abuts the housing at said one end of said hinge pin, and said first side of the door having a laterally enlarged hinge pin hole for lateral swinging of said door about said one end of said hinge pin and subsequent detachment of the door therefrom.

8. In a parking meter having a housing and a door hinged on a hinge pin mounted in said housing, means for disconnecting the door from said hinge pin including a laterally removable locking clip fitting within the door and between a first side of the door and housing and having a hook portion fitting around one end of said hinge pin, means on the upper end of the clip to facilitate lifting it out from between said door and housing, said door being movable axially on said pin when the clip is removed, the opposite side of the door being disengaged from the opposite end of the hinge pin when said first side of the door abuts the housing at said one end of said hinge pin, and said first side of the door having a laterally enlarged hinge pin hole for lateral swinging of said door about said one end of said hinge pin and subsequent detachment of the door therefrom.

9. In a parking meter having a housing member and a door member hinged on a hinge pin mounted in said housing, means for disconnecting the door from the hinge including a cut out portion on one of the members providing a space between the housing and a first side of the door at one end of the hinge pin, a laterally removable locking clip inserted in said space, said door being movable axially on said hinge pin when the clip is removed to disengage the opposite side of the door from the opposite end of the pin, and said first side of the door being swingable laterally about said one end of said hinge pin for removing said door.

10. In a parking meter having a housing mem-

ber and a door member hinged on a hinge pin mounted in said housing, means for disconnecting the door from the hinge including a recessed portion on one of the members providing a space between the housing and a first side of the door at one end of the hinge pin, a laterally removable locking clip inserted in said space and having a hook portion engaged around said hinge pin, said door being movable axially on said hinge pin when the clip is removed to disengage the opposite side of the door from the opposite end of the pin, and said first side of the door being swingable laterally about said one end of said hinge pin for removing said door.

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