May 21, 1946. W. J. HERSCHEDE ET AL 2,400,756

PARKING METER AND COIN SLOT THEREFOR

Original Filed May 27, 1938 5 Sheets-Sheet 1

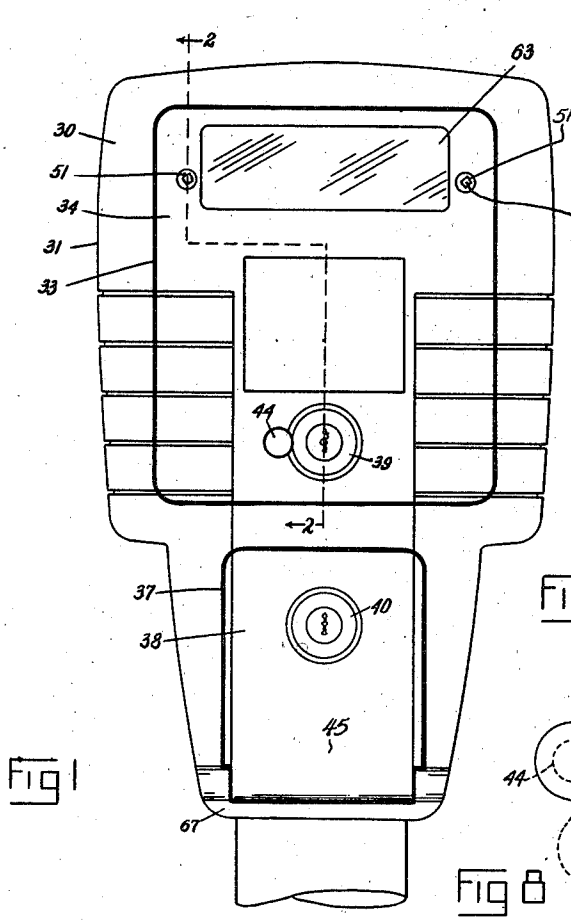


Fig 1

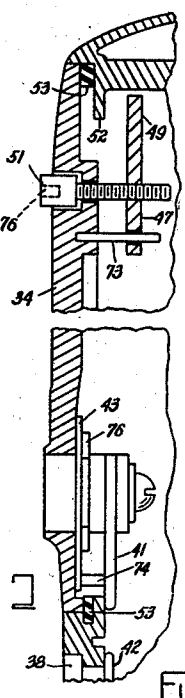


Fig 2

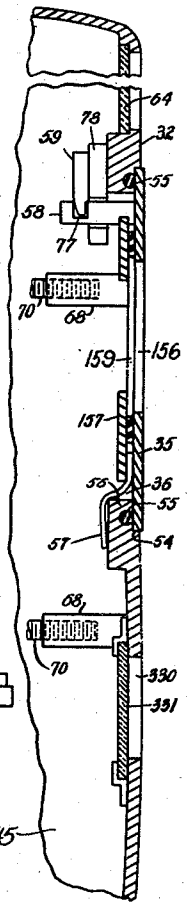


Fig 3

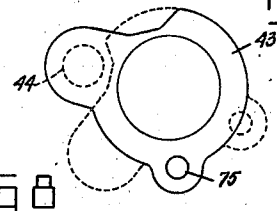


Fig 8

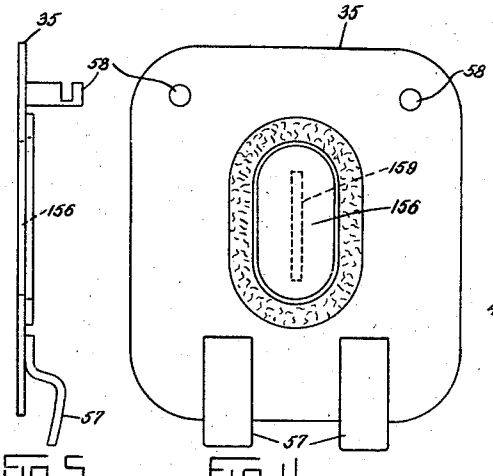


Fig 5 Fig 4

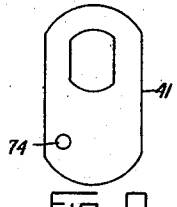


Fig 9

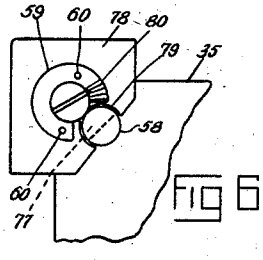


Fig 6

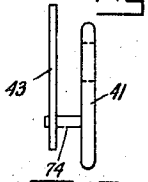


Fig 10

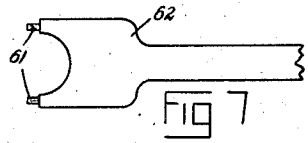


Fig 7

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May 21, 1946. W. J. HERSCHEDE ET AL 2,400,756

PARKING METER AND COIN SLOT THEREFOR

Original Filed May 27, 1938 5 Sheets-Sheet 2

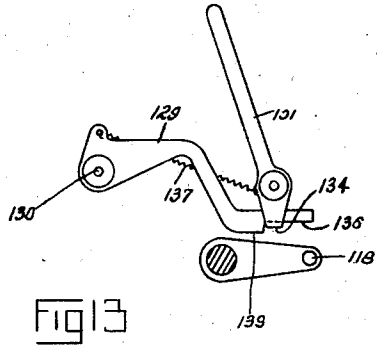


Fig 13

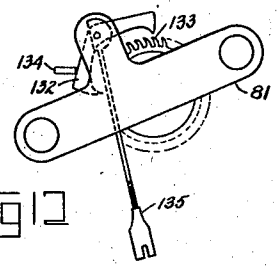


Fig 12

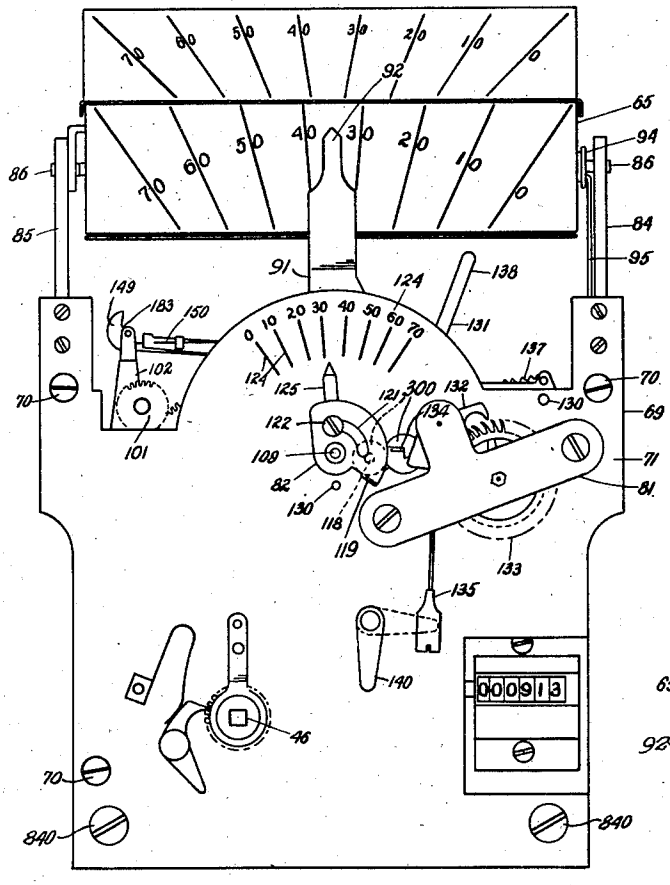


Fig 11

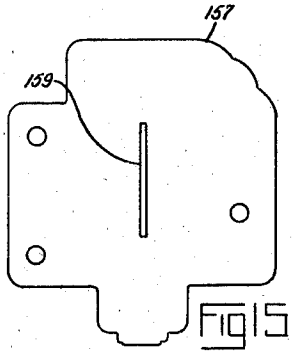


Fig 15

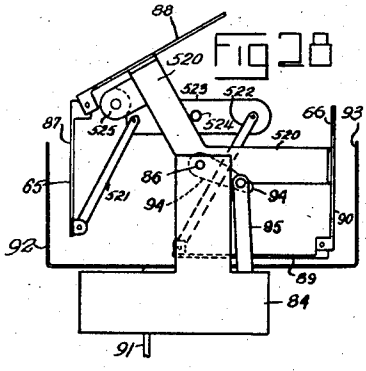


Fig 28

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May 21, 1946. W. J. HERSCHEDE ET AL 2,400,756

PARKING METER AND COIN SLOT THEREFOR

Original Filed May 27, 1938 5 Sheets-Sheet 3

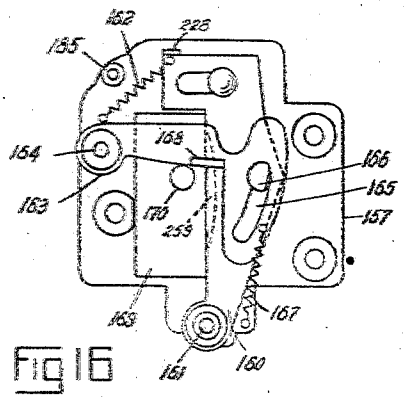


Fig 16

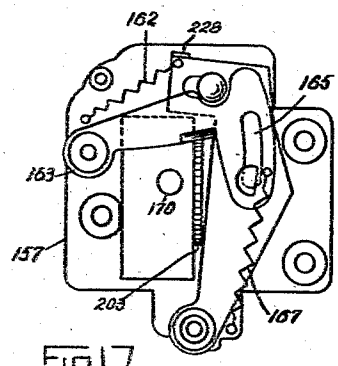


Fig 17

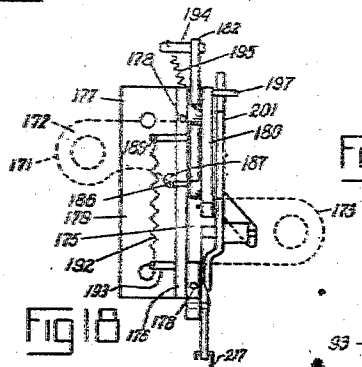


Fig 18

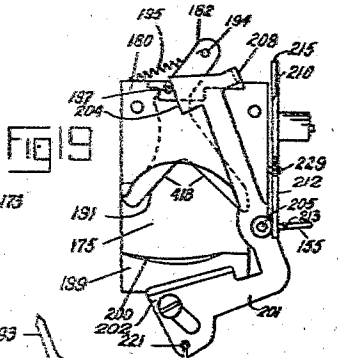


Fig 19

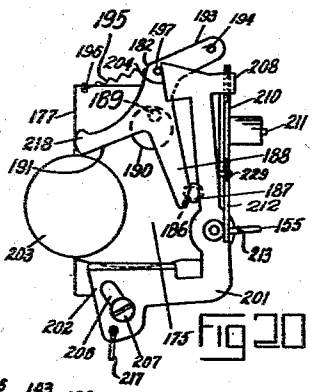


Fig 20

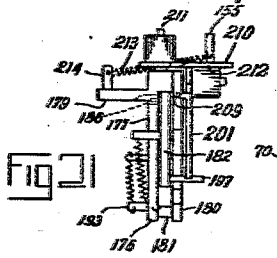


Fig 21

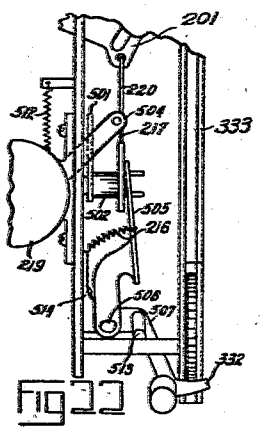


Fig 22

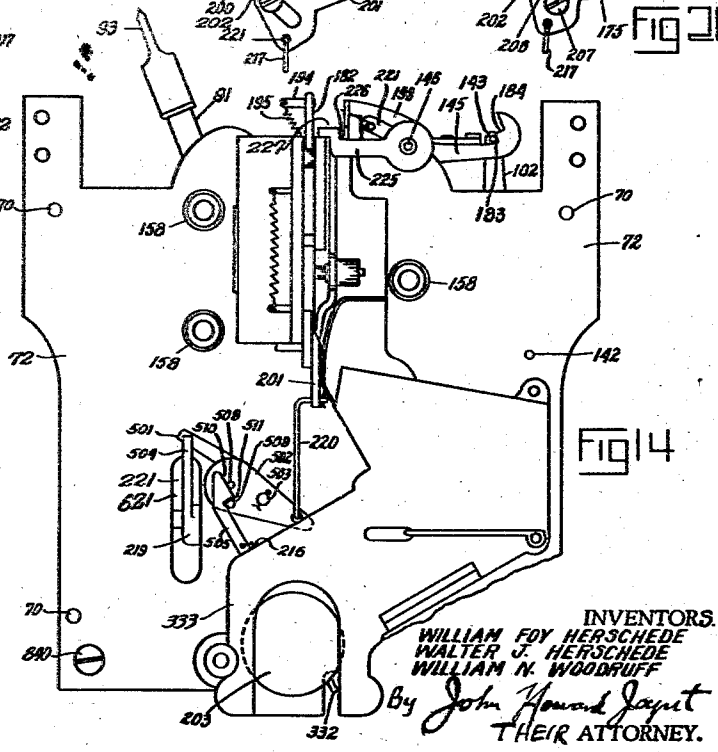


Fig 14

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May 21, 1946. W. J. HERSCHEDE ET AL 2,400,756

PARKING METER AND COIN SLOT THEREFOR

Original Filed May 27, 1938 5 Sheets-Sheet 4

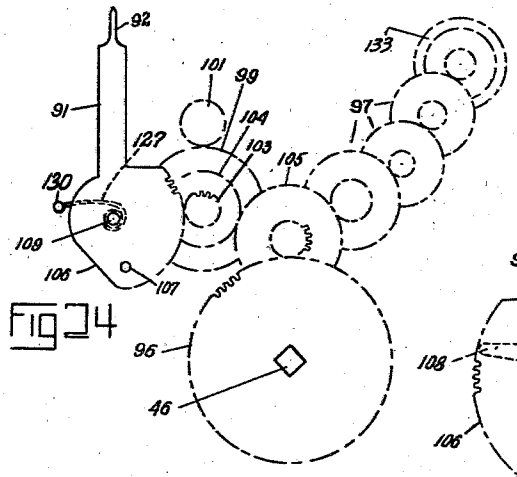


Fig 24

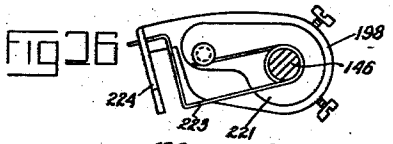


Fig 26

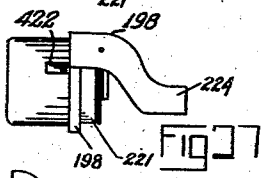


Fig 27

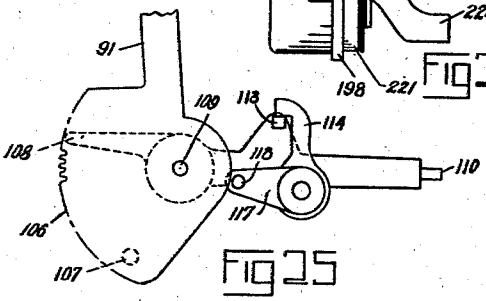


Fig 25

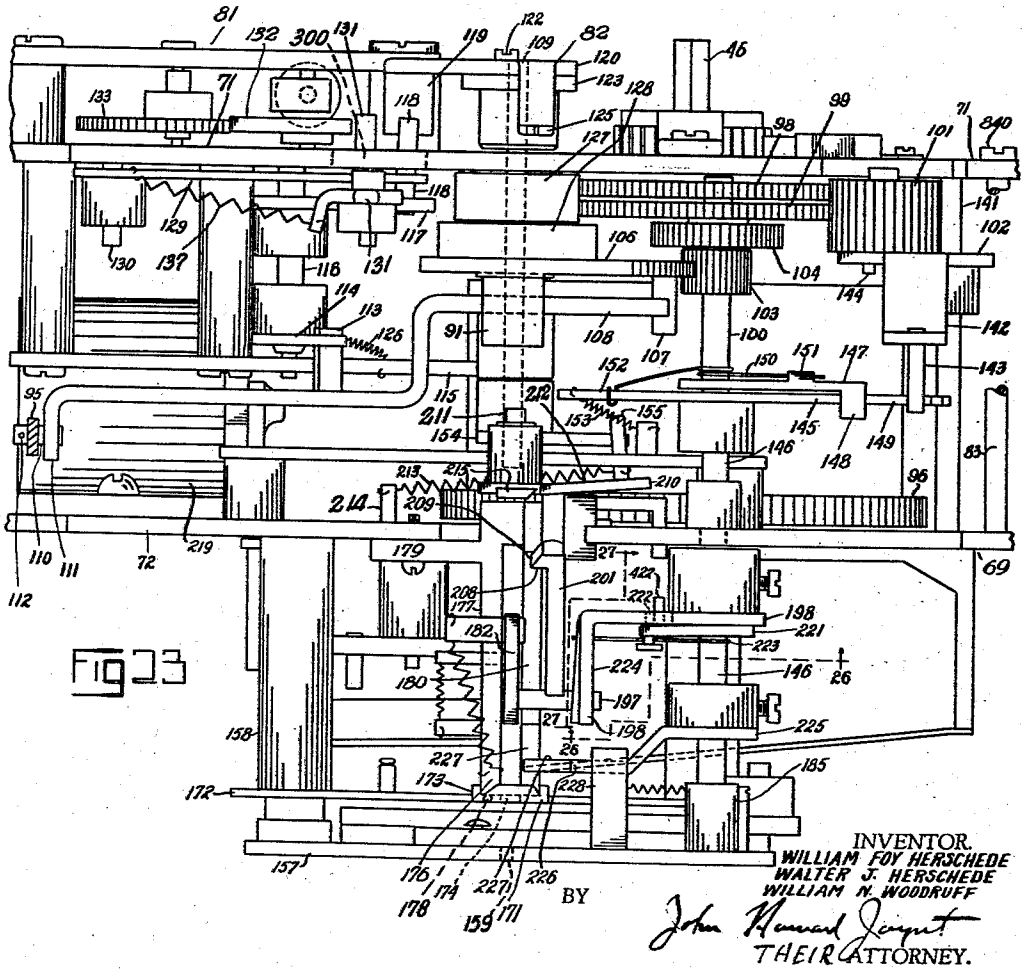


Fig 23

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May 21, 1946. W. J. HERSCHEDE ET AL 2,400,756

PARKING METER AND COIN SLOT THEREFOR

Original Filed May 27, 1938 5 Sheets-Sheet 5

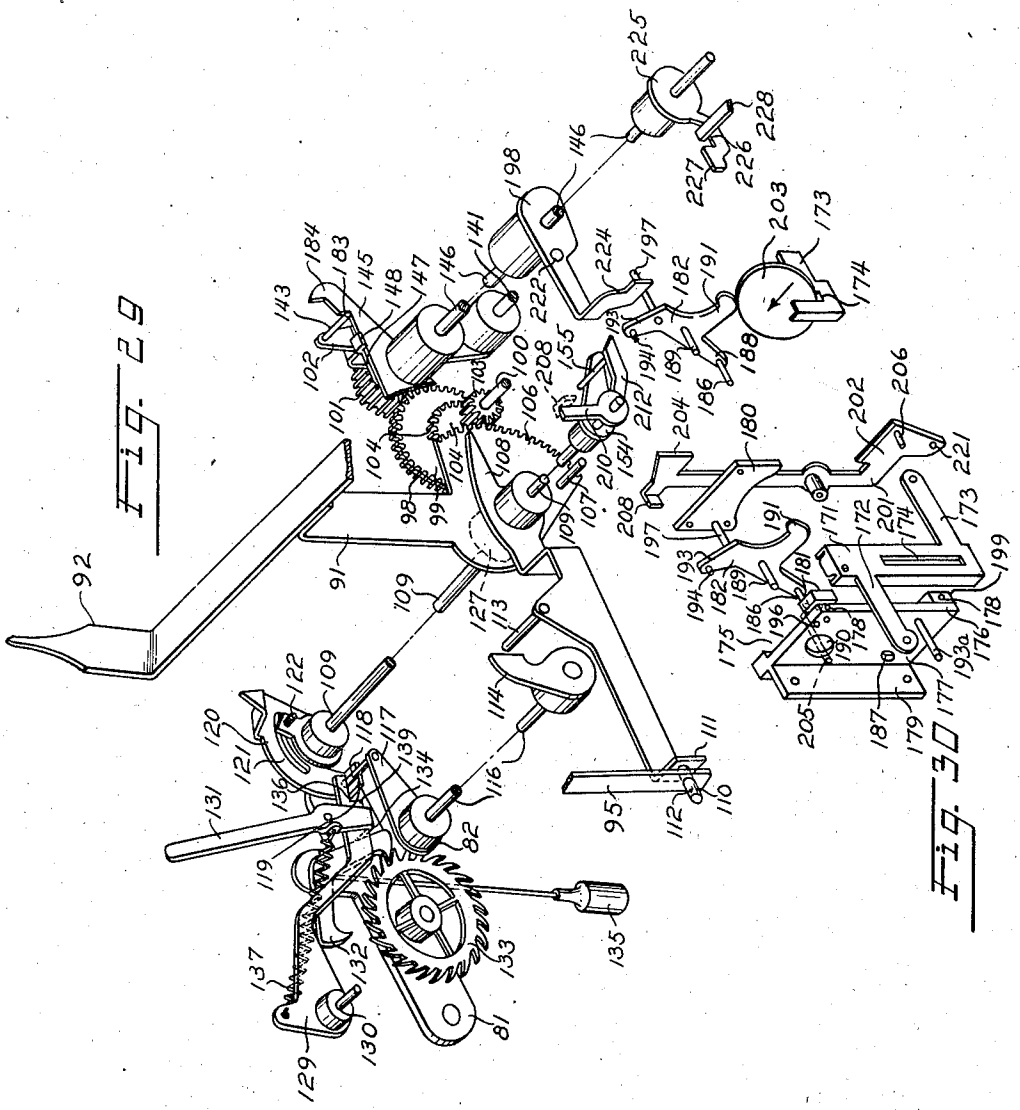


Fig. 29

Fig. 30

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Patented May 21, 1946 2,400,756

UNITED STATES PATENT OFFICE

2,400,756

PARKING METER AND COIN SLOT THEREFOR

Walter J. Herschede, Cincinnati, William Foy Herschede, Forestville, and William N. Woodruff, Cincinnati, Ohio, assignors to International Vehicular Parking, Ltd., a corporation of Delaware

Original application May 27, 1938, Serial No. 210,504. Divided and this application June 16, 1942, Serial No. 447,288

5 Claims. (Cl. 194—1)

This application for patent is a division of our copending applicaton Serial No. 210,504, filed May 27, 1938, entitled Parking meter and coin slot therefor, now Patent 2,289,838 of July 14, 1942, and the invention relates to parking meters of the general character adapted for mounting or positioning at intervals along roadways or streets, and which include timing mechanism and coin-controlled apparatus coperating with the timing mechanism, for initiating operation of the timing mechanism of the parking meter.

An object of the invention is to provide a coin slot, forming an integral and essential part of such parking meter apparatus, which is adapted to positively initiate operation or movement of the timing mechanism incident to insertion of the coin.

Another object of the invention is to provide a device of the character indicated wherein the coin slot mechanism is adapted to initiate operation of the timing mechanism only in response to the introduction thereinto, of a coin of the proper size or dimension.

Another object of the invention is to provide a coin slot of the character indicated, the parts of which are adapted to overcome the difficulties generally encountered by reason of atmospheric conditions and the effects thereof upon various types and kinds of coins used with devices of the character under consideration.

Another object of the invention is to provide a coin slot of the character indicated, wherein the parts thereof are so related and so cooperate as to positively move a coin through the mechanism thereof whereby to complete the cycle of setting the clock mechanism in operation and for transferring the coins to a proper receptacle, regardless of any action or control on the part of the person inserting the coin into the coin slot, other than such action incident to the manual insertion and movement of the coin into the slot to such degree as will condition the referred to coin slot mechanisms for performing the indicated functions.

Another object of the invention is to provide timing mechanism in conjunction with a coin slot, of such character and structure that same may be handled as a unit in mounting and demounting same in a suitable housing provided for receiving and protecting the said mechanisms from the elements and the curious persons who might otherwise tamper therewith.

Another object of the invention is to provide mechanisms of the character indicated that are so related that the coin slot may be readily made available from the exterior of the casing and also that the coin slot mechanism may be serviced from the exterior of the casing through a suitable opening in the casing and which opening may be effectively closed by simple means, against unauthorized manipulation.

Another object of the invention is to provide a simple mounting arrangement for positioning the timing and coin slot mechanism within a housing or casing.

Another object is to effect certain improvements and simplifications in the timing mechanism whereby to obviate certain objections heretofore encountered in previously used devices intended for the same or similar purposes.

Another object of the invention is to provide a device of the character indicated wherein the receipts that have accumulated incident to the use of the apparatus, may be held inacessible to service employees whose duties may require the winding of the timing mechanism and general supervision and repair of such parts of the device as may be readily attended to through the openings provided in the casing for such purposes.

Another object is to provide a device of the character indicated wherein the servicing of various parts of the device may be effected without necessitating removal thereof from the enclosing casing or housing provided therefor.

Another object is to provide a device of the character indicated, in which the various parts, when inactive, are relieved of all stress or strain attributable to the use of a clock spring or the equivalent therewith, for use as motive power.

These and other objects may be attained by the means described herein and illustrated in the accompanying drawings, in which:

Fig. 1 is an elevational view showing one side of a device embodying the invention and mounted on a customary standard.

Fig. 2 is an enlarged fragmental sectional view on line 2—2 of Fig. 1, showing the front wall only.

Fig. 3 is an enlarged fragmental sectional view of the device showing the rear wall only.

Fig. 4 is a rear view of a plate forming a detail of Fig. 3.

Fig. 5 is a side view of the plate shown in Fig. 4.

Fig. 6 is a sectional view of the structural details of the releasable attachment means used for securing the plate to the housing.

Fig. 7 is a fragmental detail of a spanner wrench used incident to attachment and detachment of the plate.

Fig. 8 is a view of a movable shutter forming a detail of the invention and which controls

access to the winding stud of the clock mechanism housed within the casing and forming a detail of the invention.

Fig. 9 is a view of a locking bolt of a key controlled lock for controlling detachment of a plate or panel controlling access to the interior of the housing, the locking bolt being associated with the shutter shown in Fig. 8, whereby to actuate the shutter from the key controlled lock.

Fig. 10 is an end view of the associated parts shown in Figs. 8 and 9.

Fig. 11 is an elevational view of the clock mechanism disposed within the casing, and showing that side thereof that is exposed at that portion of the housing shown in Fig. 1, when the detachable door or panel, shown in Fig. 1 is removed.

Fig. 12 is a detail view of parts shown in Fig. 11.

Fig. 13 is a view of parts shown in Fig. 11, but observed from the rear of the mechanism shown in Fig. 11.

Fig. 14 is a view of the mechanism shown in Fig. 11, but observed from the rear thereof, part of the coin slot mechanism having been removed.

Fig. 15 is an elevational view of part of the coin slot mechanism, absent from Fig. 14.

Fig. 16 is a rear view of the part shown in Fig. 15.

Fig. 17 is a view similar to Fig. 16, but showing parts thereof in changed positions, incident to introduction of a coin into the mechanism.

Fig. 18 is an elevational view of part of a unit of the coin slot mechanism, shown in Fig. 14 and underlying a face plate, which has been removed but which is indicated in dotted lines.

Fig. 19 is a view of parts shown in Fig. 18, looking at the right side thereof, or turned at an angle of ninety degrees.

Fig. 20 is a view similar to Fig. 19, parts being omitted, and showing positions assumed by parts thereof incident to introduction of a coin therein.

Fig. 21 is an enlarged top view of parts shown in Fig. 18.

Fig. 22 is a fragmental elevational view of parts of a coin chute forming a detail of the invention.

Fig. 23 is an enlarged plan view of the device shown in Fig. 14, parts being omitted.

Fig. 24 is a diagrammatic view showing the gear train forming a detail of the invention.

Fig. 25 is a detail elevational view of parts of the signal control means forming details of the invention.

Fig. 26 is a sectional view on line 26—26 of Fig. 23.

Fig. 27 is a sectional view on line 27—27 of Fig. 23.

Fig. 28 is a fragmental end elevational view of parts shown in Fig. 11.

Fig. 29 is a perspective view of the mechanism shown in Figs. 12, 13 and 23, parts being omitted.

Fig. 30 is a perspective exploded view of the structure of Figs. 18 to 21 inclusive.

Like reference characters denote like parts throughout the several view of the drawings.

Considering now more particularly a device in accordance with our invention, attention is directed to the drawings. In referring to parts of the device (see Figs. 1, 2 and 3), reference will be made to the face 30 of the casing or housing 31 as the front of the device and the opposite outer face 32 thereof will be referred to as the rear of the device. Such terminology is used merely for facilitating description and not for the purpose of limitation, particularly so because to some persons it might appear that the face 30 should properly be called the rear or back of the device.

A large opening 33 (Fig. 1) is provided in the front face or wall 30, for which a removable door or panel 34 is provided. Access to the interior of the casing, by way of the said large opening 33, permits access to the instrumentalities that control attachment and detachment of a coin slot cover plate 35 (see Fig. 3) which serves as a detachable closure or panel for the opening 36 in the rear face or wall 32 of the housing 31. The detachable panel or plate 35 permits ready accesss, to authorized persons, to the coin slot mechanism for servicing same as may be necessary from time to time by reason of introduction of articles and substances, other than coins, into the coin slot mechanism and which may interfere with proper functioning of the coin slot mechanism. A detailed explanation of the mounting of the coin slot cover plate will be given later.

The front wall of the housing, in addition to said large opening 33, is provided with a smaller opening 37 for which a hinged door 38 is provided. The hinged door controls access to the lower portion of the internal chamber 45 in the housing and in which section of the internal chamber, the coins are collected and from which an authorized person may remove same, without disturbing any other parts of the device. Suitable lock controlled means are provided at 39 and 40 for controlling access by way of the panel 34 and door 38, to the interior of the housing or casing 31. Suitable bolts 41 and 42, associated with customary drums of key controlled tumbler type locks, are provided for bolting or locking the panel and door to the casing wall adjacent such panel and door.

The bolt 41 is so connected to a shutter 43, mounted coaxial with the drum of lock mechanism 39 (see Figs. 1, 2 and 8), that the shutter moves or oscillates with the drum or key employed therewith, such shutter serving to open and close an aperture 44 in panel 34 and through which aperture a key may be inserted for winding the clock spring of the mechanism contained within the chamber 45 in housing 31. As here shown (see Figs. 2, 9 and 10), said connection comprises pin 74, carried by bolt 41 and extending into aperture 75 in shutter 43 (see Fig. 8). From this, it is to be understood that a suitable winding stem 46, associated with the meter mechanism is aligned with said aperture, in the complete or assembled device. The lock mechanism may be mounted on panel 34 in any suitable manner, for example, nut 76 may secure the stationary part of the lock to the panel, in accordance with customary practice.

The panel 34 (see Fig. 1), for the large opening in the front wall of the casing, is provided with means additional to the lock 39 and cooperating with the lock for detachable mounting of the panel in the opening 33. A pair of screw bolts 51 are threaded into lugs 47 (see Fig. 2) carried by the panel 34. The lugs are each adapted to have their respective upper ends 49 positioned over the inner face of the flange 52 of casing wall 30, so that by drawing the lugs toward the panel, the said peripheral flange or edge 52 of the wall, about said opening, is clamped between the panel and the lugs. Preferably, each of the bolts 51 associated with the lugs 47 is provided with a polygonal socket 376 for receiving a suitable com-

plementary wrench, not shown, for rotating the bolts. A pin 73, carried by panel 34, guides its associated lug. A suitable sealing and cushioning washer 53, of rubber or like material, is positioned in the recess or pocket into which the panel 34 fits, when secured to the housing wall 30.

The coin slot cover plate 35 (see Fig. 3) is received in a recess or pocket 54, provided with a sealing and cushioning washer 55. The pocket is formed by providing a peripheral flange 56 about the opening 36 in the rear wall of the casing. The plate 35 has at its lower edge, one or more lugs 57 (see also Figs. 4 and 5) the free ends of which lugs may be introduced into the opening 36 and which lie upon the inner face of the flange 56 or rear wall. The upper end of plate 35 carries one or more studs 58. The studs are round (see Fig. 6) and each has a chord-like slot 77 each of which serves as a pocket for receiving one end of a washer-like locking member 59 rotatably mounted on the inside face of an apertured plate 78 mounted on the rear wall of the casing. Each of the studs is received in such aperture or opening 79 and projects therethrough so as to expose the slots in the studs to the locking members 59. The locking members are chamfered as shown at 80. The locking member 59 is provided with a pair of diametrically disposed sockets or pockets 60, into which the teeth or lugs 61 on the end of a spanner wrench type of tool 62 may enter, and the toothed end of which tool may be inserted into the chamber by way of the large opening 33 for rotatably actuating the locking rings or member 59.

Windows 63 and 64 (see Figs. 1 and 3) are provided at the front and rear of the device, and through each of which a signal device or flag 65, 66 is observable. The one window is provided in the panel 34 and the other is provided in the casing wall. The signals are adapted to cooperate with various other parts of the meter mechanism in a manner, for the purposes explained later.

A suitable shank 67 is formed at the lower end of the housing 31, whereby to permit mounting of the device on a suitable standard, in any suitable manner.

The inside portion of the rear wall of the casing (see Fig. 3) includes mounting studs 68, having threaded bores therein, and by means of which the frame 69 of a meter mechanism (see Fig. 11) may be bolted or otherwise mounted within or secured to the casing, by the threaded bolts 70. The bolts 70 extend through suitable apertures in the frame 69 and cooperate with the casing as indicated.

The meter mechanism comprises a clock mechanism which may be of any suitable construction. Essentially it comprises a spring motor, an escapement and a suitable gear train. Means are provided whereby the clock mechanism may be rendered operative upon introduction of a proper coin or token into the device and also for rendering the clock mechanism inoperative after a determinable period of time, as well as for actuating the signals and signal operating parts from the clock motor.

As exemplified herein (see Figs. 1 and 23), the referred to means and mechanisms in accordance with customary clock structures, comprises the frame 69. The frame in turn comprises a front plate 71 and a rear plate 72. The terms front plate and rear plate are used in the same sense in which the opposite apertured walls of the casing were called front and rear walls. Thus, the front plate 71 is disposed adjacent the front wall of the casing and the rear plate 72 is disposed adjacent the rear wall of the casing, and the front plate 71 is exposed when the panel 34 is removed from the casing. Accordingly, the escapement mechanism, shown generally at 81, and the time adjustment and control means, shown generally at 82, are available for servicing or other attention, merely by removal of panel 34.

In like manner, removal of coin slot cover plate 35 from the back of the casing renders the various mechanisms, including the coin door and slot mounted on the rear plate 72, available for like attention. It will be pointed out, that the coin door and slot, as well as other mechanisms are so associated and related to one another and to the rear plate 72, that they may be attached and detached, as units, through the opening in the rear wall of the casing, thus permitting expeditious servicing and replacement of parts, operation of which may be impaired by the insertion of various articles by mischievous persons.

The front and rear plates (Fig. 23) are held in spaced relation by customary means, for example, suitable studs such as 83, with which suitable screws 840 cooperate, in accordance with customary practice. The upper ends of the plates, at the outer corners thereof are secured to inverted T-shaped brackets 84 and 85 (see Fig. 11). The brackets serve as supports for the shaft or axle 86 for the signals 65 and 66. Each signal comprises a white plate or panel and a red plate or panel. These panels are so related and connected that while the signals may move about the horizontal axle or axis 86, the signal panels of identical color are exposed at the windows at the front and back of the casing. The plates or panels 87, 88, 89 and 90, are graduated to indicate periods of time, and are adapted to cooperate with an indicator 91 (see also Fig. 14), comprising a pair of fingers 92 and 93, for showing the elapsed time of meter operation (see Fig. 29). When the established period of parking time has elapsed, the red panels are moved to positions adjacent the fingers for visibly indicating that the parking time is being exceeded. At other times, during operation of the device, the white panels are positioned adjacent the fingers. This matter of two color signals and their operation, as generally related will be explained in more detail hereafter. It is in order, however, to state the movement of the signals on their axis is accomplished (see also Fig. 28) by means of linkage including a bracket 94 secured to axle or shaft 86 and link 95 having at its upper end a pivoted connection with bracket 94 in offset or eccentric relation to the axis of axle or shaft 86. The lower end of link 95 is connected with a lever 108, of suitable actuating mechanism, explained later (see Fig. 29), for synchronized operation of the signals with the other parts of the meter mechanism.

In Fig. 24 is shown, rather diagrammatically, the gear train, spring motor and cooperating parts for actuating the indicator 91, including the one spaced finger 92 thereof. The indicator fingers 92 and 93, supported by indicator arm 91, straddle the signals 65, 66 (see Fig. 28).

The spring motor winding stem 46 (see Figs. 11 and 23) is associated with the customary clock spring barrel, ratchet, etc., whereby the wound spring within the barrel 96 operates a gear train indicated generally at 97, the last element 81 of which is any one of various customary escapements, shown in detail in Fig. 11. Coupled with the gear train (see also Fig. 29), is

a pair of gears 98 and 99. These gears 98 and 99 are mounted on the same shaft or axle 100 and are identical, except that one gear is loose on the shaft and the other is fixed to the shaft. The two gears 98 and 99 may be locked together and for that purpose there is provided an idler gear 101. The idler gear 101 is rotatably mounted on a pivoted lever 102, and falls into engagement with gears 98 and 99 under the action of gravity, the positioning of gear 101 and its supporting lever being actuated from the motor train in a manner that will be explained. As exemplified herein, the gear 98 is fixed to shaft 100, as is also the gear 103. The gear 99, integral with gear 104 is loose or freely revoluble upon shaft 100, except when the idler gear 101 is in mesh with it, and at which time the gears 98 and 99 are locked for movement together. The gear 104 receives power from gear 105 in power train 97. The gear 103 (see Fig. 29) and the gear 98 are fixed to shaft 100. Gears 104 and 99 are fixed together on a hollow shaft rotatable on shaft 101. Gear 103 is engaged by the gear segment 106 carrying the indicator 91. A pin 107 (see Fig. 29), carried by gear segment 106, is adapted to actuate a lever 108 (see also Figs. 23 and 25) which is pivoted on the axle or shaft 109 and on which shaft the segmental gear 106 is fixedly mounted. The end of lever 108, remote from the end thereof that is adapted to contact pin 107, is pivotally connected to the link 95 of the signal (Figs. 11, 23 and 28). The said pivotal connection is effected by means of a bearing pin 110 carried by the angularly turned end 111 of lever 108 and the bearing pin extends through a suitable aperture in the link 95 and a cotter pin or the like inserted in the transverse aperture 112 in bearing 110 prevents separation of the link 95 and lever 108. The signal is weighted so that it will return, under the influence of gravity, to its normal position, in which the red panels are disposed at the windows in the device, a position signalling improper parking of a vehicle. The pin 107 is so positioned on the segmental gear, that in setting the indicator to initial position in actuating the device, the pin will actuate the lever for moving the signals so the white signal panels are disposed adjacent the windows. A pin 113 on the lever will be received by a spring actuated catch 114 to hold the white signal panels into position until released upon expiration of allotted parking time, as more particularly noted hereinafter, the catch then controlling release of the signals so they may move under the influence of the weight associated therewith, for returning the signals to normal position.

The pin 113 carried by lever 108 is angular in cross-section (see Fig. 25), and is adapted to cooperate with a hook-like catch or holding member 114 (see also Figs. 23 and 29). The catch 114 is pivotally mounted between the front frame plate 71 and an intermediate plate 115 carried by the meter mechanism frame. The catch 114 is secured to a shaft 116, loosely journaled in the frame plates 71 and 115. Also secured to said shaft 116 is an arm 117 carrying a pin 118. The pin extends through an opening 300 in the frame plate 71 (see Fig. 11) and is acted upon by a lug 119 of the time adjustment plate 120 upon the indicator 91 reaching a point denoting the expiration of an allotted parking period. The associated arm 117 and catch 114 are then lifted (Fig. 25) to release pin 113 and permit upward movement of arm 110 and a consequent return of the red signals to signalling position, as appears more fully below. Plate 120 may be adjusted arcuately upon the shaft 109, to which shaft (Fig. 23) the indicator 91 and segmental gear 106 are fixed, in order to set the device for different parking periods, twenty minutes, as in front of banks, or one hour, as in most places where the meters would be located. The adjustment of the plate 120 is effected by means of an arcuate slot 121 in the plate 120, through which a set screw 122 extends, the set screw being threaded into a collar 123 secured to shaft 109. Suitable graduations 124 on the frame plate, cooperate with pointer or index finger 125 on the adjustment plate 120, to mark the setting of the time interval between movement of the signals from abnormal or operating position (proper parking of a vehicle), at which time the white panels are disposed at the windows, to normal or non-operating position (improper parking of the vehicle), at which time the red panels are so exposed or positioned.

The pin 118 (Figs. 23 and 29) is actuated by the lug 119 for turning the catch 114 on its axis, for releasing the pin 113, thus freeing the lever and the signals to respond to the gravity influence of the weighted signals. The spring 126, yieldingly holds the catch in position to receive and hold the pin 113. The spring also yieldingly urges the pin 118 toward the lug 119. The pin 118 and catch 114 are so related to one another and to the pin 113 and the lug 119, that only a limited arcuate movement of the catch and pin 118 is possible before one or the other of said members 114 and 118 contact either the pin 113 or lug 119. Movement of indicator 91 to an initial position is had through the action of the coil spring 127 and collar 128 mounted on shaft 109 to which indicator 91 and its gear 106 are rigidly secure. This resetting of the indicator under spring action is permitted by the free turning of gears 103 and 98 when the idler gear 101 is lifted, incident to initiating operation of the meter mechanism. Any suitable arrangement for attaining the indicated function may be employed. As shown herein, the coil spring 127 has its one end secured to shaft 109 (see Fig. 23) and its other end is anchored to the frame plate 71 by means of a pin 130. The spring 127 is wound or tensioned as the indicator is moved at a timing rate under the influence of the main spring motor 96, acting through the gear train 103, 105 and gear segment 106 (see Fig. 24).

The pin 118 is adapted to contact a pivotally mounted lever 129 (Figs. 23 and 13) that is provided to serve as a detent for end 134 of a lever 131 acting to stop escapement mechanism 132 as noted below. Also pin 118 rides on lug 119 of the time adjustment plate 120 and thus takes the strain off gear 106 and indicator 91 due to spring motor 96, shaft 100, and associated gear 103. This, of course, relieves the strain on the escapement mechanism. Lever 129 and associated parts, as more fully explained below, also positively assures operation of the clock mechanism. The lever 129 is (see also Fig. 29) pivotally mounted on stud shaft 130 carried by frame plate 71, and the free end thereof is notched or steeped so as to provide a detent 136 for cooperation with a pivotally mounted lever 131, the lower end 134 of which lever 131 (Figs. 11 and 12) is adapted to contact the escapement member 132 for holding one of the pallets thereof in contact with the escapement wheel 133. At such times as the lever 131 contacts the vibrating escapement member 132, the pendulum 135, which is fixed in relation

to the vibrating member 132 is held in an off center or unbalanced position, as shown in Fig. 12. The detent structure of lever 129 (Fig. 13) is operative for holding the lever end 134 out of engagement with the vibrating member 132 (see Fig. 12). In the normal or inoperative condition of the device, the lower end 134 of lever 131 is positioned above the heel 139 of the lever 129. In order to withdraw and withhold the lever 131 from contact with the vibrating escapement member 132 and permit operation of the clock mechanism, the lower end of lever 131 is moved into the detent 136 (see Fig. 13). When the lever 129 is lifted by the pin 118, the lever end 134 passes beneath the detent, by reason of the action of spring 137, and contacts the vibrating member 132. The upper end 138 of lever 131 is disposed in the path of pointer 92 secured to indicator 91, as the indicator pointer shown in Fig. 11, is moved to the right hand end of its course. Inasmuch as the lug 119 moves with the indicator, the pin 118 is free to move downwardly under the influence of spring 126, and the detent carrying portion of lever 129 is urged downwardly by the action of spring 137, wherefore, when the indicator 91 contacts lever 131, the lower end of lever 131 is lodged in the detent in lever 129. Such action is accomplished very quickly and movement thereof and starting of the timing mechanism is positively assured.

The clip 140 (see Fig. 11) is provided to secure the pendulum while the device is in transit or in storage.

The idler gear 101 (see Figs. 23 and 29) is the instrumentality which locks or joins the spring motor power train and the various parts, including the indicator 91, and which parts are interrelated and interdependent as previously explained. When the idler gear is released from its normal function of joining the gears 98 and 99, the indicator may be manually moved back and forth as desired in adjusting the device, and consequently, when, in the intended functioning of the device, the idler gear is moved to release or inoperative position, the indicator is free to respond to the action of the spring 127 and to cause such coaction of the various other parts, that the clock mechanism is rendered operative, the signals are actuated, etc., wherefore the meter is set in operation for its intended purpose or function of timing the parking period for which a person is obliged to insert a proper coin into the device.

Momentary release of the idler gear is sufficient to accomplish the indicated conditioning of the device.

The release of the idler is accomplished by releasing the lever 102 (see also Figs. 11 and 14), so that the force of the spring motor, operating through gear 99, will force the idler gear away from the gears 98 and 99, thus freeing the gear 98 and permitting the spring 127 to move the indicator and initiate operation of the escapement, as previously explained.

The lever 102, carrying idler gear 101 is pivotally mounted on shaft 141. The upper end of lever 102 is offset as shown at 142 (see Fig. 23) and carries a pin or stud 143 disposed above and adapted to cooperate with trip lever 145 (see also Figs. 14 and 29) of a trip mechanism that is actuated incident to introduction of a coin into the device. A suitable stop pin 144 or the like, limits the extent to which the lever 102 may move toward the gears 98 and 99 and consequently serves to assure positioning of the idler gear for proper cooperation with the gears 98 and 99 when serving its indicated locking or joining function.

The trip mechanism for controlling the idler gear (Figs. 14 and 29) comprises a lever 145 loosely mounted or journalled on shaft 146. Movement of lever 145 on shaft 146 is limited by an arm 147 (Fig. 23) fixed on shaft 146 and having a lug 148 thereon extended over the arm 149 of lever 145. The springs 150 and 153 yieldingly urge the lever arm 149 toward the lug 148. The spring 150 has one of its ends disposed beneath the lug 151 on lever arm 147, and after a number of turns thereof about the shaft 146, has its other end formed about the second arm 152 of lever 145. The arm 147 and spring 150 are used as a safety device, in view of the specific coin slot shown herein, to prevent tripping or release of the meter mechanism by insertion of articles, other than a proper coin, for example, a long, thin piece of steel, into the coin slot for the purpose of intiating operation of the timing mechanism. Also the arrangement of arm 147 and spring 150 with lever 145 permits manual release of the idler gear, as in adjusting the device, without operation of the coin slot mechanism. This feature is of benefit in assembly and servicing and at which time the protecting casing or housing 31 permits ready access to the lever 145. With other types of coin slots, the spring 150 and arm 147 may be dispensed with. The trip lever arm 149 (see also Fig. 11) has a detent 183 in which the pin 143 of the idler gear lever 102 is received and held, for holding the idler gear in engagement with gears 98 and 99. The extreme outer end of the lever arm 149 is hooked upwardly to prevent movement of the pin 143, laterally beyond the lever arm 149. The lever arm 149, outwardly of said detent 183 is so shaped, see at 184, that the pin 143 will readily locate in the detent incident to normal operation or movement of the parts. The pin 143, therefore, serves as means limiting the upward movement of lever arm 149.

The safety device comprising the spring-actuated arm 147 is able to move upwardly, away from the trip lever arm 149, for a slight distance, whereby to permit positioning of some of the coin slot mechanisms in positions for attaining the indicated safety feature. In instances where the safety feature is not considered necessary, the arm 147 may be dispensed with, and trip lever arm 149 is fixed directly to the shaft 146, instead of being indirectly connected thereto and actuated thereby, through the member 147.

Incident to operation of the device from the coin slot, it should be observed that the shaft 109 (see Fig. 23) on which the indicator 91 is fixed, also has fixed thereto an arm 154, which, when the indicator is restored to its initial position, upon starting the device by deposit of a coin and resultant lifting of pin 143 and idler gear 101, is adapted to contact a pin 155 associated with a coin trap mechanism (see also Figs. 19, 29 and 30), forming a detail of the coin slot mechanism.

For the purpose of explaining the coin slot mechanism and the lifting of arm 149 to actuate the resetting of the device as noted above, the description will follow the course of a coin as it is inserted in the device, until it has caused the coin slot mechanism to trip or release the idler gear 101.

The coin slot cover plate 35 (see Fig. 4) has an opening 156 therein, and through which a coin is to be inserted into the device. Upon the inside face of the plate 35, and surrounding the opening, is a suitable cushion or washer for bridging the space between the plate 35 and a coin slot plate

157 (see also Fig. 15) detachably mounted by screws or the like upon suitable studs or standards 158 carried by the rear frame plate 72. A coin receiving slot 159 is formed in the plate 157. The slot 159 is large enough to permit slight clearance for a coin of proper denomination to be inserted.

Upon the rear face of plate 157 (see Figs. 16 and 17) are mounted various parts that yieldingly close the aperture 159 in plate 157 and which aperture is exposed through the opening in cover plate 35 so a coin inserted through opening 156 may enter slot 159. The door member 160 is pivotally mounted at 161 on the rear face of plate 157 and in its normal position it extends over the slot 159. The slot closing portion of the door has its edge chamfered at 259 so that the act of forcing a coin over the chamfered portion thereof will move the door about its pivotal mounting, against the yielding resistance of spring 162, for opening the door to the entry of a coin. A second or auxiliary door member 163 is pivotally mounted at 164 on the plate and extends over the inner face of door 160. An arcuate slot and pin connection 165, 166 between the doors, together with the action of spring 167, effects coaction between the doors for yieldingly closing the slot and also for imparting an advancing impulse or force to a coin, as soon as one-half of the coin has been moved between the doors and has been released by the person inserting same. A tapered or chamfered edge 168 on the door 163 reduces friction with the coin and gives impulse to the coin movement. A block 169 is secured on the plate and serves as a bearing for part of the door 163 and carries a stop pin or lug 170 for limiting movement of the door 163 under the influence of spring 167 and also serves as an abutment for the slot closing edge of door 160 for limiting movement of door 160 under the influence of spring 162.

Upon detachment of plate 157 and its associated elements as shown, for example, in Fig. 16, from the studs 158 (Fig. 23), there is exposed a face plate 171 (see also Figs. 18 and 30) and which has apertured lateral arms 172 and 173 for receiving the tips of two of the studs 158 for positioning the face plate with its slot 174 in alignment with the slot 159 in plate 157. The face plate 171 serves as the forward wall of a coin receiving chamber. The face plate is mounted by screws or the like, on the forward edge 176 of a block 177. Screw holes are shown at 178. The block 177 together with other parts provides the coin receiving chamber 175. The block has a laterally extending flange 179 that is bolted or otherwise secured to the frame plate 72 (see Fig. 23). The side of the block, opposite to flange 179 (see also Fig. 21), is recessed and a plate 180 is mounted on the block so as to use the recess or space so provided as the coin chamber 175. A suitable lug 181 secured to the block and the plate 180 (see Fig. 21) by a screw or the like, serves to spacedly connect the forward ends of the block and the plate. The rear end of plate 180 (as seen in Figs. 21 and 23) is mounted directly upon the rear end of the block, beyond the recess in the block.

Within the upper part of the chamber 175 (see Figs. 18, 19, 20 and 30) is a floating coin responsive trigger device 182. This trigger device, operating under the influence of the potential energy imparted thereto or exerted thereon and on parts cooperating therewith, incident to introduction of a coin into the coin chamber (see Fig. 29), causes tripping or release of the idler gear 191, through the agency of the trip mechanism lever 145 and the shaft 146 with which the trip lever is adapted to move. The trip mechanism shaft (see Fig. 23) 146 extends through the rear frame plate 72 and has a bearing in a suitable socket 185 provided therefor, on the rear face of coin slot plate 157. Thus the shaft 146 is positioned in close proximity to the coin slot, for actuation thereof from the coin slot. Also, the shaft 146 is free of connection with all other parts of the coin slot, thus facilitating servicing and removal of various coin slot parts and mechanisms, without disturbing the trip mechanism assembly.

The floating trigger 182 has a relatively loose bearing with or on the block 177. The trigger comprises an integral laterally extending stud or pin 186 (see Figs. 18 and 30) formed on its one arm 183 and which pin extends into an opening 187 in the block. The trigger also comprises a second, integral, laterally extending pin or stud 189 which extends through a larger opening 190 in the block 177. The stud 189 is disposed at the approximate junction of the arms 183 and 191 of the trigger 182, at that part of the trigger which may be termed the body portion thereof. A spring 192 has its one end attached to the stud 189 and has its other end attached to a stud 193 extending laterally from the lower forward portion of the block 177, exteriorly of the coin chamber 175. The trigger 182 (see also Figs. 19 and 20) also comprises an upwardly extending arm 193 carrying a stud 194 and to which stud a spring 195 has its one end attached, the other end of the spring being attached to the forward upper portion of the block 177 in any suitable manner, for example, by threading the end convolutiton of the spring through a suitable aperture 196 in the block. The said three studs 186, 189 and 193 extend from the same side of the trigger. The spring, operating on the trigger, causes the trigger to operate on a coin for moving the coin into the chamber 175. As the coin enters the chamber, the springs accomplish an equalizing of tension or pressure of the divergent trigger arms on the coin, incident to which the trigger lug or stud 197, about to be explained, is moved to effect tripping action of the metering mechanism.

From the other side of the trigger (see Figs. 18, 21, 23 and 30), and extending laterally from the body portion of the trigger, and projecting beyond the plate 180 is a lug or stud 197 (see also Fig. 29) which is the approximate or ultimate tripping element. This stud 197 is adapted to move rearwardly as a coin is introduced into the coin chamber, then to move upwardly as the coin forces the trigger 182 upwardly (as generally indicated in Fig. 20) and then while the lug 197 is thus still elevated due to the presence of the coin, the trigger is moved in reverse direction or forwardly, as it slips downwardly in following the curvature of the coin. In so doing, the forward movement of the trigger 182, acting through stud 197 striking finger 198, actuates finger 199 (see Fig. 23) mounted on trip mechanism shaft 146 and trip depresses lever 145 for momentarily releasing the idler pinion, as previously explained.

While the general operation of the coin slot mechanism is as explained, several sub-mechanisms are involved and are provided to prevent tripping of the mechanism, except in instances where a coin of proper denomination has irretrievably passed into the coin slot. Accordingly (see Fig. 19), there is provided a base or bottom 199 for the coin chamber 175. The base 199 is attached to the block and has its upper edge

chamfered or inclined as shown at 200 so as to cause the coin to slide laterally out of the chamber 175. In order to prevent escape of the coin from the chamber, until that is desired, there is provided a pivotally mounted gate 201 (see also Fig. 30) which is so related to other parts of the device, that as a coin is introduced into the chamber 175, the chamfered lower arm 202 of the gate is raised to project above the base 199, thus providing a lateral abutment for preventing lateral discharge of the coin 203 from chamber 175. The gate is moved as explained, by contact of the trigger stud 197 upon the cam face 204 formed on the upper part of the gate, thus moving the gate about its pivotal mounting 205 on the block 177. The lower arm 202 of the gate (see also Fig. 20) is guided by a slot and pin arrangement shown at 206, 207, the pin 207 being shown as a set screw extending through slot 206 in gate arm 202 and carried by base 199 of the chamber 175. This arrangement is merely to maintain a close sliding fit of the arm 202 relative to base 199.

The gate 201 (see Fig. 30) also includes a rearwardly projecting, laterally turned portion or catch member 208, having a beveled or inclined rear face 209, whereby the catch portion may contact and move past a locking or holding pawl or lever 210, pivotally mounted at 211 on the rear wall of block 177. The locking lever 210 (see also Fig. 21) comprises an arm 212 carrying the pin or stud 155 which is adapted to be contacted by the arm 154 (see Figs. 23 and 29), fixed to shaft 109 for movement with indicator 91. A spring 213 has one end connected to the pin 155 and the other to stud 214 on block 177 and yieldingly positions the upper arm 215 of locking lever 210 in the path of the catch 208 of the gate 201, when the gate is moving under the influence of a coin entering the coin chamber 175. A stop pin 229 limits movement of lever 210. As soon as the idler gear 101 is released and the indicator moves under the influence of spring 127, the arm 154 associated with the indicator 91 and its shaft 109, contacts the pin 155 and releases the gate from the locking lever 210, and the gate, responding to the influence of spring means 216 which operates through linkage 217, falls to its normal position, shown in Fig. 19, and the coin is projected from the chamber 175 by reason of the energy that was imparted to the springs 192 and 195 incident to introduction of the coin into the chamber 175. The action of the trigger stud 197 upon the trip mechanism, and the response of the spring pressed indicator upon release of the idler gear occur so rapidly that there apparently is simultaneous release of the coin from chamber 175 and tripping of the mechanisms associated with the trip lever shaft 146, although as a matter of fact, it is clear that the coin is not released from chamber 175 until the idler gear has been momentarily released for releasing the indicator and subsequent release of the gate 201 by the indicator shaft 109.

The particular sequence of operation of the indicated parts is not of particular consequence, it is however important, that the trigger, operating under the influence of the spring or springs that first yieldingly resist entry of the coin into the chamber 175 and then, by reason of the shifting of the trigger, cause the trigger to pull or draw the coin into the chamber, is at the same time conditioned for actuating the tripping mechanism for at least momentarily releasing the idler gear carrying lever as previously explained. In its broad aspect, the related phase of the invention is therefore concerned with so conditioning the trigger that the potential energy imparted to the trigger is available at the proper time and for operation on the proper elements for tripping the meter mechanism.

The forward arm 191 of the trigger 182 (see Figs. 19, 20, 29 and 30) is provided with a rounded free end or a rounded nose as shown at 218, the shape being such that as a coin is pressed thereagainst, the trigger arm 191 will yield and move upwardly so as to permit the coin to enter the space 418 between the divergent arms 188 and 191 of the trigger. Normally the trigger, under the influence of the springs associated therewith, lies too low in the chamber 175 to accommodate a proper coin in the chamber, consequently, when a coin is moved into the chamber, the trigger is moved upwardly as previously explained, for the purposes previously explained. Thus a coin responding to forced entry thereof into the chamber 175 becomes a factor in the functioning of the coin slot mechanism.

The mechanism shown at 217 (Fig. 22) indicates generally conventional means for actuating a coin counter 219, and which includes yielding means, for example, spring 216, which yieldingly resists movement of the gate 201 from its normal position. By connecting the gate 201 to the counter mechanism, for example, by link 220 having pivotal connection with gate 201 by means of aperture 661, each complete movement of cycle of the gate will register or count one coin as having been introduced into the device.

From the description given, it is seen that any attempt to actuate the meter by introducing a coin that is too small, will not have the effect of raising and latching the gate 201, because the coin in contacting the forward arm 191 of trigger 182 will not raise the trigger enough to latch the back arm 208 with locking lever 210. Consequently, the coin will fall out of the chamber 175 without properly actuating the trigger or tripping the idler gear release lever 145.

It was previously explained generally that the trigger stud 197 tripped mechanism on idler gear release lever shaft 146. That mechanism (see Figs. 23 and 29) comprises the lug or finger 198 mounted on shaft 146 and having a limited free movement on shaft 146, relative to its complementary arm 221 fixed on shaft 146. The finger 198 has an aperture 222 therein and into which projects a pin 422, carried by arm 221. A spring 223 (see also Fig. 26) having its opposite ends connected with the finger 198 and arm 221, yieldingly permits limited relative movement of the arm and finger and thus cushions the blow of trigger stud 197 on finger 198 in actuating the meter.

The finger 198 includes an angularly turned free end (see Figs. 27 and 29) which may be termed a cam 224 which extends over the trigger lug 197. The free end 224 of the finger is so shaped that the trigger lug may move rearwardly and upwardly relative to the lower edge of the free or cam end of the finger without contacting the finger, however, when the trigger lug is subsequently raised to its upper limit and is projected forwardly incident to shifting of the trigger arms by reason of the entry of a coin into the space 218 between the trigger fingers, the trigger lug 197 moves over the lower or camming face of the finger 198 and the finger is rotatably actuated, thus rotatably actuating the idler gear

release lever shaft 146, and tripping the idler gear lever as previously explained.

As a precaution or safety means for preventing rotatable actuation of the shaft 146, except in the intended manner, there is fixed on shaft 140 a lug 225 (Figs. 23 and 29) having a raised shoulder forming a lower portion 226. The shoulder and lower portion cooperate with a rearwardly projecting lug 228 carried by door 160 on the coin slot plate 157 (see Figs. 16 and 17). The lug 228 lies over the lower portion when the door 160 is closed. When it is open, as during the insertion of a coin or other object, the lug is moved to the left as seen in Fig. 23 and lies over the raised shoulder 227. When the lug lies over the shoulder, the shoulder acts as a stop for the lug and thus prevents rotatory actuation of shaft 146. Otherwise, when the door 160 is closed, the registry of the lug 228 with the lower portion of the lug 225 permits sufficient movement of the shaft 146 to trip the mechanism. It will be seen, therefore, that no actuation of the device is possible during the time that the door is open. A coin must be inserted and the door closed behind the coin before the mechanism is actuated.

One of the essentially new features of the invention is the provision of a coin-receiving chamber, with which is associated, means that are conditioned by the introduction of a coin into that chamber, so that the conditioning of such means and the subsequent ejection of the coin under the influence of the energy so applied to such means may be availed of effecting a tigger or trip action for initiation of a cycle for which the device is intended. Incidental thereto, the indicated stored energy is also used to discharge the chamber of the coin as an incident to the initiation of such cycle. The indicated features are believed to be broadly new, and therefore the appended claims directed to such features are not intended to be limited to the specific details of structure of the coin chamber or the mechanisms actuated by reason of the building up of energy within the coin chamber or which are operated by reason of the creation of such condition in the coin chamber of the coin slot mechanism.

The spring-actuated doors on the plate 157, serve as power-actuated means for forceful entry of coins into the coin chamber 175, and for conditioning the springs associated with the trigger and other parts of the coin slot mechanisms, for attaining automatic operation of such parts and mechanisms for attaining the desired or intended tripping or operation of the metering mechanism. Thus the device is protected against undue force in that the force with which the coins are introduced into the coin chamber may be controlled by the manufacturer of the device.

In order that the actuating coin may be exposed to view, opening 330 and transparent closure 331 provided therefor (see Fig. 3) are provided in the casing 31 at a place at which a coin is temporarily held in the coin chute 333 (see also Fig. 14) which receives the coin as it is discharged from the coin slot mechanism, upon dropping of arm 202, forming the bottom of the coin chamber, the bevelled surface of this arm permitting easy egress (see Fig. 9). The coin is retained in the visible position by arm 332 until this arm is withdrawn by lifting links 217 and 216, upon lifting the coin chamber arm 202 through deposit of a succeeding coin. This arrangement is provided so the coin or other article that occasioned the last tripping of the device will be exposed. This feature is availed of by police or other officers whose duties include the supervising of parking meters, so that if anyone avails himself of parking privileges adjacent a parking meter, and uses a slug or spurious token for that purpose, the officer may observe that fact, under which circumstances the officer should remain on duty at such station until the vehicle is claimed and arrest of the offender is made. Suitable trip mechanism operated from link 220, releases the temporarily held coin, when the meter is actuated by insertion of another coin in the device. Such mechanism (see also Fig. 22) comprises a finger 332 which normally obstructs the coin chute passage and which is withdrawn from the passage when the link 220 is actuated.

When link 220 is lifted or moved upward by gate 201, the arm 501 of lever 502, pivotally mounted at 503, moves arm 504 of coin counter 219, downward (see also Fig. 22) against the yielding resistance of spring 512 for registering a coin. At such time, the link 505 collecting at 506 onto lever 507, is actuated for releasing the coin temporarily held by the finger 332 of lever 507. The pins 508 and 509 so cooperate with the faces 510 and 511 on lever 502, that as the lever 502, Fig. 14, is moved counter clockwise, pin 508 is seated in the detent in which pin 509 is shown. The spring 216 yieldingly holds the free upper end of link in contact with pins 508 and 509. Consequently, as the lever 502 is released and is moved in clockwise direction under the influence of spring 512, lifting arm 504, the link 505 is lifted by pin 508 to sufficient height to move lever 507 on its pivotal mounting 513. The pivot 513 is carried by bracket 514. As the pin 509 approaches its normal position, as shown in Fig. 14, the link 505 is restrained by pin 509 and pin 508 is moved from the detent.

Returning now to a fuller discussion of the signals 65 and 66 of our device, attention is directed to Fig. 28 in which is shown a view of parts observed when looking at the right hand end of the structure shown in Fig. 11. The panels 88 and 89 of signals 65 and 66, respectively, are red, while panels 87 and 90 are white, for example. White panels 87 or 90 are disposed as shown in Fig. 28, when the parts are in abnormal or operating position, as the meter is operating for measuring the period of parking time. At such time, it is seen that these panels are disposed in vertical position adjacent the windows 63 and 64, respectively. Both red and white panels have identical calibrations for identical cooperation with the indicator fingers 92 and 93. The meter is preferably so set that upon expiration of the time limit, the red signal panels 88 and 89 displace the panels 87 and 90, respectively, however, the clock mechanism continues to operate for an additional period of time or allowed overtime period, for example, ten minutes, as shown herein. This arrangement defeats the complaint that the user of a parking space might offer to an arresting officer to the effect that the time limit had just expired and that the user had no opportunity of moving his vehicle or of purchasing more parking time.

The panels 88 and 90 are fixedly mounted on a pair of spaced brackets 520, fixedly mounted on shaft or axle 86. The panels 87 and 89 are pivotally attached to the lower edges panels 88 and 90, respectively. The lower edges of panels 87 and 89 are pivotally connected to the lower ends of links 521 and 522, respectively. The upper ends

of links 521 and 522 are pivotally attached to opposite ends of bracket 523, fixed to bracket 85 (see Fig. 11). A stop pin 524 (see Fig. 28), carried by bracket 523, serves as an abutment against which one of the brackets 520 may contact, when the signal is released to respond to the action of gravity upon the weight 525 associated with the signal.

As panel 88 is raised and panel 90 is lowered through tilting of support 520 by pulling of link 95, panel 87 is lifted into view in the position previously occupied by panel 88, and the panel 89 is swung out of view permitting its previous position to be occupied by panel 90. Panels 87 and 89, of course, are directly moved by the rigidly supported panels 88 and 90, respectively, from which they hingedly depend. The lower edges of panels 87 and 89 are properly positioned through the supporting links 521 and 522, respectively. Thus as support 520 is tilted back and forth under the action of the weight 525 and link 95, panels 88 and 87 are brought into and out of view on one side of the meter and panels 89 and 90 are respectively brought into and out of view on the other side of the meter.

The links 521 and 522, panels 87, 88, 89 and 90, and the various parts cooperating therewith are so proportioned and related that all the panels may assume vertical positions and the panels 87 and 99 may both assume horizontal positions in substantially the same plane, without interference with other parts of the device.

Summarizing the operation of our device, attention is particularly directed to Fig. 29, wherein is illustrated the particular relationship of certain working parts of the meter at the expiration of a predetermined parking period. It must be noted that indicator 91 is in extreme right position and with coin spring 127 wound tight on shaft 109. The clocking mechanism is locked from operation by lever 131 pressing escapement 132 into engagement with one of the pallets of escapement wheel 133; the lever 131 at the same time holding pendulum 135 in unbalanced position. It is to be noted further that catch 114, and pin 113 on lever 108 are disengaged and the signalling mechanism attached to bearing pin 110 through link 95 (Fig. 28) has fallen by gravity to lift the link and rotate lever 108 in a clockwise direction about shaft 109. At this time, the red panels 88 and 89 of the signalling mechanism are exposed to view in windows 63 and 64 of the meter casing.

Clocking of a predetermined parking period is initiated from the meter position just described by inserting a suitable coin 203 in the meter coin slot. As the coin is forced through coin slot 174 by the coin door mechanism illustrated in Figs. 16 and 17, it contacts arm 191 of floating trigger 182 (see also Figs. 19, 20 and 30), causing the trigger to move rearwardly and upwardly against spring tension, as more particularly pointed out hereinbefore. While the coin door is open, lug 228 on the door is displaced to engage portion 227 of lever 225, thereby locking shaft 146 against rotation during upward movement of the trigger 182. During the rearward and upward trigger movement, trigger stud 197 contacts face 204 of pivotally mounted gate 201, forcing catch member 208 into engagement with holding pawl 210 pivotally mounted on the rear wall of block 177. Chamfered lower arm 202 of gate 201 accordingly is held above the base 199 of coin chamber 175 (see Fig. 20), thus providing a lateral abutment for preventing lateral discharge of the coin from the chamber. The coin finally passes in the space between trigger arms 188 and 191. The trigger then moves forwardly under spring action, following the curvature of the coin. Meanwhile, the coin door closes (see Fig. 16) and lug 228 accordingly is displaced over portion 226 of lever 225, thereby permitting limited rotation of shaft 146. At this time, stud 197 of the trigger raises arm 224 of lever 145 to turn shaft 146 in a clockwise direction.

Upon rotation of shaft 146, spring-pressed lever 145 loosely mounted on shaft 146, is depressed by lug 148 of arm 147. Pin 143 on lever 102, accordingly, is released, and idler gear 101 is moved back and out of engagement with gears 98 and 99. These two gears then are freed to relative movement and spring 127 drives pointer 91 to the left, as seen in the drawings, whereupon shaft 109, segmental gear 106, gears 103 and 98, and shaft 100 are rotated, while gear 99 and gear 104 idle on the shaft.

As pointer 91 rotates to the left, arm 154 fixed to shaft 109 strikes pin 155 of detent 212, thereby moving pawl 210 and releasing catch 208 of gate 201. The gate 201 then returns to normal position (see Fig. 19) and the coin falls laterally from coin chamber 175 and into the coin chamber 333 to a position before window 331, as more particularly indicated above.

The timing adjustment plate 120 (see also Fig. 11) also turns with shaft 109 and lug 119 moves away from pin 118 permitting catch 114 to rotate in a clockwise direction, as seen in the drawing, under spring action to contact pin 113. When pointer 91 approaches its extreme left position, pin 107 on the segmental gear 106 strikes the right end of lever 108, causing the lever to rotate in a counterclockwise direction about shaft 109. By this movement, link 95 is pulled down (see Fig. 28) and the white panels 65 and 66 of the signalling mechanism are exposed to view in windows 63 and 64 of the meter casing, as more particularly indicated above. Latch 114 then moves over pin 113 to lock the white signals in position.

When pointer 91 reaches its extreme left position as seen in Fig. 29, a portion of the pointer (see also Fig. 11) strikes lever 131 of the escapement locking mechanism moving the lower end 134 of the lever away from escapement member 132 and into the detent 136. Pendulum 135, which as previously noted was held off-center, starts the clockwork motor. At this time, gear 101 on arm 102 has moved by gravity to engage gears 98 and 99 and the clockwork mechanism operating through gears 104, 99, 101, 98 and segmental gear 106, drives the pointer 91 to the right to commence the timing operation.

When the allotted timing period has expired, and pointer 91 again is at extreme right position, as shown in Fig. 29, lug 119 rotating with shaft 109, contacts pin 118 causing catch 114 to release the pin 113, whereupon the red signals 88 and 89 come to view in windows 63 and 64 of the meter casing, as explained hereinbefore. Lug 119 forces pin 118 upward and detent 136 of lever 129 is raised, whereupon the lower end 134 of lever 131 moving under the tension of spring 137, forces escapement member 132 into engagement with one of the pallets of escapement wheel 133 to stop the clockwork, the pendulum 135 at the same time being locked in unbalanced position.

When the device is tripped by insertion of a coin into the coin slot during the clocking of a

predetermined period, operation is the same as outlined above, except of course, the white signals and their controlling lever 108, remain undisturbed and the clockwork continues to run while pointer 91 returns to initial left-hand position.

As many possible embodiments may be made of our invention and as many changes may be made in the embodiment hereinbefore set forth, it is to be understood that all matter described herein, or shown in the accompanying drawings, is to be interpreted as illustrative and not as a limitation.

We claim:

1. In a parking meter, a hollow casing comprising opposed outside faces, each having an opening therein, a cover plate for one of said openings, having a coin-receiving opening therein, coin-actuable mechanism registering with the opening in said cover plate and accessible through the opening in the other face of said casing, means associated with the inside face of said plate and operable from the opening in said other face of the casing for detachable connection of said plate to the outside of the casing for closing said one opening, and a key-controlled panel closing the other opening in said casing.

2. The combination with a hollow casing having openings in its opposite faces, of a panel for closing one of the openings in said faces; a mechanism within the casing comprising a frame accessible through the other of said openings; means associated with the frame of said mechanism and accessible from said other opening cooperating with said casing for releasably connecting said frame to the casing face adjacent said panel; a second panel for closing said other opening in said casing; and lock-controlled means for securing said second panel in position for closing the other opening in the casing, whereby access to said mechanism and frame is controlled through the locked panel.

3. A hollow casing of the class described comprising opposed faces, one face having one opening therein and the other face having two openings, one being below the other; a cover plate for the opening in said one face; means associated with the inside face of said plate and operable only from the upper opening in said other face of the casing for detachably connecting said plate to the outside of the casing for closing the opening in said one casing face; a key-controlled panel closing the upper opening in said other face; and a key-controlled cover closing the lower opening in said other face, the said casing including means precluding communication between said lower opening in said other face and the cover plate in said one face, and between the said upper and lower openings of said other face.

4. The combination of, a hollow casing having openings in its opposite faces; a removable panel with a coin opening therein closing one of the openings in said faces; a mechanism within the casing comprising a frame and a coin-receiving member; a plate with coin-receiving slot therein associated with said mechanism and adapted to be positioned between said coin-receiving member and said removable panel; means accessible from the other one of the openings in said faces for releasably connecting the frame of said mechanism to the casing face adjacent the said one opening and for adjusting and maintaining the coin-receiving member of said mechanism in alignment with the coin slot of said plate associated with said mechanism and said panel; and a second panel with associated lock-controlled means closing the said other opening in said casing.

5. The combination of, a hollow casing having an opening in one face thereof; a mechanism within the casing comprising a frame, power-drive means and a winding stem for the power-drive means; means accessible from the opening in the casing face for releasably connecting the frame of said mechanism to an inner wall of said casing with said winding stem pointing toward said opening; a panel for closing said opening, said panel having an aperture therein; and lock-controlled means for securing said panel in position closing said opening, with said aperture aligned with the winding stem of said mechanism, and for opening the aperture in said panel to permit access to said winding stem.

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