

Sept. 10, 1957

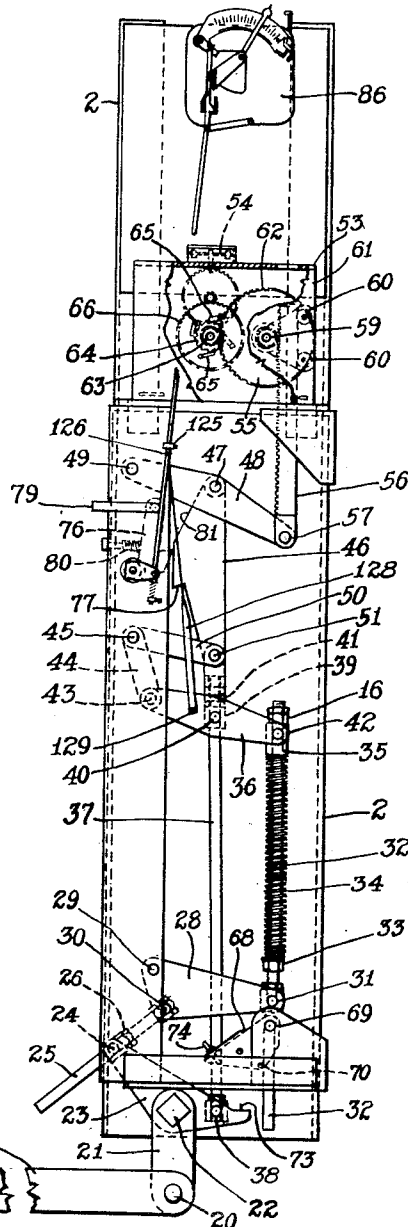
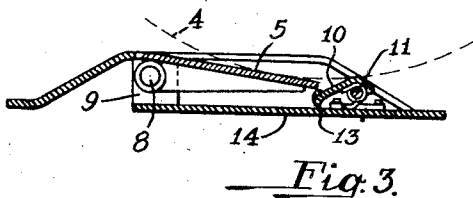
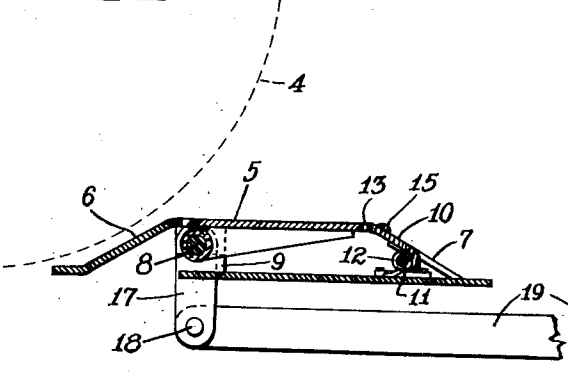
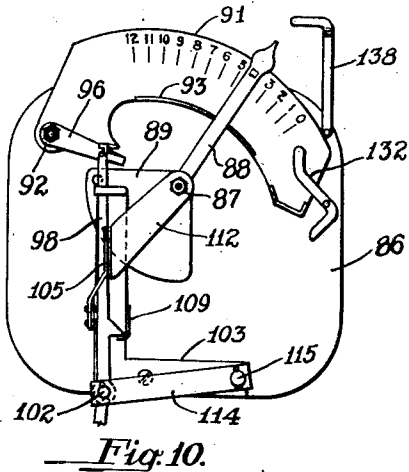
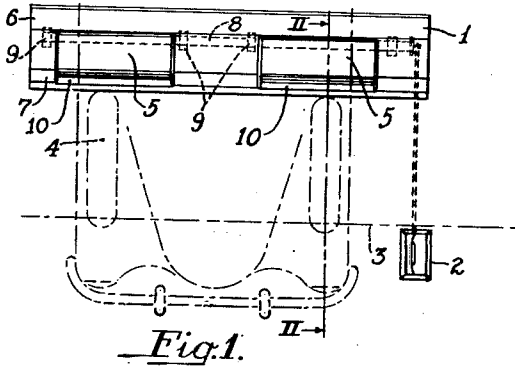
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2,805,498

FLUSH BARRIER TYPE METERED PARKING APPARATUS

Filed May 5, 1953

5 Sheets-Sheet 1



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FLUSH BARRIER TYPE METERED PARKING APPARATUS

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5 Sheets-Sheet 2

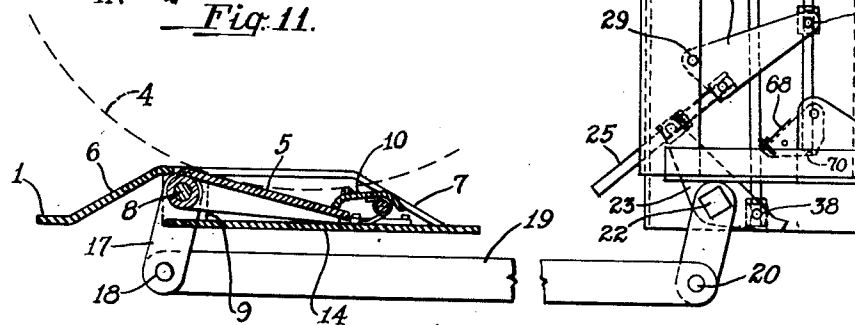
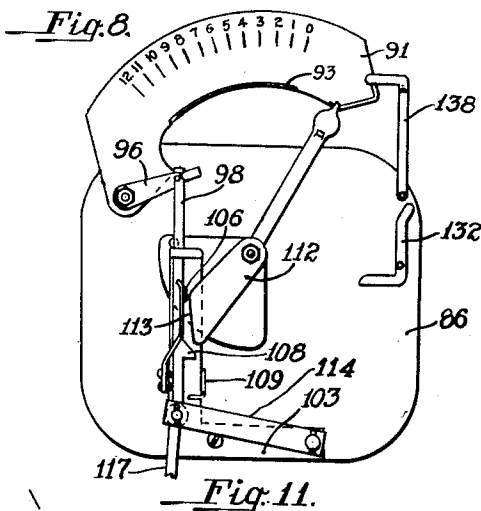
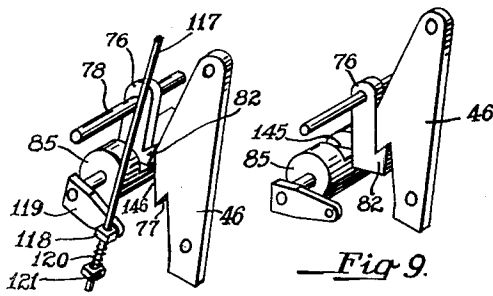
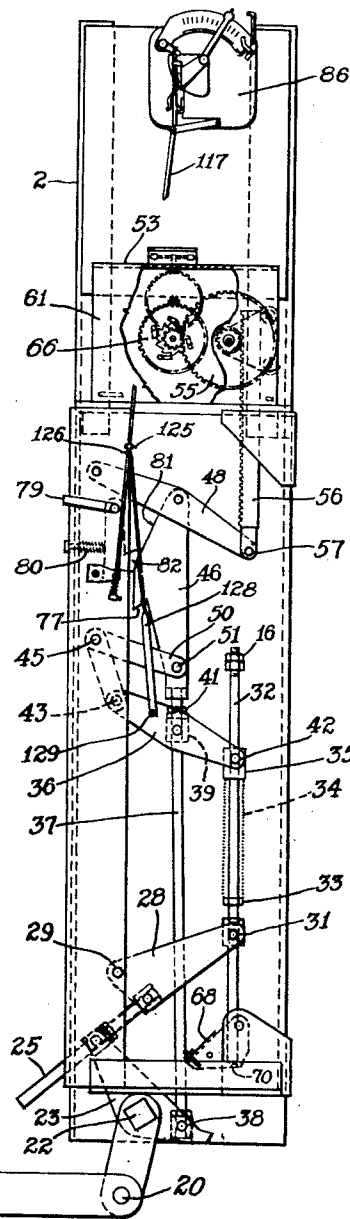


Fig. 4.



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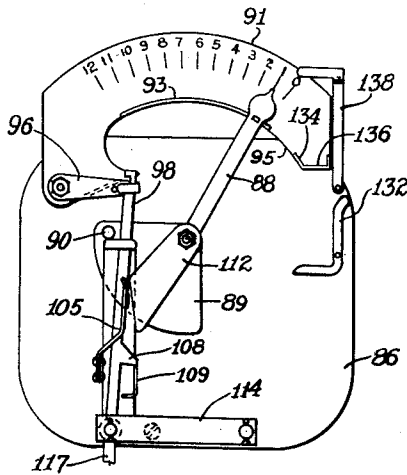


Fig. 12.

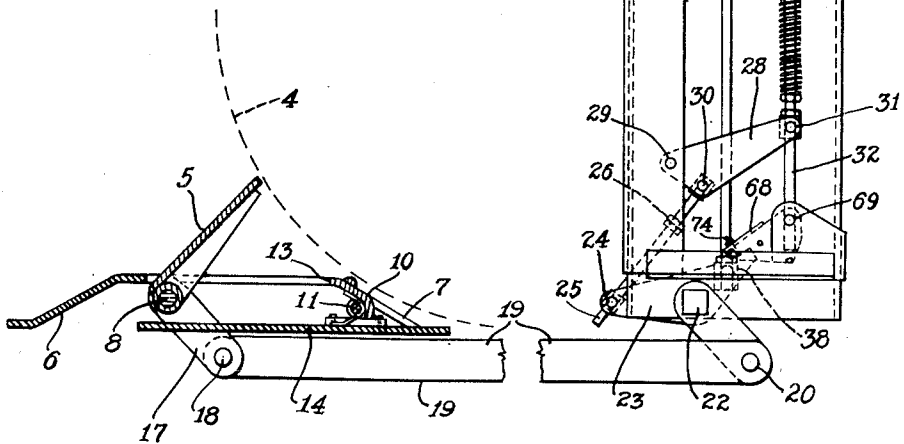


Fig. 5.

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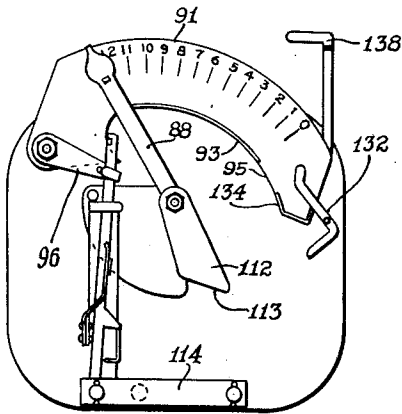


Fig. 13.

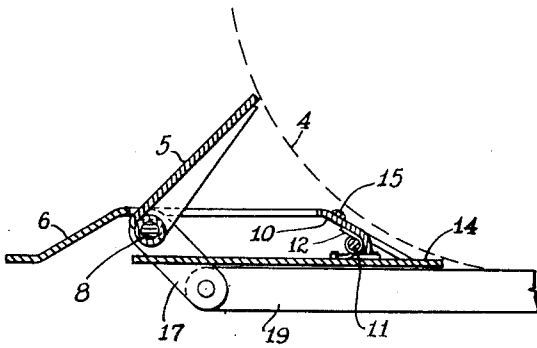
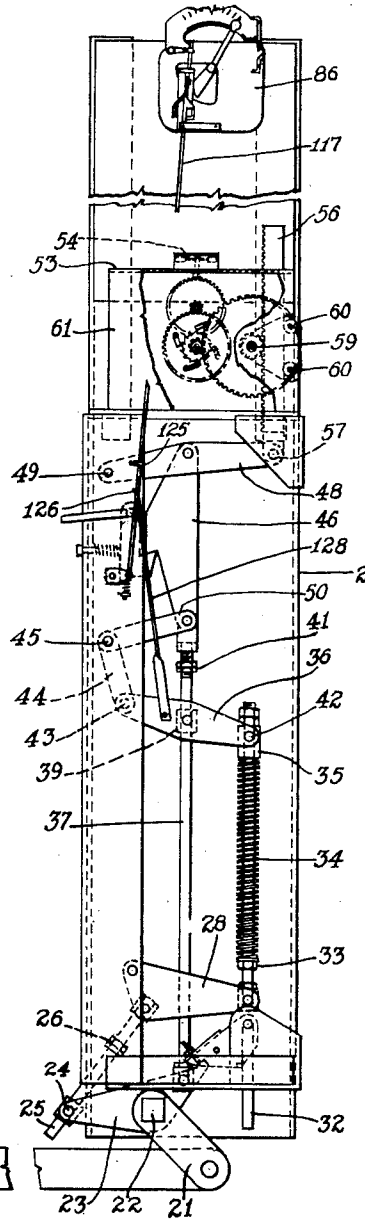


Fig. 6.



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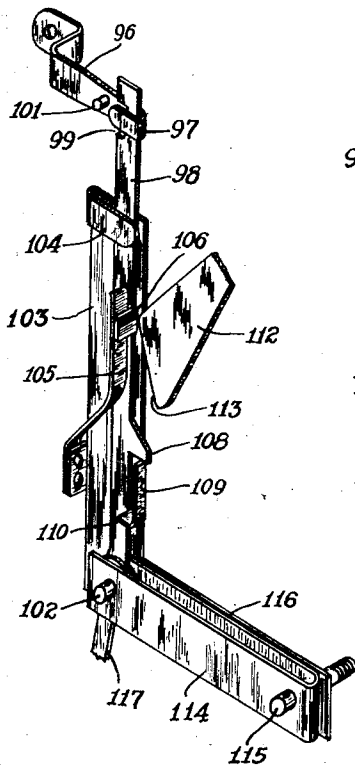


Fig. 15.

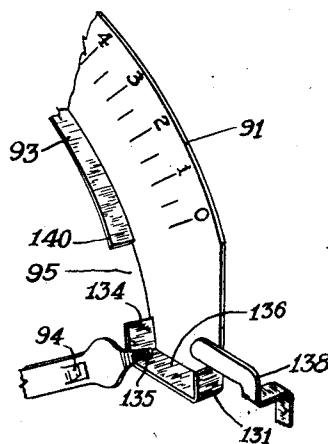


Fig. 14.

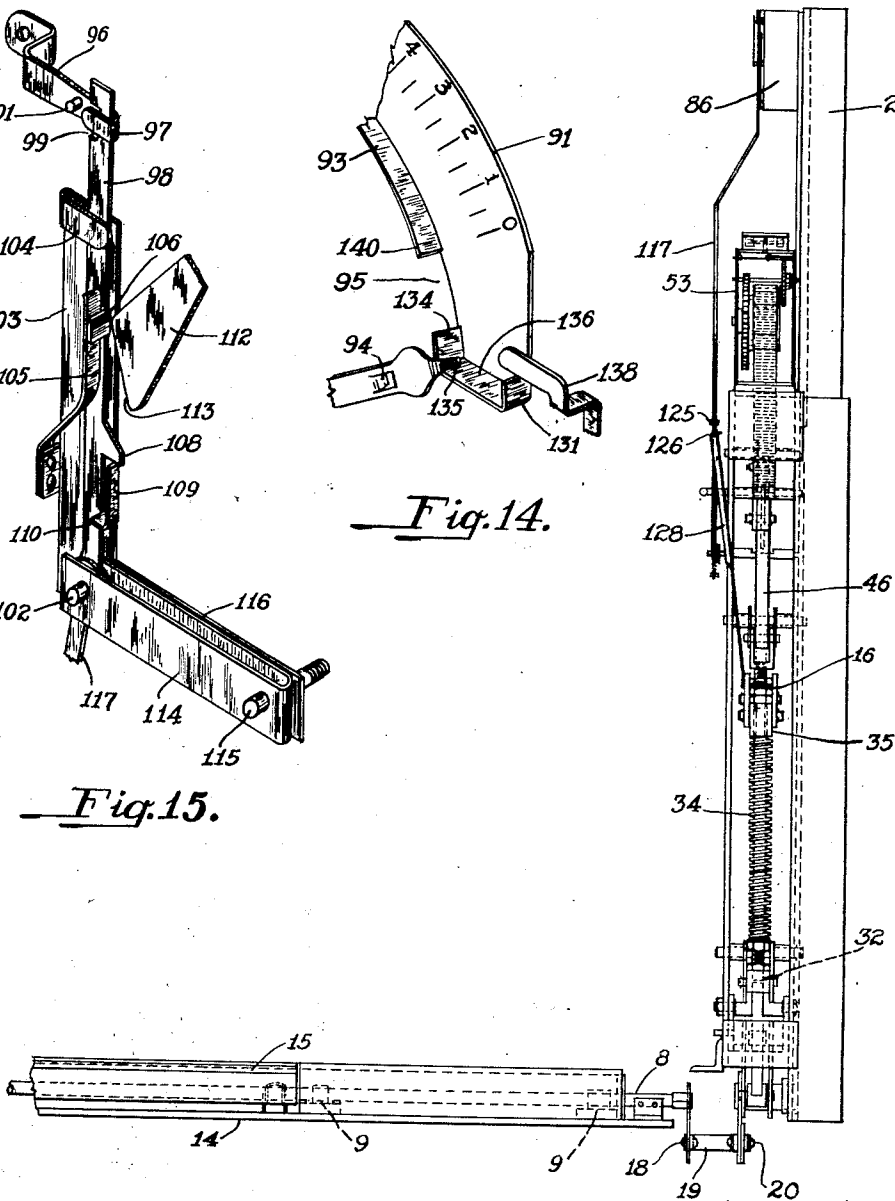


Fig. 7.

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FLUSH BARRIER TYPE METERED PARKING APPARATUS

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Application May 5, 1953, Serial No. 353,103

32 Claims. (Cl. 39—6)

This invention relates, as indicated, to a metered parking apparatus for motor vehicles, and, more particularly, to a parking apparatus which is automatically operated by the movement of the vehicle into parking position.

Conventional types of curb-located parking meters for automobiles have the undesirable feature of requiring the motorist to anticipate the time during which the vehicle will remain parked, a coin or coins being deposited in the meter in an amount sufficient to cover the anticipated parking time. Parking violations result in those cases where the motorist incorrectly anticipates the time interval between parking of the automobile and its removal, and where the motorist neglects to deposit coins. As a municipal revenue producing medium, such meters have the further disadvantage of requiring police supervision for violations to discourage free parking. The necessity of supervision moreover renders conventional parking meters entirely unsatisfactory for off-street parking in lots or garages.

As distinguished from conventional parking meters, the parking apparatus of this invention utilizes a coin-controlled meter which is automatically operated by movement of the automobile into parked position to time the parking period and in which the motorist deposits coins in the proper amount before removal of the automobile from its parked position. To assure payment at the end of the parking period, there is provided a barrier which is moved to a position preventing removal of the automobile a short time interval after the automobile is parked and which includes locking mechanism for preventing its movement to an inoperative position other than by a coin-controlled operation of the meter. The apparatus for starting the timing operation of the meter and for moving the barrier to and locking it in operative position is actuated by movement of the vehicle into a parked position and provides, in a manner to be described, a time-delay in the movement of the barrier to its operative position to thereby allow for parking maneuvering movements of the vehicle without interference from the barrier.

Since the vehicle is automatically locked in parked position and cannot be removed except by a predetermined coin-controlled operation, collection of the parking fee is assured and the necessity of a supervising attendant is substantially eliminated. The apparatus of this invention is thus satisfactory both for street curb parking and for off-street parking in lots and garages. In its use in off-street parking, the personnel required to operate the parking lot or garage is materially reduced as compared to the personnel required for conventionally operated lots and garages.

From the foregoing, it will be apparent that this invention has as one of its principal objects the provision of a parking apparatus which is automatically operated by the movement of the vehicle into parked position. This object is accomplished in part by the provision of a treadle over which a wheel of the vehicle travels in its movement

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to parking position and which is depressed by the weight of the vehicle to initiate operation of the apparatus. In a manner to be described, the treadle is thereafter elevated to a position in which it acts as a barrier preventing exit of the vehicle from parked position.

A further object of the invention is to provide a novel arrangement of mechanism for elevating the barrier to an operative position preventing exit of the vehicle from parked position. This object is accomplished in part by the provision of a spring which is compressed in response to movement of the vehicle into parked position, the expansion of the spring thereafter being effective to move the barrier to its operative position preventing movement of the vehicle.

Another object of the invention is to provide, in a parking apparatus having a barrier which is actuated to a vehicle movement preventing position in response to movement of the vehicle to a parked position, a novel arrangement of mechanism for retarding the movement of the barrier to its operative position.

A still further object of the invention is to provide a parking apparatus of the character referred to with a locking mechanism for preventing movement of the barrier out of its operative position. An additional object of the invention is to provide such locking mechanism with unlocking apparatus by which it can be released only by a predetermined operation of a coin-controlled meter.

Other objects and advantages of the invention will become apparent from the following description.

In the drawings there is shown a preferred embodiment of the invention. In this showing:

Fig. 1 is a plan view illustrating the application of the apparatus of this invention to a street curb parking arrangement;

Fig. 2 is a view taken substantially in the plane of the line II—II of Fig. 1 with a portion of the meter housing broken away to show the essential parts of the actuating mechanism in side elevation;

Fig. 3 is a sectional view of the treadle similar to that illustrated in Fig. 2 and showing the position of the parts as operated by the vehicle wheel as it moves out of parking position;

Fig. 4 is a view similar to Fig. 3 showing the position of the parts as the vehicle moves into its parked position;

Fig. 5 is a view similar to Fig. 2 showing the position of the parts after the vehicle has moved into a parked position and with the barrier elevated to a position preventing exit of the vehicle from its parked position;

Fig. 6 is a view similar to Fig. 5 but showing the relative position of the parts after the meter begins its timing control operation;

Fig. 7 is a side elevational view of the apparatus as it appears looking from the right of Figs. 2, 4, 5 and 6, a portion of the meter housing being removed to show the structure of the actuating mechanism;

Figs. 8 and 9 are enlarged perspective views of a portion of the locking mechanism for locking the barrier in its operative position;

Fig. 10 is an enlarged front elevational view of the metering apparatus illustrating the position of its parts prior to it being set into operation by movement of a vehicle into parked position;

Fig. 11 is a view similar to Fig. 10 illustrating the relative positions of the metering parts just prior to beginning a metering operation;

Fig. 12 is a view similar to Fig. 11 showing the relative positions of the metering parts at the beginning of a metering operation;

Fig. 13 is a view similar to Fig. 10 illustrating the relative positions of the metering parts at the end of a timed metering operation; and

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Figs. 14 and 15 are enlarged fragmentary perspective views of a portion of the meter parts shown in Figs. 10 through 13.

In Fig. 1 of the drawings which shows a curb-parking installation of an apparatus constructed in accordance with the principles of this invention, the numeral 1 designates a platform ramp over which the wheels of a vehicle travel in moving to a parked position, and the numeral 2 designates a vertically extending housing containing a timing meter and actuating mechanism of a character to be described. The ramp 1 is mounted so as to constitute a part of the street surface and is parallel to the curb line 3. The ramp is spaced from the curb-line 3 a distance sufficient to provide space for the accommodation of the wheels 4 of a motor vehicle. While this showing illustrates an arrangement for parking the vehicle normal to the curb-line, it will be apparent that the ramp 1 and housing 2 may be arranged for angular or parallel parking as well as for off-street parking in lots or garages.

The structure of the ramp 1 will be best understood by referring to Fig. 2 where it is shown in vertical section. In this showing, it is illustrated as being comprised of a horizontal surface formed in part by a pair of treadles 5 having angularly inclined ramp approaches 6 and 7 at opposite longitudinally extending edges thereof. As shown in Fig. 1, the treadles 5 are spaced apart a distance such that each will be traversed by the wheels of a vehicle moving into parked position. The treadles 5 are secured to a shaft 8 positioned adjacent the ramp 6 which extends lengthwise of the platform 1 and is journaled in bearing supports 9.

When a car is moved to the parking position, its front wheels 4 roll upwardly over the ramp 6 and onto the treadle 5 which is depressed to the position illustrated in Fig. 4. As the vehicle moves into parked position, the wheels 4 move out of engagement with the treadle 5 which is then elevated to the position illustrated in Figs. 5 and 6 in which it is effective as a barrier engageable with the wheels 4 to prevent movement of the vehicle out of parked position. In a manner to be described, depression of the treadle 5 is effective to condition operating mechanism for elevating the treadle 5 to the position in which it is operative as a barrier. Although treadle 5 is used both as a means for conditioning or actuating the operating mechanism and as a barrier, it will be understood that these functions of the treadle 5 are independent of each other and may be performed by separate elements within the contemplation of this invention.

From the showings of Figs. 2 through 6, it will be noted that the outer or free end of the treadle 5 terminates adjacent the upper end of the ramp 7. The ramp 7 is formed in part by a second treadle 10 pivoted on a shaft 11 about which a spring 12 biases it to the position shown in Fig. 2. The treadle 10 is relatively short in length and has its free end 13 terminating adjacent the free end of the treadle 5. The treadle 10 is of a relatively shorter length than the treadle 5 and is moved in an opposite rotational direction by a wheel 4 moving to and from a parked position. The treadle 10 functions as a stop to prevent complete depression of the treadle 5 when a vehicle wheel moves out of parked position and its action in this respect will be best understood by considering the operation of the treadles 5 and 10 as a vehicle wheel moves to and from a parked position. As the vehicle wheel moves into parked position, the treadle 5 is first depressed and thereafter the treadle 10 is pivoted to a position in which its free end 13 rests against the upper surface of the treadle 5 as shown in Fig. 4. As the vehicle wheel is moved out of its parked position, it first engages and depresses the treadle 10 to a position abutting against the base plate 14 as shown in Fig. 3. Continued movement of the wheel 4 out of parked position engages it with the treadle 5 which is depressed downwardly but is stopped in its downward movement by engagement with the upper surface of the treadle 10. A

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stop lug 15 is mounted on the upper surface of the treadle 10 for engagement with the treadle 5 to limit the downward movement of the treadle 5. By reason of the pivot locations of the shafts 8 and 11 and the relatively different lengths of the treadles 5 and 10, the treadle 10 is ineffective to interfere with the depression of the treadle 5 during movement of a vehicle wheel to parked position but functions as a stop to limit the depression of the treadle 5 during movement of a vehicle wheel from parked position.

Treadle actuating and control mechanism

As has been indicated above, depression of the treadle 5 by the vehicle wheel is utilized to condition operating mechanism for returning it to a position as shown in Figs. 5 and 6 in which it is effective as a barrier for preventing movement of the vehicle out of parked position. The actuating mechanism conditioned by depression of the treadle 5 is contained within the vertically extending housing 2 referred to above in connection with the showing of Fig. 1. The actuating mechanism within the housing 2 is connected with the treadle 5 by a linkage system comprising the link 17 which has its upper end keyed to the treadle shaft 8 and its lower end connected by a pivot 18 to one end of a motion transmitting link 19. The other end of the motion transmitting link 19 is connected by a pivot 20 to the lower end of a link 21 which has its upper end keyed to a stub shaft 22 rotatably supported in the housing 2.

The actuating mechanism controlling the operation of the treadle 5 comprises a rock lever 23 secured to the stub shaft 22 journaled in the housing 2 which in effect provides a pivot support for the rock lever intermediate its ends. One end of the rock lever 23 is pivoted at 24 to a trunnion slidable on an operating rod 25. A stop 26 is adjustably mounted on the rod 25 for limiting upward sliding movement of the pivoted trunnion connection 24 with respect to the rod 25. When the treadle 5 is depressed, the links 17 and 21 are rotated in a clockwise direction as viewed in the drawings to rock the lever 23 in a clockwise direction from the position shown in Fig. 2 to the position shown in Fig. 4. Clockwise movement of the rock lever 23 by depression of the treadle 5 is transmitted to a compression link 28 of triangular shape having pivoted connections at its three corners respectively at 29 to the housing 2, at 30 to the upper end of the operating rod 25, and at 31 to a trunnion secured against movement on a vertically extending actuating rod 32. Clockwise movement of the rock lever 23 engages the slide trunnion 24 with the stop 26 so that continued movement is effective to pivot the compression link 28 to the position shown in Fig. 4. This pivotal movement of the compression link 28 is transmitted through the pivot 31 to the erecting rod 32 which has its position elevated thereby.

Elevation of the rod 32 is utilized to compress a coil spring 34 mounted thereon (the spring 34 being shown diagrammatically as fully compressed in Fig. 4) and thereby store energy which is utilized later to pivot the treadle 5 to the position in which it is operative as a barrier. The spring 34 has its lower end bearing against a stop 33 adjustably secured on the erecting rod 32 and has its upper end bearing against a trunnion 35 which is slidable on the upper portion of the erecting rod 32. An adjustable stop nut 16 is threaded on the upper end of the rod 32 and engages with the slide trunnion 35 to limit movement of the trunnion 35 on the shaft 32 under the influence of the spring 34, the position of such stop nut providing a regulation of the precompression of the spring 34 whereby the spring 34 is never completely expanded.

The energy stored in the spring 34 is transmitted by a control link 36 to an actuating rod 37 which has its lower end pivotally connected at 38 to the other end of the rock lever 23. The upper end of the actuating rod

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37 mounts a sliding trunnion 39 which has a pivotal connection at 40 to the control link 36, upward sliding movement of the trunnion 39 on the shaft 37 being limited by an adjustable stop 41 secured on the actuating rod 37. Opposite ends of the control link 36 respectively have pivot connections 42 with the slide trunnion 35 and 43 with the lower end of the rocker link 44 which in turn has its upper end provided with a stationary pivot connection 45 to the housing 2.

In order that depression of the treadle 5 will be effective to compress the spring 34, upward movement of the actuating rod 37 must be prevented during such compression action. To this end, when the rock lever 23 is rotated clockwise by depression of treadle 5, it pulls the rod 37 downwardly and its stop 41 engaging the trunnion 39 rocks lever 36 in a clockwise direction about its pivot 43 which in turn through its connection with trunnion 35 exerts a downward compressing action on spring 34. After compression of the spring 34, upward movement of rod 37 is delayed by a latch link 46 which is connected at its lower end with the upper end of the actuating rod 37 and has its upper end provided with a pivot connection at 47 to the center portion of a link 48. One end of the link 48 has a pivot connection at 49 to the housing 2 so that the link 48 forms a part of a parallelogram with a link 50 which is parallel thereto and has a pivotal connection at 51 to the lower end of the latch link 46 and at 45 to the housing 2. The parallel links 48 and 50 maintain the vertical position of the latch link 46 during its upward and downward movement with the actuating rod 37.

Pivotal movement of the link 48 about its pivot 49 is restrained or retarded to thereby restrain upward movement of the latch link 46 for the purpose of controlling the speed at which the actuating rod 37 is moved upwardly and the speed at which the treadle 5 is elevated to its operative position as a barrier. Retardation of the pivotal movement of the link 48 is effected by retarding mechanism indicated as a whole by the numeral 53 and which comprises a centrifugal governor 54 connected by a gear train 55 to the link 48. The connecting gear train 55 includes a gear rack 56 having a pivotal connection 57 at its lower end with the link 48 and meshing engagement at its upper end with a drive pinion 59. The rack 56 has its vertical movement guided by the pinion 59 engaging on one side thereof and rollers 60 engaging on the other side thereof. The pinion 59 and rollers 60 are journaled in a housing 61 which has a mounting (not shown) allowing limited rocking movement thereof relative to the housing 2 to compensate for the arcuate movement of the lower end of the rack 56. The pinion 59 is mounted on a shaft which drives a gear 62 having meshing engagement with a pinion 63 keyed to a drive shaft mounting ratchet wheel 64. The ratchet wheel through palls 65 drives a gear 66 which through the connected gear train as illustrated rotates the centrifugal governor 54. The ratchet wheel 64 and palls 65 provide a one-way driving connection whereby the centrifugal governor 54 is rotated and effects a retarding movement only during upward movement of the rack 56, the rack 56 being permitted to move downwardly without being subjected to the restraining action of the centrifugal governor 54.

By reason of the restraining action of the centrifugal governor 54 on the upward movement of the latch link 46, pivotal movement of the compression link 28 in response to depression of the treadle 5 by a vehicle wheel is effective to actuate the erecting rod 32 upwardly to compress the spring 34.

In order that the spring 34 will not be expanded when the vehicle wheel rolls out of engagement with the depressed treadle 5, a latch 68 is pivoted to the housing 2 at 69. The pivoted latch 68 carries a transversely extending stop member 70 which bears and slides over one side surface of the erecting rod 32 during upward

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movement thereof. When the erecting rod 32 moves to the position illustrated in Fig. 4, the stop 70 moves out of engagement with the side surface of the rod 32 and to a position directly underneath the end of the rod 32 as illustrated. With the stop 70 positioned underneath the end of the rod 32, the compressed spring 34 is rendered ineffective to move the erecting rod 32 downwardly when the restraining weight of the vehicle wheel 4 moves out of engagement with the treadle 5. The expansion of the spring 34 is limited in this manner so that it is effective only to move the trunnion 35 upwardly on the erecting rod 32. Upward movement of the trunnion 35 on the rod 32 causes the control link 36 to pivot about the pivot 43. This pivotal movement of the control link 36 is transmitted through the pivotal connection 40 to the trunnion 39 which moves upwardly and carries with it the actuating rod 37 by reason of the engagement of the trunnion 39 with the stop 41. Upward movement of the actuating rod 37 through its pivotal connection at 38 to the lower end of the rock lever 23 is effective to rock the lever 23 in a counter-clockwise direction, the trunnion 24 secured to the other end of the rock lever 23 sliding on the operating rod 25 away from the stop 26 to the position as illustrated in Fig. 5. Counter-clockwise movement of the rock lever 23 in this manner is transmitted through the links 21, 19 and 17 to the shaft 8 which elevates the treadle 5 to the position shown in Figs. 5 and 6.

As the rock lever 23 approaches the limit of its counter-clockwise movement as shown in Fig. 5, a lug 73 on its end outwardly of the pivotal connection 38 engages an adjustable stop 74 on the latch 69 and pivots the latch 69 in a clockwise direction to move the stop member 70 out of supporting engagement with the lower end of the erecting rod 32. The erecting rod 32 is in this manner released for movement by gravity to its lowered position as shown in Fig. 6. Since the spring 34 is compressed at all times, the trunnion 35 is engaged securely with the stop nut 16 at the upper end of the erecting rod 32, and the parts return to their initial position by gravity, the trunnion 39 sliding downwardly on the actuating rod 37 to allow the return of these parts to their initial position.

When the latch link 46 moves to its upper position, it is automatically locked against downward movement by a latch 76 which engages under a ledge 77 on the latch link 46. The latch 76 is rotatably supported in the housing 2 by a shaft 78 which has a handle 79 secured to its outer end for rotating the latch 76 out of engagement with the ledge 77. The latch 76 is provided with a spring 80 for biasing it to a latched position. The latch link 46 has a cam surface 81 which engages with the latch 76 and cams it out of the path of movement of the latch link 46 during upward movement thereof. As soon as the ledge 77 moves beyond the locking lug 82 on the latch link 76, the spring 80 operates to rotate the latch 76 to its locking position.

While the manually retractable latch 76 is automatically operable to lock the latch link 46 in its upper position and thereby hold the treadle 5 in its elevated position, manual operation of the latch 76 to release the latch link 46 is in turn prevented by a second latching mechanism under the control of a coin-operated meter. The mechanism for preventing manual operation of the latch 76 includes a locking cylinder designated by the numeral 85 in Figs. 8 and 9 which is automatically rotated in a manner to be described to a position preventing manual operation of the latch 76. Before explaining the construction of the locking cylinder 85 and its manner of operation, reference will be first made to the coin-controlled meter which is employed to time and control the release of the parked vehicle.

Meter control mechanism

The coin-controlled metering apparatus is designated

by the numeral 86 and is mounted in the top portion of the housing 2, the essential parts of which are best shown in the enlarged showings of Figs. 10 through 15. Attention is directed to the fact that the showing of the meter 86 in the assembled views in Figs. 2, 4, 5 and 6 is fragmentary and partial due to the small size of its parts, and that the enlarged showings of Figs. 10-15 should be referred to in connection with the subsequent description of its structure and operating positions. In the showing of Figs. 10-15, the numeral 86 designates a housing in which is contained a clock-mechanism (not shown) for driving a shaft 87 and an indicator pointer 88 in a counter-clockwise direction. On the shaft 87, there is journaled for rotation independently of the shaft 87 a resetting element 89 having an operating lug 90 projecting outwardly into the plane of movement of the indicator pointer 88 so that rotation of the resetting device in a clockwise direction will return the pointer 88 to a zero position. The resetting device is provided with coin-control mechanism (not shown) for moving it in a step-by-step manner in a clockwise direction in accordance with the number and denominations of coins fed thereto. Since this invention is not concerned with the coin-control mechanism for actuating the resetting device 89 in a clockwise direction or with the clock mechanism for rotating the indicator pointer 88 clockwise, such mechanisms have not been illustrated, it being understood that any suitable form of coin-controlled mechanism and clock mechanism may be employed for effecting the desired operation of the pointer 88 and resetting device 89. A form of coin-control resetting and clock mechanisms suitable for the purposes of this invention is illustrated in U. S. Patent No. 2,168,302 issued August 1, 1939 to J. B. McGay et al. to which reference is made for a more detailed explanation.

For cooperation with the indicator pointer 88, there is provided a dial in the form of a flag 91 pivoted at 92 to one corner of the casing 36 for pivotal movement between the various positions shown in Figs. 10 through 13. The flag bears indicia calibrated in hours from 0-12 for indicating the time the car has been parked over a twelve hour period. If desired, the flag 91 may be calibrated for indicating time over a twenty-four hour period. To reset the indicator pointer to its start or zero position, it is necessary that coins be deposited in an amount sufficient to pay for the time expired and this requires that the resetting device 89 of the above mentioned patent to McGay et al. be calibrated to move the pointer 88 in accordance with the number of coins deposited and in accordance with the calibration on the flag 91. For example, the deposit of a five-cent piece in the meter can be made to move the pointer 88 a distance corresponding to one or two hours or any fraction thereof desired. If it is desired to have the coin-control mechanism be operated by coins of different denominations, a coin-control mechanism as disclosed in Patent No. 2,284,221 issued May 26, 1952 to J. B. McGay may be employed.

As in the case of the pivoted flags of each of the above mentioned patents, the flag 91 illustrated in Figs. 10 through 14 is provided with a flange 93 which is adapted to have supporting engagement with a lug 94 projecting outwardly from the indicator pointer 88 when the pointer 88 is rotating in a counter-clockwise direction to provide a time indicating operation. The flange 93 is interrupted to provide an opening at 95 for a purpose to be described.

To pivot the flag 91 and start a time indicating operation, an operating arm 96 is mounted on the pivot 92 and is secured to the flag 91 for pivotal movement therewith. As best shown in Fig. 15, the arm 96 has an inwardly turned lip 97 at its outer end for guiding the vertical movement of a resetting and locking member 98. The member 98 is provided with a notch 99 at its upper end for releasable engagement with a pin 101 projecting outwardly from the arm 96. When the pin 101 is received in the notch 99, vertical movement of the member 98 is

effective to impart pivotal movement to the arm 96. The lower end of the member 98 is pivotally connected to a pivot 102 carried by the outer end of arm 114 which is pivotally connected by pivot 115 to a support 103 of L-shape secured to the face of the housing 86. The support 103 is constructed of sheet metal and is provided with an in-turned lip 104 at its upper end for guiding the vertical movement of the member 98. A spring 105 has one end secured to the support 103 and has its free end bearing against a lug 106 projecting outwardly from the member 98 and provides a bias for pivoting the member 98 in a clockwise direction to disengage notch 99 from the pin 101. The member 98 is also provided with a locking lug or projection 108 for supporting engagement with a stop 109 to limit downward movement of the member 98 when the parts are in the position shown in Fig. 15, and it will be noted that the spring 105 biases the pivotal movement of the member 98 to a position in which the locking lug 108 will engage with the upper edge of the stop 109. When the member 98 is pivoted in a counter-clockwise direction against the action of the biasing spring 105, the lug 108 is moved to a position clearing the upper edge of the stop 109 and may then drop downwardly until the lug 108 engages an in-turned lip 110 at the lower end of the stop 109.

Pivotal movement of the vertically movable control member 98 is controlled by an operating member 112 which is mounted on the shaft 87 for rotational movement with the indicator pointer 88. The control member 112 is in the nature of a cam and has a vertically extending edge 113 which engages with the lug 106 for pivoting the member 98 in a counter-clockwise direction to connect the member 98 with the arm 96 by engaging the pin 101 in the notch 99, and to move the locking lug 108 out of supporting engagement on the stop 109 in a manner to be described. When the parts are in the relative position shown in Fig. 10 prior to starting operation of the meter, the edge 113 is engaged with the lug 106 and holds the operating member 98 against movement by its biasing spring 105.

The pivot 102 is mounted on the outer end of an arm 114 which has its inner end connected by a pivot 115 to the base arm 116 of the support 103. The pivotal movement of the arm 114 guides the movement of the pivot 102 during raising and lowering movements of the member 98. The pivot 102 further provides a pivotal connection between the lower end of the member 98 and the upper end of a push rod 117 which has its lower end slidable through a lug 118 secured to an operating arm 119 for the cylinder lock 85 by a resilient connection as best shown in Figs. 8 and 9. The resilient connection includes a spring 120 on the push rod 117 which has bearing engagement at its upper end with the lug 118 and at its lower end with a stop 121 secured to the push rod 117. The spring 120 allows the push rod 117 to move vertically independently of the arm 118.

As best shown in Fig. 2, the push rod 117 is provided with a fixed collar 125 engageable with a ring 126 slideable on the lower portion of the rod 117. The ring 126 is secured to the upper end of an actuating member 128 which has its lower end pivoted at 129 to the control link 36. When the control link 36 pivots from the position shown in Fig. 4 to the position shown in Fig. 5, the actuating member 128 moves upwardly and engages the ring 126 with the collar 125 to impart an upward movement to the push rod 117, the spring 120 being compressed by this action without imparting movement to the actuating arm 119 for the cylinder lock 85.

Upward movement of the push rod 117 moves member 98 upwardly to pivot the flag 91 from the position shown in Fig. 10 to the position shown in Fig. 11. As this upward movement takes place, the end 131 of the flange 93 strikes and pivots a lever 132 which starts the clock mechanism (not shown) in the housing 86. As the upward movement of the flag 91 is continued, the lug 94 on

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the dial pointer 88 moves relatively through the opening 95 in the flange 93. As the flag 91 pivots to its extreme position as illustrated in both Figs. 11 and 14, an end portion 136 of the flange 93 engages with an inwardly projecting part or tip 135 on the end of the pointer 88 which moves into the corner between the angularly extending flange portions 134 and 136. Continued rotational movement of the flag 91 in an upward direction imparts a small counterclockwise movement to the dial pointer 88 for moving the operating member 112 out of engagement with the lug 106 to thus render the spring 105 operable to disengage the member 98 from the pin 101 and release the member 98 for lowering movement. The member 98 will of course lower only to the position, as shown in Fig. 12, in which the locking lug 108 engages with the stop 109. The extent of the upward pivotal movement of the flag 91 is limited by a stop 138 secured to the housing 86 which engages the flange part 131 as shown in Figs. 11 and 14.

When the member 98 is disengaged with respect to the pin 101 on the arm 96, the flag 91 is released for downward movement and it drops to the position shown in Fig. 12 in which position further downward movement of the flag 91 is prevented by engagement of the underside of flange 93 with the indicator lug 94. It will be recalled that the flag pivoted past the lug 94 during its upward movement by reason of the flange opening 95. However, the final upward pivotal movement of the flag 91 which moves the indicator pointer 88 in a small counterclockwise direction for actuating the cam 112 positions the lug 94 so that it engages with the end portion 140 of the flange 93 adjacent opening 95 when the flag 91 drops to the position shown in Fig. 12.

With the parts in the position shown in Fig. 12, the clock mechanism (not shown) in the housing 86 will operate the pointer 88 counter-clockwise to perform a time indicating operation. When the pointer moves to the end of the flange 93 which is at the left as viewed in Fig. 12, the flag will drop to the position shown in Fig. 13. To release the lock provided by engagement of the lug 108 with the stop 109, it is then necessary to rotate the indicator 88 in a clockwise direction through the coin-control mechanism (not shown) until the cam member 112 is moved to the position shown in Fig. 10. When the cam 112 moves to the position shown in Fig. 10, it actuates the lug 106 against the action of the biasing spring 105 to disengage the locking lug 108 from the stop 109 and to thereby release the operating member 98 and push rod 117 for downward movement. In the event that it is desired to release the lock provided by the lug 108 prior to movement of the indicator 88 to the extreme left position as shown in Fig. 13, it is merely necessary to effect a coin-controlled operation of the resetting device 89 at any time to move the indicator pointer 88 in a clockwise direction. This movement will continue until the pointer reaches the start position shown in Fig. 10 at which time the pointer supporting lug 94 will move out from underneath the flange 93 and into the space 95 thereby releasing the flag for downward movement and effecting a disengagement of the locking lug 108 with respect to the stop 109 as described above.

Unlatching of the member 98 for downward movement of the push rod 117 is essential before the actuating mechanism for the treadle 5 can be unlocked to release the treadle for downward movement to the position shown in Fig. 2. When the push rod 117 moves downwardly, the latch 76 is released for actuation by the manually operable member 79 so that the latch link 46 and associated parts will be released for lowering movement of the treadle. It will be recalled that the cylindrical lock 85 in Figs. 8 and 9 controls the operation of the manually operable latch 76. When the latch link 46 is elevated by rotation of the control link 36, it moves to a position in which the spring 80 becomes effective to rotate the latch 76 in a clockwise direction to move the latch 76 to a posi-

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tion in which it engages under the latch 77 on the latch link 46. As this position is reached, the lower end of the latch 76 moves out of a notch 145 in the cylinder lock 85 in which it is normally received when the apparatus is not operated. When the latch 76 is received in the notch 145 as shown in Fig. 8, rotation of the control link 36 is ineffective to rotate the cylinder lock 85 although upward movement of the push rod 117 is had along with upward movement of the latch link 46 to a latching position. This upward movement of the push rod 117 merely compresses the spring 120 which is ineffective to rotate the cylinder lock 85 since it is held against rotation by the latch 76 positioned in its notch 145. As soon as the latch link 46 is elevated to a position in which the biasing spring 80 is effective to rotate the latch 76 to the positions shown in Figs. 5 and 9, the cylinder lock 85 is freed for rotation by the compressed spring reacting against the operating arm 119. The cylinder lock 85 is rotated to the position shown in Fig. 9 by expansion of the spring 120, and in this position, the surface of the cylinder lock 85 is engaged with the latch 76 which thus cannot move back into the position shown in Fig. 8. The latch 76 is thus maintained in an operative position holding the latch link 46 against downward movement and thereby the treadle against movement to a horizontal position until the push rod 117 is lowered by a coin-controlled operation of the meter 86. When the member 98 of the meter is unlatched, gravity will cause it to drop downwardly to a position in which the spring 120 is completely expanded and no longer bears against the operating member 118. The member 118 has a gravity bias which is effective to then rotate it from the position shown in Fig. 9 to the position shown in Fig. 8 in which the cylinder lock is carried to a position in which the latch 76 may move into the notch 145. A spring bias (not shown) may be provided for insuring rotation of the cylinder lock 85 to the position shown in Fig. 8.

Parenthetically, it may be noted here that the slot 99 in the upper end of resetting member 98 is automatically engaged with the pin 101 when the member 98 drops with the push rod 117 to the position shown in Fig. 10. This provides a reconnection of the member 98 with the operating arm 96 for the flag 91 which is maintained during a subsequent vertical movement of push rod 117 and member 98 by the vertical edge 113 of operating member 112, the lug 106 sliding over the edge 113 during such subsequent vertical movement.

After the cylinder 85 is returned to the position shown in Fig. 8, the latch 76 may be manually rotated out of latching engagement with the latch link 46 to its inoperative position received in the notch 145, and the latch link 46 will drop downwardly by the force of gravity acting thereon and the force of gravity acting on the treadle 5 and its connected parts. The parts will thus be automatically returned to the position shown in Fig. 2, and the vehicle released for movement out of its parked position. When the latch 76 is rotated to the position shown in Fig. 8 and the latch link 46 drops downwardly, a vertical surface 146 on the latch link 46 engages with the latch 76 to hold it against movement out of the notch 145 by the action of its biasing spring 80 until such time as the latch link 46 is again elevated to the position shown in Figs. 5 and 9.

Operation

The condition of the apparatus prior to movement of a motor vehicle into parked position is shown by Figs. 2, 8 and 10. The treadle 5 is in a horizontal position, the spring 34 is fully expanded, the latch link 46 is in its lowered position, the latching mechanism controlling the operation of the latch link 46 is in the position shown in Fig. 8, and the meter controlled parts are in the position illustrated in Fig. 10. As the wheel of a motor vehicle rolls over the treadle 5 to a parked position, the treadle 5 is depressed to the position shown in Fig. 4 and a rock lever 23 is pivoted to the position shown in Fig. 4.

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Pivotal movement of the rock lever 23 operates the compression link 28 to compress the spring 34 by elevating the erecting rod 32 which is automatically latched in its erected position by the stop 70 on the latch 68. Thereafter, expansion of the spring 34 is effective to actuate the mechanism to the position shown in Fig. 5 with the treadle 5 in a raised position operating as a barrier to prevent exit of the vehicle from its parked position. The elevation of the treadle 5 is effected by the spring 34 expanding to move the trunnion 35 upwardly on the rod 32 to thereby pivot the control link 36 about the pivot 43. As the control link 36 pivots to the position shown in Fig. 5, it operates through the trunnion 39 to elevate the actuating rod 37. Elevation of the actuating rod 37 through the trunnion connection 38 pivots the rock lever 23 in a counter-clockwise direction to elevate the treadle 5 to the position in which it is effective as a barrier, and at the end of this movement of the rock lever 23, its end 73 actuates the latch 68 to move the stop 70 from underneath the erecting rod 32 and thereby release the erecting rod for lowering movement to its original position. The elevation of the actuating rod 37 and the movement of the parts connected therewith are retarded by the motion retarding mechanism 53 as described above. While the retarding mechanism 53 has been shown as comprised of a centrifugal governor which is operated mechanically through the overruning clutch and gear train included within the housing 61, it will be understood that any other suitable form of retarding mechanism for slowing the upward movement of the rod 37 such as a dash pot may be employed.

As the control link 36 is pivoted to elevate the actuating rod 37, the latch link 46 is moved upwardly and the actuating rod 123 operates to elevate the push rod 117. When the latch link 46 is moved to its uppermost position as shown in Fig. 5, the spring 80 becomes effective to move the latch 76 to a position in which it is operative to prevent lowering movement of the latch link 46, the locked position of the link 46 being illustrated in Fig. 6. In the position of the parts shown in Fig. 6, the locking cylinder 85 is in the position shown in Fig. 9 preventing movement of the latch 76 out of its locking position, and the latch link 46 is thus subsequently held in its upper position and is effective to prevent lowering movement of the treadle 5.

Upward movement of the push rod 117 through pivotal movement of the control link 36 moves the actuating member 98 upwardly to pivot the flag 91 of the meter from the position shown in Fig. 10 to the position shown in Fig. 11. This operation of the flag 91 moves the operating member 112 a small amount in a counter-clockwise direction to render the spring 105 effective to pivot the operating member 98 and release the flag for downward pivotal movement. When the flag 91 is released in this manner, it drops from the position shown in Fig. 11 to the position shown in Fig. 12 with the flag supported by its flange 93 on the lug 94 projecting outwardly from the indicator 88. The pivotal movement of the operating member 98 to release the flag moves it to the position shown in Fig. 11 in which the stop lug 108 engages with the stop 109 to prevent lowering movement of the member 98 and push rod 117.

As long as the member 98 and push rod 117 are restrained against downward vertical movement by the stop 109 engaging the lug 108, manual operation of the latch 76 to release the latch link 46 for lowering movement is prevented. It will be recalled that when the latch 76 was pivoted by the spring 80 from the positions shown in Figs. 2 and 4 to the locking position shown in Figs. 5 and 6, it moved out of the notch 145 in the cylinder lock 85 as best shown in Fig. 9. Movement of the latch 76 out of the notch 145 releases the cylinder 85 for rotational movement by the spring 129 acting against the lug 118 secured to its operating arm 119. It will be recalled that upward movement of the push rod 117 resulted in a compression of the spring 120 since the lug 118 and its

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mounting arm 119 cannot rotate until after the latch 76 moves out of the notch 145. When the latching parts are moved to the position shown in Fig. 9, and this motion is completed when the spring 34 completes its expanding operation, all of the parts of the apparatus are locked in the position shown in Fig. 6 until the meter 86 is operated by the insertion of coins to effect an unlatching operation.

After rotation of the pointer 88 in a counter-clockwise direction from the position shown in Fig. 12 by the clock mechanism within the meter 86, a coin-controlled operation of the control member 112 is required to release the treadle 5 for lowering movement to the position shown in Fig. 2. As explained in the above mentioned patents, a coin-controlled operation of the meter 86 rotates the resetting element 89 in a step by step manner to return the indicator pointer 88 and operating member 112 to the start position shown in Fig. 10. Movement of the operating member 112 to the position shown in Fig. 10 pivots the actuating member 98 about its pivot support 102 to move the lug 108 out of supporting engagement on the stop 109 and thereby release the member 98 and push rod 117 for downward vertical movement. As the operating member 98 moves downwardly from the position shown in Fig. 12 to the start position shown in Fig. 10, its upper end automatically re-engages with the pin 101 on the resetting member 96 for the flag 91, and the cylinder lock 85, is released for rotational movement from the position shown in Fig. 9 to the position shown in Fig. 8. With the cylinder lock 85 in the position shown in Fig. 8, the handle 79 may be operated to pivot the latch 76 in a clockwise direction out of locking engagement with the latch link 46. The latch link 46 is thus released for lowering movement, and the gravity bias acting against the treadle 5 returns the parts to the position shown in Fig. 2 with the treadle 5 in a horizontal position permitting movement of the vehicle out of its parked position. As the wheel 4 of the vehicle moves over the ramp 1 in moving out of parked position, the treadle 10 is actuated to the position shown in Fig. 3 in which it prevents complete depression of the treadle 5 to effect an untimely and undesired resetting of the apparatus through pivotal movement of the rock lever 23, the treadle 5 being depressed insufficiently far in Fig. 3 to effect such a resetting operation. Upon movement of the vehicle out of parked position, the mechanism is conditioned for subsequent actuation by a vehicle parking operation.

While we have illustrated and described a preferred embodiment of our invention, it will be understood that this is merely by way of illustration, and that various changes and modifications may be made therein within the contemplation of the invention and under the scope of the following claims.

We claim:

1. An automobile parking apparatus comprising a barrier having a first movement in one direction out of normal inoperative position by passage of an automobile thereover into a parked position, and a second movement into erected operative position barring movement of the automobile out of its parked position, a rock lever actuated in one direction of pivotal movement in response to movement of the barrier by an automobile passing to parked position, an erecting mechanism operated by said automobile responsive movement of said rock lever, actuating mechanism operated by said erecting mechanism to move said lever in an opposite pivotal direction for actuation of the barrier to erected position, a coin-controlled meter set into operation by movement of said actuating mechanism for timing the parking period, a latch automatically operable upon movement of said actuating mechanism in the erection of said barrier for locking said actuating mechanism to hold said barrier against movement out of its operative erected position, and latching means interconnecting said meter and latch for preventing operation of said latch to release said

actuating mechanism except after a coin-controlled operation of said meter.

2. An automobile parking apparatus comprising a barrier having a first movement in one direction out of normal inoperative position by passage of an automobile thereover into a parked position, and a second movement into erected operative position barring movement of the automobile out of its parked position, a rock lever actuated in one direction of pivotal movement in response to movement of the barrier by an automobile passing to parked position, an erecting mechanism operated by said automobile responsive movement of said rock lever, actuating mechanism operated by said erecting mechanism operated by said automobile responsive movement of said lever, actuating mechanism operated by movement of said erecting mechanism to move said lever in an opposite pivotal direction for actuation of the barrier to erected position, means operated by the movement of said actuating mechanism in the erection of said lever in said opposite pivotal direction for actuating said barrier to its operative erected position, a coin-controlled meter set into operation by said actuating mechanism for timing the parking period, a latch automatically operable upon movement of said barrier to its operative position for locking said actuating mechanism to hold said barrier against movement out of its operative position, latching means interconnecting said meter and latch for preventing operation of said latch to release said actuating mechanism, and means operated in response to a coin-controlled operation of said meter for actuating said latching means to release said latch.

3. An automobile parking apparatus comprising a barrier movable downwardly from a normal inoperative position during movement of an automobile to a parked position to an upwardly and operative position barring movement of the automobile out of its parked position, a rock lever having a mounting pivot intermediate its ends and movable in one pivotal direction in response to movement of the automobile to its parked position, a spring compressed by movement of said lever in said one direction, an actuating mechanism connected with said lever and operated by the expansion of said spring for operating said lever in an opposite pivotal direction, and means interconnecting said barrier and lever for moving said barrier to its operative position in response to movement of said lever in said opposite pivotal direction.

4. An automobile parking apparatus comprising a barrier movable from a normal inoperative position allowing movement of an automobile to a parked position to an operative position barring movement of the automobile out of its parked position, a rock lever having a mounting pivot intermediate its ends and movable in one pivotal direction in response to movement of the automobile to its parked position, a spring compressed by movement of said lever in said one direction, an actuating mechanism connected with said lever and operated by the expansion of said spring for operating said lever in an opposite pivotal direction, means interconnecting said barrier and lever for moving said barrier to its operative position in response to movement of said lever in said opposite pivotal direction, and means retarding the operation of said actuating mechanism by said spring to delay the movement of said barrier to its operative position.

5. An automobile parking apparatus comprising a barrier movable from a normal inoperative position allowing movement of an automobile to a parked position to an operative position barring movement of the automobile out of its parked position, a rock lever having a mounting pivot intermediate its ends and movable in one pivotal direction in response to movement of the automobile to its parked position, an erecting rod having a coil spring mounted thereon, means interconnecting said rod and one end of said lever for compressing said spring in response to movement of said lever in said one pivotal direction, an actuating rod having a connection with

the other end of said lever, means actuated by the expansion of said spring on said erecting rod and connected with said actuating rod for operating said lever in an opposite pivotal direction, and means for actuating said barrier to its operative position in response to movement of said lever in said opposite pivotal direction.

6. An automobile parking apparatus comprising a barrier movable from a normal inoperative position allowing movement of an automobile to a parked position to an operative position barring movement of the automobile out of its parked position, a rock lever having a mounting pivot intermediate its ends and movable in one pivotal direction in response to movement of the automobile to its parked position, a vertically extending erecting rod having a coil spring mounted thereon, a connecting lever having a stationary pivot support and a pivotal connection with said erecting rod, an operating rod having a pivotal connection with one end of said rock lever for elevating said erecting rod in response to movement of said rock lever in said one pivotal direction, a vertically extending actuating rod having a pivotal connection at its lower end with the other end of said rock lever, a trunnion slidable on the upper end of said erecting rod and bearing against the upper end of said spring, a motion transmitting lever interconnecting the upper ends of said actuating and erecting rods and having a pivotal connection with said actuating rod and a pivotal connection with said trunnion, said motion transmitting lever being initially operative to hold said trunnion against movement during elevation of said erecting rod whereby elevation of said erecting rod is effective to compress said spring against said trunnion, a latch for locking said erecting rod in elevated position to render expansion of said spring effective through said trunnion and motion transmitting lever to raise said actuating rod to pivot said rock lever in an opposite pivotal direction, and means interconnecting said barrier and lever for moving said barrier to its operative position in response to movement of said lever in said opposite pivotal direction.

7. Apparatus as claimed in claim 6 characterized by the provision of means responsive to movement of said barrier to its operative position for actuating said latch to release said erecting rod for lowering movement from its elevated position.

8. Apparatus as claimed in claim 6 characterized by the provision of means connected with said actuating rod for retarding its operation by the expansion of said spring.

9. Apparatus as claimed in claim 6 characterized by said barrier comprising a pivoted treadle over which a wheel of the automobile rolls upon movement to parked position, the weight of the automobile wheel depressing said treadle upon movement thereof to pivot said rock lever in said one direction, movement of said rock lever in an opposite direction being effective through said interconnecting means to pivot said treadle to an upright position for motion preventing engagement with the vehicle wheel.

10. Apparatus as claimed in claim 6 characterized by the provision of latching mechanism associated with said actuating rod and operative upon movement of said barrier to its operative position for locking said actuating rod to hold said barrier against movement out of its operative position.

11. Apparatus as claimed in claim 10 together with a coin-controlled meter set into operation by said actuating rod, and latching means interconnecting said meter and latching mechanism for preventing operation of said latching mechanism to release said actuating rod except by a coin-controlled operation of said meter.

12. In a parking apparatus, a pivoted treadle normally occupying a horizontal position for depression by movement of a vehicle wheel thereover to a parked position and movable to an upright position obstructing return movement of the vehicle wheel, a rock lever having a

mounting pivot intermediate its ends and movable in one pivotal direction in response to depression of the treadle upon movement of the vehicle to parked position, a spring compressed by movement of said lever in said one direction, an actuating mechanism connected with said lever and operated by the expansion of said spring for operating said lever in a opposite pivotal direction, and means connecting said lever with said treadle for pivoting the lever in said one direction upon depression of the treadle and for pivoting said treadle to its upright position in response to movement of said lever in said opposite pivotal direction.

13. In a parking apparatus, a pivoted treadle movable downwardly from a normal horizontal position to a depressed position by movement of a vehicle wheel thereover into parked position and movable upwardly to an upright position for preventing movement of the vehicle out of said parked position, a first means for actuating said treadle to its upright position, and a second means connected with the treadle and first means and responsive to movement of the treadle to its depressed position for operating said actuating means.

14. In a parking apparatus, a pivoted treadle movable downwardly from a normal horizontal position to a depressed position by movement of a vehicle wheel thereover into parked position and movable upwardly to an upright position for preventing movement of the vehicle out of said parked position, means for actuating said treadle to its upright position, means responsive to movement of the treadle to its depressed position for operating said actuating means, and means retarding the speed of operation of said actuating means by said responsive means.

15. In a parking apparatus, a pivoted treadle movable downwardly from a horizontal position to a depressed position by movement of a vehicle wheel thereover to a parked position and movable upwardly to an upright position for preventing movement of the vehicle out of said parked position, means for actuating said treadle to its upright position, means responsive to movement of the treadle to its depressed position for operating said treadle actuating means, a coin-controlled meter set into operation by said actuating means in moving the treadle to upright position for timing the parking period, latch means automatically operable upon movement of the treadle to upright position for locking said actuating means to hold said treadle against movement out of its upright position, and means operated by a coin-controlled operation of said meter for releasing said latch.

16. In a parking apparatus, a pivoted treadle movable downwardly from a normal horizontal position to a depressed position by movement of a vehicle wheel thereover to a parked position and movable upwardly from said depressed position to an upright position for preventing movement of the vehicle out of said parked position, a rock lever having a pivot support intermediate its ends, and a motion transmitting means connecting said lever and treadle whereby movement of said treadle to its depressed position moves said rock lever in one pivotal direction and pivotal movement of said rock lever in an opposite pivotal direction moves said treadle to its upright position.

17. In a parking apparatus, a pivoted treadle movable downwardly from a normal horizontal to a depressed position by movement of a vehicle wheel thereover to a parked position and movable upwardly to an upright position for preventing movement of the vehicle out of said parked position, a rock lever having a pivot support intermediate its ends, a motion transmitting connection between said lever and treadle whereby movement of said treadle to its depressed position moves said rock lever in one pivotal direction and pivotal movement of said rock lever in an opposite pivotal direction moves said treadle to its upright position, an operating mechanism connected with one end of said rock lever for rock-

ing it in said opposite pivotal direction, and an actuating mechanism connected with the other end of said lever and operated by pivotal movement of the depressing treadle for effecting actuation of said operating mechanism.

18. In a parking apparatus, a pivoted treadle movable downwardly from a normal horizontal to a depressed position by movement of a vehicle wheel thereover to a parked position and movable upwardly to an upright position for preventing movement of the vehicle out of said parked position, a rock lever having a pivot support intermediate its ends, a motion transmitting connection between said lever and treadle whereby movement of said treadle to its depressed position moves said rock lever in one pivotal direction and pivotal movement of said rock lever in an opposite pivotal direction moves said treadle to its upright position, an operating mechanism connected with one end of said lever for rocking it in said opposite pivotal direction, an actuating mechanism connected with the other end of said lever and operated by pivotal movement of the depressed treadle for effecting actuation of said operating mechanism, and means retarding the speed of actuation of said operating mechanism by said actuating mechanism.

19. In a parking apparatus, a ramp having a horizontal surface over which a vehicle wheel may roll to and from a parked position and comprising a treadle pivoted to one side of said ramp and a guard lever pivoted to the other side of said ramp, said treadle and lever having their outer ends adjacent each other when in their normal horizontal position, said treadle and guard lever having pivot supports and lengths such that movement of a vehicle wheel to a parked position is effective to first depress said treadle and then depress said guard lever to a position overlying the free end of said treadle, and movement of the vehicle wheel out of parked position is effective to first pivot said guard lever to a position underlying the free end of said treadle to thereby obstruct pivotal movement of said treadle to its depressed position.

20. An automobile parking apparatus comprising a treadle movable from a normal inoperative horizontal position allowing movement of an automobile to a parked position to an operative position preventing movement of the automobile out of parked position, actuating mechanism operative in response to movement of the automobile to its parked position for moving said treadle to its operative position, a metering device having a time indicating pointer, a control bar movable vertically to an elevated position in response to operation of said actuating mechanism, starting means operated by said control bar upon movement to said elevated position for rendering said pointer operable to perform time indicating operation, latching parts automatically engageable upon movement of said bar to said elevated position for locking it against lowering movement, and means responsive to movement of said pointer to a predetermined position for actuating said latching parts to release said bar for lowering movement from said elevated position.

21. An automobile parking apparatus comprising a treadle movable from a normal inoperative horizontal position allowing movement of an automobile to a parked position to an operative position, preventing movement of the automobile out of parked position actuating mechanism operative in response to movement of the automobile to its parked position for moving said treadle to its operative position, a metering device having a time indicating pointer, a control bar movable vertically to an elevated position in response to operation of said actuating mechanism, latching parts including a biasing spring for effecting automatic operation thereof upon movement of said bar to its elevated position to hold said bar against movement out of said elevated position, a latch operating member connected to said pointer for movement therewith and normally occupying a position holding one of said latching parts against movement by said biasing spring to a latched position, means respon-

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sive to movement of said bar to said elevated position for moving said pointer from a predetermined position to a start position and for rendering said meter operable to move said pointer to perform a time indicating operation, movement of said pointer to said start position effecting a movement of said latch operating member out of its holding position to thereby render said latching parts automatically engageable, and coin-controlled means for returning said pointer to said predetermined position and thereby said operating member to its holding position to actuate said latching parts for releasing said control bar for movement out of said elevated position.

22. The automobile parking apparatus comprising a pivotally mounted barrier having a first movement in one direction out of inoperative horizontal position by passage of a vehicle thereover into parking position and a second movement in the opposite direction into erected operative position barring passage of the vehicle out of parked position, a rock lever pivotally mounted intermediate its ends, means connecting the barrier and rock lever providing pivotal concurrent movement thereof, a barrier erecting means connected with one end of said rock lever, actuating means for said barrier erecting means connected to the opposite end of said lever and with said erecting means, said actuating means being moved to operative position by depression of the barrier upon movement of the vehicle wheel thereover and returned to inoperative position by movement of the erecting means in raising the barrier to operative position.

23. The parking apparatus as defined in claim 22 wherein the barrier has associated therewith a spring loaded member which is depressed to overlap the barrier in depressed position as the vehicle moves over the barrier to parked position and is initially depressed to underlie the barrier as the vehicle moves out of parked position, said member when positioned beneath the barrier preventing depression movement of the barrier to move the said actuating means to operative position.

24. The automobile parking apparatus as defined in claim 22, wherein the barrier erecting means includes a movement retarding means providing a time interval between actuation of the erecting means upon depression of said barrier during movement of the vehicle into parking position and movement of the barrier into operative position by the actuating means for the barrier erecting means.

25. The automobile parking apparatus as defined in claim 22, wherein the said actuating means includes a spring which is compressed in response to depression of the barrier by movement of the vehicle to parking position, and said barrier erecting means is actuated by expansion of said spring in moving the barrier into erected position.

26. The parking apparatus as defined in claim 25, wherein the barrier erecting means includes means retarding the actuation of the erecting means by said spring.

27. The parking apparatus as defined in claim 22 wherein, a coin controlled metering device is actuated by the said erecting means for timing the parking period, a latch mechanism is provided on said erecting means for locking the said barrier in erected position, and means connecting the meter and the latch preventing operation of the latch to release the said erecting means for movement of the barrier to inoperative po-

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sition except in response to a predetermined coin-controlled operation of said meter.

28. The parking apparatus as defined in claim 27 wherein, the said latch is automatically operated upon erection of the barrier into a position preventing movement of the barrier out of erected position.

29. The parking apparatus as defined in claim 28 wherein the latch mechanism includes a manual control, and said manual control is inoperable to move the latch mechanism from latched position until after operation of the coin-controlled meter to release the latch mechanism for operation.

30. In a parking apparatus, a pivoted treadle normally occupying a horizontal position for movement of a vehicle wheel thereover to a parked position, said treadle being depressed by said vehicle wheel movement and thereafter movable in a reverse direction into erected position to obstruct return movement of the vehicle wheel, treadle erecting and actuating mechanisms for moving the treadle from depressed to erected position, and means connecting said treadle and said actuating mechanism and responsive to movement of the vehicle to parked position for actuating said erection mechanism.

31. Apparatus as defined in claim 30, wherein a coin controlled meter is associated with said treadle erection and control mechanism for timing the parking period, a latch associated with said erecting mechanism and responsive to movement of the mechanism in erecting said treadle to lock said mechanism in position preventing return of the treadle to horizontal position, and means connecting the meter and latch preventing operation of the latch to release said treadle for return to horizontal position except by a coin controlled operation of said meter.

32. In a parking apparatus, a pivoted treadle normally occupying a horizontal position for movement of a vehicle wheel thereover to a parked position, said treadle being depressed by forward movement of the vehicle wheel and thereafter movable to an upright position obstructing return movement of the vehicle wheel, an erecting and control means for moving the treadle from depressed to erected position, means connected with the treadle and with said erection and control means and responsive to depression of said treadle for actuating said erection and control means, and retarding means associated with said erection and control means for retarding the movement thereof upon actuation by said treadle depression responsive means to delay erection of the treadle permitting limited manipulation of the vehicle wheel after first moving into parking position.

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2,657,486	Sweetser	Nov. 3, 1953