

May 24, 1938.

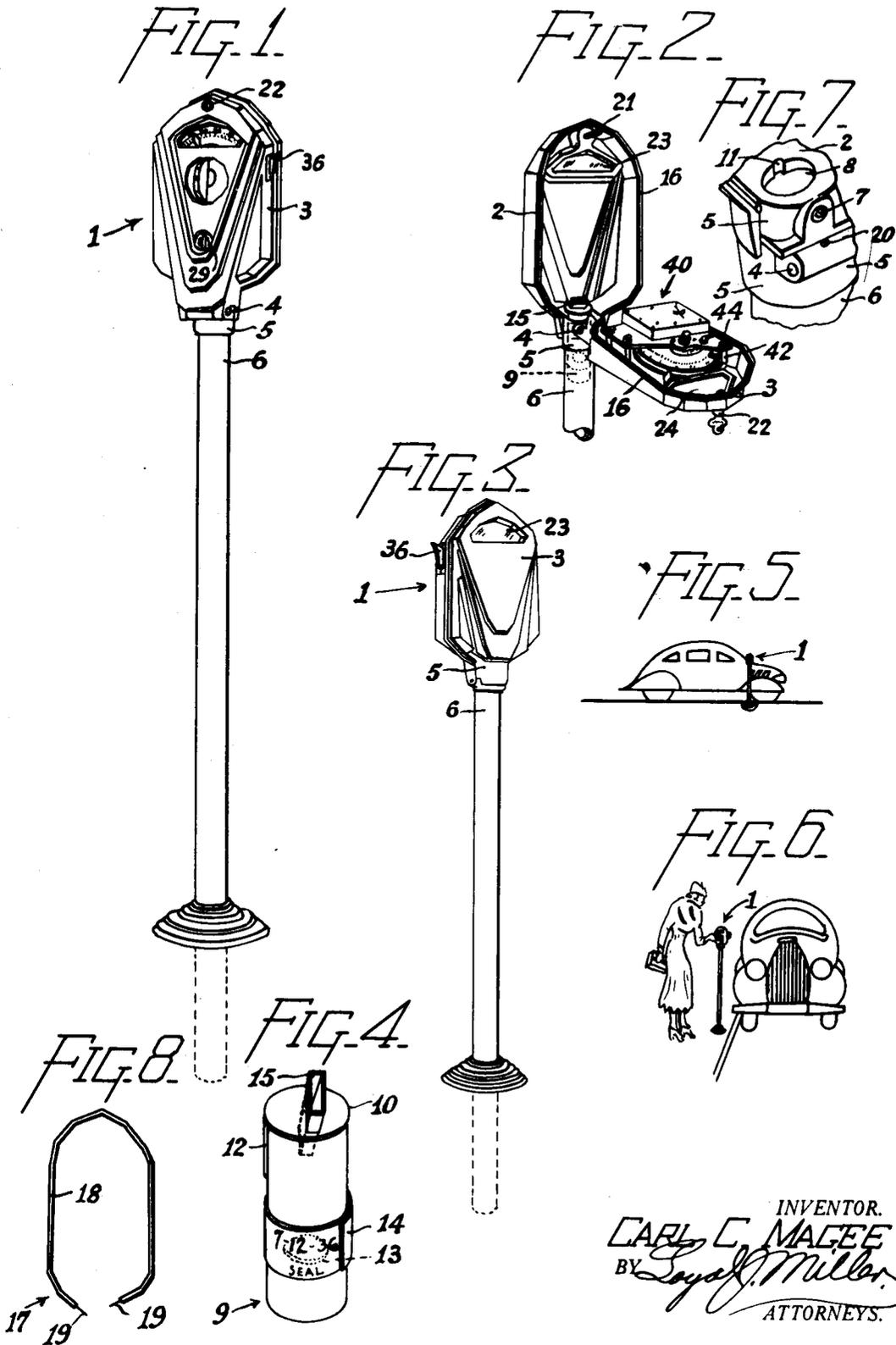
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2,118,318

COIN CONTROLLED PARKING METER

Filed May 13, 1935

4 Sheets-Sheet 1



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2,118,318

COIN CONTROLLED PARKING METER

Filed May 13, 1935

4 Sheets-Sheet 2

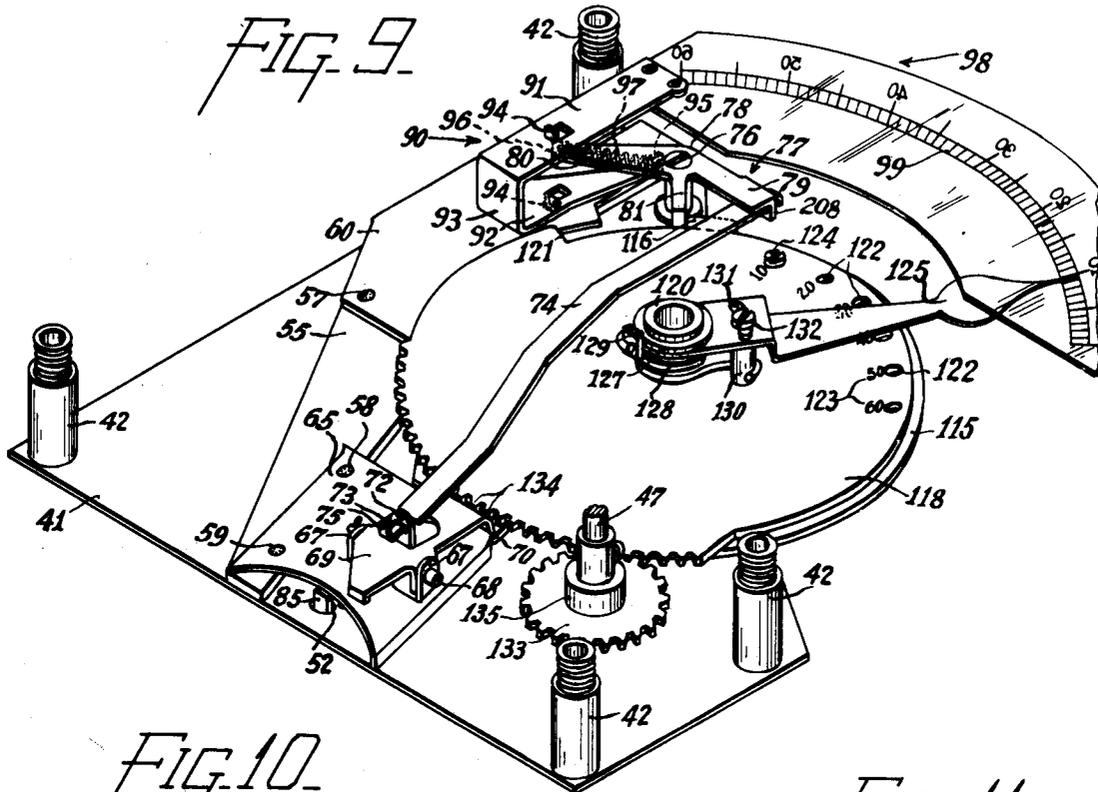
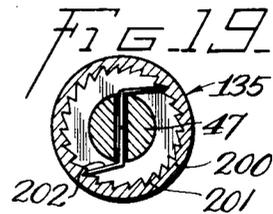
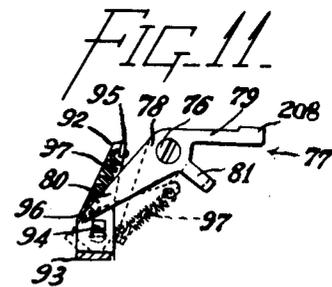
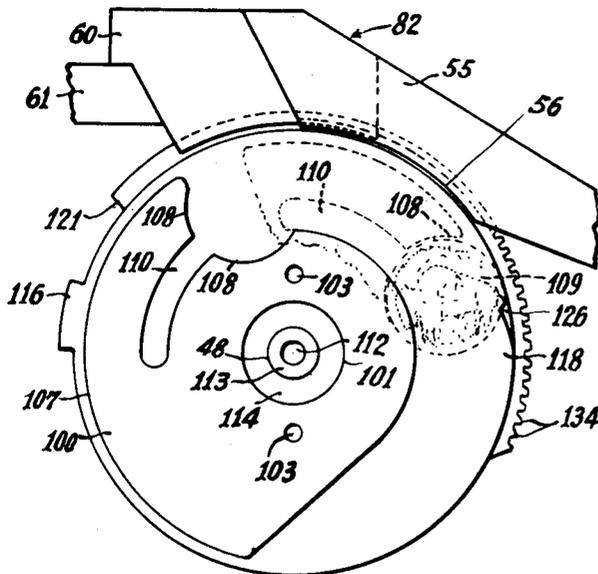


FIG. 10.



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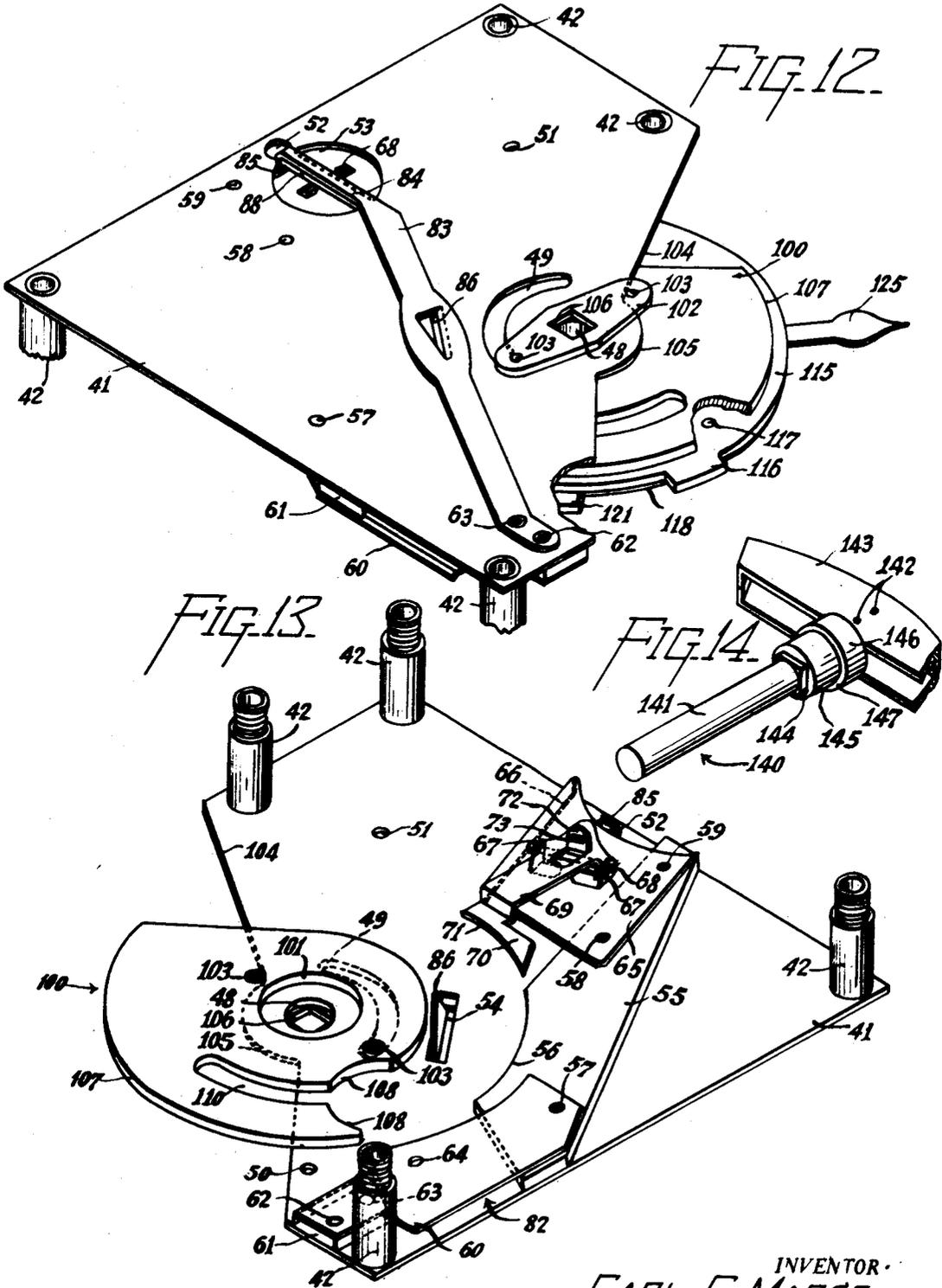
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COIN CONTROLLED PARKING METER

Filed May 13, 1935

4 Sheets-Sheet 3



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2,118,318

COIN CONTROLLED PARKING METER

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4 Sheets-Sheet 4

FIG. 18

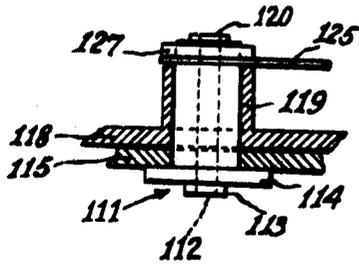


FIG. 15

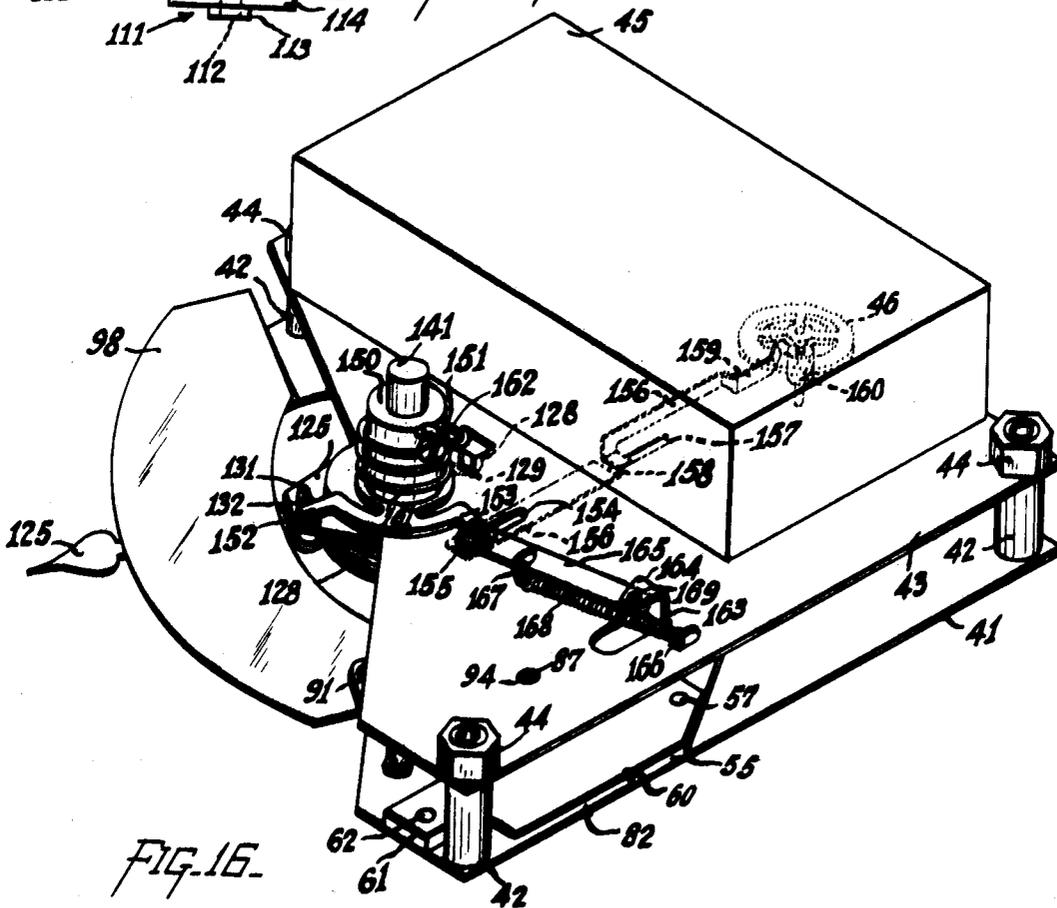


FIG. 16

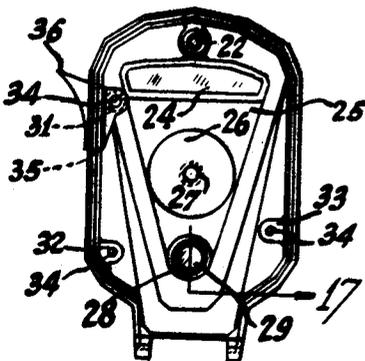
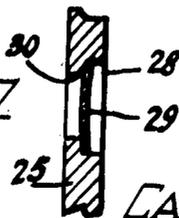


FIG. 17



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UNITED STATES PATENT OFFICE

2,118,318

COIN CONTROLLED PARKING METER

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to Dual Parking Meter Company, Oklahoma
City, Okla., a corporation of Delaware

Application May 13, 1935, Serial No. 21,153

13 Claims. (Cl. 194—84)

My invention relates to meters for measuring the time of occupancy or use of parking or other space, for the use of which it is desirable an incidental charge be made upon a time basis.

5 The prime object of the invention is the provision of a device of the class described which may be placed in operation only after the insertion of a coin, and which will indicate when a predetermined period of time has elapsed after its operation has commenced.

10 Other objects of the invention are the provision of a device of this class which is new, novel, practical and of utility; which, during its operation, will display a signal, the signal being arranged to disappear from view when the predetermined permitted time of occupancy has elapsed; which will indicate during its operation the time which has elapsed since it was placed in operation; which will expose to view the coin most recently inserted therein; and, which includes a novel container for receiving the coins whereby an accurate check may be kept upon those persons who are authorized to collect the money received by the machines.

25 The device consists substantially of a lockable housing supported upon a post or standard which is imbedded rigidly in a permanent base, such as a street curbing or sidewalk, adjacent the space to be occupied; a spring for actuating the device; 30 a manually operated mechanism for winding the spring; a coin receiving mechanism for controlling actuation of the winding mechanism; a time gauging apparatus for governing the speed at which the device operates; a visual signal for indicating from a distance that the device is or is not in operation; a visual signal for indicating the elapsed time after the device has been placed in operation; and, a container for receiving the coins.

40 Other objects of the invention are the provision of a mechanism which is readily adjustable to operate for various periods of time for each coin inserted therein; which holds the coin in an operative position until the spring has been completely instead of only partially wound; which is positive in action; which is durable; and, which will be efficient in accomplishing all the purposes for which it is intended.

50 With these and other objects in view as will more fully appear hereinbelow, my invention consists in the construction, novel features, and combination of parts hereinafter more fully described, pointed out in the claims hereto appended, and illustrated in the accompanying four-sheet drawings, of which,

Figure 1 is an oblique elevational view of the front and right hand faces of the housing and its supporting standard;

Figure 2 is a rear view of the housing opened, and disclosing the operating mechanism connected to the inner face of the door;

Figure 3 is a view similar to Fig. 1, but showing the rear and right hand faces of the housing;

Figure 4 is a perspective view of the coin receiving container;

Figures 5 and 6 are pictorial views illustrating the preferred relation of the installed device and a parked vehicle;

Figure 7 is a fragmentary perspective of the inner lower portion of the housing connected to its standard;

Figure 8 is a detail of a gasket which is used for sealing between the two sections of the housing;

Figure 9 is a perspective view of the front, or if considered as in a horizontal position, of the upper face of the rear or lower plate of the mechanism, and showing the parts of the mechanism which are supported thereby;

Figure 10 is a fragmentary bottom view of the apparatus shown in Fig. 9, and disclosing the coin conveying portion of the device, a coin being shown in dotted lines in an operative position;

Figure 11 is a top view of a portion of the mechanism shown in Fig. 9;

Figure 12 is a perspective view of the nether face of the plate shown in Fig. 9;

Figure 13 is a view similar to Fig. 9 with parts of the mechanism removed;

Figure 14 is a perspective view of the actuating handle;

Figure 15 is a perspective view of the upper face of the assembled mechanism;

Figure 16 is a plan view showing the interior of the front section of the housing;

Figure 17 is a fragmentary section taken along the line 17 of Fig. 16;

Figure 18 is an elevational view, partially in section, showing in detail a portion of the device shown in Figs. 9 and 15; and,

Figure 19 is a sectional detail showing a ratchet used in connection with the device.

Like characters of reference designate like parts in all the figures.

It is understood that various changes in the form, proportion, size, shape, weight and other details of construction, within the scope of my invention may be resorted to without departing from the spirit or broad principle of my invention and without sacrificing any of the advantages thereof; and it is also understood that the

drawings are to be interpreted as being illustrative and not restrictive.

The inventive idea involved is capable of receiving a variety of mechanical expressions one of which, for the purpose of illustrating the invention, is shown in the accompanying drawings wherein:—

The reference numeral 1 indicates as a whole a suitable box-like housing which comprises a rigidly mounted rear section 2 and a front section 3 which is hingedly connected thereto by a pin 4. The section 2 has an integral depending tubular sleeve portion 5 which is rigidly yet removably connected to the upper end of a suitable tubular standard or post 6 by a threaded set-screw 7 which is covered by the section 3 when it is in a closed position. The ends of the pin 4 are preferably spot welded to the section 3 in order to prevent its unauthorized removal or the pin may be held in place by a set-screw 20.

The upper end of the bore 8 of the tubular portion 5 opens into the housing section 2 and communication is thereby established between the interior of the housing and the interior of the post or standard 6. A substantially cylindrical coin receptacle 9 having an upper annular projecting flange 10 for contacting the upper surface of the tubular portion 5 is disposed within the bore 8 and extends downwardly within the bore of the post 6. The bore 8 has a notch 11 for receiving a longitudinally extending rib 12 formed upon the exterior surface of the receptacle 9 and thus prevents rotation of the receptacle within the bore. The receptacle is provided with a side opening 13 through which the coins may be removed, and the opening is adapted to be closed or sealed by a gummed tape 14. The upper end of the receptacle is equipped with a suitable coin slot 15 which passes therethrough and which extends for a desired distance above and below the top thereof. The interior projection of the slot 15 acts to prevent removal of coins through the slot by inversion of the receptacle.

The tape 14 or its mechanical equivalent is intended to be dated as illustrated, preferably with the date it is placed in the device and the date it is removed. It also may be numbered to indicate the specific one of the devices within which it is to be installed.

The adjacent edges of the two sections 2 and 3 are provided with complementary grooves 16 which are adapted to receive a gasket 17 for making a water tight seal between them. The gasket is preferably made from a rubber hose 18 through which has been inserted a wire 19. The adjacent ends of the wire 19 protrude from the ends of the hose 18, and the gasket is held in place by insertion of the protruding ends of the wire into holes, not shown, which are located at the points at which the groove 16 in the section 2 meets opposite sides of the portion 5 thereof.

Within the upper portion of the section 2 is a forwardly projecting pin 21 which co-acts with a suitable locking mechanism 22 for locking the sections together in a closed position. The sections 2 and 3 are respectively equipped in their upper portions with similar, transparent, water-tight windows 23 and 24.

Referring now more particularly to Fig. 16 wherein the interior face of the section 3 is illustrated, or the upper face of the section if it is considered as being in a horizontal position as shown in Fig. 2, a raised substantially triangular boss 25 is provided substantially centrally with-

in the section. The central portion of the boss 25 is equipped with a second or further raised boss 26 which is circular in form and through the center of which is provided a perforation 27. At the apex of the boss 25 is provided a window 28 which is of a size sufficient to fully present to view a coin therethrough.

The window 28 is closed by a transparent pane 29, preferably of some slightly bendable material, which is pressed into place against a shoulder 30 (Fig. 17), the mouth of the window being slightly smaller than the space at the shoulder. This structure is preferably followed out in the glazing of the previously described windows 23 and 24.

A plurality of raised bosses indicated by reference numerals 31, 32 and 33 are provided within the section 3, and each are equipped with a threaded perforation 34 for receiving a stud bolt for connecting the completely assembled mechanism 40 of the device to the section 3.

The right hand side of the section 3 is equipped with an elongated through slot 35 which receives a suitable coin chute 36. The chute 36 is held in place by one of the stud bolts which holds the mechanism 40 in place.

A description of the working mechanism 40 will now be given, and for the sake of clarity it is considered throughout the description that the mechanism is in a horizontal position as illustrated in Fig. 2.

The mechanism consists substantially of a lower or base plate 41 supporting in spaced relation, upon four upstanding hollow posts 42, an upper plate 43 which is held in rigid position by nuts 44. A housing 45 is carried by the upper surface of the upper plate 43 and houses a usual gear train, the escapement wheel 46 of which is shown in dotted lines in Fig. 15. The gear train may be of any desired or usual type by which a driven shaft 47 (Fig. 9) may be governed to rotate at a steady given speed. This may be accomplished by an escapement or other governing means. The plate 41 is provided with a through perforation 48 and adjacent thereto with an arcuate through slot 49. Perforations 51, 52 and 53, and an elongated slot 54 are also provided through the plate 41, and their offices will be more fully described hereinbelow. A rib 58 extends across the perforation 53.

A plate 55 having an arcuate edge portion 56 is held by rivets 57, 58 and 59 (Fig. 13) to the upper surface of the plate 41. One end of another plate, 60, together with a small block 61, is fastened by rivets 62 and 63 to the upper surface of the plate 41, and the other end of the plate 60 is rigidly engaged by the rivet 57. The portion of the plate 60 which bridges between the block 61 and the plate 55 is spaced slightly from the plate 41, and the spaced portion of the plate 60 is provided with a through perforation 64.

With one edge held rigidly in place by rivets 58 and 59 upon the upper surface of the plate 55 is yet another plate 65 the free edge 66 of which is bent to bear against the upper surface of the plate 41. The portion of the plate 65 which lies between the plate 55 and the edge 66 is therefore held in spaced relation to the upper surface of the plate 41, and this portion is so located that it passes directly over the perforation 53 previously described herein. The perforation is of a diameter, and the passage, described by one edge of the plate 55, the down-turned edge 66 of the plate 65, the upper surface of the plate 41, 75

and the central portion of the plate 65, is of a dimension sufficient to permit the travel of a coin through both the passage and the perforation from a point adjacent the arcuate edge portion

5 56 of the plate 55.

The plate 65 is provided with two spaced upturned ears 67 which are perforated to receive a pivot pin 68. A closure 69 for the passage above described has one flat end portion 70 normally resting upon the upper surface of the plate 41, and its central portion is pivotally mounted upon the pivot pin 68. The flat portion 70 may be raised to open the passage and permit the entrance of a coin. The free edge 71 of the portion

10 70 is arcuate and when the closure is in a normal position, forms substantially a continuation of the arcuate edge 56 of the plate 55. The upper surface of the closure 69 is equipped with an upturned ear 72 which has a transverse slot 73 therethrough. A link 74, (Fig. 9), having a perpendicular end portion 75 engaged within the slot

15 73 acts as a means for actuating the closure 69 to an open or closed position.

The previously described perforation 50 in the plate 41 is provided for the purpose of receiving an upstanding pivot pin 76 upon which is pivotally mounted a lever element 77 (Figs. 9 and 11). The element 77 acts substantially as a bell-crank, and consists substantially of a body portion 78 having an integral arm 79 extending in one direction and an opposite arm 80 extending from the body at substantially a forty-five degree angle from the axis of the arm 79. The arm 78 is connected to the link 74 and acts to move the link

20 74 longitudinally in order to open and close the closure 69. The body 78 also has a projection 81 by which it in turn may be pivotally moved upon the pin 76. The office of the arm 80 and the means by which the lever element 77 is actuated will be more fully described hereinbelow.

As previously described hereinabove, the central portion of the plate 60 bridges between the block 61 and the adjacent end of the plate 55. A coin passage is therefore formed by the upper surface of the plate 41, the adjacent ends of the block 61 and the plate 55, and the nether surface of the plate 60. The mouth of this passage is indicated by the reference numeral 82. When the mechanism is installed in the section 3 of the housing, the mouth 82 is so located that it communicates with the inner end of the previously described coin chute 36.

Refer now more particularly to Fig. 12, where the nether face of the plate 41 is disclosed. Connected at one end to the plate 41 by the rivets 62 and 63 is a spring 83 the end portion 84 of which passes across the perforation 53 in alignment with the previously described rib 88. The extreme end portion 85 of the spring is bent perpendicularly and projects upwardly through the perforation 52 in the plate 41. The portion 85 of the spring 83 acts to normally hold a coin confined between the rib 88 across the perforation 53, the nether surface of the plate 65, and the upper surface of the portion 84 thereof. When the spring 83 is sprung away from the plate 41 sufficiently to withdraw its end portion 85 from the perforation 52, a coin which was then confined as above described would be permitted to pass from its position over the perforation 53. It would then leave the previously described coin passage, the entrance to which is normally closed by the closure 69. Referring to Figs. 12 and 13, it may be seen that a portion 86 of the spring 83

5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

is partially cut from the spring and is bent up-

wardly to project through the previously described slot 54 in the plate 41. Downward pressure upon the portion 86 acts to move the spring 83 downwardly and to withdraw the portion 86 thereof from the perforation 52.

In Fig. 15 is shown a perforation 87 in the plate 43. This perforation is in axial alignment with the previously described perforation 64 in the plate 60 (Fig. 13).

A substantially U-shaped member 90 (Figs. 9 and 11), having upper and lower legs respectively indicated by the reference numerals 91 and 92 which are connected by an integral element 93, is pivotally mounted in the perforations 87 and 64 by trunnions 94 carried by the legs. The arm

10 15 20 25 30 35 40 45 50 55 60 65 70 75

80 of the previously described lever element 77 lies between the two legs of the member 90. The end of the leg 92 has an upturned perforated ear 95, and the end of the arm 80 of the lever element 77 is equipped with a downturned or depending perforated ear 96 (Fig. 11). A helical retrieving spring 97 is connected between the two ears 95 and 96. To the free end of the leg 91 of the member 90 is rigidly attached one end of an arcuate signal element 98 which is equipped with a scale 99 graduated and numbered to represent minutes of time or fractions of an hour. The element 98 is preferably constructed of a suitable colored translucent material such as celluloid or the like.

As a means for conveying the coin from the passage, the mouth of which is indicated by the reference numeral 82, to the passage adjacent the other end of the plate 55, for moving the member 90 and its signal element 98, for operating the link 74 and consequently the closure 69, for operating the spring 83, and, also for accomplishing other purposes not as yet disclosed hereinabove, the following described structure is provided.

A flat coin conveying element 100, best seen in Fig. 13, having a circular perforation 101 located around the perforation 48 in the plate 41, is held in slidable engagement with the upper surface of the plate 41 by a guide element or spider 102 located on the nether face of the plate 41. The spider has two legs 103, one of which passes upwardly through the previously described arcuate slot 49 and the other of which is located exteriorly of the adjacent edge 104 of the plate 41. The edge 104 has an arcuate protuberance 105 which together with the slot 49 acts to engage the legs 103 and act as guides for the partial rotation of the element 100. The legs 103 are both rigidly connected to the element 100. The spider has a square or other angularly configured perforation 106 which is in axial alignment with the perforations 48 and 101. The element 100 has an arcuate edge 107 which is struck upon a radius substantially equal to the radius of the arcuate edge 56 of the plate 55 and also substantially equal to the radius of the edge 71 of the portion 70 of the closure 69. Adjacent the termination of the edge 107, the element 100 has an arcuate concave edge portion 108 which is substantially of a radius equal to the radius of the coin 109 with which it is desired to put the device into operation. An arcuate through slot 110 extends substantially parallel with the edge 107, and communicates with or opens into the coin receiving edge portion 108 of the element 100. The slot 110 and the coin receiving portion 108 are so located that when the element 100 is partially rotated, as is permitted by the leg 103 in the slot 49, a coin which may then be located in the

portion 108 is forced to pass directly over and depress the portion 86 of the spring 83. After the coin has passed over the portion 86, the slot 110 permits further rotation of the element 100 without the portion 86 being depressed.

The element 100 is so located, that a coin inserted in the mouth 82 of the previously described coin receiving passage will fall into the portion 108. Partial rotation of the element will then convey the coin over the portion 86 of the spring 83, and if the closure 69 is in an open position, the coin will be delivered into the passage lying beneath the plate 65.

A post 111 having an axial bore 112, and having its lower end 113 of a diameter adapted to fit snugly within the previously described perforation 48 is provided with an outstanding annular flange 114 which is of a diameter adapted to fit snugly within the perforation 101 in the element 100. Around the body of the post and seated upon the upper surface of the flange 114 is a disc 115 which may be rotated thereon. As may best be seen in Fig. 12, the disc is equipped with an outstanding projection 116, and adjacent thereto with a through perforation 117 which is threaded. The nether surface of the disc is provided with a depending lug or projection 126 which is located adjacent the edge of the disc and which lies in the path of a coin in its travel from one of the previously described coin passages to the other. Seated upon the disc 115 is a segment gear 118 which has an integral upstanding sleeve 119. The body of the post 111 projects a slight distance above the sleeve 119 and its extreme upper end portion 120 is reduced in diameter. The periphery of the gear 118 has an abrupt shoulder 121 and adjacent a portion of its edge is provided with a plurality of spaced perforations 122. The various perforations 122 are designated by numerals 123 which indicate periods of time, either in minutes or in fractions of hours. The perforations 122 are so located that any one of them may register with the perforation 117 in the disc 115. The relative radial position of the disc 115 and the segment gear 118 may be adjustably positioned by a set-screw 124 inserted through one of the perforations 122 and threadedly engaged within the perforation 117. Utilization of the set-screw 124 as above described acts to regulate and set the disc and the gear so as to bring the shoulder 121 and the adjacent edge of the projection 116 a desired distance apart.

The segment gear 118 is pressed tightly upon the post 111 and is therefore forced to rotate with the post when the post is rotated. Around the post 111 and against the upper end of the sleeve 119 is movably positioned one end of an indicating hand 125 which projects outwardly past the edge of the segment gear 118 to a point where it may indicate various numerals or graduations upon the scale 99 carried by the signal element 98. Around the post and upon the hand 125 is a ring 127 which is pressed firmly in place. A coil spring 128 surrounds the sleeve 119 and is confined between the hand 125 and the upper surface of the segment gear 118.

In assembling the structure thus far described, the signal 98 and its U-shaped member 99 is first positioned as illustrated in Fig. 9, and the spring 97 is connected between the ears 95 and 96. The link 74 is then connected between the ear 72 and an ear 208 carried by the free end of the arm 79 of the lever element 77. The element 100 is attached to the plate 41 by the spider 102 in

a manner previously described. The disc 115, segment gear 118, hand 125, and ring 127 are installed as previously described upon the post 111, and the lower end 113 of the post is inserted within the perforation 48 in the plate 41. The upper plate 43 is then placed upon the posts 42 and the nuts 44 are tightened down.

In configuration, the plate 43 is substantially identical with the plate 41, and the plate 43 is equipped with a perforation, not shown, which corresponds to, and when the plates are in an assembled position, is in axial alinement with the perforation 48. This perforation journals the reduced upper portion 120 of the post 111.

The plate 43 has a depending projection 129 (Fig. 9) to which one end of the spring 128 is removably attached. Subjacent the connected end portion of the hand 125, the segment gear 118 is provided with an upstanding hollow interiorly threaded post 130, the upper end of which contacts the nether surface of the hand. The hand at this point is provided with a transverse arcuate through slot 131 through which a stud-bolt 132 is inserted and threadedly engaged with the post 130. The bolt 132 and the post 130 act as means for connecting the hand to the segment gear 118 and causing rotation of the hand with the gear. The slot 131 permits a slight adjustment of position between the gear and the hand. One end of the spring 128 engages the post 130, and the spring acts as a means for normally holding the segment gear at the end of its permitted travel in a right-hand direction, and for urging it in a deasil direction when it has been rotated from its normal position.

One end of the previously described shaft 47 is journaled in the previously described perforation 51, and is equipped with a gear 133 which is at all times in engagement with the teeth 134 of the segment gear, and a usual ratchet connection 135 is provided between the gear and the shaft. The connection 135 may be of any desired type so long as it is adapted to engage the gear with the shaft when the gear is rotated in an anti-clockwise direction, and is adapted to permit independent rotation of the gear upon the shaft in the opposite direction. The ratchet structure 135 may consist of a tubular housing 200 having interior teeth 201. A spring element 202 extends transversely through the shaft 47 within the housing and its perpendicular ends are engaged with the teeth 201. Thus, when the shaft 47 is rotated in one direction the housing is not rotated but when the shaft is rotated in the opposite direction the ends of the element 202 engage the teeth 201 and cause rotation of the housing 200. The housing 200 is preferably made integral or is otherwise rigidly connected to the gear 133. As previously stated, the speed at which the shaft 47 may rotate is governed by the gear train or mechanism in the housing 45; however, this is true only upon its rotation in an anti-clockwise direction.

After the mechanism thus far described is assembled and is positioned within the section 3 of the housing 1 by a plurality of bolts, not shown, but which pass through the hollow legs 42 and engage the threaded perforations 34 (Fig. 16) in the bosses 31, 32 and 33, a key 140 (Fig. 14) is next installed.

The key consists substantially of a rod 141 to one end of which is rigidly connected in any desired manner such as by pins 142, a perpendicular handle 143. Around the rod and adjacent the handle is provided an angular shoulder 144 which

is of a size and configuration to barely fit within the angular perforation 106 in the spider 102. Between the shoulder 144 and the adjacent face of the handle 143, the rod is provided with an enlarged cylindrical portion 145 which is adapted to workably fit within the perforation 27 of the boss 26 of the housing section 3. The portion 145 terminates in another enlargement 146 which forms an abrupt annular shoulder 147 which contacts the exterior surface of the section 3. The portion 145 is of sufficient length to barely pass through the perforation 27 in the housing section 3 and to contact with its end the lower face of the spider 102.

The rod 141 passes through the perforation 40 in the plate 41, through the bore 112 of the post 111, through the perforation in the plate 43 which has previously been described herein as being in alinement with the perforation 40, and extends for a considerable distance above the upper surface of the upper plate 43.

The reference numeral 150 indicates a sleeve which is connected by a set-screw 151 to the portion of the rod 141 which projects above the plate 43. The lower end of the sleeve is rigidly connected to or made integral with two spaced arms 152 and 153. Adjacent the post 141 and within the radial path of the two arms 152 and 153, the plate 43 is provided with a through slot 154. A pin 155 is slidably disposed within the slot 154 and beneath the plate 43 the pin is rigidly connected to one end of a link 156 which extends toward the gear-train housing 45 to a point beneath it. Beneath the housing 45 the plate 43 is provided with a second slot 157 and the link 156 at this point is bent upwardly and passes through the slot 157 into the housing 45 as is indicated at 158. The link extends within the housing to a point adjacent the escapement wheel 46, where it terminates in a shoe 159. When the link 156 is moved longitudinally toward the escapement wheel, the shoe 159 is brought into frictional engagement with a hub 160 of the wheel 46, and when the link moves longitudinally away from the wheel 46, the movement of the shoe acts to start the wheel into rotation, thus insuring positive starting of the gear train. The arms 152 and 153 are the means by which the link 156 is moved longitudinally in opposite directions. Upon partial rotation of the sleeve in one direction, the arm 152 acts to contact the upper or protruding end portion of the pin 155 and move the link toward the wheel 46, while upon partial rotation of the sleeve in an opposite direction, the arm 153 contacts the pin and moves the arm in an opposite direction. A coil spring 161 has one of its ends engaged with the set-screw 151 and its other end is connected to an upstanding projection 162 carried by the plate 43. The spring acts to normally hold the sleeve to the right hand end of its radial throw.

In order to insure a quick or instant movement of the shoe 159 so as to positively start the wheel 46, the following described structure is provided.

An upwardly projecting bracket 163 is carried by the plate 43 and is provided with an end portion 164 which lies substantially parallel to the upper surface of the plate. One end of a link 165 is pivotally connected by a pivot pin 169 to the portion 164 of the bracket, and its other end is bifurcated and embraces the protruding end of the pin 155. An upwardly projecting ear 166 is carried by the plate 43 and a depending ear 167 is carried by the link 165. Between the ears 166 and 167 is connected a retrieving spring 168 which

independently of the spring 161 and the arm 153 normally holds the link in a position in which the pin 155 and link 165 are at the end of their throws most remote from the escapement wheel 46.

The ears 166 and 167 and the pivot pin 169 are so located with relation to each other that when the link 165 is moved to the end of its throw toward the escapement wheel 46, the spring 168 is barely bent sufficiently to prevent its retrieving the link. However, the least movement of the link 165 by the pin 155 and the arm 153 will cause it to be straightened and it will then retrieve the link to the opposite end of its throw even though movement of the arm 153 were discontinued at this point. Therefore, when the arm 153 barely moves the pin 155 in a direction away from the wheel 46, the spring 168 instantly carries the link 165, the pin 155, and the link 156 to the opposite ends of their throws. This action, of course, causes an abrupt action of the shoe 159 against the hub 160 of the escapement wheel, and insures that the wheel is started into operation.

Operation

The mechanism 40 is installed within the section 3 of the housing as previously described, and the two sections are locked together. When installed, the opening 82 of the coin passage is in registration with the inner end of the coin chute 36, and the perforation 53 in the plate 41 is then located in alinement with the small window 29 in the section 3. The signal 98 is normally in a position just below the windows 23 and 24 and the hand 125 is normally at the left hand end of its throw, looking at the front of the section 3. The coin container 9 is of course positioned within the sleeve portion 5 of the housing before the housing sections are locked together.

To start the device into operation, a coin of the proper denomination is inserted in the chute 36. The coin passes from the chute through the opening 82 into the first coin passage, and gravitates through the passage into the pocket formed by the concave edge portions 108 of the coin conveying element 100. The handle 143 of the key 140 is then rotated manually to the end of its throw in a deasil direction, and is then released to the action of the spring 161 which returns it to its original position.

As the handle is rotated, the spider 102 and the element 100 are also rotated. The coin is therefore borne into engagement with the projection 126 upon the edge of the segment gear 118 and the segment gear together with the disc 115 is thereby caused to rotate with the element 100. In its travel the coin passes over and depresses the portion 86 of the spring 83. As the disc 115 approaches the end of its permitted rotation the leading edge of the projection 116 contacts the projection 81 of the lever element 77. Movement of the element 77 accomplishes two things simultaneously, viz., the opening of the closure 69, and the raising of the signal 98 into a position where it may be seen through either of the windows 23 or 24.

The spring 97 is so arranged that when the signal is in a raised position it will remain in such a position until the lever element 77 is forced to move, by another agency than the spring, but that the slightest movement of the element 77 will release it to the action of the spring 97 which will then return it to its lowered position.

The partial rotation of the segment gear 118 winds the driving spring 128, and during this 75

rotation the ratchet mechanism 135 permits the gear 133 to turn freely upon the shaft 47 without imparting any movement to any of the gears of the gear train.

5 As the handle reaches the end of its rotation in a clockwise direction the arm 152 of the sleeve 150 contacts the pin 155 and moves the link 156 to the end of its throw toward the escapement wheel 46, and when the handle is released to the
10 action of the spring 161 and is returned thereby in an anti-clockwise direction to its original position, the arm 153 contacts the pin and starts it toward its original position. As the pin is started to move toward its original position, the spring
15 168 carries it to the end of its throw and the shoe 159 imparts movement to the hub 160 and the escapement wheel 46.

When the handle is released to return to its original position, the element 100 and the spider
20 102 are carried with it and consequently the coin is released from engagement with the projection 126. The release occurs at a time when the closure 69 is in an open position and the coin therefore enters by gravity into the passage beneath
25 the plate 65 and comes to rest against the end portion 85 of the spring 83. When in this position the coin is visible through the window 29 and perforation 53. It is therefore possible to determine without opening the housing whether
30 a coin or a slug has been used to operate the device. A coin of less size than that which the device is designed to accommodate will not bridge between the element 100 and the projection 126
35 carried by the segment gear, and the chute 36 is so designed that a coin of greater diameter can not be inserted.

After the handle has been released as above described, the spring 128 drives the segment gear to rotate in an anti-clockwise direction, and the
40 hand 125 of course travels with the gear. The hand therefore co-acts with the scale to indicate the portion of the time remaining of the original parking period.

When the gear 118 reaches its original position,
45 the shoulder 121 carried thereby contacts the projection 81 and moves the element 77 toward its original position. Upon the slightest movement of the element 77 in this direction the spring 97 is permitted to act in bringing the signal to its
50 lowered position.

The action of the spring 83 causes the release of each previously deposited coin into the container 9 and holds the current coin in view, therefore, the entire parking period is available
55 within which an officer may detect whether or not a slug has been used to actuate the device.

The distance between the projection 126 upon the disc 115 and the shoulder 121 upon the segment gear 118 may be varied by the insertion
60 of the set-screw 124 into various ones of the perforations 122 in the segment gear 118. Therefore, the time it takes for the segment gear and the hand 125 to be returned to their original positions after being propelled to the right hand
65 end of their throws may be regulated to accommodate various parking periods.

From the foregoing description it may be seen that the signal 98 will be in view through the windows 23 or 24 during the permitted period
70 of parking times; that the last inserted coin 109 will be visible through the window 29 during the entire parking period; that a positive means has been provided for starting the gear train into operation at the proper instant; that the signal 98
75 will be quickly raised and lowered at the begin-

ning and ending, respectively, of the parking period; that the device may be easily and quickly adjusted to cover various parking periods; that the remaining time of a parking period will at all times be indicated by the hand 125 and the
5 scale 99; and, that only a coin of the proper denomination may be used to actuate the device.

Obviously, the invention is susceptible of embodiment in forms other than that which is illustrated in the accompanying drawings and described herein, and applicable for uses and purposes other than as detailed, and I therefore consider as my own all such modifications and adaptations and other uses of the form of the device herein described as fairly fall within the scope
15 of my invention.

Having thus described my invention, what is claimed and desired to be secured by Letters Patent, is:

1. In a parking meter, a driving mechanism
20 adapted to operate at a given speed for a given period of time, a signal manually operated coin controlled means for moving the signal into a signalling position, operative connections between the mechanism and the signal for moving
25 the signal out of signalling position, graduations representing units of time carried by the signal, and means co-acting with the graduations for indicating units of time.

2. In a parking meter, a driving mechanism
30 adapted to operate at a given speed for a given period of time, a signal, manually operated coin controlled means for moving the signal into a signalling position, operative connections between the mechanism and the signal for moving
35 the signal out of signalling position, graduations representing units of time carried by the signal, and a hand driven by the mechanism and co-acting with the graduations for indicating units
40 of time.

3. In a coin controlled parking meter, the combination with a driving mechanism including a gear train having a driving spring and having a governing means limiting its operation to a given speed, said train limited to operate
45 only for a given period of time upon each winding of the spring to a certain tension, of a pair of axially alined discs one of which is adapted to be rotatively driven by the driving mechanism and the other of which is adapted to be selectively
50 and rigidly connected to the driven disc in various rotative positions, a manually rotated coin conveyor adapted to be keyed to the second disc by a coin and cause rotation of the second disc in a direction to wind the spring when a coin
55 is present, means for returning the conveyor to its original position and for releasing the coin therefrom when the conveyor is manually released, a signal, operative connections between the signal and the second disc for operating the
60 signal to a signalling position when the disc reaches the limit of its rotation in one direction, and means carried by the first disc for engaging said connections and operating the signal to a non-signalling position when the second
65 disc reaches the limit of its rotation in the other direction.

4. In a coin controlled parking meter, the combination with a clock mechanism including a driving spring and a speed governing means,
70 of a first disc rotatively driven by the clock mechanism, a projection carried by the first disc, a second disc axially alined with and adapted for rotation upon the same axis with the first disc, a projection carried by the second disc,
75

means for rigidly connecting the discs together at various positions to alter the distance between the projections, manually actuated coin operable means for rotating the discs in a direction to wind the spring, a signal adapted to be moved into and out of a signalling position; and operative mechanism operable on contact by the projection carried by said second disc to move the signal to a signalling position, and on contact by the projection carried by said first disc to move the signal to a non-signalling position.

5. Organization as described in claim 4, and means for returning the coin operable means to its original position after it has been manually rotated away from its normal position.

6. Organization as described in claim 4, including means for returning the coin operable means to its original position, and means operable by said coin operable means during its return movement for releasing the clock mechanism to start operation.

7. In a parking meter, a driving mechanism adapted to operate at a given speed, a signal, manually operated coin control means for moving the signal into a signalling position, operative connections between the mechanism and the signal for moving the signal out of signalling position, graduations representing units of time carried by the signal, and means co-acting with the graduations for indicating units of time.

8. In a parking meter, a driving mechanism adapted to operate at a given speed, a signal having graduations indicating periods of time, a movable hand driven by the mechanism for indicating various ones of the graduations, manually operated coin controlled means for moving the signal into a signalling position and for setting the hand with relation to the graduations, and means operated by the mechanism for moving the signal out of signalling position at the expiration of a predetermined period of time.

9. Organization as described in claim 8, and means for selectively limiting the travel of the hand.

10. A parking meter comprising: a driving mechanism adapted to operate at an average speed; an operation disclosing signal; coin controlled means for moving the signal in one direction, operative connections between the mechanism and the signal for moving the signal in the opposite direction; and means driven by the driving mechanism for indicating the elapse of time.

11. A parking meter comprising: a timing mechanism; a signal; manually operated coin controlled means for moving the signal into signalling position; operative connections between the mechanism and the signal for moving the signal out of signalling position; and means driven by the mechanism and cooperating with the signal to indicate the elapse of time.

12. In a coin controlled time measuring meter: a time measuring flag having indicia thereon; a driven time gear; a time indicating pointer carried by the gear for indicating the elapse of time in co-operation with said indicia on said flag; coin controlled means for raising said flag into a position of visible display and for setting said indicator with relation to the indicia on the flag; means for holding said flag in said raised position; and means for releasing said flag holding means after a predetermined period of time has elapsed; said flag adapted to move to a non-visible position when said holding means is released.

13. In a coin controlled time measuring meter: a time measuring flag having indicia thereon; a time gear; a time indicating pointer carried by the gear for indicating elapse of time in co-operation with the indicia on said flag; means for rotating said gear at an average predetermined speed; coin controlled means for moving the flag into a position of visible display, for setting the indicator with relation to the indicia on the flag, and for starting rotation of said time gear; and means for moving the flag to a non-visible position after a predetermined period of time has elapsed.

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