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2,536,178

AUTOMATIC PARKING TIMER DEVICE

Filed May 25, 1946

3 Sheets-Sheet 1

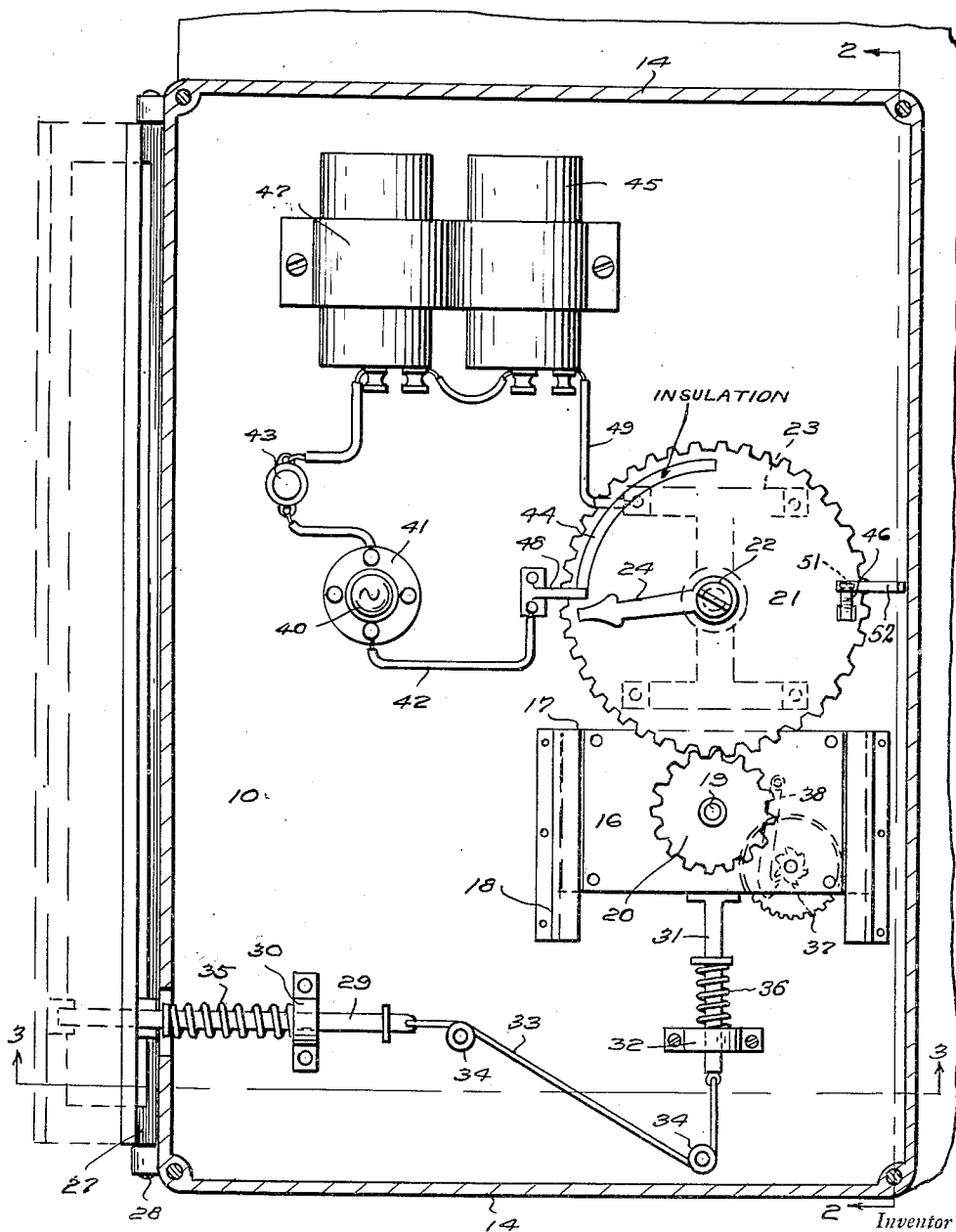


Fig. 1.

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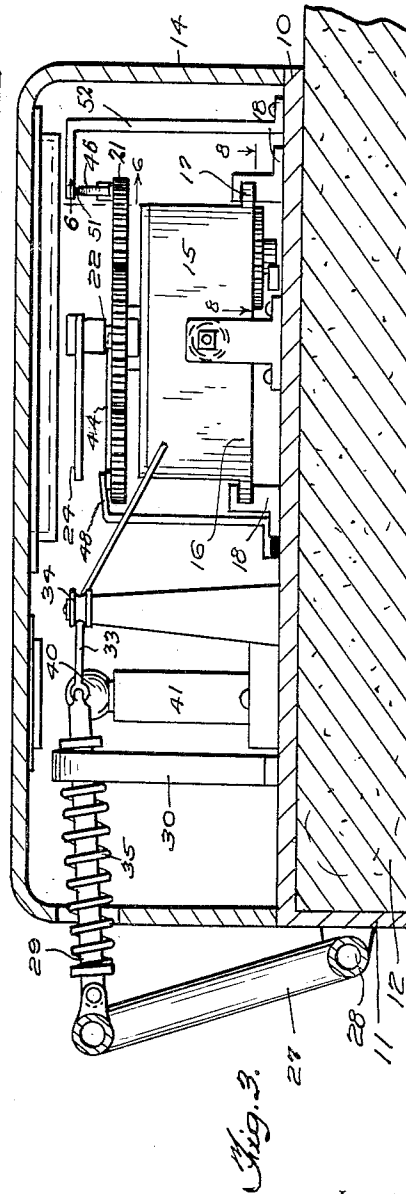
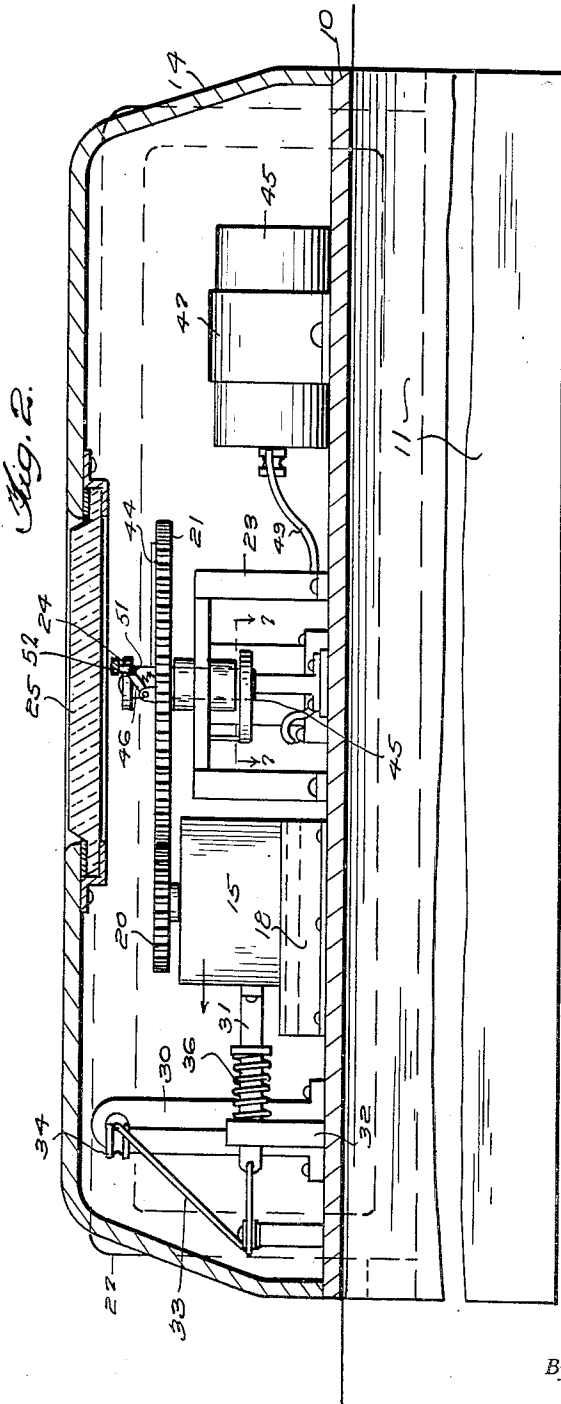
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3 Sheets-Sheet 2



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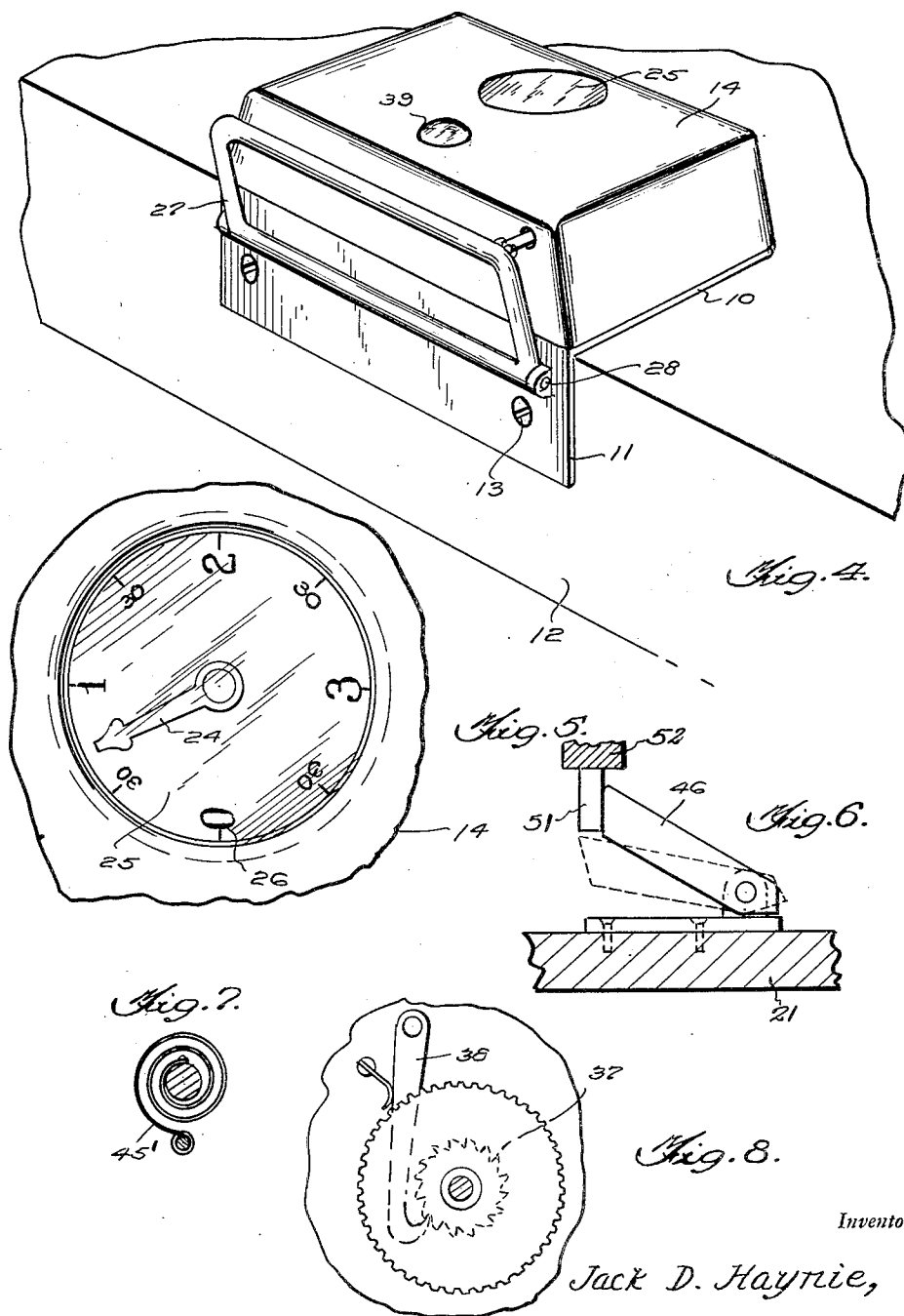
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AUTOMATIC PARKING TIMER DEVICE

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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AUTOMATIC PARKING TIMER DEVICE

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2 Claims. (Cl. 161-15)

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This invention relates to an automatic parking timer device, and more especially to an electro-mechanically operated timing meter for motor vehicle parking.

The primary object of the invention is the provision of a device of this character wherein motor vehicle parking time can be accurately checked either within a parking space or at the curb thereby obviating the necessity for an inspector to mark each car parked in order to verify the parking periods of such cars, as is now ordinarily done, the timing of the parking period being automatically effected.

Another object of the invention is the provision of a device of this character, wherein a visible signal is flashed during predetermined time periods to signify the time checking operation of such device.

A further object of the invention is the provision of a device of this character, which is extremely simple in construction, thoroughly reliable and efficient in operation, strong, durable, neat in appearance, accurate in the working thereof for checking the time period of parking, automatic in its operation, and inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts, as will hereinafter be more fully described in detail, illustrated in the accompanying drawings, which disclose a preferred embodiment of the invention and pointed out in the claims hereunto appended.

In the accompanying drawings:

Figure 1 is a horizontal cross sectional view through the device constructed in accordance with the invention as installed at a parking area, showing by full lines the operating treadle in one position, and by dotted lines such treadle in its normal position.

Figure 2 is a sectional view taken on the line 2-2 of Figure 1 looking in the direction of the arrows.

Figure 3 is a sectional view taken on the line 3-3 of Figure 1 looking in the direction of the arrows.

Figure 4 is a fragmentary perspective view of a seat curbing showing the device applied thereto and in normal condition.

Figure 5 is a fragmentary enlarged plan view showing the indicator dial face of the device.

Figure 6 is a detail sectional view taken on the line 6-6 of Figure 3 looking in the direction of the arrows.

Figure 7 is a detail sectional view taken on

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the line 7-7 of Figure 2 looking in the direction of the arrows.

Figure 8 is a detail sectional view taken on the line 8-8 of Figure 3 looking in the direction of the arrows.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, the device constituting the present invention comprises a flat base-like mounting plate 10, preferably of elongated formation or of rectangular shape having at one side edge thereof a downturned flange 11 for abutting the vertical portion of a curbing, a portion thereof being indicated at 12. This plate 10 with its flange 11 is secured or anchored to the curbing 12 in any suitable manner preferably by fasteners 13 to be located in the position as best seen in Figure 4 of the drawings.

Removably fitted superimposed upon the plate 10 is a box-like housing or case unit 14 which encases a timer mechanism hereinafter fully described.

The timer mechanism of the device involves a spring wound clock mechanism 15 which is movably supported on a sliding carriage 16, having runners 17 interfitting guides 18 fixed to the base plate 10 in parallel spaced relation to each other. This carriage travels in a horizontal plane. The clock mechanism 15 has its vertical minute hand arbor 19 fitted with a gear 20 for selective release from and engagement with a driven gear wheel 21 turnable on a rotatable shaft 22 vertically supported in a frame 23 stationarily fixed upon the plate 10. It will thus be seen that the continuously running clock mechanism gear 20 may be laterally shifted into and out of engagement with the gear 21 to rotate the latter at selected periods.

The shaft 22 above the wheel 21 has fixed thereto a time indicating hand 24 which is visible through a glass dial disk or clock panel 25 carried at a window opening in the top of the unit 14. The dial panel 25 concentric to its center is provided with exposed time digits or numerals 26 indicative of hour and one-half hour periods of time, ranging numerically from zero to full three hour periods, and one-half hour divisions thereof, respectively, as denoted in Figure 5 of the drawings. The hand cooperates with these indicia 26 when actuated in a manner presently described. The ratio of gear 21 to gear 20 will be so chosen that the hand 24 will be caused to indicate a predetermined period of actuation by the clock mechanism 15. In the embodiment shown the ratio is

4 to 1, whereby the hand 24 will make one revolution on its dial in four hours.

On the flange 11 of the base plate 10 is arranged a vertically swingable operating treadle 27 which has hinged connections 28 with bearings on such flange. The treadle 27 is adapted for actuation by the wheel of a motor vehicle, not shown, when occupying a parking area at the curb 12 or within a parking zone, which is also not shown. When contact is made with the treadle the same is depressed inwardly with relation to the housing unit 14 initiating and continuing the operation of the device until the treadle is released.

Pivoted to the treadle 27 is a plunger 29, which is slidable in a guide bracket 30 fixed within the unit 14 on the base 10, while on the carriage 16 is a throw stem 31 which is also slidable in a guide bracket 32 on the base plate 10, and connecting the plunger and stem is a flexible cable 33 which is trained over guide pulleys 34 appropriately placed. The plunger 29 is acted upon by an expansion spring 35 of the coiled type, which urges the treadle outwardly away from the unit 14 when freed of contacting object, such as a wheel of a vehicle, and this outward position of the treadle is the normal position thereof. The stem 31 is acted upon by a coil expansion spring 36 of less strength than and operating counter to the spring 35 so that when tension is relieved from the latter the spring 36 becomes active to move the carriage 16 in a direction to bring the gear 20 into mesh with the wheel 21 and through the working of the clock mechanism 15 the wheel 21 is turned for advancing the hand 24 clockwise for registering in coordination with the disk or panel 25 the time periods of motor vehicle parking in accordance with the invention.

The power spring, not shown, of the clock mechanism 15 is effectively rewound by ratchet cog 37 in a coacting ratchet pawl or dog 38, the latter being stationary and secured in any suitable manner to the base 10 or frame 23, and functioning to operate the cog 37 when the carriage has retrograde movement for the rewinding of the clock spring and in this manner the clock is rewound each time the treadle is released, and is thereby maintained in a wound condition through the automatic working of the device.

In the top of the unit 14 is a signaling glass eye 39, while beneath the latter within such unit 14 is an electric light bulb 40, its fitting 41 being arranged in an electric circuit 42, including an automatic flash circuit breaker 43, storage batteries 45 and a ground connection from the batteries to the frame 23 as at 49 and a resilient contact with the gear as by the finger 48. A segmental block, in this instance a quadrant of insulating material 44 is located upon the surface of gear 21 and is positioned to pass under the resilient control 43 to temporarily insulate the same from its conductive engagement with the gear 21, to thereby temporarily break the signaling circuit. This insulating segment is so placed that the signaling circuit is broken for the first hour of vehicle parking, but thereafter the contact 48 engages gear 21 energizing the circuit. The circuit is completed through the contact 48, metal of gear 21, frame 23 and the ground 49 to the batteries. As will be understood, the segment 44 may be circumferentially adjusted upon the gear or varied in extent or replaced by other segments of predetermined contour to vary either

the duration or time of the signaling and non-signaling periods.

When the contact 40 is traveling from the block 44 or off of the same the circuit 42 is closed and the bulb 40 lighted and intermittently flashed for signaling purposes visible through the eye 39.

The hand 24 is automatically brought to a normal position at the zero mark on the dial or panel 25 after the gears 20 and 21 are disconnected or out of mesh with each other through the resetting spring 45' acting upon the shaft 22, the spring 45' being effective for counter-clockwise movement of the hand.

Opposite hand 24, gear 21 is provided with a pivoted yielding finger 46 which during closure rotation of the gear 21 and pointer 24, flexes and passes under the fixed stop 51 carried by bracket 52 suitably secured to frame 10 as shown by dotted lines in Figure 6. When the slide 16 is moved to disengage driving gear 20 from gear 21, the spring 45' rotates gear 21 and pointer 24 in a counter-clockwise direction, until the finger 46 engages the stop 51 as shown by full lines in Figure 6. This stops rotation of the gear, leaving the pointer positioned at the 0 index on the scale, ready for the next cycle of operation, initiated by the actuation of bar 27 and the engagement of gear 20 with gear 21.

The batteries 45 are retained in holding clips 47, which together with other parts of the device are concealed within the cover 14, excepting the treadle 27 and its adjuncts, as will be best seen in Figure 4 of the drawings.

The device in the working thereof not only indicates the time period of parking but also flashes a signal visible after the first hour period of parking time when a motor vehicle has made contact and depressed the treadle 27 at the curb 12 within a parking area thereof.

The purpose of the device is to automatically check accurately the time a motor vehicle parks at a parking area.

At the time the vehicle is parked it is automatically checked within a determined range of time when it is parked. This saves an inspector or policeman from checking each car or vehicle by marking the wheel with chalk as is presently done.

The device is not a revenue acquiring medium as it is not controlled or operated by the deposit of a coin therein similar to the present-day parking meters.

What I claim is:

1. A device of the kind described, comprising a windowed housing for fixed location within a parking area for a motor vehicle, a spring powered movable clock mechanism within said housing, a time indicating mechanism mounted within the housing and positioned for visual observation in said window, means slidably connecting the clock mechanism and time indicating mechanism together when the clock mechanism has moved to one position, a treadle pivoted to said housing, a plunger device connecting said treadle and said clock mechanism, spring means engaging said plunger for constantly urging said treadle to a normal position with said spring in its normally expanded position, said device including means for disconnecting the slidable means when the treadle is moved to said normal position, means for resetting the time indicating mechanism when disconnected from the clock mechanism, and means for restoring power to the clock mechanism when freed of the time indicating mechanism.

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2. A device of the kind described, comprising a windowed housing for fixed location within a parking area for a motor vehicle, a spring powered movable clock mechanism within said housing, a time indicating mechanism mounted within the housing and positioned for visual observation in said window, means slidably connecting the clock mechanism and time indicating mechanism together when the clock mechanism has moved to one position, a treadle pivoted to said housing, a plunger device connecting said treadle and said clock mechanism, spring means engaging said plunger for constantly urging said treadle to a normal position with said spring in its normally expanded position, said device including means for disconnecting the slidable means when the treadle is moved to said normal position, means for resetting the time indicating mechanism when disconnected from the clock mechanism, and means for restoring power to the clock mechanism when freed of the time indicating

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mechanism, said disconnecting means consisting of a spring mounted on a throw stem secured to said slidable means, the spring on said stem urging said slidable means into clock actuating position and said plunger device including a cable connecting said plunger and throw stem so that movement of one moves the other.

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