

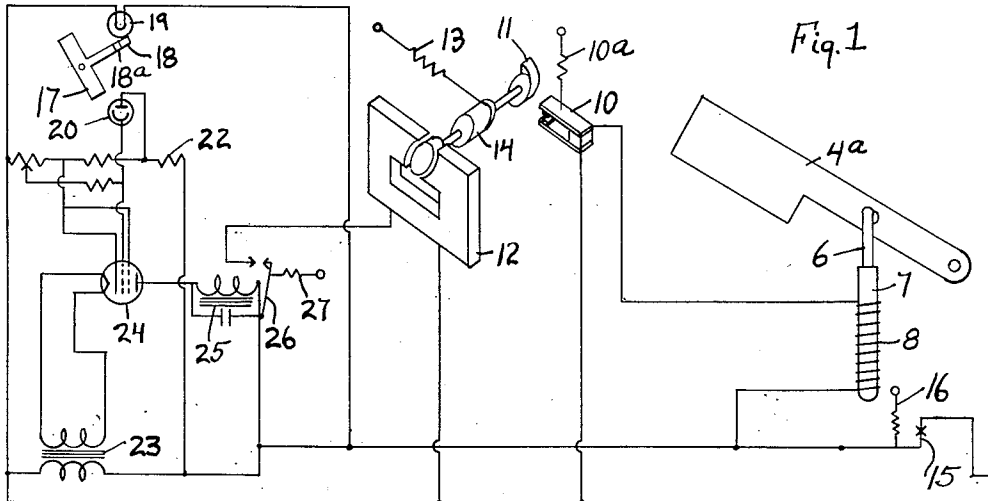
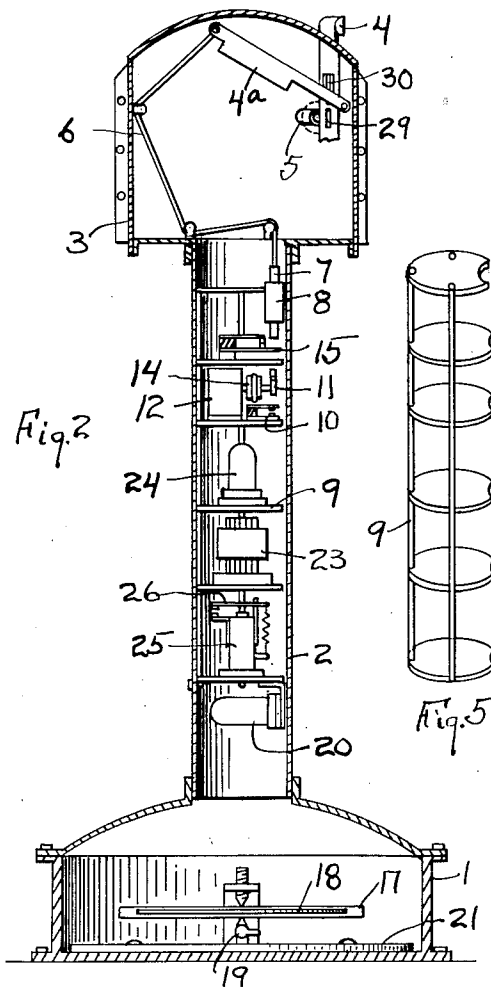
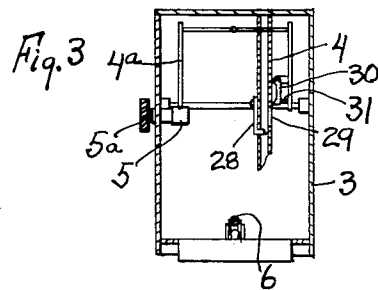
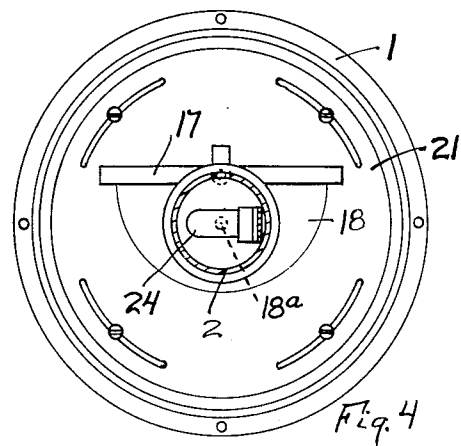
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DELAYED-ACTION ZERO SET FOR PARKING TIME METERS

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DELAYED-ACTION ZERO SET FOR PARKING
TIME METERS

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5 Claims. (Cl. 161-15)

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This invention relates to improvements over Patent No. 2,095,114, issued October 5, 1937, the object of the present invention being to provide a time lag or delay between the pull-out of a motor car from a parking stall before the zero setting of the parking meter occurs.

Experimentation with zero setting meters to avoid drive-in of another car before all of the paid time has elapsed has established the fact that magnetic interference in the average city street will sometimes accidentally trip or zero set a meter before the paid for time has elapsed and before the automobile driver is ready to leave the parking stall.

The chief object of the present invention is to provide a delayed action mechanism to guard against zero setting as by the passage of an extraordinarily heavy magnetic field within the operating zone of the parking meter. The delay interval will be that required by the average driver to remove or empty the parking space and for the purpose of the present invention may be assumed to be 12 to 15 seconds. It will be understood that the device may be designed for any desired time interval lag before the zero setting of the meter takes place.

As a convenient means of accomplishing the basic object of the invention a photoelectric cell is herein illustrated in which light of sufficient intensity energizes a vacuum tube to feed a relay, the magnetic effect of a parked car maintaining the circuit open as long as the car stays in the stall. In order that the invention may be fully understood, reference is to be had to the accompanying drawing, in which:

Figure 1 is a diagrammatic view of the mechanism and circuit necessary for carrying out the invention.

Figure 2 is a central vertical section through a typical parking meter equipped with the attachment of the invention.

Figure 3 is a section through the head of the meter taken at right angles to that shown in Figure 2.

Figure 4 is a horizontal section through the supporting post of the meter with the top of the base omitted.

Figure 5 is a perspective view of the cage or holder fitted within the post or column.

In the said drawing, where like reference characters identify corresponding parts in all of the figures, 1 is the base, 2 the tubular post or column and 3 the head of a parking meter, the timing mechanism not being shown in detail as it is immaterial to the present invention. Mount-

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ed within the head 3 is a coin receiving tube 4. Pivoted within the head and standing in the inclined position shown is a zero set or violation flag 4a which may be moved to its up position by means of a cam 5 and manual handle 5a.

Connected to the zero set means 4a by a cable 6 or otherwise is a solenoid core or other operating member 7 of a solenoid 8 whereby the flag 4a can be drawn down within a predetermined time interval, say 15 seconds. The solenoid 8 and other mechanism hereinafter mentioned is mounted in a cage 9 which is received within the post 2. The solenoid 8 is energized by the closing of a switch 10, normally held open by a spring 10a, by a cam 11 mounted on the shaft of any suitable timing mechanism 12. The timing mechanism 12 is returned to its initial position by means of a spring 13 encircling a drum 14 keyed to the shaft alongside the cam 11. When the solenoid core 7 is drawn down by energization of the solenoid 8, the end of said core 7 strikes one arm of a master control switch 15 which is normally held closed by a spring 16.

Mounted in any suitable location in the base 1 of the parking meter to be magnetically actuated by the mass of a parked vehicle, is any suitable device, such as the bar magnet 17 as shown, an electromagnetic coil or the like. Operatively associated with the magnet is any suitable means of making and breaking a circuit, one structure being the light valve or segment 18 having a central light-transmitting opening 18a in its otherwise opaque body.

When the magnet is not actuated by a parked car, the light opening 18a permits light rays to pass from incandescent bulb 19 to the photoelectric cell 20. At the time of installation, the polarity of the operating magnet 17 is so positioned by the location of the mounting plate 21 that the opening 18a is lined up to pass light from bulb 19 to cell 20. When a car is parked the balance of the magnet is deflected to one side or the other and the light valve 18 will be deflected so that no rays will pass from the bulb 19 to the cell 20, as shown in Figure 1.

Connected to the cell 20 by the usual reactors 22, transformer 23, not shown in detail as common in the art, is a vacuum tube 24, what may be of the thyatron type. When cell 20 receives light through peep hole 18a, current will be passed by tube 24 to energize a relay 25 which retracts one arm of a switch 26, normally held open by spring 27 and closes a circuit through said switch, it being understood that at this time the master switch is closed at 15 since the flag 4a is up and

metered time is being measured in accordance with the coin in the coin tube 4. The closing of the switch 23 through the drive-out of the parked car feeds current to the timing mechanism 12, and within the predetermined time cam 11 will close the switch 10 which energizes the solenoid 8 to move its core 7, zero set the meter by pulling down the flag 4a, and at the same time break the line circuit by opening the master switch 15.

The interval timing mechanism is then returned to its original position by the reaction of its spring 13. With this arrangement it will be noted that even if the light valve is momentarily opened by stray magnetic fields, paid up time will not be lost since the interval timer will be returned to initial position after each false start by its spring 13. It will be noted that if the paid up time runs to zero by the meter head mechanism, the parked car being overparked, master switch will be opened by the weight of the solenoid core 7, but the parts will all be positioned for operation when another coin is deposited in the meter and the flag is elevated by the manual knob 5a which returns the solenoid core to its initial position. The weight of the core 7 alone is insufficient to zero set the mechanism.

During the timing operation of the meter the coin will be held by a spring stop 28 in proper position within the coin tube 4. In order to eject the coin from operative position when the device is to cancel out unexpended paid for time by the drive-away of a parked car, the coin tube may have a slot 29 so located in relation to the coin held by spring stop 28, that a coin kick-out foot 30 pivotally carried by the flag 4a will enter the slot 29 above the coin under the impetus of its spring 31, and force the coin by the spring stop as the flag moves down to zero set. This completes cancellation of any paid for time that may remain on the meter on the drive-away and prevents the next driver from picking up and benefiting by the unexpended time as might otherwise remain on the meter.

From the above description it will be apparent that I have produced a device embodying all of the features of advantage set forth as desirable, and while I have described and illustrated the preferred embodiment, it is to be understood that I reserve the right to all changes within the spirit and scope of the appended claims.

I claim:

1. In a parking meter, a zero set mechanism indicating violation or expiration of parking time, a magnetic switch closed by movement of a vehicle from a parking space, a timing device actuated by closing of the magnetic switch to operate the zero set mechanism, and a master switch opened by the zero set mechanism to de-

energize the magnetic switch and timing device.

2. In a parking meter, a zero set mechanism indicating violation or expiration of parking time, a magnetic switch closed by movement of a vehicle from a parking space, a time delayed device actuated by closing of the magnetic switch to operate the zero set mechanism, and a master switch opened by the zero set mechanism to de-energize the magnetic switch and time delayed device.

3. In a parking meter, a zero set mechanism indicating violation or expiration of parking time, an electronic switch closed by movement of a vehicle from a parking space, a time device actuated by closing of the electronic switch to operate the zero set mechanism, and a master switch opened by the zero set mechanism to de-energize the magnetic switch and timing device.

4. In a parking meter, a zero set mechanism indicating violation or expiration of parking time, a magnetic switch closed by movement of a vehicle from a parking space, a timing device actuated by closing of the magnetic switch to actuate the zero set mechanism after a predetermined time interval, means to return the timing device to normal position if said time device is deactivated prior to expiration of the full time interval, and a master switch opened by the zero set mechanism to deenergize the magnetic switch and timing device.

5. In a parking meter, a zero set mechanism indicating violation or expiration of parking time, a magnetic switch held open by the magnetic field of a parked car and closed when a car is removed from the parking space, a timing device energized by closing of the magnetic switch to actuate the zero set mechanism after a predetermined time interval, means to return the timing device to normal position if said time device is deenergized prior to expiration of the full time interval, and a master switch opened by the zero set mechanism to deenergize the magnetic switch and timing device.

STRAUD K. WOOD.

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