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TIMING SWITCH FOR AUTOMOBILE LIGHTING CIRCUITS

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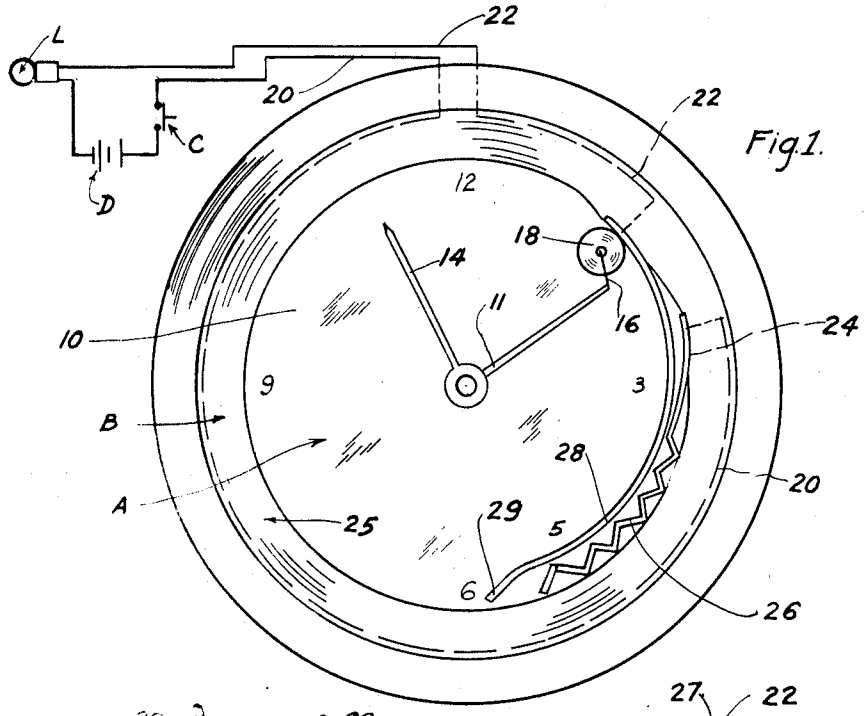


Fig. 1.

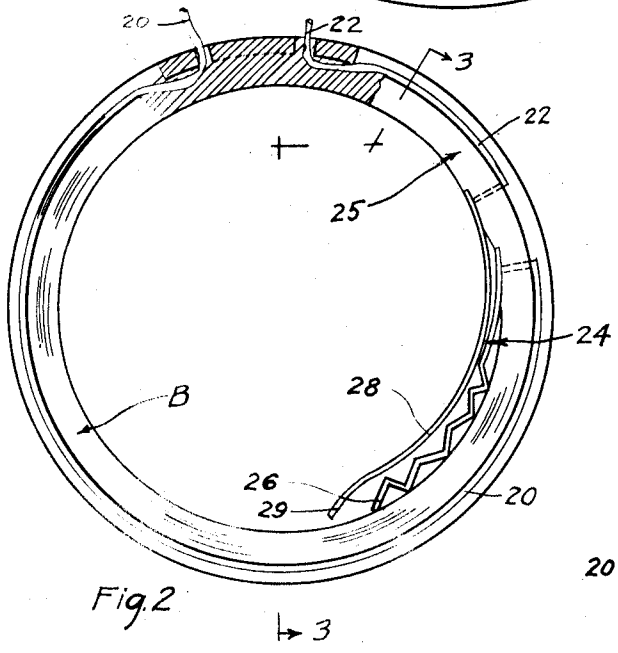


Fig. 2

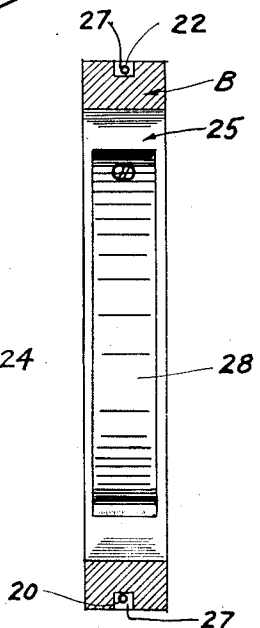


Fig. 3

INVENTOR
Max Gubenick
BY
Harry Langsam
ATTORNEY

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TIMING SWITCH FOR AUTOMOBILE LIGHTING CIRCUITS

Max Gubenick, Philadelphia, Pa., assignor of twenty-five per cent to Herman Weiner, Philadelphia, Pa.

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2 Claims. (Cl. 200—36)

My invention relates to a switch and relates particularly to a timing switch for the lighting system for motor driven vehicles.

Automobile parking is permitted during the entire night on certain city streets in some cities provided there is a warning light on the vehicle. In the city of Philadelphia, for example, there is a city ordinance which requires a warning light to be illuminated on the vehicle between the hours of 3:00 o'clock a. m. and 5:00 o'clock a. m. To keep the electric warning signal illuminated on the automobile each night will result in the rapid deterioration of the electric storage battery because of the electrical energy consumed by the signal, or for a person to arise and close the electrical switch at 3:00 o'clock a. m. and to open the electrical switch at 5:00 o'clock a. m. would be unreasonable because people usually sleep at those hours of the morning.

It is, therefore, an object of my invention to provide a simple electric light control unit which may be connected to a standard chronometer without excessive alternation to the chronometer.

Another object of my invention is to provide an electrical switch which may be shifted or moved optionally to control the electrical circuit of a lighting system for different periods during the day.

Another object of my invention is to provide an electrical circuit controller which is simple, accurate, and efficient when used in conjunction with a vehicle lighting system.

Another object of my invention is to provide a switch which may be utilized with a time piece wherein the time piece is free to perform its ordinary functions as a time piece and which switch is electrically disconnected at all times except during the interval following the closing of the circuit.

Other objects of my invention are to provide an improved device of the character described, that is easily and economically produced, and which is sturdy in construction.

With the above and related objects in view, my invention consists in the following details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing, in which:

Fig. 1 shows my invention as combined with a chronometer and with the electrical lighting system schematically shown.

Fig. 2 is a side fragmentary elevational view of my ring time switch embodying my invention.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

Referring now in greater detail to the drawing, I show a standard chronometer or time piece, generally designated as A. The chronometer may be electrically or mechanically actuated, and for the purpose of this invention, it is immaterial how the chronometer is actuated.

The chronometer A has a dial or graduated plate or graduated face 10 which has the hour designations thereon as well as an hour hand 11 and a minute hand 14. The standard hour hand is removed from the chronometer and is replaced by an hour hand having a spring end 16 which carries a contact roller 18 comprised of insulating material to prevent the chronometer mechanism from becoming magnetized by virtue of its contact with the live electrical circuit. The hour hand 11 and the spring end 16 form an oblique angle with one another and are resilient so that the insulated roller will always tend to push radially outwardly.

An annular ring-like switch, generally designated as B, is constructed so that it may fit within the rim of the chronometer, and it will not interfere with the customary function and operation of the time piece. The annular ring-like switch B is constructed in the following manner: the periphery of an insulating ring 25 has a groove 27 therein for the purpose of retaining electrical conducting wires 20 and 22. Upon the inner radius of the ring 25 is attached a metallic contact 24 which has one end permanently affixed to the inner ring, and the other end of the contact has a plurality of serrations 26 therein. Overlapping the serrated metallic contact 24 is a second curved elongated metallic member 28, which is adapted to be pressed by the roller 18 into contact with the serrations 26.

The contact member 28 has its free or unattached end 29 extended outwardly so that the roller 18 may ride it when the hour hand 11 is turned counterclockwise, as would be the case when setting the time or adjusting for the correct time.

In the event that the roller 18 does not press against the curved surface of the resilient contact 28, the contact member 28 will spring away from and, therefore, be disengaged from the serrated contact member 26, thus opening the electrical circuit and permitting the chronometer to function in its usual capacity.

The length of the contact members 24 and 28 can be regulated to be as long as or as short as

desired, depending upon the length of time during which the electrical circuit is to be completed by virtue of the contacts engaging one another. The roller provides a rolling contact which will not wear and, therefore, the life of the switch will be relatively long.

One end of the insulated electric wire **22** is suitably connected by a rivet, bolt, soldering, or any other suitable means, to one end of the switch contact **28**, and the wire **20** is suitably connected to one end of the other switch contact **26**.

A separate control switch C may be located on the dashboard of the automobile in order to control the circuit at the will of the operator, for example, if the vehicle is placed in a garage it will not be necessary to use the electric warning signal.

The electric signal lamp is generally designated as L, and the source of the current, which is usually a storage battery, is designated generally as D.

In order that there will not be any trouble or dispute in the event the chronometer should be fast or slow, it is advisable to have the switch closed for usually a longer period than that required, both at the beginning of the critical period of illumination and the termination of the critical period of the illumination of the lamp.

In the event it is desired to have the lamp illuminated from 12:00 o'clock a. m. until 3:00 o'clock a. m., it is only necessary to oscillate the ring switch B so that the contact **28** is substantially positioned between the hours of 12:00 o'clock a. m. to 3:00 o'clock a. m. on the chronometer A.

Although my invention has been described in considerable detail, such description is intended as illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

I claim as my invention:

1. An electrical switch adapted to be inserted upon the marginal periphery of a dial comprising an annular member, a groove on the outside periphery of the annular member, electrical conducting wires in said groove, a pair of electrical contacts upon the inner periphery of said ring-like member, one of said contact members being serrated adjacent one end, and the other of said members having a continuous curve, both contacts being resilient.

2. The combination of a chronometer and a detachable electric switch, said chronometer including an hour hand having a resiliently pressed insulated roller at the end of the hour hand, said electric switch comprising an annular insulating member, a pair of electric wires embedded in the insulating member, a pair of electrical contacts upon the inner curved periphery of said annular member, one of said electrical contacts being corrugated at one end, the other of said electrical contacts having a continuous smooth curved surface, the end of said last-mentioned contact being turned outwardly whereby the roller may move upon it when the hour hand is turned counterclockwise, and said contacts adapted to be pressed together to close the electrical circuit when the roller engages one of said contacts.

MAX GUBENICK.