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F. RIEGELMAN

TIMER

Filed March 22, 1920

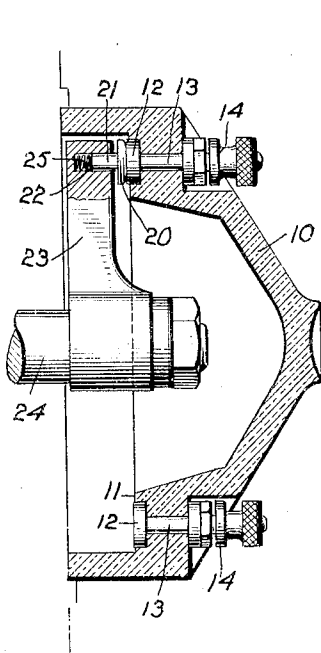


Fig. 1.

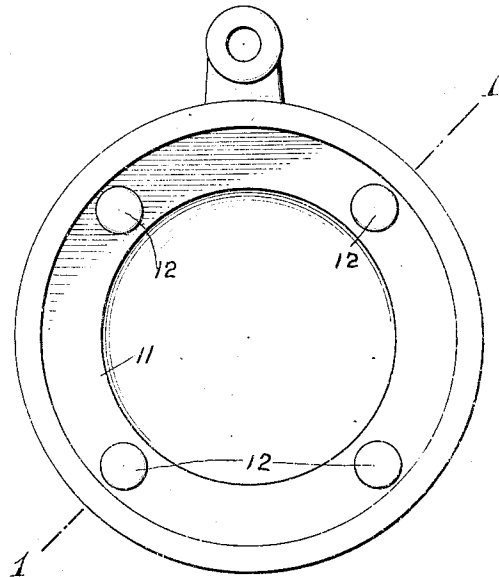


Fig. 2.

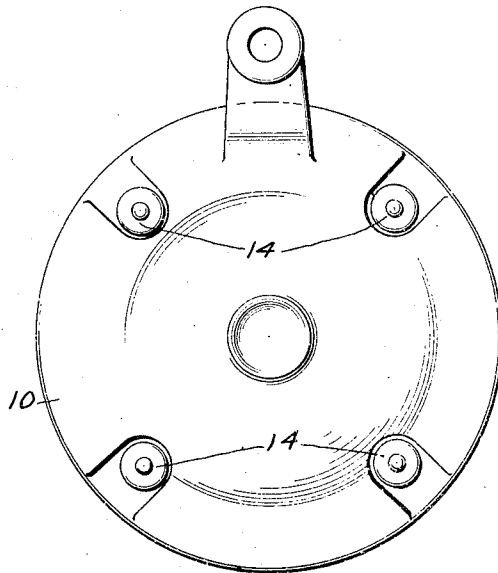


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

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TIMER.

Application filed March 22, 1920. Serial No. 367,954.

To all whom it may concern:

Be it known that I, FRANK RIEGELMAN, a citizen of the United States, and a resident of Rumson, in the county of Monmouth and State of New Jersey, have invented a new and Improved Timer, of which the following is a full, clear, and exact description.

The invention relates to internal combustion engines such as are used in Ford automobiles.

The object of the invention is to provide a new and improved timer arranged to positively eliminate short circuiting by strands of wire conductors coming accidentally in contact with the timer casing. Another object is to provide a wiping contact between the revolving timer arm and the fixed contact on the distributing casing thereby preventing earlier contacts in case of wear of the parts. Another object is to prevent road jolts interfering with the proper functioning of the timer. Another object is to enable the user to observe at any time the working of the timer.

With these and other objects in view, the invention consists of certain novel features of construction, as hereinafter shown and described and then specifically pointed out in the claim.

Figure 1 is a sectional side elevation of the timer on the line 1—1 of Figure 2;

Figure 2 is an inner face view of the casing; and

Figure 3 is an outer face view of the casing.

The casing 10 of the timer is preferably made of a single piece of glass and is provided at its inner face with an annular raceway 11 extending in a plane transverse to the axis of the casing. In the face of the raceway 11 are embedded or let in a series of contacts 12, preferably in the form of disks provided with shanks 13 extending through the casing 10 to the outside thereof, as plainly illustrated in Figure 1. The outer ends of the shanks 13 terminate in binding posts 14 for connection with the distributing wires. It will be noticed that the contacts 12 are preferably spaced equal distances apart as plainly shown in Figure 2, and said contacts are successively engaged at their faces by a contact button 20 having a shank 21 slidably fitting into a recess 22 formed in the timer arm 23 secured to

the timer shaft 24 extending centrally into the casing 10, as plainly shown in Figure 1. A spring 25 is seated in the bottom of the recess 22 and presses against the shank 21 to hold the button 20 in contact with the face of the bearing 11, it being understood that the button 20 successively moves into wiping engagement with the contacts 12 when the timer shaft 24 is rotated.

It will be noticed that by the arrangement described the operator can at all times see the working of the timer owing to the diaphanous material of which the casing 10 is made.

It will also be noticed that when the timer is in use the button 20 moves into wiping engagement with the contacts 12 and hence any wear on the button 20 or the contacts 12 does not alter the time of contact.

It is understood that in timers as now generally constructed and having a roller on the timer arm traveling on a peripheral face of the casing an earlier timing is produced in case the roller wears, but such earlier timing is positively prevented with the construction shown and above described.

It will also be noticed that by the construction set forth any jolting action incident to the automobile traveling over a rough road does not affect the timer as the button 20 is at all times held in firm contact with the bearing surface 11 and with the contacts 12 while moving over the same. This is because the thrust of the spring pressed brush is substantially horizontal and therefore at right angles to the plane of the usual road shocks. Furthermore, the vertical face of the raceway provides a smooth flat surface over which the brush rides with practically no friction. The use of glass avoids any need for lubricating either this raceway or the bearing in the vertical support with which the timer housing is rotatably engaged, as shown in Fig. 1. Furthermore, no injury results if oil should leak through into the housing from the bearing of the horizontal timer shaft 24 because of the glass being impervious to oil and not subject to deterioration. The walls of the housing are made sufficiently thick and heavy to stand ordinary handling and use and for the sake of simplicity and reduced cost, the lug or lever by which the timer housing is rotatably adjusted in its bearing, is preferably formed

as an integral part projecting from one side of the glass housing, as shown in Figs. 2 and 3.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

A low tension timer for ignition systems of the character set forth, comprising in combination with a rotating timer arm carrying a brush, a one-piece hollow glass housing having integral end and side walls surrounding and covering the rotating timer arm, said housing having at the inside face of the end wall thereof, an integral flat smooth hard glass track opposed to the brush of the timer arm with a plurality of contacts set substantially flush

therein for engagement by the brush traveling over the track, said end wall of the housing being substantially transparent to disclose the action of the contacting face of the brush in its travel over the track and the contacts seated therein, the integral glass side wall of the housing also being substantially transparent to disclose the engagement of the brush with the track and contacts, the housing as a whole being adjustable rotatably over the timer arm for the purpose of varying the moment of ignition and the rim of the housing providing a smooth glass edge for easy sliding engagement with a suitable supporting bearing.

FRANK RIEGELMAN.