

H. I. BROEDLING.
 IGNITION TIMER.
 APPLICATION FILED JUNE 11, 1909.

955,845.

Patented Apr. 26, 1910

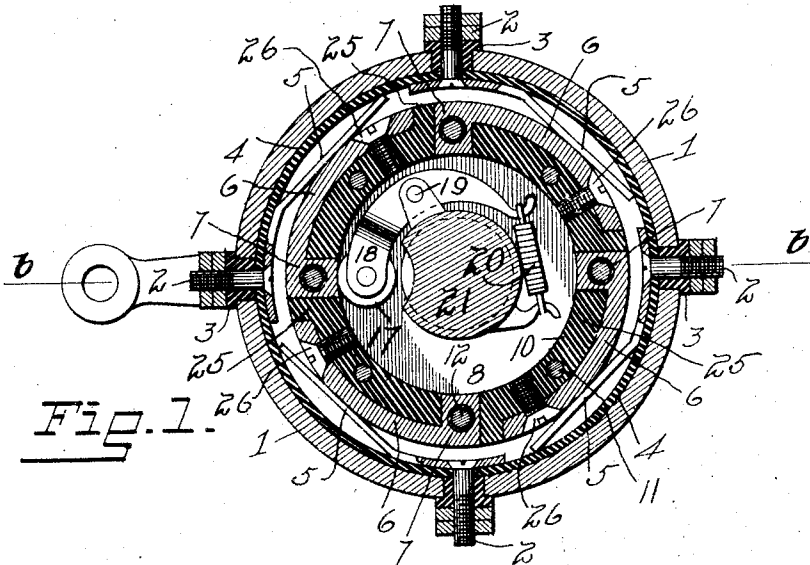


Fig. 1.

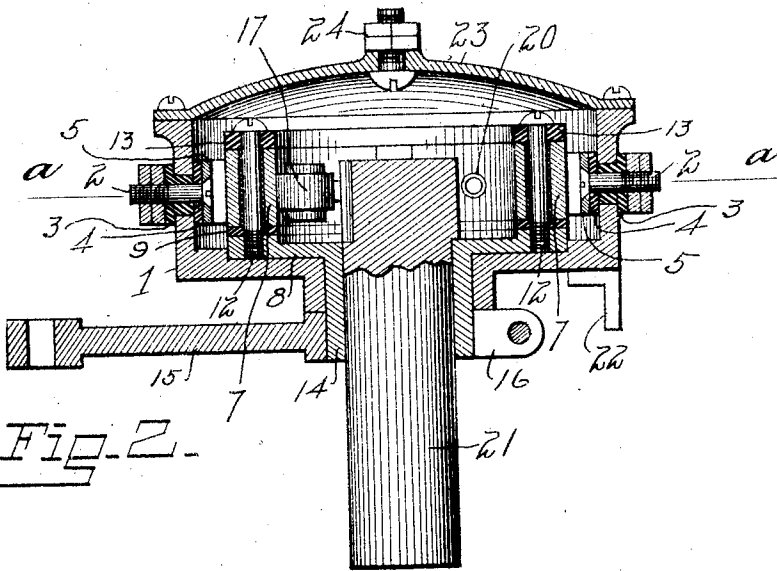


Fig. 2.

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UNITED STATES PATENT OFFICE.

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IGNITION-TIMER.

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To all whom it may concern:

Be it known that I, HERMAN I. BROEDLING, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Ignition-Timers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in igniter timing devices for internal combustion engines of the type adapted for motor vehicles. It is well-known that the speed of such engines is regulated by advancing and retarding the time of ignition, by means of a rocking switch. Heretofore, it has been the practice to connect such switch or timing device with the battery and coil by means of flexible connections, and owing to the continuous twisting of said connections, more or less annoyance is caused due to the breaking of the same.

The object of the present invention is to obviate this difficulty by relieving the connections of any torsional strain.

To this end, my invention comprises a stationary outer terminal support, and an inner rocking contact ring combined with an inner rotating contact member, as hereinafter more fully described.

In the accompanying drawings, Figure 1, is a horizontal sectional view of my improved ignition timer on the line *a a* of Fig. 2. Fig. 2, is a vertical sectional view on the line *b b* of Fig. 1.

In the following specification, similar reference characters indicate corresponding parts.

The outer cylindrical casing 1 is rigidly securable to the engine (not shown) by a clip 22 and is therefore stationary. On the outer circumference of said casing is mounted a plurality of terminal binding posts 2 corresponding in number to the cylinders of the engine, and insulated from said casing by sleeves 3. On the inner ends of said binding posts 2, leaf spring brushes 5 are connected which are also insulated from the casing 1 by a continuous strip of fiber 4 which is laid against the inner circumference of said casing. The free ends of the

brushes 5 engage the extensions 6 of the contact members 7 which are mounted on the inner rocking ring or head 8. The contact members 7 are insulated from said head by a ring of fiber 9 and are attached to said head by screws 12, and are insulated from each other by a series of semi-circular pieces of fiber 25. The screws 12 also pass through a ring of fiber or insulating material 13 on the top of said head and which insulates said screws from said contact members 7. The insulating members 25 are attached to the ring or head 8 by means of screws 11, and the extensions 6 are attached to said members 25 by screws 26. The rocking ring or head 8 so supporting said contact members 7, is provided with a hub 14 which projects through the bottom of the casing 1 and to which is attached a lever 15 by means of a clamp 16. The lever 15 is connected to the spark lever of the motor vehicle by link and lever connections which are not shown in the drawings as they are well-known features of motor vehicles. Rotating within the hub 14 is a shaft 21 driven from the two to one shaft (not shown) of the engine in a well-known manner.

The upper end of the shaft 21 carries a lever 18 pivoted thereto at 19 and carrying a roller 17 which rides on the inner surfaces of the contact members 7 and insulating members 25. Whenever said roller 17 engages one of the contact members 7, the circuit is closed, and the charge is ignited in the engine cylinder. When it is desired to advance the spark, the contact members 7 are rocked in a direction opposite the direction of rotation of the roller 17, and vice versa. The roller-supporting lever 18 is pressed outwardly to insure a constant engagement with the inner circumference of the rocking head, by means of a spring 20 which is hooked to an end of said lever and to a projection on the shaft 21. The outer stationary casing 1 is inclosed at the top by a cap 23 upon which is mounted a binding post with nuts 24 between which is secured the terminal of a ground wire.

I do not desire to limit myself to the specific details shown and described herein, as it will be apparent that modifications may be made without departing from the fundamental objects and purposes of my invention which contemplates a stationary mounting of the terminals of the conductors by means of a stationary outer terminal sup-

port combined with an inner rocking contact head or ring with a rotating contact member.

Having described my invention, I claim:

- 5 1. In an ignition timing device, the combination with an outer casing having an electrical terminal mounted thereon, of an inner rocking head having a contact mounted thereon, a leaf spring brush forming an
10 electrical connection between the terminal on said casing and the contact member on the rocking head, and a rotating shaft having a contact member thereon adapted to engage said rocking head contact during the rotation of said shaft.
15 2. In an ignition timing device, the combination with a stationary outer casing hav-

ing a plurality of terminals mounted thereon, of an inner rocking head or ring having a plurality of contact members thereon, brushes consisting of leaf springs forming electrical connections between said terminals and said contact members, and a rotating shaft having a contact member thereon adapted to make electrical connections with said rocking head contacts during the revolution of said shaft.

In testimony whereof I affix my signature, in presence of two witnesses.

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Witnesses:

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