

G. W. SAGE.

IGNITER.

APPLICATION FILED OCT. 6, 1908.

932,332.

Patented Aug. 24, 1909.

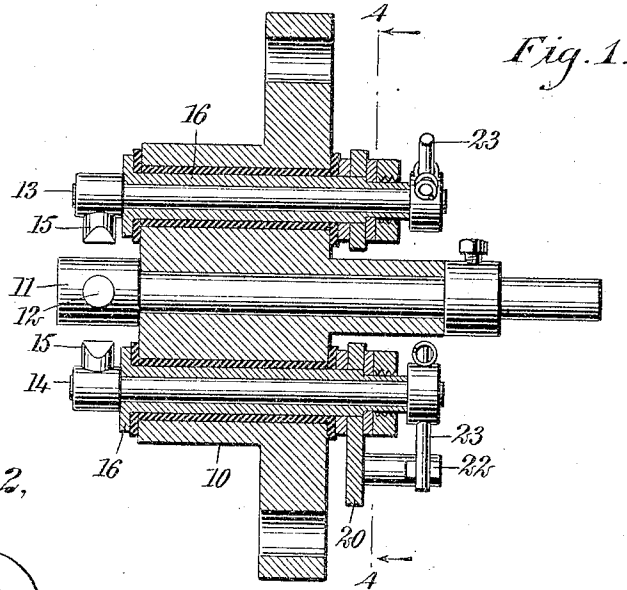


Fig. 1.

Fig. 2.

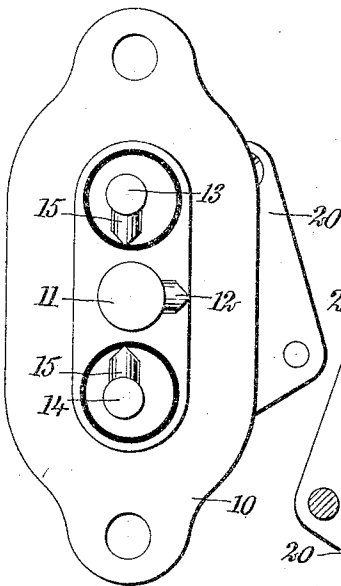


Fig. 4.

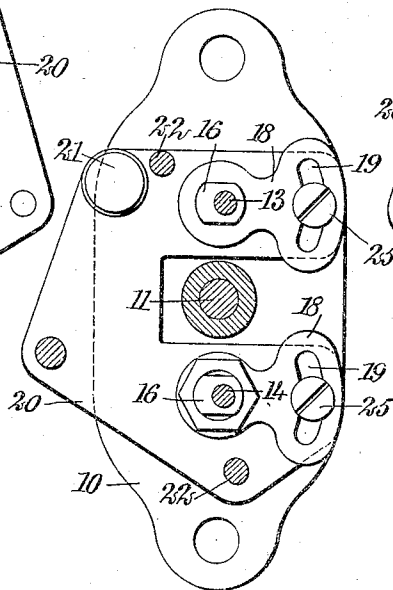


Fig. 3.

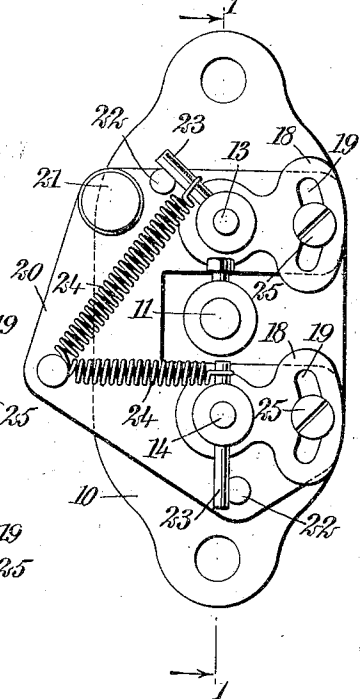
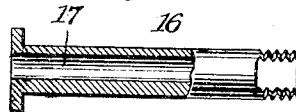


Fig. 5.



WITNESSES

Edward Thorpe
C. W. Fairbank

INVENTOR

George W. Sage

BY Mum & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE WILLIAM SAGE, OF EUREKA, CALIFORNIA.

IGNITER.

932,332.

Specification of Letters Patent. Patented Aug. 24, 1909.

Application filed October 6, 1908. Serial No. 456,432.

To all whom it may concern:

Be it known that I, GEORGE WILLIAM SAGE, a citizen of the United States, and a resident of Eureka, in the county of Humboldt and State of California, have invented a new and Improved Igniter, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in igniters for use in connection with internal combustion engines, and more particularly to that type of igniter in which two electrodes are brought into contact and then separated at the instant it is desired to produce the spark.

More particularly, my invention relates to that type of igniter disclosed in my previous patent, Number 865,212, granted September 3, 1907.

The main object of the present invention is to provide means whereby the relative position of the two electrodes may be varied so as to vary the time of the spark or to adjust the electrodes after they have become worn.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a sectional view of an igniter constructed in accordance with my invention, the section being taken on the line 1—1 of Fig. 3; Fig. 2 is an inner end view of the igniter; Fig. 3 is an outer end view thereof; Fig. 4 is a transverse section on the line 4—4 of Fig. 1; and Fig. 5 is a detail view of the bushing for one of the rocking electrodes.

In the specific form of igniter illustrated, I employ a body 10, adapted to be secured in place in an orifice in the engine cylinder or engine head and having an outer perforated flange, by means of which the body is bolted in place. The body supports a constantly rotating electrode 11, which may be connected at its outer end to any suitable mechanism for driving it at the desired speed in respect to the speed of the engine. At the inner end of the electrode, a projection 12 extends at substantially right angles therefrom, constituting one of the contacts. This contact is adapted to engage with one or more rocking electrodes and to form a spark upon its release from each of said rocking electrodes. In the specific form illustrated, I show two rocking electrodes 13 and 14, having corresponding projections 15 constituting

contacts and normally lying in the path of the contact of the rotating electrode 11. To this extent, the construction illustrated is substantially the same as that illustrated in my previous patent above referred to.

In my present construction, I mount each of the rocking electrodes 13 and 14, in a corresponding sleeve or bushing 16, which may be of metal and which is insulated from the body 10 of the igniter. These sleeves or bushings extend out to the outer surface of the body and are adapted to be rotated independently of the rocking electrodes. Each sleeve or bushing is provided with an opening 17, extending therethrough and eccentrically disposed in regard to the outer surface of the sleeve or bushing. The sleeves or bushings normally remain stationary and the opening through each sleeve constitutes a bearing for the corresponding rocking electrode.

Each sleeve at its outer end is provided with a plate, wrench, or handle, whereby the sleeve may be normally held against rotation but by means of which it may be rotated whenever desired and locked in the desired position. Preferably, the outer end of each sleeve is threaded and flattened at opposite sides, and over this flattened portion extends a flat plate 18 having a curved slot 19 therein concentric with the center of the sleeve. By moving the plate 18, the sleeve may be rotated, and, due to the eccentricity of the opening 17, the center of the corresponding electrode may be brought nearer to or farther from the center of the rotating electrode. Thus, the time at which the release will take place and the spark be formed, may be varied to vary the time of the explosion, but in case the contacts become worn, the proper adjustments will be made.

For normally holding the rocking electrodes in position, substantially the same means may be employed as indicated in my previous patent, that is, a plate 20 supported by the sleeves 16 and having a binding screw 21 to which a wire from a suitable source of electrical energy may be connected, the opposite wire being grounded on the engine. This plate may carry pins 22 for engagement with outwardly-extending pins 23 carried by the rocking electrodes at their outer ends. Suitable springs 24 may be employed for normally holding the pins 23 in contact with the pins 22, but permitting of their being moved out of engagement therewith by the engagement of the rotating electrode with

the contacts of the rocking electrodes. This bracket plate 20 also serves to lock the plates, handles, or wrenches 18 in position, as suitable set screws 25 may extend through the curved slots 19 in the plates 18. By tightening these set screws, the plates 18 may be locked against movement and may be held with the centers of the corresponding rocking electrodes at the desired distance from the center of the rotating electrode.

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

1. A contact and release igniter, comprising a body, a rotating electrode mounted therein, an electrode mounted for oscillation in the body, a sleeve encircling the second-mentioned electrode and eccentric in respect thereto, a bracket plate carried by said sleeve and insulated from the body and held from movement in respect thereto, a plate secured to the outer end of said sleeve and having a slot therein substantially concen-

tric with said sleeve, and a set screw extending through said slot into said bracket plate for locking said sleeve against rotation.

2. A contact and release igniter, comprising a body, a rotating electrode mounted thereon, electrodes mounted for rotation in the body at spaced angular intervals in respect to the first-named electrode and insulated from the body, a bracket plate supported by said electrodes, a sleeve encircling each of said last-named electrodes and eccentric in respect thereto, and means connecting the outer ends of said sleeves and said bracket plate for rotating said sleeves and locking them in adjusted position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE WILLIAM SAGE.

Witnesses:

CHARLES EDELMAN,
C. C. COOK.