

E. SANTSCHE.
SPARK PLUG.
APPLICATION FILED MAY 4, 1908.

915,485.

Patented Mar. 16, 1909.

Fig. 1.

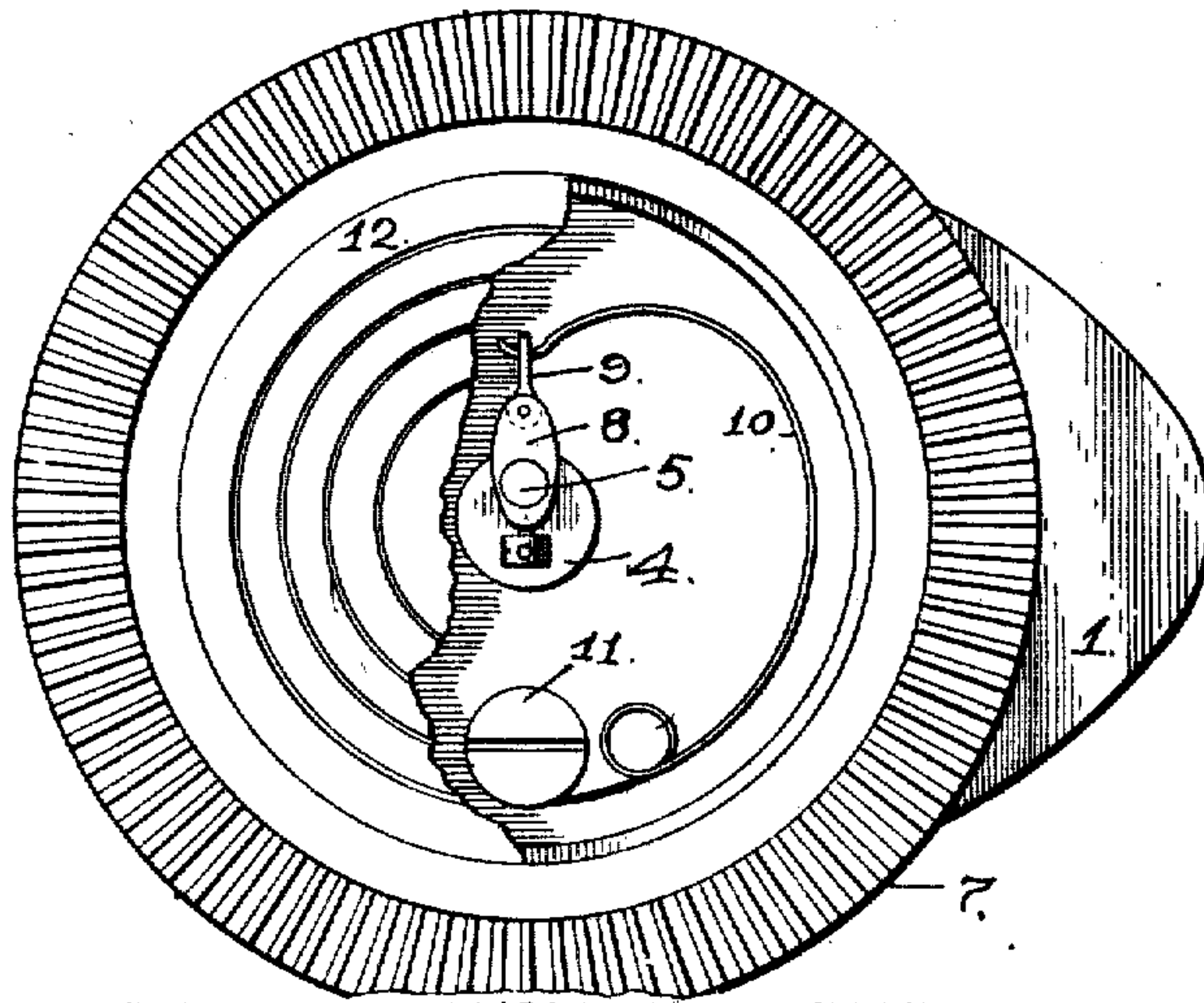


Fig. 2.

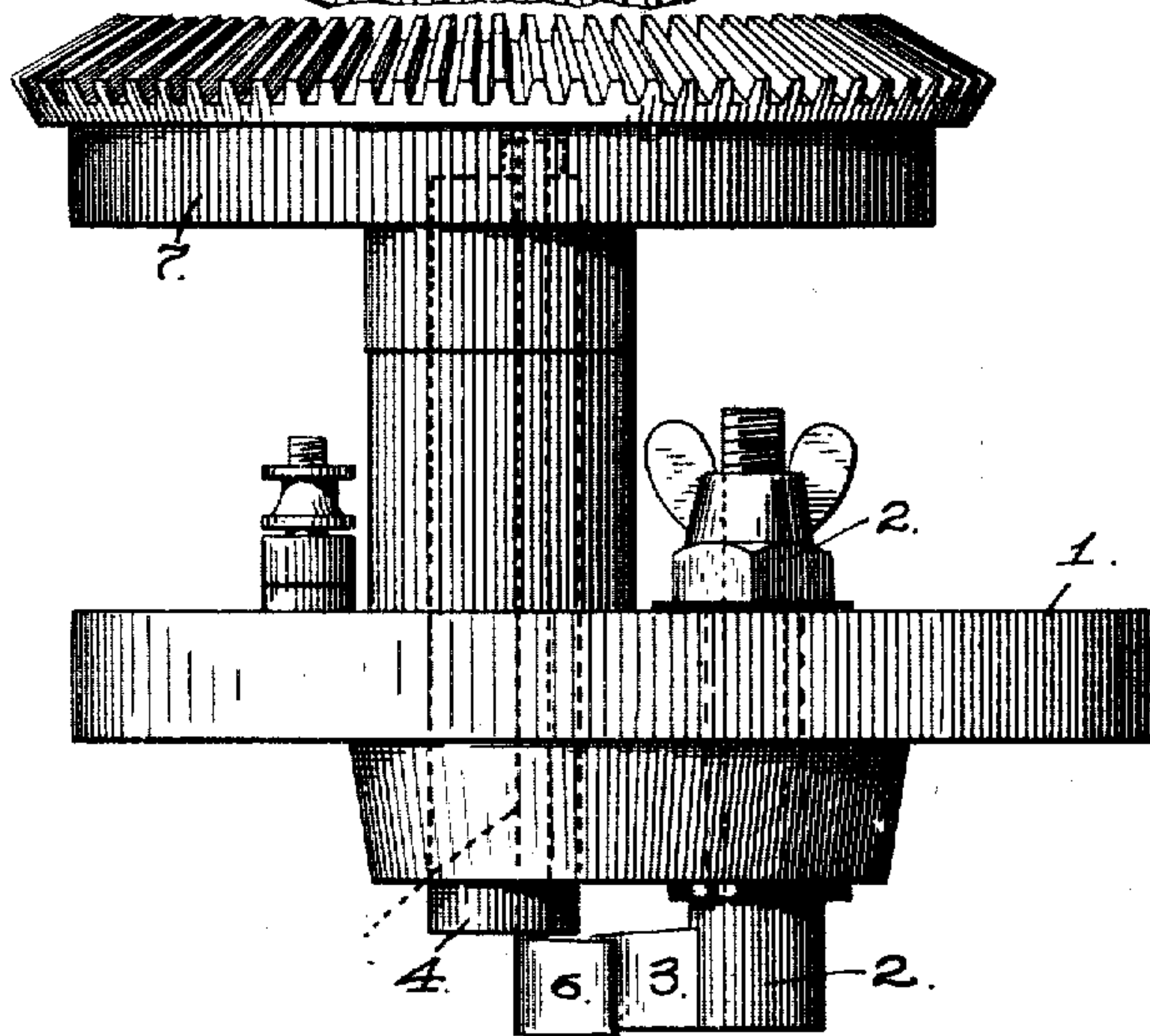
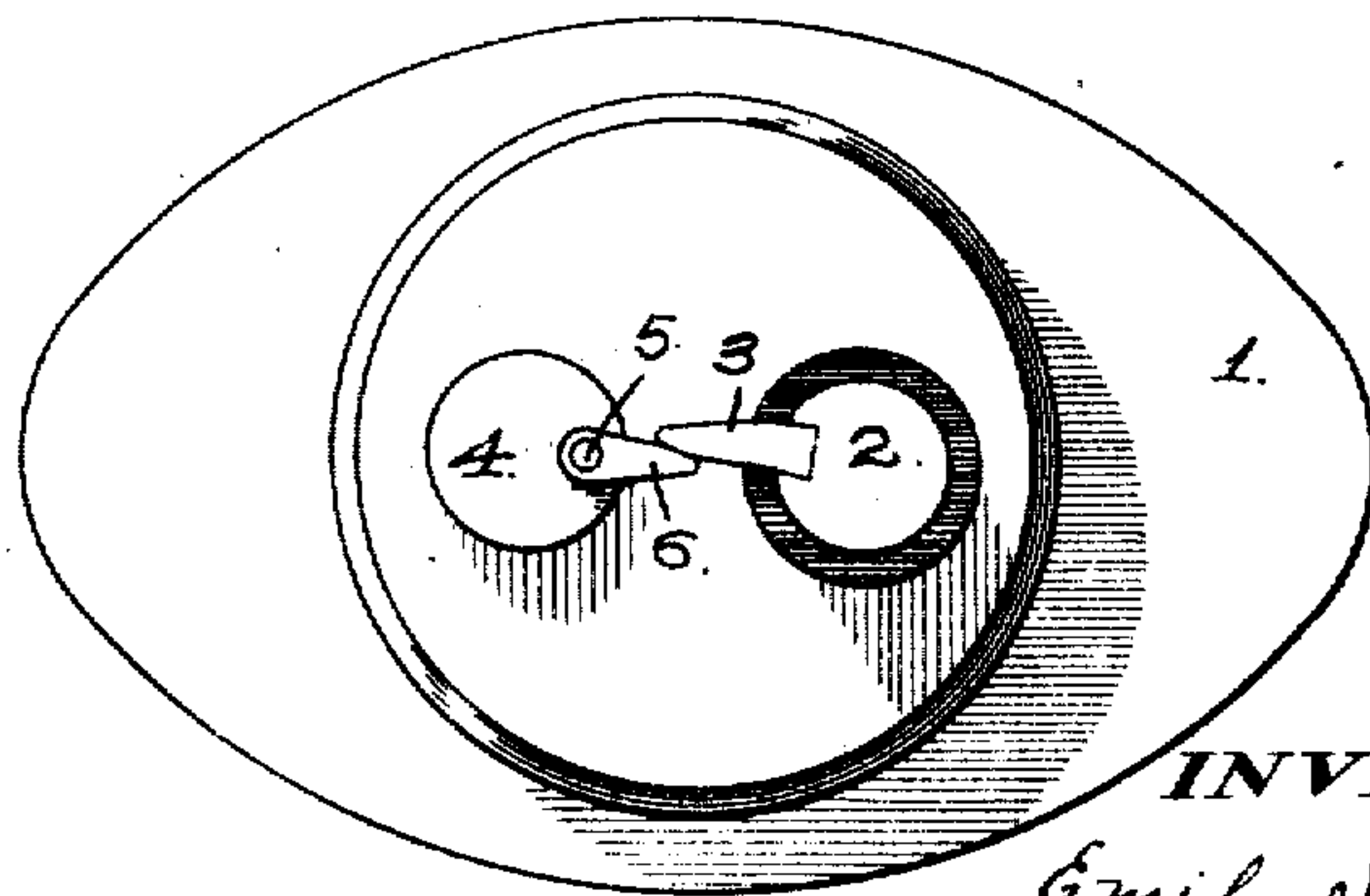


Fig. 3.



WITNESSES.
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UNITED STATES PATENT OFFICE.

EMIL SANTSCHE, OF EUREKA, CALIFORNIA, ASSIGNOR OF THREE-EIGHTHS TO JOHN A. PRENTICE AND TWO-EIGHTHS TO CHARLES M. WHEELER, OF EUREKA, CALIFORNIA.

SPARK-PLUG.

No. 915,485.

Specification of Letters Patent.

Patented March 18, 1909.

Application filed May 4, 1908. Serial No. 439,650.

To all whom it may concern:

Be it known that I, EMIL SANTSCHE, a citizen of the United States, residing at Eureka, in the county of Humboldt and State of California, have invented certain new and useful Improvements in Spark-Plugs, of which the following is a specification.

My invention relates to that class of spark-plugs for explosive engines in which the electrode contacts brush past each other; and, particularly, to those devices of this general type in which one of the electrodes is fixed and the other is rotatable.

The object of my invention is to provide for a peculiarly effective wiping contact of the electrodes; and to this end my invention consists in the novel construction, arrangement and combination of parts which I shall now fully describe, by reference to the accompanying drawings in which—

Figure 1 is a rear-end elevation, partly broken, of my spark-plug. Fig. 2 is a plan view of the same. Fig. 3 is a front elevation of the same.

1 is the body of the device, consisting of a suitable plate. In this body is mounted the fixed electrode 2, suitably insulated therefrom. The inner end of the electrode 2 carries a contact 3 with a beveled end.

Rotatably mounted in the body 1 is a shaft 4, through which passes a pin 5 eccentric to the axis of the shaft, said shaft being so mounted that it may have an oscillation on its own axis. The inner end of the pin 5 carries a bevel-ended contact 6.

To the outer end of the rotatable shaft 4 is fixed a housing-plate 7, which may represent part of the power-transmission by which the shaft is rotated. In the present case, I show said plate as a gear, provided with an interior central chamber, 7', said plate having a substantially cup-shape formation. Into this housing-plate 7, the oscillatory pin 5 projects, and has secured to its end a short crank 8 carrying an arm 9 to which one end of a spring 10 is secured. The other end of the spring 10 is secured to a fixed lug 11 in the plate. A cap 12 on the plate, houses in these parts. The spring 10 is so arranged as to permit the pin 5 to oscillate in either direction, so that no injury can result to its contact 6.

The operation is as follows:—The electrode shaft 4 being rotated by suitable means, as, for example, by power applied to the toothed

housing-plate 7, the contact 6 is carried around until one of its bevel faces reaches and lies upon the adjacent bevel face of the contact 3 of the fixed electrode. This juxtaposition of the two contacts is complete and extended, owing to the eccentric location, relatively to the shaft 4, of the pin 5 which carries the contact 6. Continued rotation of the shaft 4, now causes the contact 6 to yield under the pressure, said contact turning with the pin 5, against the influence of the spring 10; and, on account of the eccentricity of said pin, and the yielding of the contact, the latter wipes its face, with accuracy and relative deliberation, over the face of the contact 3, and leaves said contact only after the shaft 4 has made a considerable arc of its rotary movement, so that the spring 10 is then under maximum tension, with the result that the parting of the two contacts is beneficially quick. It will thus be seen that the meeting of the two contacts is gentle, their time and character of mutual bearing are extended and intimate, resulting in a perfect wiping action, and their separation is sudden and complete. These are results to be sought, not only, for the reduction of frictional wear and tear, but also, for the best contact and release of electrodes in devices of this character.

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

1. In a sparking plug, the combination of a base plate, a fixed electrode mounted in the base plate and insulated therefrom, an offset contact with a beveled end on said electrode below the base plate, an elongated rotatable shaft projecting upwardly from said plate, a cup-shaped plate fixed to the projecting end of the shaft and having an annular gear on its outer surface whereby rotary movement may be imparted to the cup-shaped plate and the connected shaft, a pin extending longitudinally through the shaft at a point eccentric to the axis of the shaft for independent rocking movement, the lower end of the pin projecting through the base plate and having an offset contact with beveled faces constructed and arranged to sweep the contact of the fixed electrode, the upper end of the pin projecting within the housing plate, a crank on said projecting end of the pin, an arm on the crank, a spring secured to the arm, connecting means for the opposite end of the spring, and a cap plate

for inclosing the parts within the housing plate.

2. In a spark-plug, the combination of a body; a fixed electrode-contact carried by
5 said body; an electrode shaft rotatably mounted in said body; a chambered housing-plate secured to and adapted to transmit rotary movement to said shaft; an oscillatory pin mounted in said shaft and carrying
10 a contact disposed to wipe the fixed electrode-contact, said pin projecting into the chamber of the housing-plate; and a spring in the chamber of the housing-plate connected with said pin to control its oscillation.

15 3. In a spark-plug, the combination of a body; a fixed electrode-contact carried by said body; an electrode shaft rotatably mounted in said body; a chambered housing

plate secured to and adapted to transmit rotary movement to said shaft; an oscillatory 20 pin mounted in said shaft eccentric to its axis and carrying a contact disposed to wipe the fixed electrode-contact, said pin projecting into the chamber of the housing-plate; and a spring in said chamber of the housing- 25 plate connected with said pin to control its oscillation.

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

EMIL SANTSCHE.

Witnesses:

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