No. 730,259. PATENTED JUNE 9, 1903.

D. HANAUER.

ELECTRIC SPARKER.

APPLICATION FILED DEC. 29, 1900.

NO MODEL.

Fig. 1.

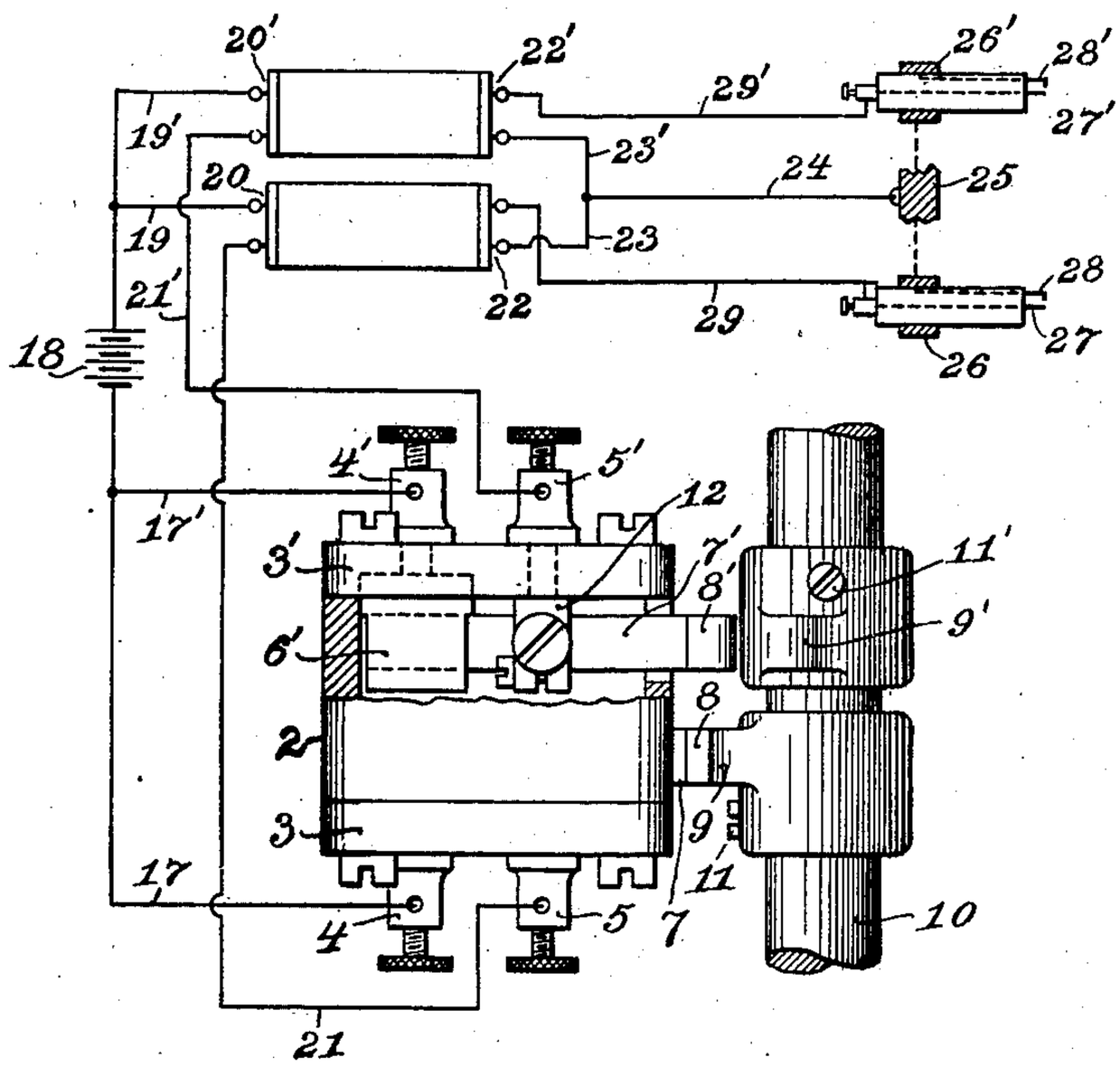
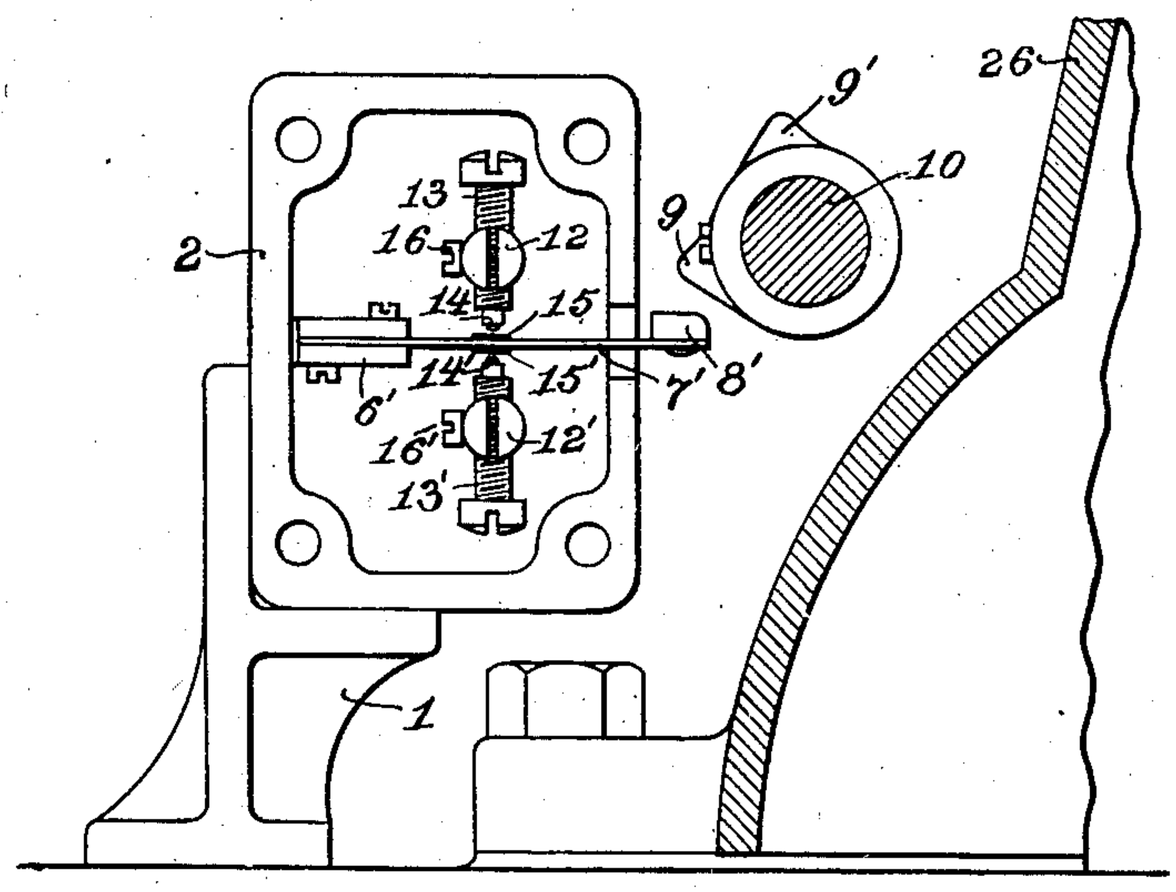


Fig. 2.



Witnesses:
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Inventor:
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No. 730,259. Patented June 9, 1903.

UNITED STATES PATENT OFFICE.

DARWIN HANAUER, OF LONG ISLAND CITY, NEW YORK, ASSIGNOR TO THE DAIMLER MANUFACTURING COMPANY, OF LONG ISLAND CITY, NEW YORK.

ELECTRIC SPARKER.

SPECIFICATION forming part of Letters Patent No. 730,259, dated June 9, 1903.

Application filed December 29, 1900. Serial No. 41,446. (No model.)

To all whom it may concern:

Be it known that I, DARWIN HANAUER, a resident of Long Island City, in the county of Queens and State of New York, have invented certain new and useful Improvements in Electric Sparkers, of which the following is a specification.

This invention relates to electric sparkers for gasolene-motors, and is particularly adapted for motors of the two-cylinder type. Its primary object is to provide a simple device of positive action for producing a plurality or succession of sparks in the explosion-chamber at the time when the charge is required to be ignited in order to insure explosion.

The further purposes and characteristics of the invention will fully appear from the following description and the accompanying drawings, of which—

Figure 1 is a plan view of my invention, parts being shown in section for the purpose of illustration; and Fig. 2 is a side elevation in illustration thereof, a side of the casing, with the mechanism carried thereby, being removed.

As shown in the drawings, the frame 1 supports a casing 2, having sides 3 3′, of insulating material. The part 3 carries the binding-posts 4 5, and the part 3′ carries the binding-posts 4′ 5′. The respective binding-posts 4 4′ are connected to conductors, as 6′, which support the corresponding springs 7 7′, preferably having impact-heads 8 8′. The impact ends of the springs are in the paths of the cams 9 9′, which are sleeved on the rotating shaft 10 and held in adjustable relation thereto by any convenient means, as the set-screws 11 11′. Each of the binding-posts 5 5′ is connected with conductors in the form of studs, as 12 12′, which carry contact-screws 13 13′, having platinum contact-points 14 14′, each binding-post and the contacts connected therewith providing a bifurcated terminal. The contacts 14 14′ are adjustable to the desired position with reference to platinum contacts, as 15 15′, carried by the respective springs or vibrating conductors 7 7′, the adjustable contacts being conveniently held in the desired position by clamp-screws, as 16 16′, passed through the split ends of the studs 12 12.′

The binding-posts 4 4′ are connected by the conductors 17 17′ with one pole of the battery 18, which has its opposite pole connected by the conductors 19 19′ with the primary coils 20 20′, having the conductors 21 21′ connecting them with the binding-posts 5 5′. Secondary coils 22 22′ are connected by the conductors 23, 23′, 24, and 25 with the cylinders 26 26′. The electrodes 27 27′, insulated from the electrodes 28 28′, connected with the cylinders, are connected by the conductors 29 29′ with the secondary coils 22 22.′

In operation the cams 9 9′ are set on the shaft 10 in the positions for effecting the circuit-closures at the times required for the explosions in the respective cylinders. Upon the revolution of the shaft 10 the cams 9 9′ alternately strike the respective impact-heads 8 8′ and vibrate the springs 7 7′, the vibrations of each spring throwing it into contact first with the conductor 14′ and then with the conductor 14, thus effecting a plurality or succession of closures and excitations in the circuits, by which a succession of sparks is induced in each explosion-chamber at the instant required for exploding the charge.

Having described my invention, I claim—

1. In an electric sparker, a pair of contacts, a resilient conductor adapted to vibrate between said contacts, a revoluble shaft and a cam thereon adapted to strike said resilient conductor, said conductor being thereby vibrated so as to engage said contacts in rapid succession, substantially as and for the purpose specified.

2. In an electric sparker, a pair of contacts, a resilient conductor adapted to vibrate between said contacts, a revoluble shaft, a cam on said shaft adapted to strike said resilient conductor, said conductor being thereby vibrated so as to engage said contacts in rapid succession, and electrodes electrically connected with said contacts and conductor, substantially as specified.

3. In an electric sparker, in combination with a source of electric energy, a conductor having a bifurcated terminal, a pair of contacts connected with said bifurcated terminal, a resilient conductor adapted to vibrate between said contacts, a revoluble shaft and a cam thereon adapted to strike said resilient

conductor thereby causing it to engage said contacts, substantially as specified.

4. In an electric sparker, in combination with a source of electric energy, a pair of studs, an adjustable contact-screw carried by each of said studs, a resilient conductor adapted to make contact with said screws, and striking mechanism comprising a revoluble shaft and a cam adjustable thereon for vibrating said resilient conductor and causing it to engage with said screw-contacts successively, substantially as specified.

5. In an electric sparker, a pair of adjustable contacts, a resilient conductor adapted to vibrate between said contacts, a revoluble shaft and a cam thereon adapted to strike said resilient conductor, said conductor being thereby vibrated so as to engage said contacts in rapid succession, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification, this 27th day of December, 1900, in the presence of two subscribing witnesses.

D. HANAUER.

Witnesses:
C. B. FRAYER,
E. SLATER.