

No. 674,030.

Patented May 14, 1901.

W. G. STOLZ.

ELECTRIC IGNITER FOR EXPLOSIVE ENGINES.

(Application filed Feb. 5, 1901.)

(No Model.)

Fig. 1

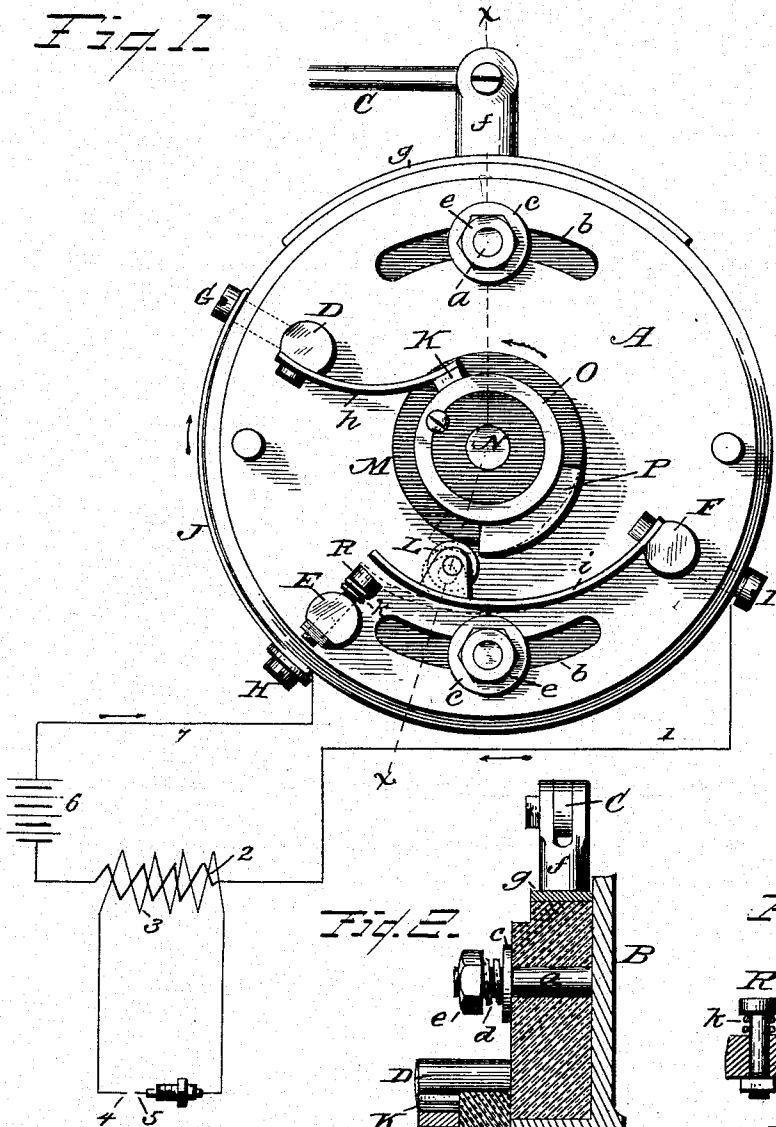


Fig. 2

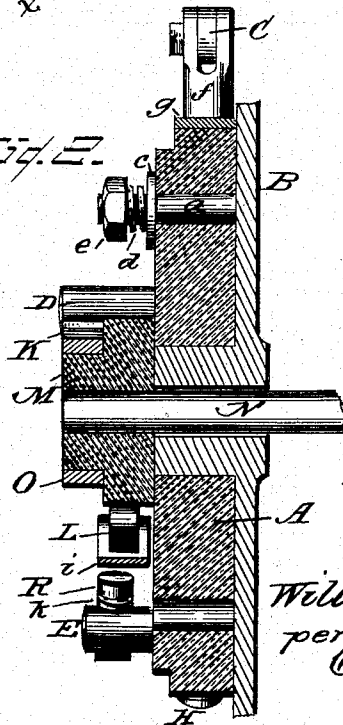
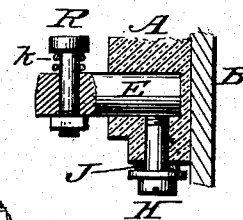


Fig. 3



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UNITED STATES PATENT OFFICE.

WILLIAM G. STOLZ, OF BROOKLYN, NEW YORK.

ELECTRIC IGNITER FOR EXPLOSIVE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 674,030, dated May 14, 1901.

Application filed February 5, 1901. Serial No. 46,044. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. STOLZ, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Electric Igniters for Explosive-Engines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the characters of reference marked thereon.

The present invention has reference to that class of devices used as an attachment to explosive-engines for the purpose of exploding the gas in the cylinder by means of an electric spark; and the object thereof is to materially improve the attachment, whereby a more perfect and certain action is secured in producing the spark.

The invention consists in an igniter for explosive-engines constructed substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a plan view of an igniting attachment constructed in accordance with my invention; Fig. 2, a section view thereof, taken on line *xx* of Fig. 1; Fig. 3, a detail sectional view showing the post, contact device connected thereto, and the set-screw for holding the post to the disk.

In the accompanying drawings, A represents the usual disk, of rubber or other suitable insulating material, which is adjustably held to the base or support B by means of guide-pins *a*, which are provided with washers *c*, springs *d*, and nuts *e*. These pins *a* project from the base or support B and extend through segmental slots *b* in the disk A, or any other suitable means may be employed for holding the disk to the base or support and admitting of its adjustment to time the sparking earlier or later in the cylinder. The adjustment of the disk to right or left is obtained by any well-known means, such as a lever C, pivoted to the arm *f* upon a segmental plate *g*, which plate is secured to the disk, or any other convenient device may be substituted for that shown.

Suitable posts D E F are connected to the disk A and held in place by the set-screws G H I, respectively, the screws G H being con-

nected by a conducting-wire J. The post D is provided with a suitable spring-arm *h*, which carries contact or brush K, and the post F has a spring-arm *i*, with contact or brush in the form of a roller L.

A wheel M, of suitable insulating material, is secured to the shaft N and is located above the face of the disk A and has a conductive ring O, against which the brush K is retained normally in contact. A conductive cam P extends from the ring, and which is embedded in the periphery of the wheel M and adapted to be brought in contact with the brush or roller L upon every revolution of the wheel. The cam P is a part of the ring O; but its position is below the plane of the ring a sufficient distance so that when the wheel M revolves in the direction of the arrow the cam will pass under the brush K, and as soon as the cam comes in contact with the roller L the end of the spring-arm *i* will be forced against the movable or spring-actuated contact-pin R.

When the end of the spring-arm *i* comes in contact with the pin R, it makes the circuit between the said arm and pin and also between the brush K and roller L and continues until the cam P passes beyond the roller, after which the circuit is broken. When the circuit is broken, it passes into the post F through screw I and thence through the wire 1 and primary induction-coil 2 and to the secondary coil 3 and thence to the ignition-points 4 and 5 in the engine-cylinder, the battery being designated at 6 and wire 7 leading from the battery to the post E and the opposite end of the battery to the primary induction-coil. The current from the battery flows through the wire 7 to pin H and thence through the conducting-wire J to pin G and thence to post D and to brush K through the spring-arm *h*. The current also passes from pin H to post E to the spring-actuated pin R, the coil-spring *k* on the pin compensating for the wear thereon and rendering the pin self-acting to resume its normal position after the end of the spring-arm is removed therefrom. Should contact between the brush K and ring O fail to act, and also should the brush or roller K fail to transmit current, the end of the spring-arm *i* will be brought in contact with the pin R and insure a positive spark in the manner hereinbefore described. The

spring-actuated pin R is considered materially important in order to make and break the circuit should the brushes fail to act from any cause, such as becoming clogged with dirt, oil, or grease from the engine.

The brushes herein shown and described may be variously modified, or any suitable brushes may be substituted, as found desirable, and either the ordinary block-brush may be used on either or both of the spring-arms or the rollers, as any special form of brush is not essential to the successful operation of the invention.

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

1. In an electric igniter, a suitable insulating-disk, an insulating-wheel, a conductive ring with cam connected to the wheel, suitable brushes operating in connection therewith and a pin or contact device in circuit with the igniter and brushes and located in

the path of one of said brushes so as to form the circuit should either or both of the brushes fail to act, substantially as and for the purpose set forth.

2. In an electric igniter, a suitable insulating-disk, a rotatable wheel carrying a conductive ring or device, suitable brushes operating in connection therewith, and a spring-actuated pin or device to operate in connection with one of the brushes, and a cam carried by said wheel for moving said brush into contact with the pin so as to complete an ignition-circuit should either brush fail to act, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM G. STOLZ.

Witnesses:

GEORGE M. BOND,
C. M. FORREST.