No. 853,001. PATENTED MAY 7, 1907.

C. H. BRYANT.

TREMBLER FOR INDUCTION COILS.

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Fig. 1.

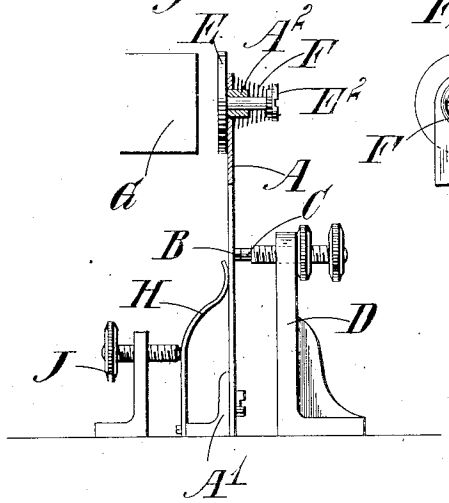
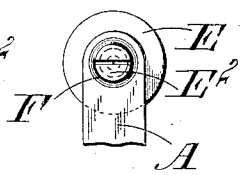


Fig. 2.



Witnesses
T. K. Bucklin
[illegible]

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UNITED STATES PATENT OFFICE.

CHARLES HENRY BRYANT, OF HAMMERSMITH, ENGLAND.

TREMBLER FOR INDUCTION-COILS.

No. 853,001. Specification of Letters Patent. Patented May 7, 1907.

Application filed April 23, 1906. Serial No. 313,316.

To all whom it may concern:

Be it known that I, CHARLES HENRY BRYANT, a subject of the King of England, residing at Hammersmith, Middlesex, England, have invented certain new and useful Improvements in or Relating to Tremblers for Induction-Coils, of which the following is a specification.

This invention relates to tremblers or contact breakers for induction coils and has particular reference to induction coils employed in connection with the sparking circuits of explosion engines although its use is not restricted thereto.

One feature of a trembler according to this invention is that in order to secure very rapid action the contacts are arranged to be always mechanically touching, the fluctuations of the current being produced by varying the pressure between the contacts instead of actually separating them. This variation in the pressure which is in other words an alteration of the contact resistance, may be brought about according to this invention, by mounting one of the contacts on a comparatively stiff spring which is acted upon by a light armature capable of moving relatively to the spring and responding quickly to the magnetism in the core. Preferably this armature is controlled by a small secondary spring acting between it and the contact-bearing spring. By this construction a rapid and sensitive trembler is obtained and at the same time the contacts themselves can be strongly mounted so that there is little danger of the mechanism getting out of order.

In the accompanying drawing which illustrates by way of example one construction of trembler according to this invention Figure 1 is a side elevation partly in section and Fig. 2 is a view of a portion of the mechanism taken at right angles to Fig. 1.

A is a stiff spring, supported at its lower end by a bracket A^1 and bearing a contact B. This contact is held by the pressure of the spring A against another contact C adjustably mounted in a bracket D. At the upper or free end of the spring A is an armature E having a pin or spindle E^1 sliding freely through a sleeve A^2 fixed to the spring A. At the end of the spindle E^1 is a head E^2 acting as a stop and between this head and the spring A is a light secondary spring F. The end of the core of the coil is shown diagrammatically at G.

The operation is as follows: When the core G is magnetized by the passage of the current the armature E is attracted and being very light at once responds and moves forward against the action of the weak secondary spring F. This motion is continued until the head E^2 comes into contact with the end of the sleeve A^2 when the stiff contact bearing spring A is moved forward very slightly, that is to say, just enough to increase the resistance between the contacts B and C without actually separating those contacts, so that the current is much reduced. The armature E is immediately carried back by its secondary spring F and the operation repeated.

Another spring H adjustable by means of a screw J may be provided if desired to regulate the stiffness of the contact bearing spring A.

The electrical connections are not indicated in the drawings as they may be those usually employed with apparatus of this description, the contacts B and C forming part of a circuit which includes a primary coil for magnetizing the core G.

Although the form of trembler described is of particular advantage when it is desired to operate the coil without actually breaking the circuit between the contacts it may also be employed in other cases where a less rapid action is necessary and where consequently the contacts may be separated.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In an induction coil trembler the combination of two contacts and a spring to keep such contacts in electrical connection while allowing variation in their resistance substantially as and for the purpose set forth.

2. In an induction coil trembler the combination of a stationary contact, a second contact, a spring bearing said second contact and keeping it always touching the stationary contact and an armature carried by the spring and having a limited movement relatively to it substantially as set forth.

3. In an induction coil trembler the combination of a stationary contact, a second contact, a spring bearing said second contact and keeping it always touching the stationary contact, an armature carried by the spring and having a limited movement relatively to it and a secondary spring between the contact-bearing spring and the armature substantially as set forth.

4. In an induction coil trembler the combi-

nation of a stationary contact, a second contact, a spring bearing said second contact, and keeping it always touching the stationary contact, an armature carried by the spring and having a limited movement relatively to it, a secondary spring between the contact-bearing spring and the armature and means for adjusting the pressure on the contact-bearing spring substantially as set forth.

5. In an induction coil trembler the combination of a stiff contact-bearing spring and a light armature carried by said spring, and having a limited movement relatively to it substantially as and for the purpose set forth.

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

CHARLES HENRY BRYANT.

Witnesses:
ALFRED J. BOULT,
HARRY B. BRIDGE.