

J. McINTYRE.
CONTACT FOR INDUCTION COILS.
APPLICATION FILED NOV. 17, 1908.

985,193.

Patented Feb. 28, 1911.

Fig. 1.

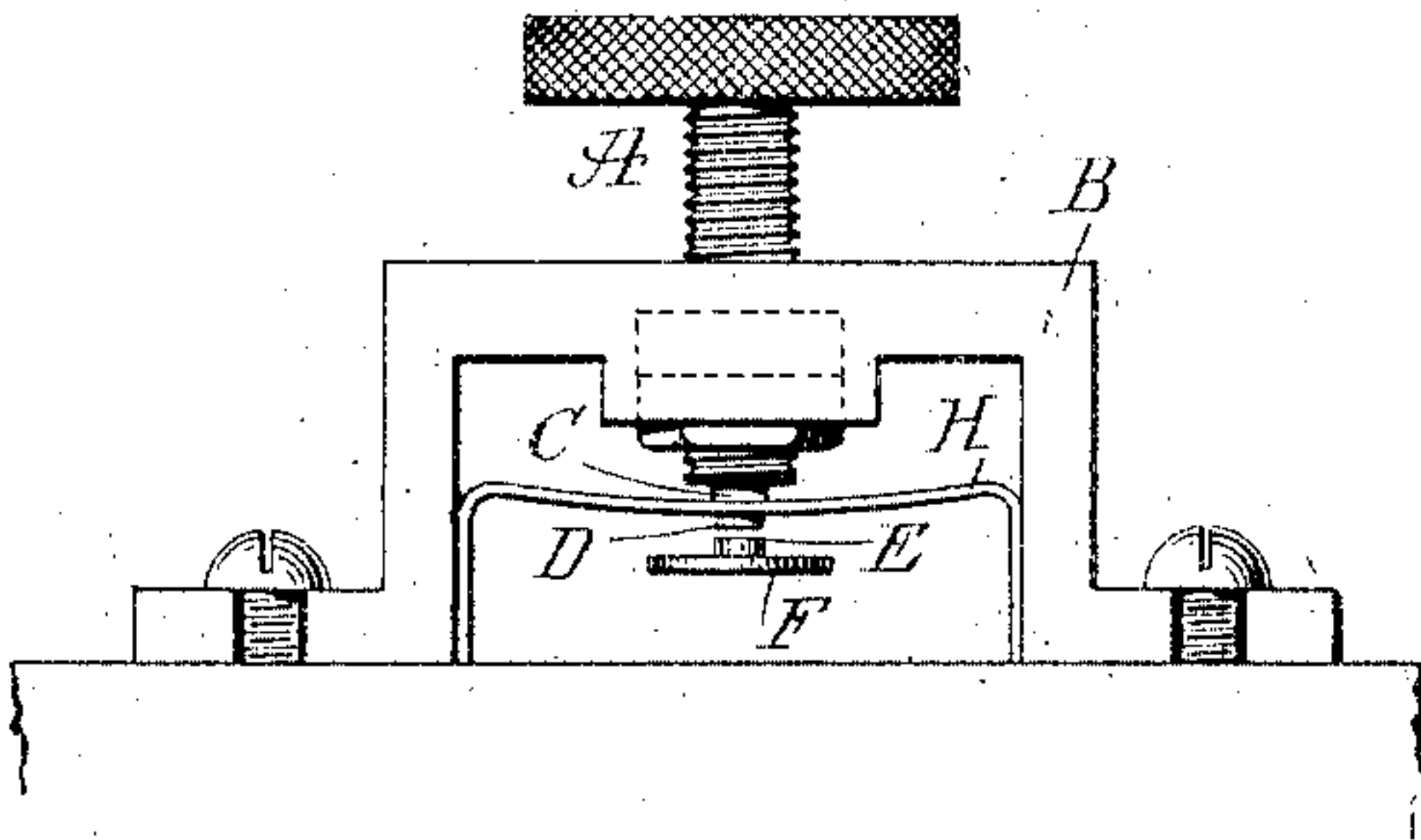


Fig. 2.

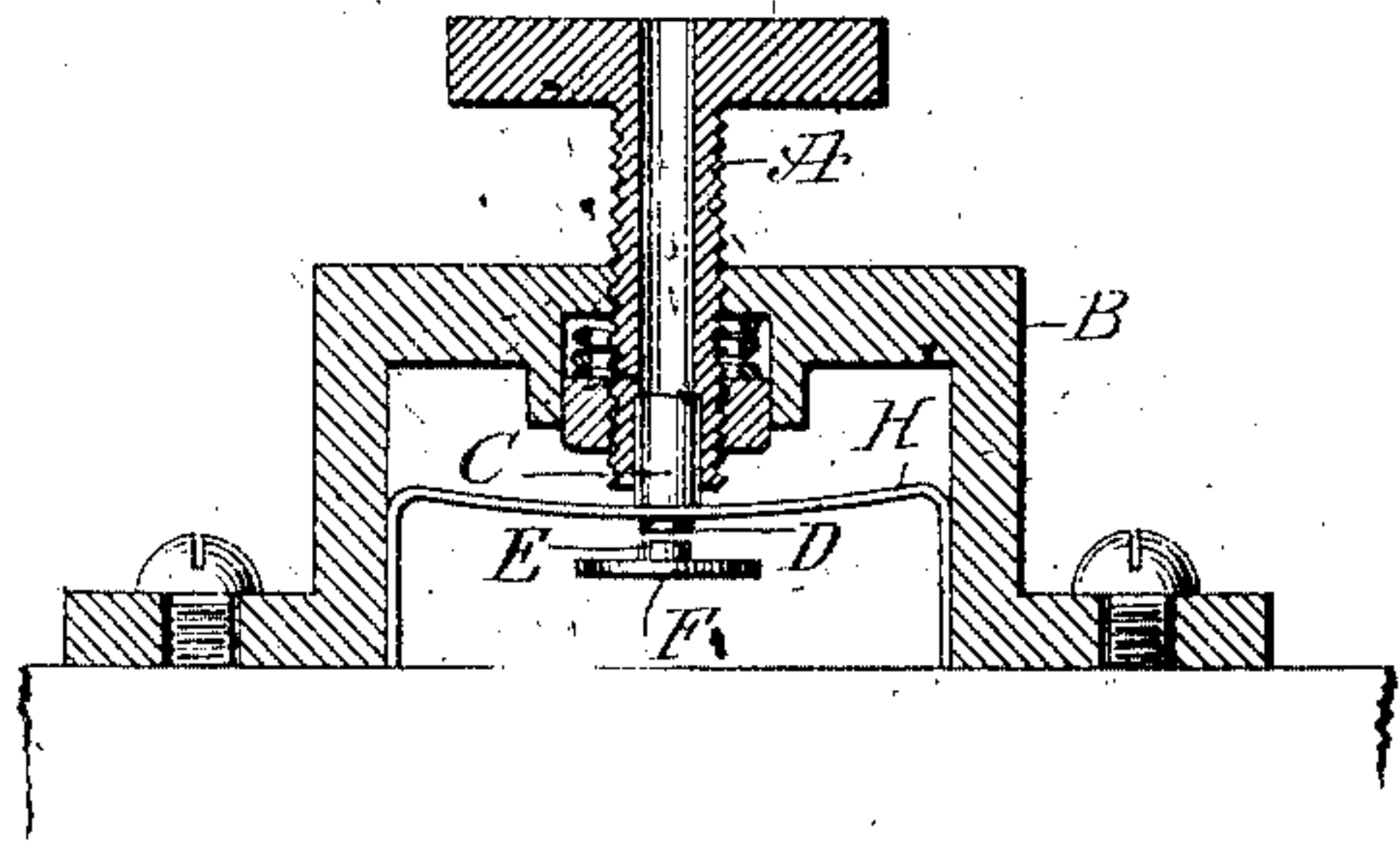


Fig. 3.

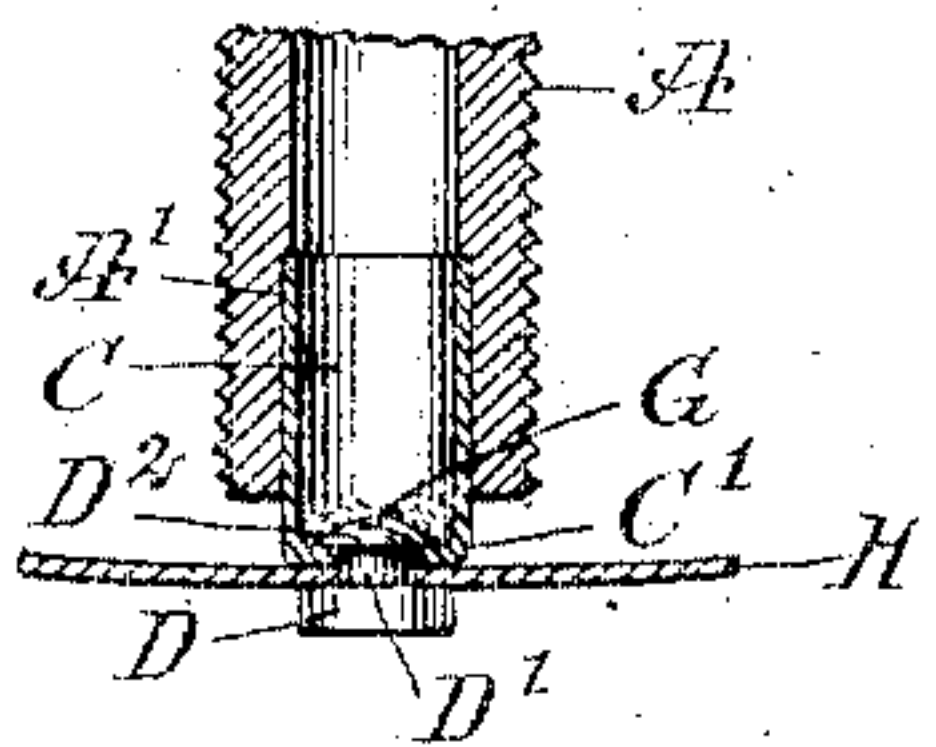


Fig. 4.

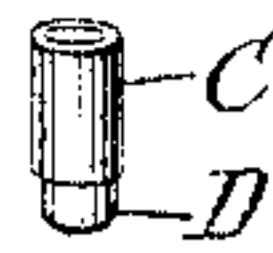


Fig. 5.

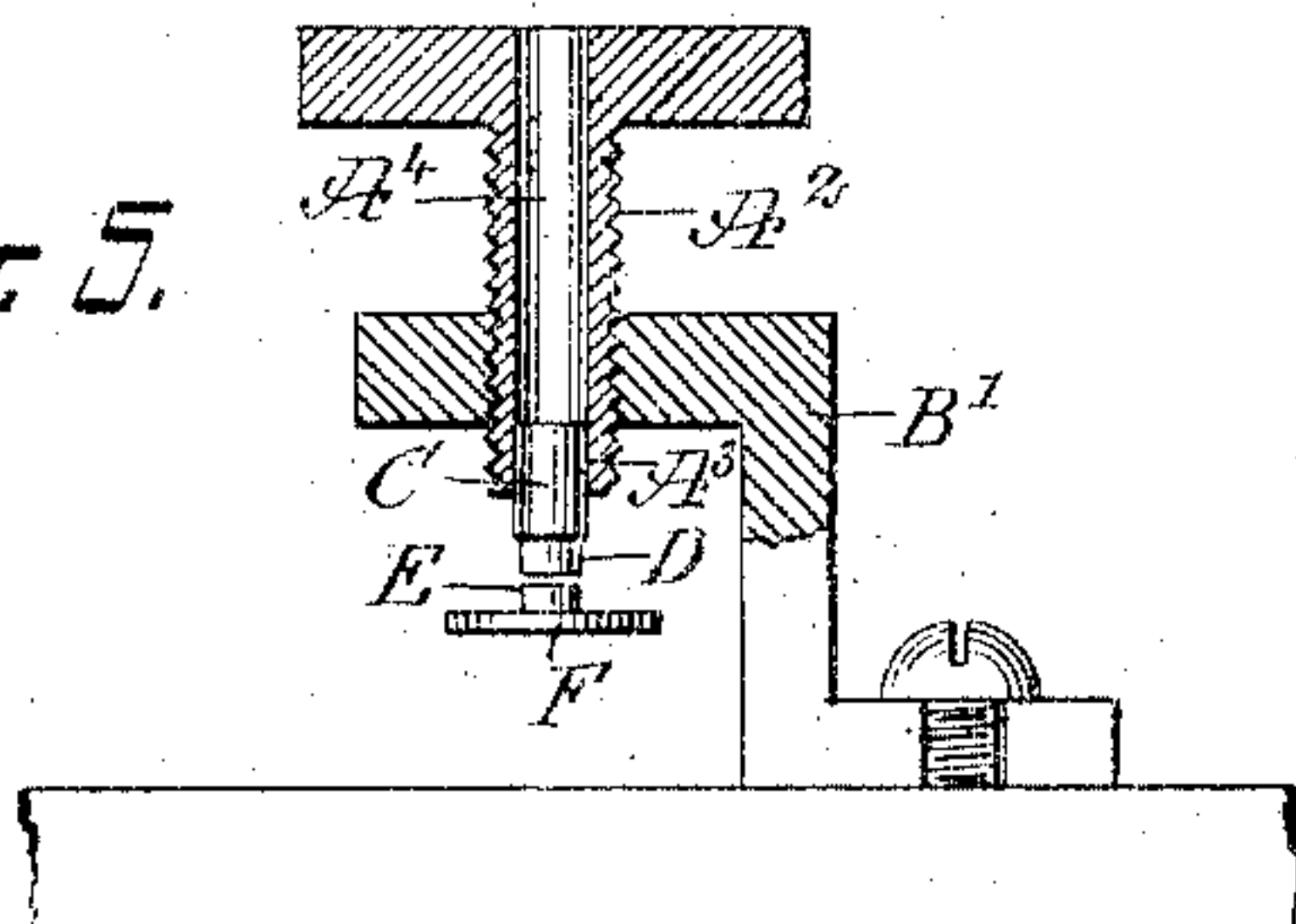


Fig. 6.

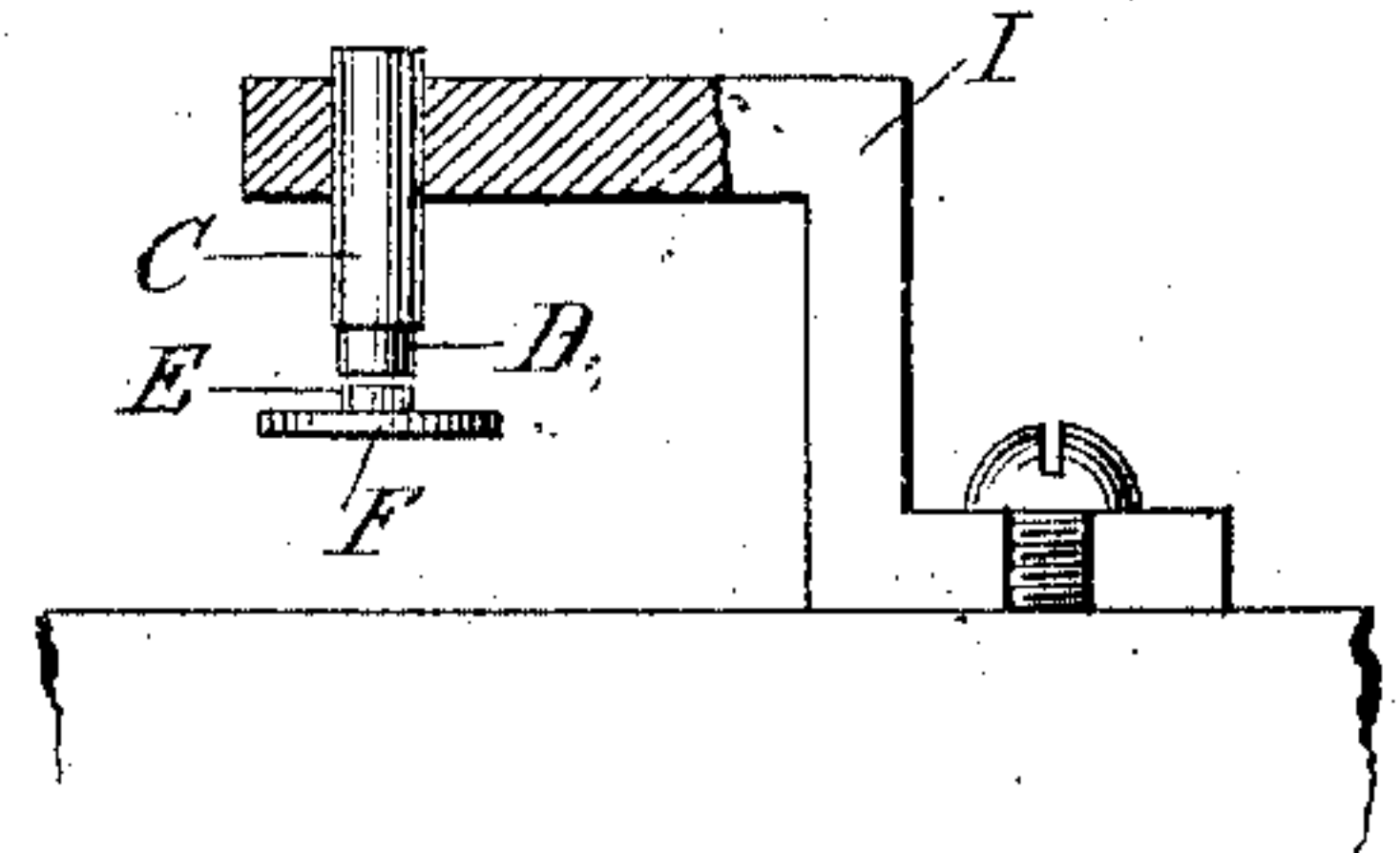


Fig. 7.

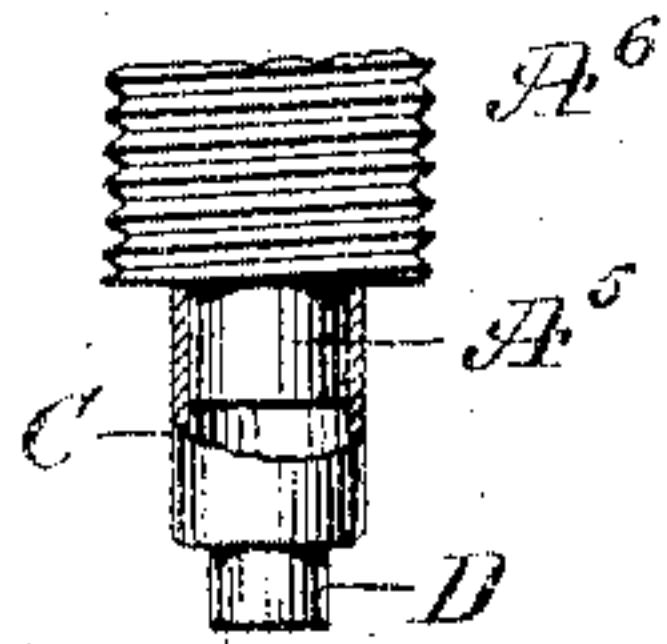


Fig. 8.

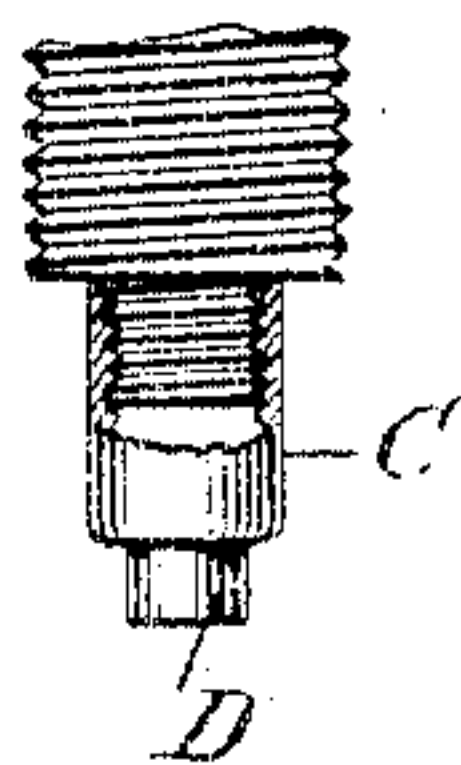
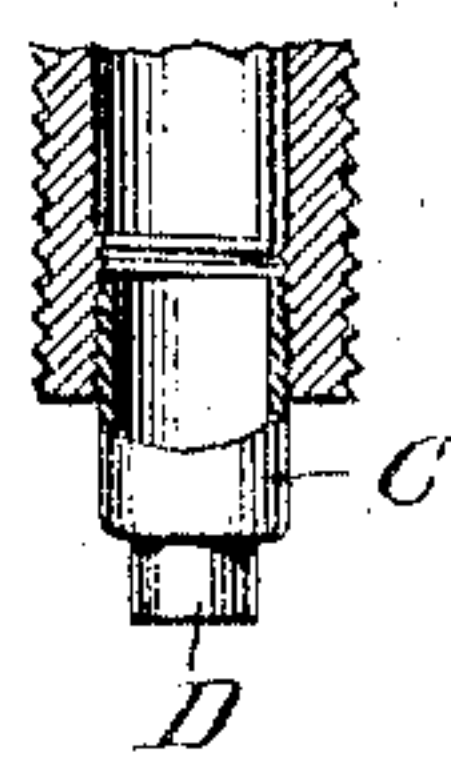


Fig. 9.



WITNESSES

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CONTACT FOR INDUCTION-COILS.

985,193.

Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed November 17, 1908. Serial No. 463,024.

To all whom it may concern:

Be it known that I, JOHN MCINTYRE, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Contact for Induction-Coils, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved contact for induction coils and like electrical apparatus, arranged for attachment to or removal from a carrier, to allow convenient and quick replacing of the worn out or used up contact by a new one and without disturbing any part of the apparatus.

The invention consists of novel features and parts and combinations of the same, which will be more fully described herein-after and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement, showing the platinum contact and its holder applied to a yielding carrier and controlled by an adjustment screw; Fig. 2 is a vertical section of the same; Fig. 3 is an enlarged vertical section of the contact, the carrier and the adjustment screw; Fig. 4 is a perspective view of the contact; Fig. 5 is a vertical section of a modified form of the improvement, showing the carrier for the contact in the form of an adjustment screw; Fig. 6 is a vertical section of a modified form of the improvement, showing the carrier for the contact in the form of a bridge; and Figs. 7, 8 and 9 are vertical sections of modified forms of the contact.

In the manufacture of induction coils and similar electric apparatus, it has been the practice to solder the platinum point or face to the end of the adjustment screw, bridge or other carrier, or to provide the platinum point with a shank driven into a recess in the carrier, or to screw the platinum point on such carrier, and in addition solder is usually employed to fasten the driven platinum point or the screwed one in position on the carrier. It is well known that in practice the soldered platinum point frequently falls off its carrier owing to the melting of the solder by overheating of the contacts

incident to the electric arc at the contact points. The repeated expansion and contraction of the carrier and the hammering it receives by the action of the vibrator also tends to loosen the hold of the platinum point on its carrier, and the said point finally drops out of position. Furthermore, users of the induction coil frequently resort to filing the faces of the platinum contact points to insure a better contact, but unless such filing operation is very skilfully and lightly conducted it tends to loosen the platinum contact point. In order to replace a fallen off contact point on the carrier or to provide the latter with a new one, it is usually necessary to remove the carrier from the apparatus, but more frequently the entire carrier is discarded and replaced by a new one. In order to avoid accidental detachment of the platinum point from its carrier and to allow convenient and quick replacing of a worn out contact point by a new one, is the object of the invention presently to be described in detail.

As illustrated in Figs. 1 and 2, the adjustment screw A screws in the bridge B and on the end of the said adjustment screw is removably held a contact consisting of a tubular holder C, a platinum point D, and means presently to be described in detail and arranged within the tubular holder C for permanently securing the platinum point D in place on the holder C. It is understood that the platinum point D operates in conjunction with the platinum contact E on the vibrator F of the induction coil.

The platinum point D is permanently fastened to the tubular holder C as follows: The holder C as shown is in the form of a cylindrical cap having its bottom or closed end C' provided with an aperture for the passage of the shank D' of the platinum point D, the inner end of the shank D' being riveted to the closed end C', to form a rivet head D² at the inside thereof to permanently fasten the platinum point in position on the cap. Solder G is preferably placed within the cap to cover the riveted portion or head D² of the shank D' of the platinum point D, thus assisting in holding the point D absolutely and permanently in place on the cap, the contact, consisting of the permanently united cap or holder C and the platinum point D, forming a new article of manufacture which can be sold in quantities and used

by the buyers of the induction coil, in case it is desired to interchange a worn out contact with a new one.

The holder or cap C fits loosely into a recess A' in the end of the adjustment screw A, and in order to support the contact CD and to prevent it from turning with the adjustment screw A when the latter is screwed up or down, use is made of an approximately U-shaped spring H, to the middle of which the contact CD is rigidly secured, preferably by passing the shank D' through an aperture in the spring H, thus having the underside of the spring resting on the shoulder of the platinum point, and the top of the spring abutting against the end C' of the cap or holder C. The side arms of the spring H engage the sides of the bridge B, to hold the spring H and consequently the contact CD from turning when screwing the adjustment screw A up or down for adjusting the platinum point D relative to the platinum contact E on the vibrator F of the induction coil. It is understood that the angular side arms of the spring H bear with sufficient force against the sides of the bridge B, to hold the spring arms firmly in place.

As shown in Figs. 5 and 6, the spring H is omitted and the contact CD is removably secured to the adjustment screw A², and turns with the same when screwing the adjustment screw A² up or down in the bridge B'. For the purpose mentioned the cylindrical cap or holder C is forced into a seat or recess A³ formed in the end of the adjustment screw A², the seat A³ being preferably tapering and the wall of the cap or holder C being preferably thin so that the cap or holder C when driven into the seat A³ engages the latter with a driving fit, thus requiring no other fastening means for securing the holder or cap C in position on the adjustment screw A².

In order to permit convenient removal of the holder or cap C and its platinum point D in case the latter is worn out, the adjustment screw A² is provided with a bore A⁴ forming a continuation of the seat or recess A³, and into which bore can be inserted a nail or other tool for driving out the holder or cap C whenever it is desired to replace the worn out contact by a new one.

As illustrated in Fig. 6, the contact instead of being attached to an adjustment screw is driven with its cap or holder C into a seat formed on the bridge I, it being understood that the spring II or the adjustment screw A or A² or the bridge I of the induction coil may form a carrier for receiving and securely holding the contact, consisting of the permanently united cap or holder C and the platinum point D.

As shown in Fig. 7, the cap or holder C is driven onto a projection A⁵ formed on the adjustment screw A⁶.

Although I prefer securing the cap C in position on the contact carrier as described, other means may be employed for the purpose, for instance, the cap may be provided with interior screw threads (see Fig. 8), or exterior screw threads (see Fig. 9), to screw the cap onto the carrier, but in either case the contact forms a marketable unit in itself and in which the platinum point D is doubly and permanently secured in a cap or holder by means within the cap, that is, by riveting and soldering, to prevent detachment of the platinum point from the cap or holder.

It will be noticed that even should the solder become melted at times, it soon solidifies around the riveted portion or head D² on reduction of the heat, to serve its useful purpose.

By making the cap or tubular holder of thin metal, it readily conforms to the shape of the tapering seat, and it is possible to reduce the length of the shank D' of the platinum point D to a minimum, thus saving in material of the expensive platinum point.

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

1. As an article of manufacture, a contact, and a spring on which the said contact is secured, the contact consisting of a tubular holder, a platinum point having a reduced shank extending through an aperture in the said spring and into the said tubular holder, the shank having a rivet head within the said tubular holder for permanently securing the said platinum point to the said holder and the contact to the said spring.

2. An induction coil provided with an adjustment screw having a seat, a spring, and a contact attached to the said spring and comprising a holder having one end removably fitting the said seat, and a platinum point permanently secured to the other end of the said holder.

3. An induction coil provided with an adjustment screw having a seat and an aperture leading to the said seat, a tubular holder having one end removably fitting the said seat and adapted to be forced out of the same by the insertion of a tool in the said aperture, and a platinum point permanently secured to the other end of the said holder.

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

JOHN MCINTYRE.

Witnesses:

THEO. G. HOSTER,
J. P. DAVIS.