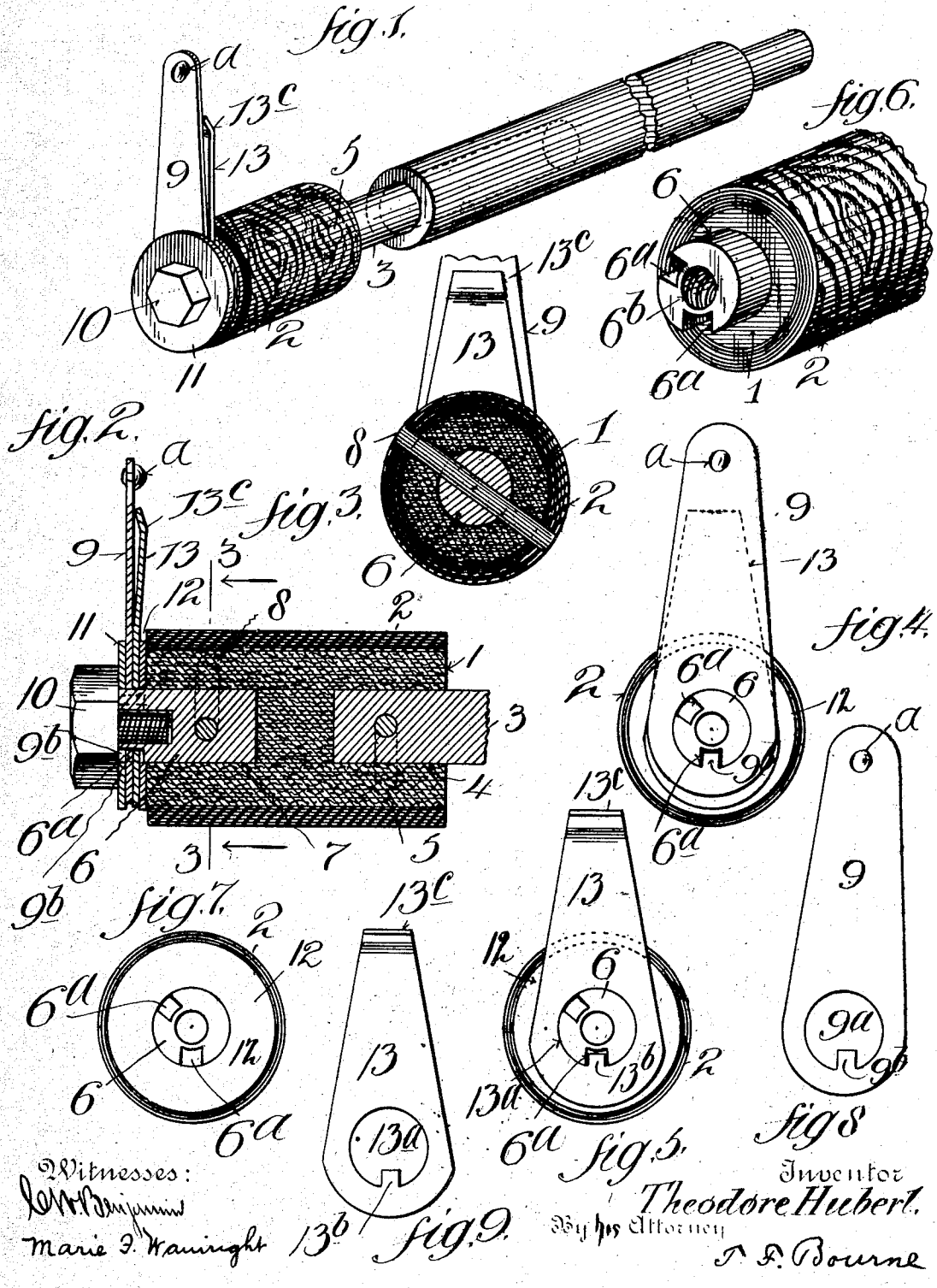
T. HUBERT.

DISTRIBUTING ARM FOR HIGH TENSION MAGNETOS.

APPLICATION FILED OCT. 17, 1907.

906,026. Patented Dec. 8, 1908.



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UNITED STATES PATENT OFFICE.

THEODORE HUBERT, OF NEW YORK, N. Y., ASSIGNOR TO CHARLES F. SPLITDORF, OF NEW YORK, N. Y.

DISTRIBUTING-ARM FOR HIGH-TENSION MAGNETOS.

No. 906,026. Specification of Letters Patent. Patented Dec. 8, 1908.

Application filed October 17, 1907. Serial No. 397,892.

To all whom it may concern:

Be it known that I, THEODORE HUBERT, a citizen of the United States, and resident of New York city, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Distributing-Arms for High-Tension Magnetos, of which the following is a specification.

The object of my invention is to provide a rotary contact for a high tension electrical circuit which shall be thoroughly insulated from its driving shaft, firmly supported thereby to retain its proper position, and also held from independent movement with respect to said shaft.

In carrying out my invention I provide an insulator, comprising insulating material, such as white fiber, in the form of a block made of laminated strips with the grain of the fiber running lengthwise of the block, and an inclosing insulating tube or sleeve, such as red fiber, having its grain running annularly in which said block is firmly fitted, and in one end of such insulator I secure an operating shaft and in the opposite end of said insulator I secure a post, the inner ends of said shaft and post being separated by the material of said insulator, and to the outer projecting end of said post I secure a contact, as by means of a screw or nut, which contact and post have complemental tongue and groove connections, whereby said contact is thoroughly insulated from said shaft and the contact is held securely from relative movement upon said post.

The invention also comprises novel details of improvement and combinations of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein, Figure 1 is a perspective view illustrating my improvements; Fig. 2 is a central section of part thereof, enlarged; Fig. 3 is a cross section on the line 3, 3, in Fig. 2; Fig. 4 is an end view, the holding screw and washer being removed; Fig. 5 is a similar view the holding screw and contact being removed; Fig. 6 is a detail of the insulator and post for the contact; Fig. 7 is an end view; Fig. 8 is a detail of the contact, and Fig. 9 is a detail of the stop for the contact spring.

Similar numerals of reference indicate corresponding parts in the several views.

The numeral 1 indicates an insulating block which is formed of layers or laminations of insulating material such as white fiber, with its layers in close contact and the grain of the fiber running lengthwise of the block, and said block is tightly inclosed within an insulating tube or sleeve 2, made of a strip or sheet of red fiber wound tightly and the convolutions in close contact with the grain of the fiber running circularly around block 1, all whereby a very rigid insulator is produced that will remain straight during rotation and will not be liable to bend when heated during the use for which it is intended.

At 3 is a shaft to which the insulator is secured, said shaft being shown at one end entering a bore 4 in the insulator and secured thereto by a cross pin 5. At the opposite end of the insulator is a post 6 which is firmly seated in bore 7 in the insulator and shown secured thereto by a cross pin 8, the inner ends of shaft 3 and post 6 being at a distance apart and separated by the insulating material, whereby passage of electric current from one to the other is prevented.

At 9 is a contact, preferably of spring metal, shown provided at its outer end with a contact or terminal *a*, which may be riveted thereto, and at the inner end contact 9 has an opening 9^a to receive the end of post 6 that projects from the insulator, and said contact also has a tongue 9^b which enters a groove 6^a in the side of post 6 to keep contact 9 from rotary movement upon post 6. Post 6 may have any desired number of grooves 6^a to receive tongue 9^b to permit adjustment of contact 9 in a circular direction with respect to the axis of post 6. A screw 10 entering a threaded aperture 6^b at the end of post 6 serves to keep contact 9 in position upon said post, washers 11 and 12 being interposed as desired.

At 13 is a stop extending parallel with contact 9 and having an opening 13^a fitting upon the projecting end of post 6 and provided with an inwardly extending tongue 13^b engaging a groove 6^a of post 6 to hold said stop from rotary movement on said post. At its outer end stop 13 is shown bent at 13^c to bear against the outer portion of contact 9, whereby said contact can move outwardly in one direction, but on the return stroke is stopped by stop 13, so that the latter serves to limit vibration of said contact.

With my improvements arranged as described, the screw 10 may bear against a contact in the circuit of contact 9, and when the latter rotates it will bear against one or more contacts of the circuit to make and break the latter. My improvements are especially useful to make and break high tension circuits, such as the secondary circuits of high tension magnetos in electric ignition systems of gas engines, and particularly for the rotary contact of the distributer for the secondary or high tension circuit, wherein it is desired to thoroughly insulate the rotary contact from its driving shaft and other parts of the magneto. The form of insulator set forth is particularly adapted for supporting and rotating contact 9 for such high tension circuits by reason of the rigidity of the insulator, as it will not be affected by heat radiating from a gas engine equipped with a magneto having such insulator, and therefore the insulator will remain in axial alinement with shaft 3 and contact 9 will rotate in its proper plane.

Having now described my invention what I claim is:

1. The combination of a block of fiber having its grain running lengthwise thereof, an inclosing tube of fiber having its grain running circularly and closely fitting said block, a shaft entering said block and secured thereto, a post entering said block and secured thereto at a distance from said shaft providing insulation therebetween, and a contact carried by said post.

2. The combination of an insulating block comprising strips of fiber secured together with the grain running lengthwise, and an inclosing tube formed by a strip of fiber wound with the grain running circularly, said windings fitting closely together, with a shaft secured to said block, a post secured to said block, at a distance from said shaft providing insulation therebetween, and a contact carried by said post.

3. The combination of a block of fiber having its grain running lengthwise thereof, an inclosing tube of fiber having its grain running circularly and closely fitting said block, a post secured to said block, a contact secured to the post, and complemental tongue and groove connections between said contact and post to limit relative movement of the contact upon the post.

4. The combination of a block of fiber having its grain running lengthwise thereof, an inclosing tube of fiber having its grain running circularly and closely fitting said block, a post secured to said block, a contact secured to the post and complemental tongue and groove connections between said contact and post, a stop carried by the post bearing against said contact, and means to limit relative movement of said stop on the post.

Signed at New York city, in the county of New York, and State of New York, this 8th day of October, A. D. 1907.

THEODORE HUBERT.

Witnesses:
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MARIE F. WAINRIGHT.