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No. 704,589. Patented July 15, 1902.

C. F. SPLITDORF.

SPARKING COIL CASING.

(Application filed Apr. 30, 1902.)

(No Model.)

Fig. 2.

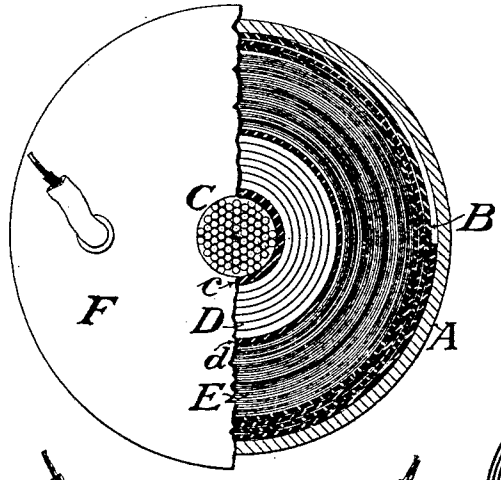


Fig. 3.

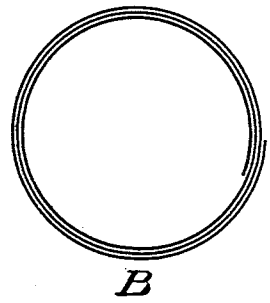
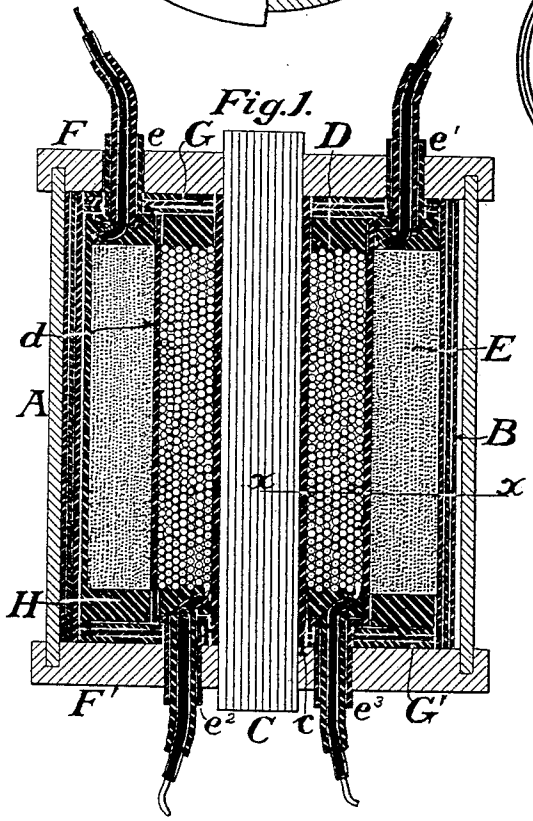


Fig. 1.



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UNITED STATES PATENT OFFICE.

CHARLES F. SPLITDORF, OF NEW YORK, N. Y.

SPARKING-COIL CASING.

SPECIFICATION forming part of Letters Patent No. 704,589, dated July 15, 1902.

Application filed April 30, 1902. Serial No. 105,307. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. SPLITDORF, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented a new and useful Improvement in Sparking-Coil Casings, of which the following is a specification.

This invention relates to sparking-coils; and it has more particularly for its object to improve the casings employed with coils of the jump-spark type to render the same strong and durable, impervious to moisture, and having the quality of non-conductiveness to such an extent as to prevent leakage of the electric current therethrough.

To these ends my invention comprises in brief an outer cylindrical casing composed of fiber or other infrangible substance possessing to some extent the quality of resisting the passage of an electric current; a cylindrical multiply-roll of thin sheet-rubber, either hard or soft, distended within the outer casing to serve effectually as a non-conductor; outer end disks, of fiber or the like, to close the casing; inner thin multiply-disks of rubber, hard or soft, and hollow or cylindrical soft-rubber plugs uniting the disks and having projecting ends to afford yielding entrances or exits for the terminal wires.

In the drawings accompanying this application, Figure 1 is a vertical sectional view of my improved sparking-coil casing. Fig. 2 is a top plan view thereof, partly in horizontal section, on the line x x of Fig. 1; and Fig. 3 is a detail plan or end view, on a reduced scale, of the inner casing employed.

The letter A indicates the outer or main cylindrical casing, the same being made of fiber or other material having the quality of toughness and that is not liable to split or crack and, further, having to some degree the quality of non-conductivity. While this outer casing need not be a perfect insulator, because it is intended, primarily, as a strong and durable envelop, yet it must not be a conductor of electricity, like metal, and hence I prefer to employ fiber or like material that is both strong and a fair insulator. Placed within casing A is a multiply-roll of rubber B, which may be either of the hard or soft variety. I, however, prefer to employ hard rubber, because a thin sheet thereof rolled upon itself and inserted within cylinder A will of its own tension expand therein to lie snugly against the inner wall of the latter.

The reason for having a multiply-roll of rubber is that in case of a crack occurring in one ply or thickness the same would be covered by the remaining plies or thicknesses, and so prevent leakage.

C indicates the usual core, D the inner winding, and E the outer winding of the coil, these elements having the usual insulating-separators c d.

The cylinder ends are capped with disks, as F F′, of fiber or other suitable material, the same being secured upon the cylinder A either by annular recesses or by other suitable means, and one or a plurality of insulating-disks, as G G′, of hard or soft rubber lie against the interior surfaces of said cap-disks F F′. The spaces intermediate the disks G G′ and the ends of the coil-windings are filled with paraffin-wax or the like (indicated at H) to prevent the entrance of moisture and to complete the insulation.

The disks F F′ and G G′ are pierced for the core C and also for the terminal wires of the winding, as seen. In these latter apertures are placed bushings or plugs e e' e^2 e^3, of soft rubber, the same being short lengths of tubing with a flange or head at the inner end which serves to prevent withdrawal through the apertures in disks F F′ G G′, besides in a measure uniting said disks. The opposite ends of the bushings or tubing e e' e^2 e^3 project exteriorly beyond the disks F F′ and are intended to serve as flexible guards for the terminal-wire coverings to prevent abrasion thereof by rubbing against the edges of the apertures in the caps F F′, through which said wires pass.

The aforesaid construction of sparking-coil casing is perfectly damp-proof and combines a positive insulation with exceptional strength. Certain modifications thereof may be made without departing from the spirit of my invention, and I therefore do not wish to be limited to the precise construction herein shown and described; but

I desire to claim broadly and secure Letters Patent upon—

1. A sparking-coil casing comprising a shell composed of tough non-conducting material,

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and an inner lining therefor composed of material possessing the quality of non-conductivity to a higher degree.

2. In a sparking-coil casing, a cylinder composed of tough, non-conducting material, an inner lining therefor composed of a thin sheet of material rolled upon itself in several plies, and possessing the quality of non-conductivity to a higher degree, a cylinder-cap, an insulating-disk at its inner surface, and a body of plastic insulation interposed between said disk and the coil-winding.

3. In a sparking-coil casing having the usual terminal openings, an insulating-bushing within each of said openings, each of said bushings having an inward retaining-flange and an outwardly-projecting flexible extension.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 16th day of April, 1902.

CHARLES F. SPLITDORF.

Witnesses:
NAT. B. CHADSEY, JR.
NATHAN B. CHADSEY.