

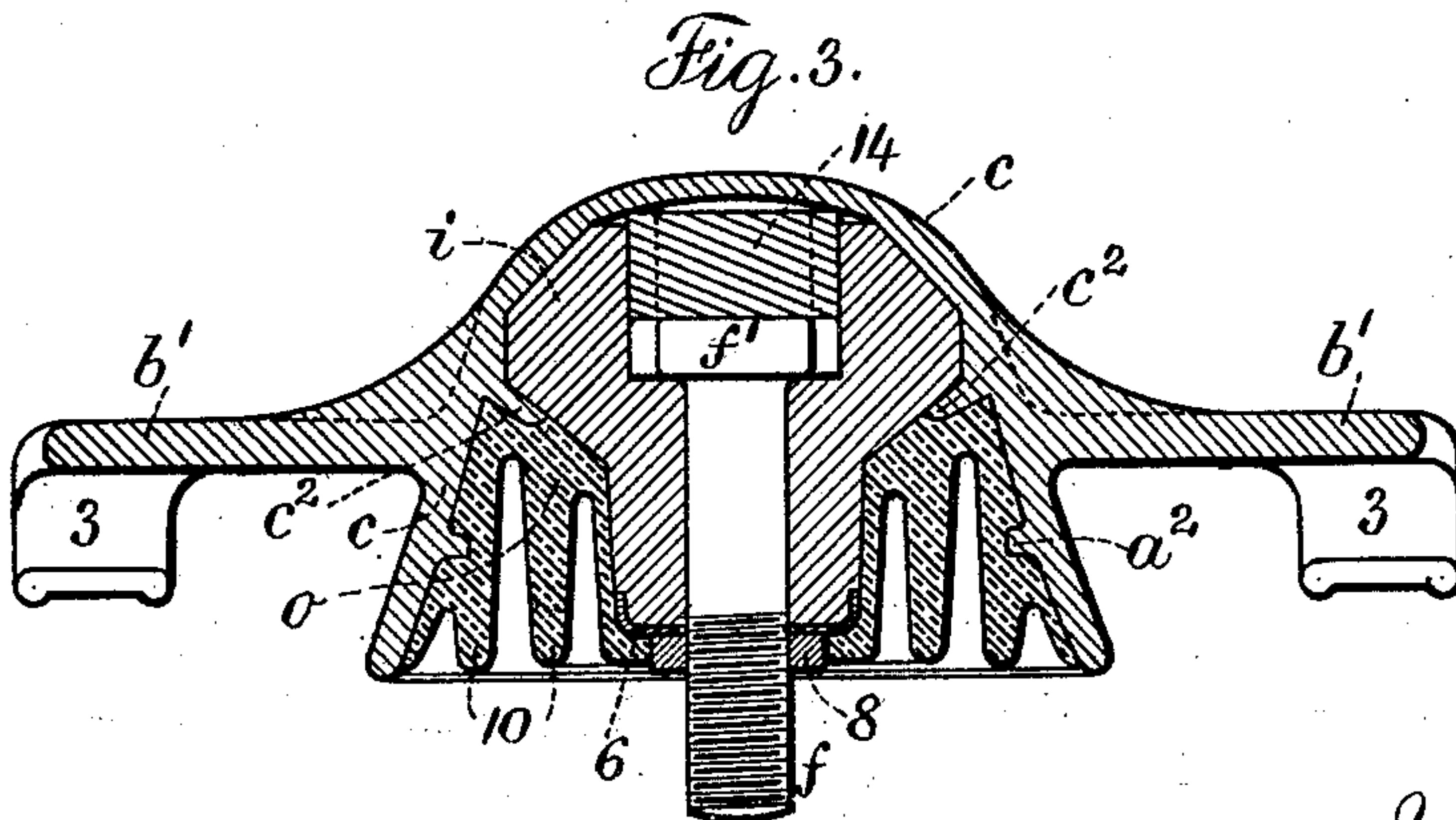
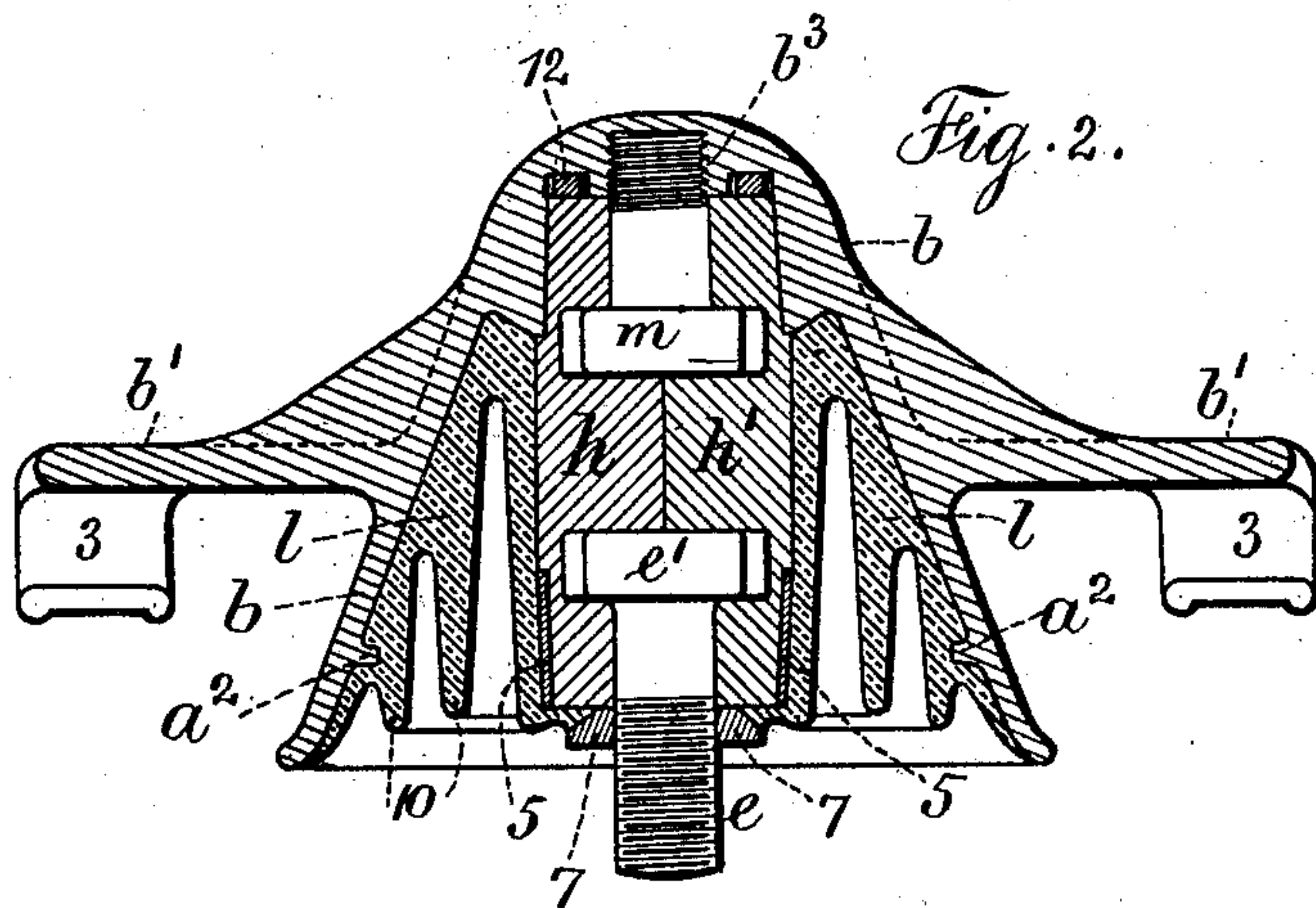
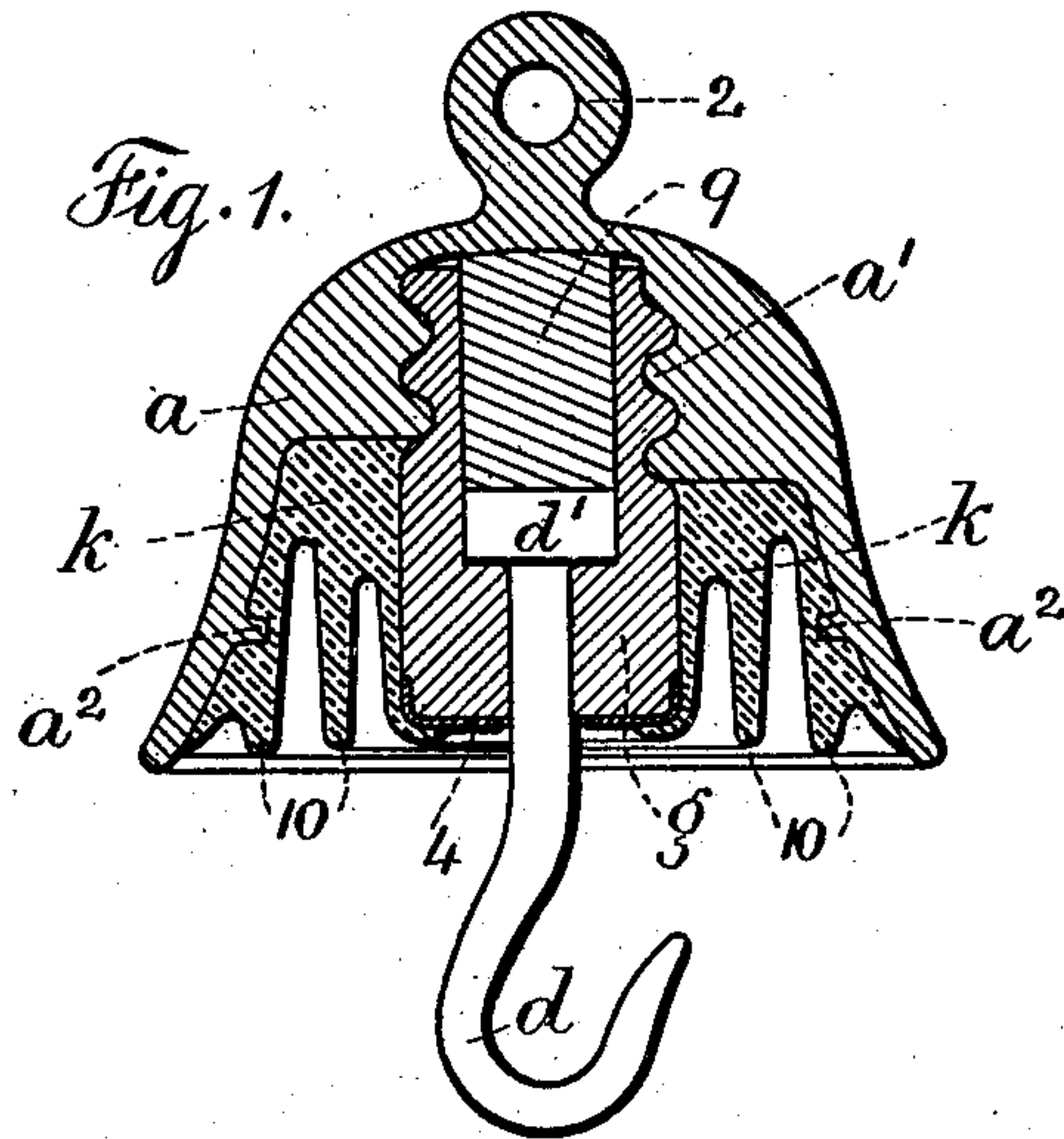
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J. SACHS.
INSULATING AND SUSPENDING DEVICE.

APPLICATION FILED JAN. 6, 1903.

NO MODEL.



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UNITED STATES PATENT OFFICE.

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INSULATING AND SUSPENDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 757,418, dated April 12, 1904.

Application filed January 5, 1903. Serial No. 137,799. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SACHS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented an Improvement in Insulating and Suspending Devices, of which the following is a specification.

My invention relates to insulating devices or terminals for supporting and suspending electrical devices such as are employed in electric line and railway work and lighting systems; and the object of my invention is the production of an insulating and suspending device of great dielectric and mechanical strength, simplicity, and compactness, inexpensive to construct, and in which the efficiency shall be so great that even in wet weather the leakage of current across the surface of the same will be practically negligible.

In carrying out my invention I provide a part for connection with a support, a part for attachment thereto of the device or devices to be suspended, a central part extending between and means for connecting the same to these aforesaid parts, and an intermediate section of insulating and preferably composition material extending between the aforesaid parts surrounding the major portion of the central part and presenting a maximum non-conducting surface against the passage of the electric current.

The invention may be embodied in several forms.

The device of my present invention comprises a metal bell, either with or without opposite extending arms carrying lugs, which is the device or part for connection with a support. The part for attachment thereto of the device or devices to be suspended is a metal hook or bolt. The central part, extending between these parts, is a block connected to the metal-bell structure, and there is an intermediate section of insulating and preferably composition material fitting within the bell and extending between the aforesaid parts and

surrounding the major portion of the central part and presenting a maximum non-conducting surface against the passage of the electric current.

In the drawings, Figures 1, 2, and 3 represent, by vertical sections, forms of my invention.

The part for connection with a support is in Fig. 1 the metal bell *a*, having a central eye 2 at the upper end. This part in Fig. 2 is a metal bell *b*, with opposite extending arms *b'*, carrying end downwardly-projecting lugs 3, and this part in Fig. 3 is the metal bell *c*, similarly constructed to the metal bell *b* in Fig. 2. The skirt portions of these metal bells are provided with interior circumferential ribs *a*², and the metal bell *c* is provided with a circumferential series of fingers *c*², normally occupying a vertical position. The metal bell *a* has an interiorly-threaded portion *a'* and the metal bell *b* has an interior end threaded portion *b*³.

With reference to the details of the construction and the means for connecting and assembling the aforesaid parts, as shown in the drawings, the following are separate descriptions of the respective figures.

In Fig. 1 the block *g* is shown as threaded at the inner end and as adapted to screw into the interiorly grooved or threaded socket *a'* of the bell *a* in connecting the parts. An aperture in the block *g* receives the stem of the hook *d*, and the head *d'* of the hook is located in a recess in said block, and there is a filling-block 9, which is received in the recess in the block *g* above the head *d'* and which filling-block at its ends contacts, respectively, with said head and the under surface of the bell.

I provide an annulus of metal 4 at and surrounding the lower end of the block *g* and also the stem of the hook *d*. In this figure the insulating composition *k* fills within the bell *a* and between the same and the block *g* and annulus 4 and is largely held in position by the rib *a*², and the surface of this insulat-

ing composition is formed with annular ribs 10 and depressions, so as to present a maximum non-conducting surface against the passage of the electric current. In Fig. 2 the block is in two parts h h' . These are internally recessed for the head e' and stem e of the tap-bolt which projects from the lower intermediate portion and for the head and stem of the tap-bolt m in the upper portion, and these two parts h h' at their upper ends fit into a recess in the bell b , and the tap-bolt screws into the threaded aperture b^3 in said bell, and there is preferably an intervening washer 12, the bell at the upper ends of these parts h h' serving the function of a band for holding the same firmly together, while at the lower part I employ a band 5 for holding the parts firmly together, and I prefer to employ on the tap-bolt e a nut 7 for holding the tap-bolt in relation to the parts h h' . In the structure Fig. 2 the section of insulating material l is within the bell largely held in place by the annular rib a^2 , with the central portion extending under the lower end of the parts h h' and band 5 and between the lower surface of the same and the upper surface of the nut 7, and this material is given the form of annular ribs and depressions forming a maximum non-conducting surface against the passage of the electric current—a form similar to that shown in Fig. 1.

In Fig. 3 the block i is of one piece, perforated and recessed to receive the head f' and stem f of the tap-bolt, and there is a filling-piece 14 in the recess of the block i above the head f' of the tap-bolt. This block i is provided with shoulders adjacent to the series of fingers c^2 of the bell, and when this block i is pressed into the bell c these fingers are bent over into the angular position shown against the under surface of the block i , so as to hold the said block firmly in position to and within the bell. At the lower end of the block i there is a metal annulus 6, surrounding the end of the block and the projecting end of the bolt, and upon the bolt there is a nut 8 to hold the same in position, similar to the structure in Fig. 2, and in this figure the section of insulating material o fills within and between the bell and the block and is largely held in position by the annular rib a^2 and is given the form of annular ribs and depressions similar to the form shown in Figs. 1 and 2, the same presenting a maximum non-conducting surface against the passage of the electric current.

In the uses to which these structures may be put the device Fig. 1 may be suspended from any suitable support and the hook d employed to carry an arc-light, and the devices Figs. 2 and 3 may be employed on the span-wire between the poles of a trolley-railway for supporting the trolley-wire, the span-

wire passing around the body of the bell and engaging the lugs 3 on the opposite sides and the trolley-wire suspended either from the bolt e or f .

I claim as my invention—

1. As an insulating and suspending device and in combination, a bell structure for connection to a support, a device situated in the axial center of the bell and depending therefrom as a part for attachment thereto of the device or devices to be suspended, a central block extending between said parts and connecting the same, and a section of insulating and preferably composition material within the bell structure and between the same and surrounding the major portion of the internal parts, and presenting a maximum non-conducting surface against the passage of the electric current.

2. As an insulating and suspending device and in combination, a bell structure and devices connected therewith for engaging a support, a bolt or equivalent device in the axial center of the said bell structure and depending therefrom, a block engaging the major portion of said bolt device and means for permanently connecting the block to the bell structure, and a section of insulating and preferably composition material within the bell structure and extending between the same and surrounding the major portion of the block and presenting a maximum non-conducting surface against the passage of the electric current.

3. As an insulating and suspending device, and in combination, a bell structure having at least one extension from the surface thereof adapted for connection with a support, and a central internal recess, a block structure within the bell in the axial center thereof received within a central recess, means for connecting the said block structure to the bell, a suspending device having a head and stem received in a recess of the block and the stem depending from the block, and a section of insulating and preferably composition material within and between the bell and surrounding the major portion of the block structure and presenting a maximum non-conducting surface against the passage of the electric current.

4. As an insulating and suspending device, and in combination, a bell structure having at least one extension from the surface thereof adapted for connection with a support and a central internal recess, a block structure within the bell in the axial center thereof received within the central recess, means for connecting the said block structure to the bell, a suspending device having a head and stem received in a recess of the block and the stem depending from the block, an annulus structure at the lower end of the block de-

vice and surrounding the stem of the sus-
pending device, a nut on the stem of the sus-
pending device coming against the under sur-
face of the associated parts, and a section of
5 insulating and preferably composition mate-
rial within and between the bell and surround-
ing the major portion of the block structure
and presenting a maximum non-conducting

surface against the passage of the electric cur-
rent.

Signed by me this 30th day of December,
1902.

JOSEPH SACHS.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.