

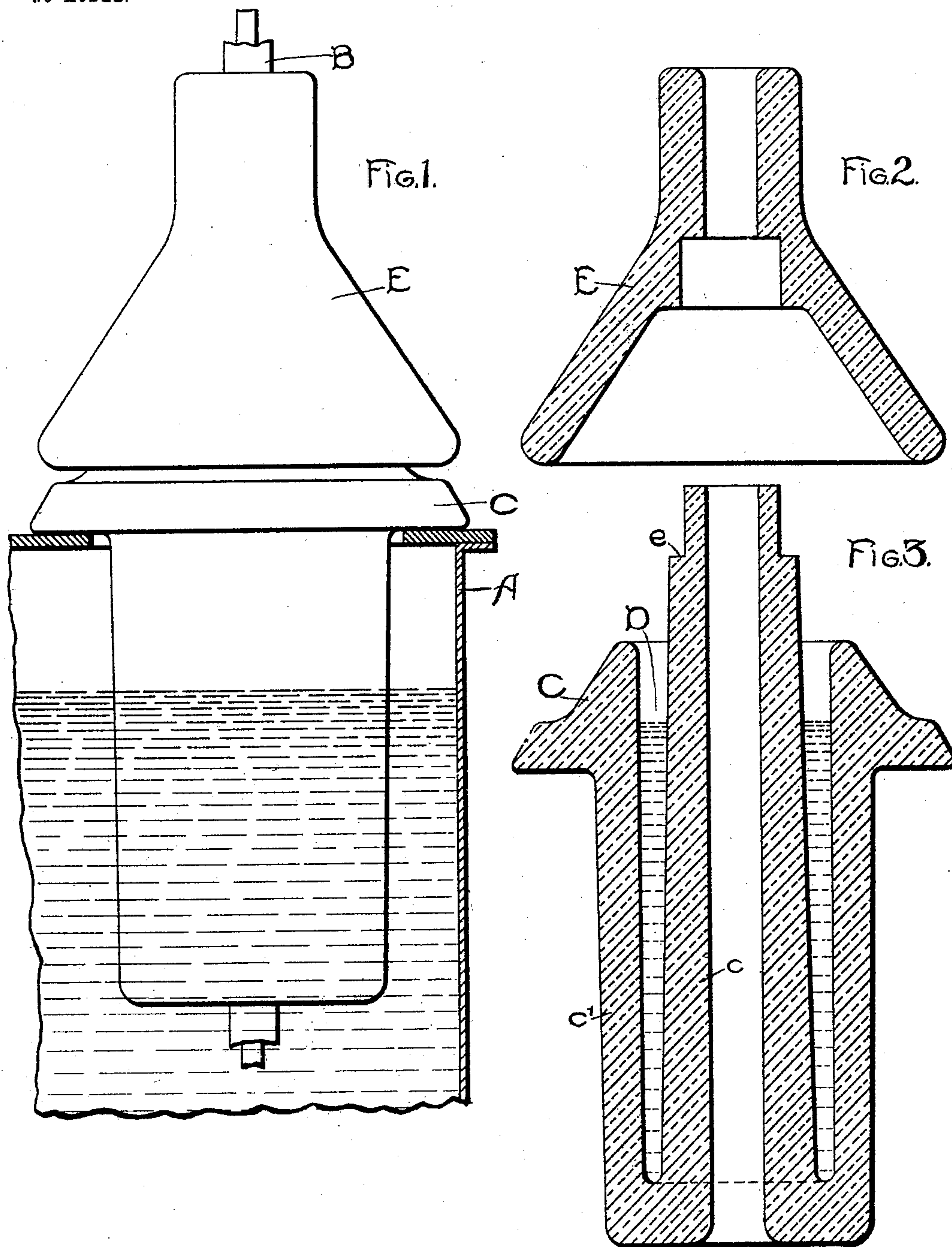
No. 771,297.

PATENTED OCT. 4, 1904.

C. C. CHESNEY.
INSULATOR.

APPLICATION FILED MAY 16, 1903.

NO MODEL.



WITNESSES:

L. A. Hawkins
Wm. H. Jones.

INVENTOR.

Cummings C. Chesney.
BY Richard Lynn
ATTORNEY.

UNITED STATES PATENT OFFICE.

CUMMINGS C. CHESNEY, OF PITTSFIELD, MASSACHUSETTS, ASSIGNOR TO
STANLEY ELECTRIC MANUFACTURING COMPANY, OF PITTSFIELD,
MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 771,297, dated October 4, 1904.

Application filed May 16, 1903. Serial No. 157,344. (No model.)

To all whom it may concern:

Be it known that I, CUMMINGS C. CHESNEY, a citizen of the United States, and a resident of Pittsfield, Massachusetts, have invented certain new and useful Improvements in Insulators, of which the following is a specification.

The object of my invention is to provide an insulator for high potentials that shall combine the valuable insulating properties of oil with those of porcelain, glass, or other vitreous material in such a manner as to produce an exceptionally-cheap and reliable structure. When oil is not present, even a minute crack or defect in a porcelain insulator is a source of danger, greatly reducing the dielectric strength of the insulator and affording a lodging-place for moisture and other foreign substances which still further diminish the insulating strength. The presence of oil compensates for these defects, for if there is a crack in the porcelain the oil fills it, so that the dielectric strength is in no wise reduced and moisture is excluded. Moreover, by substituting a volume of oil for part of the body of the insulator the weight of vitreous material is reduced, with a resulting economy in the cost of the insulator.

Referring to the drawings, Figure 1 shows a structure embodying my invention, and Figs. 2 and 3 show views in cross-section of parts of such a structure.

The drawings show my invention applied to the insulation of a transformer-lead from the case; but my invention is not limited to this particular application, but may be used to insulate any high-potential conductor.

In the drawings, A represents the case of a transformer nearly filled with oil, as shown in Fig. 1.

B represents one of the transformer-leads passing from the inside of the transformer out through case A.

C is the lower part of the insulator, formed of porcelain or other vitreous material, surrounding lead B and supported by a flange at its upper end on case A. This part C is formed with two cylindrical walls *c* and *c'*, connected at the bottom, but otherwise separated by an

annular channel or reservoir D. This reservoir is filled with oil, as shown in Fig. 3, and thus a wall of oil is formed between the inner and outer walls *c c'* of porcelain. It is obvious that if any cracks or defects exist in the porcelain walls they will be filled with oil and will not reduce the dielectric strength of the insulator. Moreover, the weight of the insulator is less than if the space D were filled with vitreous material, thereby obtaining at the same time a lighter and a more reliable insulator.

E is the upper part or cap of the insulator, which is preferably removable to facilitate filling reservoir D with oil. Cap E covers reservoir D, thus protecting the oil from foreign matter which might collect on its surface. Cap E is supported by shoulder *e* on the lower piece C.

I do not desire to limit myself to the particular construction and arrangement of parts here shown, since changes therein which do not depart from the spirit of my invention and which are within the scope of the appended claims will be obvious to those skilled in the art.

Having thus fully described my invention, I claim as new and desire to protect by Letters Patent—

1. In an insulator, two concentric tubular insulator-walls, the inner of said walls being open at both ends to afford a passage for a conductor through said insulator and the outer of said walls being adapted to engage a support, said walls being joined at one end so as to form a cylindrical reservoir between said passage and the outer surface of the insulator.

2. In an insulator, two concentric tubular insulator-walls, the inner of said walls being open at both ends to afford a passage for a conductor through the insulator and the outer of said walls being adapted to engage a support, said walls being joined at one end so as to form a cylindrical reservoir between said passage and the outer surface of said insulator, and a cap covering the upper end of said reservoir.

3. In an insulator, two concentric tubular

insulator-walls, a cylindrical reservoir formed by said walls, and a cap for said reservoir supported by the inner of said walls.

4. In an insulator, two concentric tubular
5 insulator-walls, the inner of said walls being open at both ends to afford a passage for a conductor and the outer of said walls being provided with a supporting-flange, said walls being joined at one end so as to form a cylindrical reservoir surrounding the passage.
10

5. In an insulator, two concentric tubular

insulator-walls, an oil-reservoir formed by said walls, a cap for said reservoir carried by the inner of said walls and a supporting-flange carried by the outer of said walls.

Signed at Pittsfield, Massachusetts, this
13th day of May, 1903. 15

CUMMINGS C. CHESNEY.

Witnesses:

RICHARD EYRE,
L. A. HAWKINS.