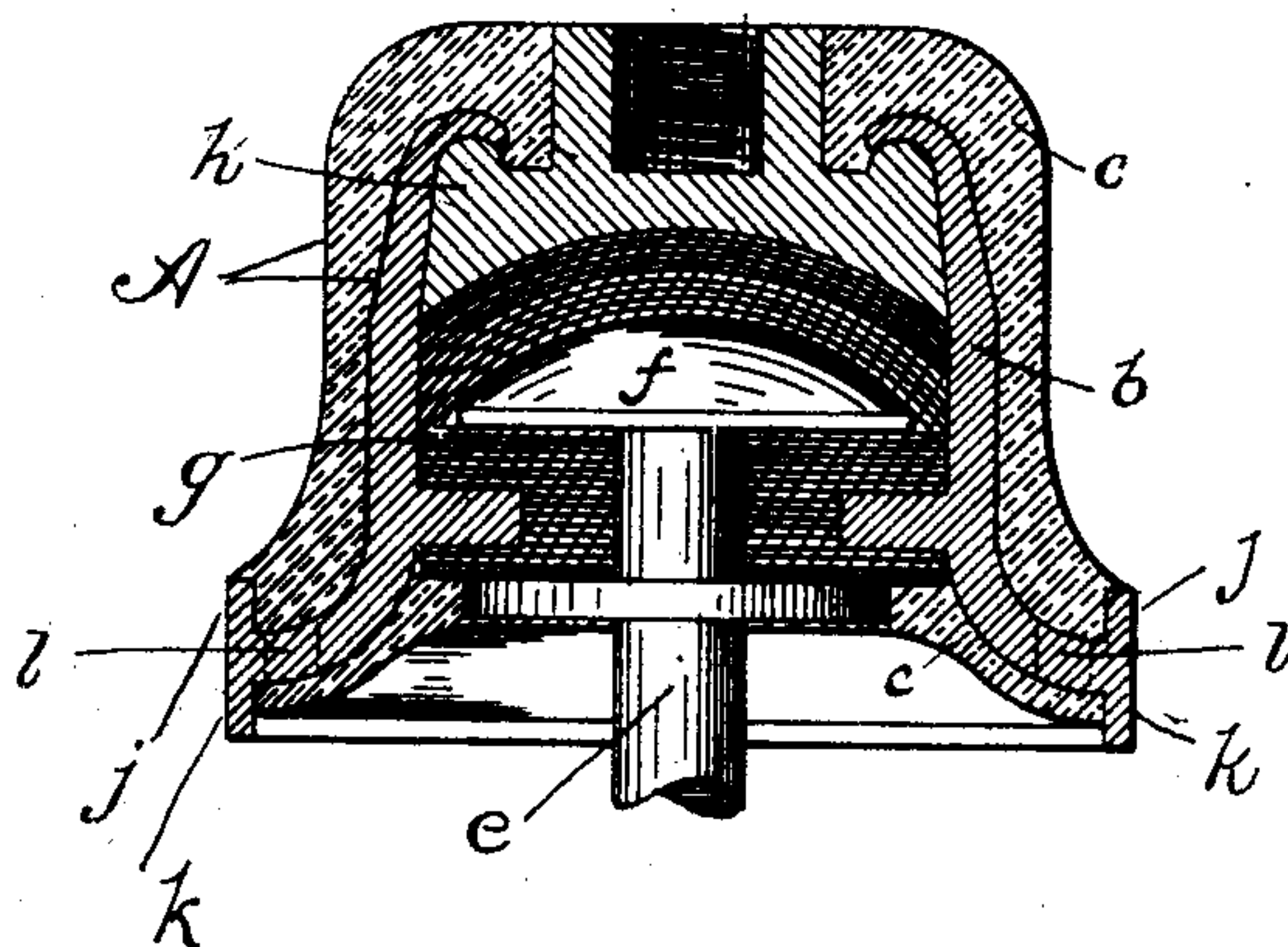


(No Model.)

L. McCARTHY.
INSULATOR.

No. 502,677.

Patented Aug. 1, 1893.



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UNITED STATES PATENT OFFICE.

LOUIS MCCARTHY, OF BOSTON, MASSACHUSETTS.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 502,677, dated August 1, 1893.

Application filed September 23, 1892. Serial No. 446,699. (No model.)

To all whom it may concern:

Be it known that I, LOUIS MCCARTHY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Insulators, of which the following is a specification, reference being had therein to the accompanying drawing.

My present invention is an improvement in that class of insulators which are employed in supporting overhead conductors or trolley wires for electric railways. In the construction of such insulators a case or shell is employed which is provided with a downwardly and outwardly projecting portion called a skirt the chief purpose of which is to shed moisture and thus protect the insulation. The case or shell and its skirt have usually been made of metal, but I have also constructed insulators of this class having an exterior covering or jacket of insulating material, usually a composition of matter which is molded over the exterior of the case when in a plastic condition and then allowed to harden. This forms a case composed of an interior shell of metal and an outer layer or covering of insulating material or composition. In practice it has been found, that a skirt which is covered with a layer of insulating material molded thereon is liable to be cracked or damaged if the edge of the skirt receives a sudden blow as it frequently does when the trolley leaves the trolley wire. If that portion of the molded covering or jacket which extends over the skirt be fractured or broken in this way, the damage is apt to extend to other portions of the covering so that moisture is admitted and the value of the insulator impaired.

My present invention has for its object to provide an insulator case which shall obviate these difficulties and it consists in forming the edge of the skirt of metal, the covering of insulating material being stopped short of the edge so that a sudden blow from a trolley or other object will be received by the metallic edge of the skirt and will not impair the insulator.

The novel features of my invention are pointed out in the claims which are appended hereto and made a part hereof.

In the accompanying drawing in which my

invention in the best form now known to me is embodied in an insulator, the figure is a vertical section showing my improvement. 55

The case of the insulator is shown at A and consists of an insulator shell *b* of metal which is covered exteriorly with a layer *c* of insulating composition which is preferably molded thereon in a plastic condition and then allowed to harden. The interior construction of the insulator is not essential to my present invention and I do not deem a detailed description thereof necessary. 60

The insulator which I have shown in the drawings embraces a connecting-piece *e* having a head *f* which is placed within the case and which is insulated therefrom by compressed mica shown at *g*, a cap *h* which is concaved to correspond to the convexity of the head *f* is placed within the case and the upper edge of the case turned or bent over the top of the cap. As previously stated it will be obvious that the internal form of the insulator may be varied as desired without affecting my present invention. 65 70 75

In constructing an insulator case in accordance with my invention, the metallic portion *b* is extended downwardly and outwardly and is preferably flanged at the edge as shown at *j*, *k*. The inner faces of the flanges serve to protect the edge of the layer *c* which may be molded up to the said flange. It is desirable that that portion of the layer *c* which protects the underside of the insulator and which comes in contact with the flange *k* should be of less thickness at the edge where it joins the flange than the depth of the flange so that the flange may project somewhat below it and thus protect it from injury. It is not, however, necessary that the metallic edge of the skirt should be flanged as shown, the advantages of the construction being substantially obtained when the metallic portion of the skirt is made to extend outwardly beyond the covering *c*. The web of the skirt of the metallic portion *b* of the case may be provided at intervals with apertures *l* through which the molded covering may flow when it is being molded onto the insulator and by means of which that portion of the covering which is on the under side of the insulator may be connected integrally with the portions which cover the sides and top of the insulator. An 80 85 90 95 100

insulator which is constructed in this manner is easily made and will withstand a blow given by a trolley which is off the wire without sustaining injury.

5 As will be clear a portion only of the layer *c* may be employed and many of the advantages of my construction obtained. I do not therefore desire to limit myself to an insulator having the whole of its exterior surface, 10 excepting the edge of the skirt, covered by the layer *c*, although I prefer that construction.

What I claim is—

1. A trolley wire insulator having a case 15 composed of a metallic shell and having an exterior layer of insulating material, a portion of the metallic shell being extended to

form the edge of the skirt of the case, substantially as and for the purposes set forth.

2. A trolley wire insulator having a case 20 composed of a metallic shell and an exterior layer of insulating material, a portion of the metallic shell being extended to form the edge of the skirt and being provided at said edge with flanges against which the exterior cover- 25 ing is molded, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS MCCARTHY.

Witnesses:

WM. A. MACLEOD,
A. H. MORRISON.