No. 843,844. PATENTED FEB. 12, 1907.

R. N. REDMAYNE.

THIRD RAIL INSULATOR.

APPLICATION FILED MAR. 12, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

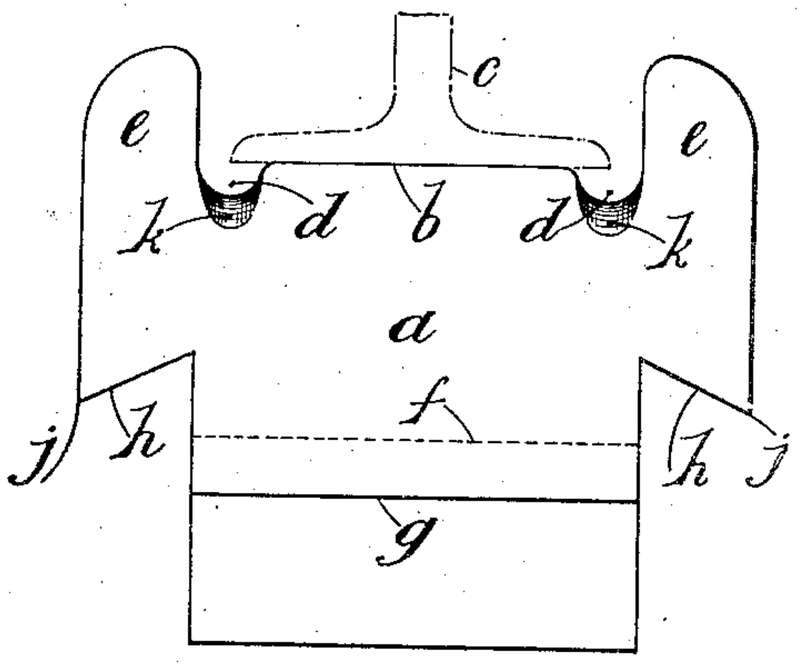


Fig. 3.

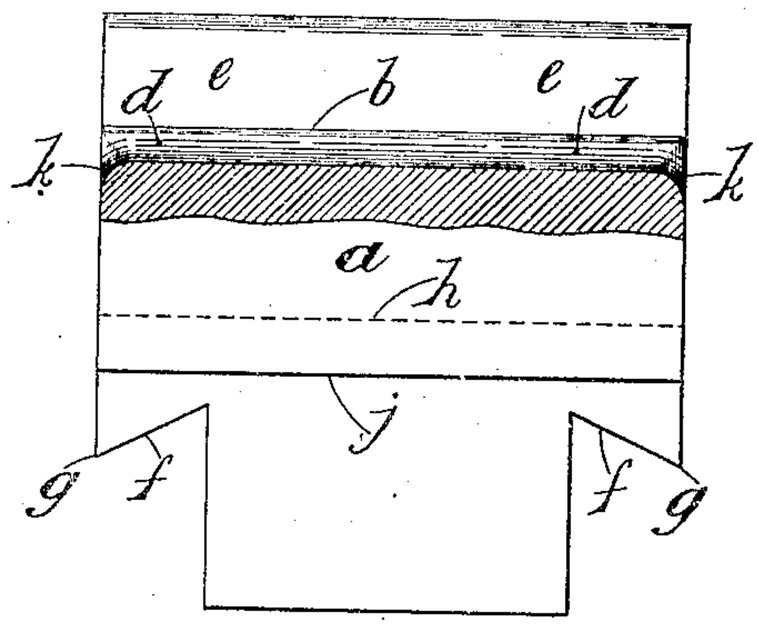


Fig. 4

Fig. 2.

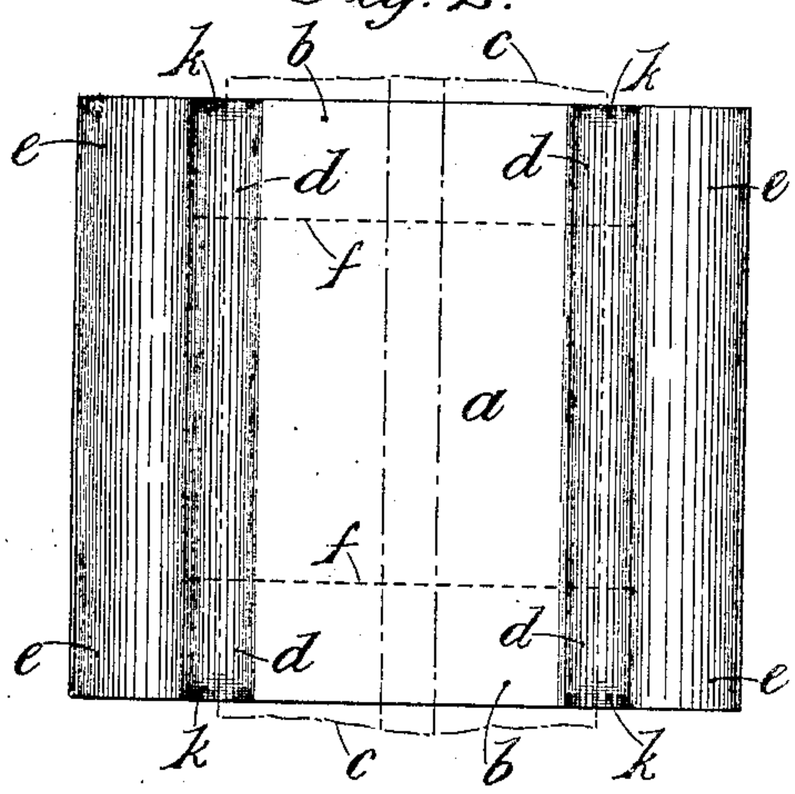


Fig. 5.

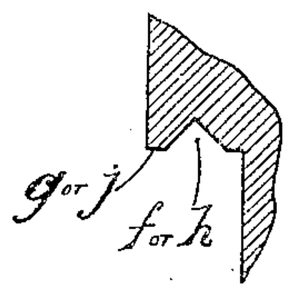


Fig. 6.

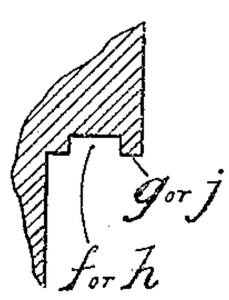
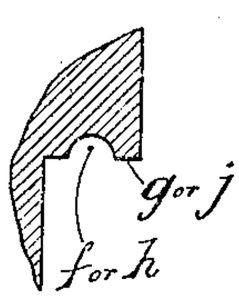


Fig. 7.



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2 SHEETS—SHEET 2.

Fig. 8.

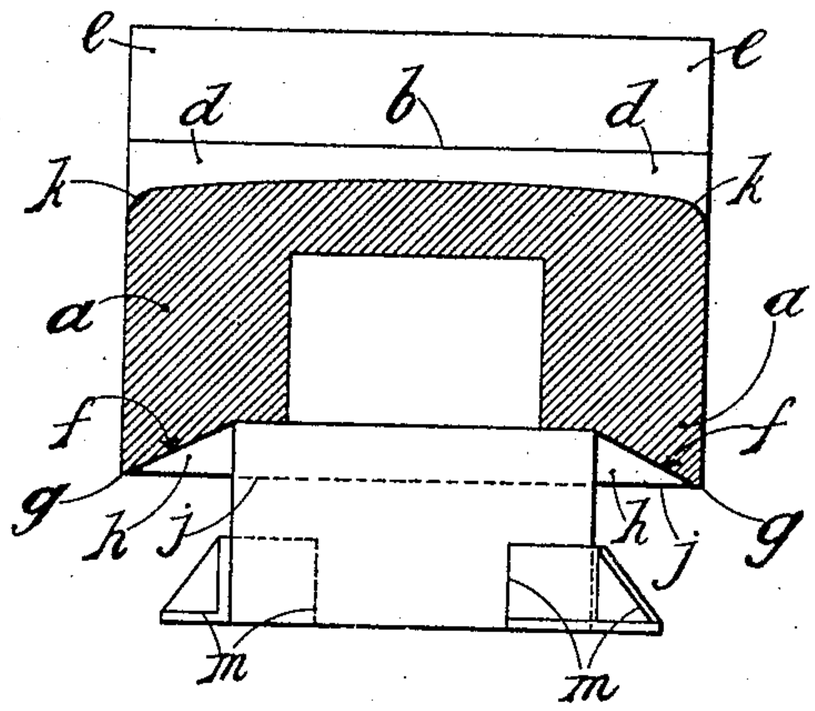
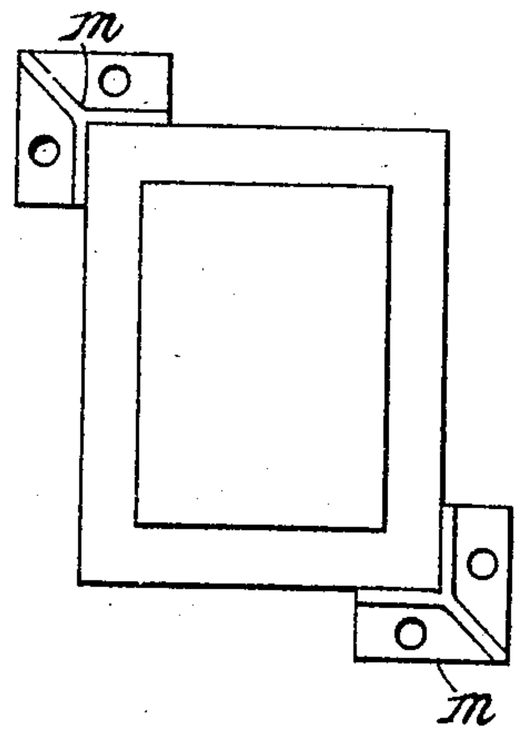


Fig. 9.



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UNITED STATES PATENT OFFICE.

ROBERT NORMAN REDMAYNE, OF NEWCASTLE-UPON-TYNE, ENGLAND.

THIRD-RAIL INSULATOR.

No. 843,844. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed March 12, 1906. Serial No. 305,557.

To all whom it may concern:

Be it known that I, ROBERT NORMAN REDMAYNE, a subject of the King of Great Britain and Ireland, and a resident of Newcastle-upon-Tyne, in the county of Northumberland, England, have invented certain new and useful Improvements in Third-Rail Insulators, of which the following is a specification.

This invention relates to insulators for electric conductors, and has for its object to provide an insulator for "live" rails or overhead equipment of electric transport systems which shall efficiently insulate the same from earth, especially in damp weather, thus preventing leakage of current through moisture deposited on the insulators.

An insulator made in accordance with this invention comprises a body of insulating material having a supporting-surface, preferably of less width than the base of the conducting-rail, longitudinal grooves in said body forming the lateral limits of said surface, raised longitudinal flanges to said body, and undercut recesses, grooves, rabbets, or the like forming dripping edges at the sides or ends of said body or at both the sides and ends.

I will fully describe several forms of insulator made in accordance with my invention with reference to the accompanying drawings, wherein—

Figure 1 is an end view, and Fig. 2 a plan of same. Fig. 3 is a side view of Fig. 1, partly in section, and Fig. 4 is a perspective view. Figs. 5, 6, and 7 are part-sectional views showing slightly-modified forms of the undercut recesses, grooves, or rabbets or the like hereinafter more particularly described. Fig. 8 is a side view, partly in section, of a modification; and Fig. 9 is a plan of the same with the upper portion removed.

Referring to the drawings, this form of my invention comprises a body *a*, of porcelain of other suitable insulating material, having a supporting face or surface *b*, of less width than the base of the conducting-rail *c*, (indicated in dot-and-dash lines in Figs. 1 and 2,) and provided with longitudinal grooves *d d*, limiting the supporting face or surface *b* laterally, so that the edges of the base of the rail *c* overhang the grooves *d d* when the rail is in position. The body *a* is also provided with longitudinal flanges *e e*, which form the outer sides of the grooves *d d* and preferably project above the base of the rail *c*. The ends of the body *a* are provided with undercut recesses, grooves or rabbets or the like *f f*, forming dripping edges *g g*, and the sides are also preferably provided with similar undercut recesses, grooves or rabbets or the like *h h*, forming dripping edges *j j*.

The ends of the grooves *d d* are preferably rounded or cut away, as shown at *k*, and in some cases the grooves may be cambered or slope toward each end, as shown in Fig. 8.

The sides of the insulator may be straight, inclined, or curved, as desired.

As will be obvious the insulator may be made in one solid piece or in two or more parts suitably built up or connected together, as shown in Fig. 8, and it may be secured to the sleeper by angle-irons or corner-pieces *m m*, Figs. 8 and 9, or otherwise suitably.

The undercut recesses, grooves or rabbets or the like *f* and *h*, instead of being shaped as shown in Figs. 1, 3, and 4, may be shaped as shown in Figs. 5, 6, and 7, or they may be of any other suitable shape which will form dripping edges, and thus prevent a continuous film of moisture between the surface of the insulator and the sleeper or earth.

In use, any rain or water striking the sides of the insulator runs down same and drops from the dripping edges *j j*. If it strikes in the rail *c* or inside of the flanges *e e*, it drips or runs into the grooves *d d*, and thence over the ends of the insulator, and drops from the dripping edges *g g*, leaving dry lines along the under edges of the overhanging parts of the rail and along the upper part of the inner sides of the grooves *d d*, thus preventing a short circuit being caused by a film of moisture on the surface of the insulator.

In an insulator made as above described the flanges *e e* prevent displacement of the rail *c*, and the use of metal clips or the like for retaining the rail in position is entirely avoided.

What I claim, and desire to secure by Letters Patent, is—

1. An insulator for electric conductors such as "live" rails comprising a body part, a supporting-surface on and longitudinal grooves in said body part, said longitudinal grooves forming lateral limits to said surface.

2. An insulator for electric conductors such as "live" rails comprising a body part,

a supporting-surface and longitudinal flanges on said body part and longitudinal grooves in said body part, said longitudinal grooves forming lateral limits to said surface, and said flanges forming the outer sides of said longitudinal grooves.

3. An insulator for electric conductors such as "live" rails comprising a body part, a supporting-surface on and longitudinal grooves in said body part, said longitudinal grooves forming lateral limits to said surface and means to prevent a continuous film of moisture between the surface of the insulator and the earth.

4. An insulator for electric conductors such as "live" rails comprising a body part, a supporting-surface on and longitudinal grooves in said body part, and undercut recesses in said body part, said undercut recesses forming dripping edges, and said longitudinal grooves forming lateral limits to said surface.

5. The combination with an electric conductor of an insulator, said insulator comprising a body part, a supporting-surface on and longitudinal grooves in said body part, said longitudinal grooves forming lateral limits to said surface, and said supporting-surface being of less width than the electric conductor.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ROBERT NORMAN REDMAYNE.

Witnesses:
EDMUND WARD PATTISON,
H. NIXON.