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C. R. DENNIS ET AL

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LINEMAN'S PROTECTOR

Filed Oct. 6, 1930

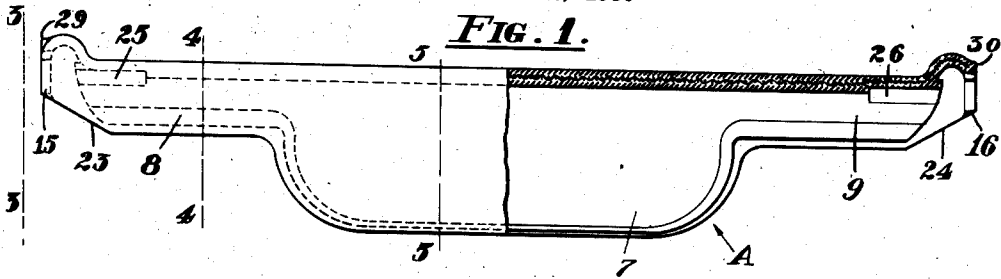


FIG. 1.

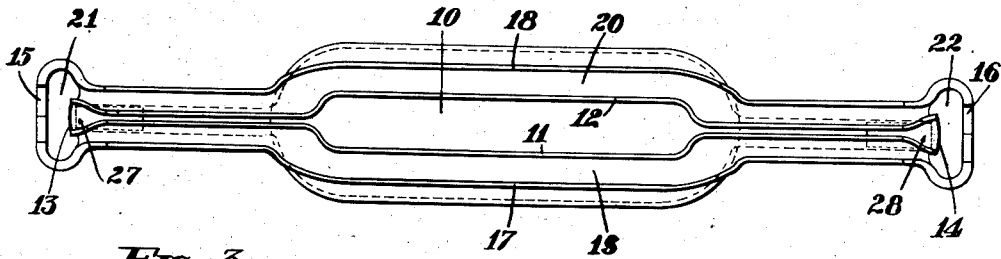


FIG. 2.

FIG. 3.

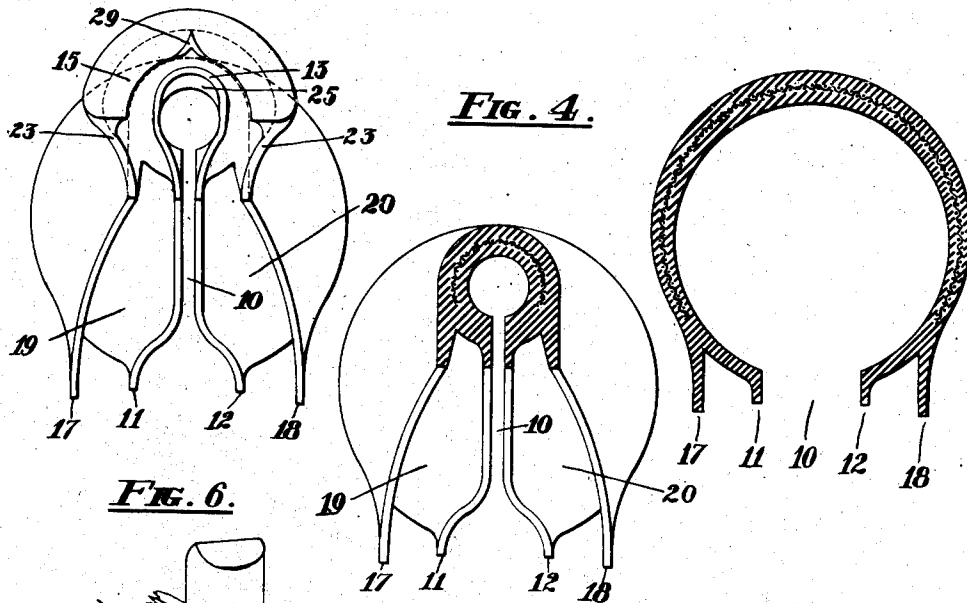


FIG. 4.

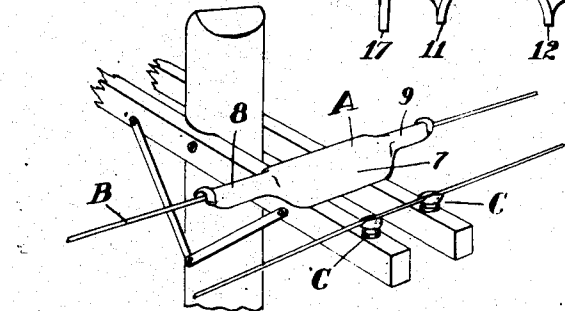


FIG. 5.

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LINEMAN'S PROTECTOR

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This invention relates to a lineman's protector and has as its primary object the provision of a device which is adapted to be positioned astride an electrical conductor at the point of attachment of the latter to its insulator support for the purpose of affording a protection to workmen against electrical shock while working in proximity to a charged conductor, and which is especially applicable for use by linemen when working adjacent electrically charged conductors in wet weather as during a mist or rain, and where moisture accumulated on a conductor support, such as a tower or pole, might occasion a short circuit from the conductor to ground through the body of a person standing on the support and contacting the conductor.

Another object of the invention is to provide a demountable insulated sheath for electrical conductors which is so formed that when applied to a conductor and exposed to rain or mist under ordinary conditions, it will shed water in such manner as to maintain a dry surface on the sheath, which will prevent the flow of the electrical current from the conductor encompassed by the sheath to the film of moisture on the exterior of the sheath.

Another object is to provide a temporary insulating sheath for electrical conductors adapted to be positioned astride a conductor and supported thereon which is adapted to shed water both interiorly and exteriorly thereof, and which is so formed as to shed water from its interior and exterior on opposite sides of a surface area of the sheath and so formed and arranged as to be maintained dry and whereby films of moisture interiorly and exteriorly of the sheath will be prevented from meeting thereon during employment of the sheath for the purpose for which it is intended.

With the foregoing objects in view, together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed and

illustrated by way of example in the accompanying drawing, in which:

Fig. 1 is a view in side elevation partly in vertical section showing the protector as constructed in accordance with the invention;

Fig. 2 is an inverted plan view of the protector;

Fig. 3 is an end view of the protector;

Fig. 4 is a view in section and elevation taken on the line 4—4 of Fig. 1;

Fig. 5 is a view in cross section taken on the line 5—5 of Fig. 1;

Fig. 6 is a detail in perspective illustrating the application of the invention.

Referring to the drawing more specifically, A indicates generally a protective sheath which is formed of any suitable electrically non-conductive material, preferably rubber or rubber composition whereby the sheath will be rendered flexible and resilient. However, the invention may be carried into effect by forming the sheath of insulating material of any desired character adapted to serve the purpose for which the sheath is intended.

The sheath is of general tubular form and embodies an enlarged intermediate portion 7 and reduced end portions 8 and 9; the end portions having a part of their inner surface extending in alignment with the upper inner surface of the enlarged intermediate portion 7. The sheath is formed with a longitudinal slit 10 extending throughout the length thereof on its under side which slit is open at its end and whereby the sheath may be positioned astride a conductor B, as shown in Fig. 6 with the enlarged intermediate portion 7 extending astride insulators C on which the conductor B is carried and with the reduced end portion positioned astride the portions of the conductor B projecting from opposite sides of the insulators C. The portion of the slit 10 formed in the intermediate portion 7 of the sheath is of such width as to accommodate the shank portions of the insulators C when the sheath is put in place thereover.

The upper portion of the sheath is arcuate in cross section so as to afford a water shed-

ding surface on its exterior and its side walls are inclined inwardly and downwardly both interiorly and exteriorly thereof toward the slit 10. The surfaces of the sheath are
 5 formed of such smoothness as to facilitate the drainage of water therefrom and are also non-absorptive of moisture so as to minimize accumulations of water thereon.

The margins of the slit 10 are formed to facilitate the draining of moisture or water from the interior of the sheath and for which purpose are here shown as formed with depending drip drain lips 11 and 12 which project downwardly from the longitudinal margins of the slits and which slits are connected together at their ends by lip portions 13 and 14 extending in continuation of the lips 11 and 12 around the inner peripheries of the end portions 8 and 9.

The outer ends of the reduced end portions 8 and 9 are enlarged interiorly and exteriorly and are formed with depending lips 15 and 16 which extend in spaced relation to the lips 13 and 14 to form a gap therebetween and the inner margins of which lips 15 and 16 are outwardly spaced in relation to the inner margin of the end portions 8 and 9 so that when the sheath is supported on a conductor, the lips 15 and 16 will be spaced
 30 from the latter.

An important feature of the invention resides in forming the sheath with downwardly extending continuous lips 17 and 18 extending throughout the length thereof in spaced relation to the marginal lips 11 and 12 and which lips 17 and 18 merge into the end lips 15 and 16 thereby forming a continuous drip drain completely surrounding the slit or open portion of the sheath. By this construction, the sheath is formed with an external surface area surrounding the marginal lips 11, 12, 13, and 14 which area in turn is completely surrounded by the lips 17 and 18 and their connecting lips 15 and 16; there
 45 thus being an area 19 extending between the lips 11 and 17, an area 20 extending between the lips 12 and 18, an area 21 extending between the lips 13 and 15, and an area 22 extending between the lips 14 and 16 as particularly shown in Fig. 2.

The opposite side walls of the end portions 8 and 9 are cut away as indicated at 23 and 24, the margins of which afford the interconnection between the lips 17 and 18
 55 and the end lips 15 and 16.

Formed in the upper interior surfaces of the reduced end portions 8 and 9, are recesses 25 and 26 which extend inwardly from the lips 13 and 14 so as to afford a clearance
 60 between the outer end portions of the members 8 and 9 and the conductor B on which the sheath is supported.

As a means for facilitating positioning of the sheath astride a wire or conductor, as
 65 where the sheath is formed of flexible ma-

terial, the outer end portions of the lips 11 and 12 are formed to diverge to their interconnection with the lips 13 and 14 as indicated at 27 and 28, thus forming the
 70 slit 10 with enlarged end portions.

Projecting from the upper portion of the end portions 8 and 9 medially of the lips 15 and 16, are V-ledges 29 and 30, the purpose of which will appear hereinafter.

In the operation of the invention, the sheath A is positioned astride a conductor B as by introducing the conductor into the slit 10 through either of the enlarged ends 27 or 28 thereof, and in such manner that the sheath will extend over the insulators C with its end portions 8 and 9 projecting over portions of the conductor leading from the insulators, as shown in Fig. 6; the sheath being thus positioned with the lips 11 and 12, 15 and 16, and 17 and 18 extending in a general downward direction.

When the protector is thus put in place, moisture or water deposited on the upper or side portions of the sheath, as occasioned by a mist or rain, will drain therefrom over the side lips 17 and 18 and the end lips 15 and 16; the moisture or water dripping from these lips and thereby being prevented from coming in contact with the surface areas 19, 20, 21, and 22.

Such water as may accumulate on the conductor B and be carried thereby to the interior of the sheath will drain into the latter and will drip from the margins of the slit 10 and will thereby be prevented from flowing onto the surfaces 19, 20, 21, and 22. In this manner streams or films of water draining from the exterior and from the interior of the sheath will not meet on the surface of the latter, and will thereby be insulated apart by the dry surface maintained between the margin of the slit and the surrounding drain lips.

By the provision of the V-ledges 29 and 30, the accumulation of drops of water medially of the lips 15 and 16 is prevented thus obviating any drip from the ends of the sheath onto the portions of the conductor therebeneath; the ledges acting to cause such water as may tend to collect on the ends of the sheath to flow each way from the center thereof and drip from the ends of lip portions 15 and 16 or to follow down the margins of the cutaway portions 23 and 24 and drip from the lips 17 and 18.

By the provision of the recesses 25 and 26, such water as may flow along the upper surface of the conductor B interiorly of the sheath will not be wiped off by the latter until it has reached a point spaced inwardly from the end portions of the lips 11 and 12, thus insuring against such water from being deposited on the outer portions of the marginal lips.

While we have shown and described a spe-

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cific embodiment of our invention, we do not limit ourselves to the exact details of construction shown but may employ such changes and modifications as occasion may require coming within the spirit and scope of the appended claims.

We claim:

1. A lineman's protector comprising a tubular sheath having its surfaces formed of material electrically non-conductive, said sheath being formed with an open ended slit extending longitudinally thereof whereby the sheath may be positioned astride an electrical conductor, and said sheath being formed with marginal drain lips extending uninterruptedly along the edges and around the ends of said slit, and being formed with drain lips extending in spaced relation to said marginal lips.

2. A lineman's protector comprising a tubular sheath having its surfaces formed of material electrically non-conductive, said sheath being formed with an open ended slit extending longitudinally thereof whereby the sheath may be positioned astride an electrical conductor, and said sheath being formed with marginal drain lips extending along the edges of said slit, and being formed with drain lips extending longitudinally thereof in spaced relation to said marginal lips, and drain lips formed on the ends of said sheath in continuation of said last named lips.

3. A lineman's protector comprising a tubular sheath having its surfaces formed of material electrically non-conductive, said sheath being formed with an open ended slit extending longitudinally thereof whereby the sheath may be positioned astride an electrical conductor, and said sheath being formed with marginal drain lips extending along the edges of said slit, and being formed with drain lips extending longitudinally thereof in spaced relation to said marginal lips, drain lips formed on the ends of said sheath in continuation of said last named lips, and a V-ledge projecting from each end of said sheath medially of said last end lips.

4. In a lineman's protector, an electrically non-conductive sheath of general U-shaped cross section for positioning astride an electrical conductor, said sheath having its end portions terminating in drain lips the lower margins of which are arranged to extend in spaced relation to a conductor on which the sheath is seated, and a V-ledge projecting medially of said lips.

5. In a lineman's protector, a tubular electrically non-conductive sheath formed with a longitudinal slit having marginal drain lips extending along the sides of the slit and terminating in spaced relation to the ends of the sheath; the end portions of said sheath being formed with internal recesses

in the wall portions thereof overlying the end portions of said slit.

6. In a lineman's protector, a tubular sheath formed with a longitudinal slit having marginal drain lips extending along the sides of the slit and terminating in spaced relation to the ends of the sheath; the end marginal portions of said slit diverging outwardly.

7. In a lineman's protector, a tubular sheath formed with a longitudinal slit having marginal drain lips extending along the sides of the slit and terminating in spaced relation to the ends of the sheath; the end marginal portions of said slit diverging outwardly, and end lips on said sheath projecting beyond the diverging end portions of said slit.

8. A lineman's protector comprising a tubular sheath including an enlarged intermediate body member and reduced end extensions thereon, said end extensions having portions of their internal wall surfaces extending in alignment with a longitudinal wall portion of the intermediate body member, said sheath being formed with a longitudinally extending open ended slit on the side thereof opposite said aligned wall portions, drain lips on the margins of said slit terminating in inwardly spaced relation to the ends of said sheath, the end portions of said end extensions being enlarged and having their under portions cut-away, drain lips extending in spaced relation to said marginal lips merging into the edges of the cut-away portions, and drain lips on the enlarged ends of said end extensions merging into the edges of said cut-away portions and spaced from the terminations of said marginal lips.

9. A lineman's protector comprising a tubular sheath including an enlarged intermediate body member and reduced end extensions thereon, said end extensions having portions of their internal wall surfaces extending in alignment with a longitudinal wall portion of the intermediate body member, said sheath being formed with a longitudinally extending open ended slit on the side thereof opposite said aligned wall portions, drain lips on the margins of said slit terminating in inwardly spaced relation to the ends of said sheath, the end portions of said end extensions being enlarged and having their under portions cut-away, drain lips extending in spaced relation to said marginal lips merging into the edges of the cut-away portions, drain lips on the enlarged ends of said end extensions merging into the edges of said cut-away portions and spaced from the terminations of said marginal lips, and a V-ledge formed intermediate the ends of said end lips.

10. A lineman's protector comprising an electrically non-conductive sheath formed with a longitudinal open-ended slit, a pair of

spaced endless lips extending along each side thereof and extending upwardly in arcs around the ends of said sheath.

11. In a lineman's protector an electrically non-conductive covering for positioning over an electrically conductive element, such covering having an arched end portion formed to extend in spaced relation to such element extending under such arch, said arched end portion being formed with an internal channel the ends of which channel are connected by another channel on the under side of such covering.

12. In a lineman's protector an electrically non-conductive covering for positioning over an electrically conductive element, such covering having an arched end portion formed to extend in spaced relation to such element extending under such arch, said arched end portion being formed with an internal channel such channel being a portion of an endless channel interposed between such element and the outer surface of such covering.

13. A lineman's protector comprising an electrically non-conductive sheath formed with a longitudinal open ended slit extending along the under side thereof, a pair of spaced endless lips extending along each side of said slit depending downwardly from said sheath and extending upwardly in arcs around the ends of said sheath.

14. A lineman's protector comprising an electrically non-conductive sheath formed with a longitudinal open-ended slit a pair of spaced lips extending along each side thereof; the outermost of said lips being endless and extending upwardly in arcs around the ends of said sheath.

15. A lineman's protector comprising an electrically non-conductive sheath formed with a longitudinal open ended slit extending along the under side thereof, a pair of spaced endless lips extending along each side of said slit depending downwardly from said sheath, and extending upwardly in arcs around the ends of said sheath, the outer margin of the outer one of said lips describing a greater arc than the margin of the inner one of said lips.

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