June 24, 1930. J. HÖLZEL 1,766,636

INSULATOR GUARD

Filed Oct. 8, 1926

Fig. 1

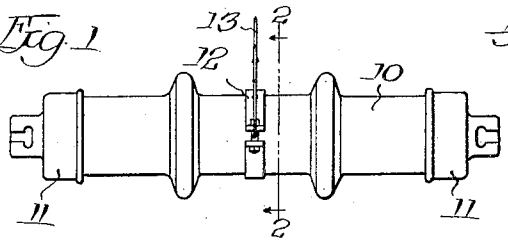


Fig. 2

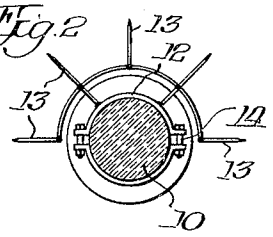


Fig. 3

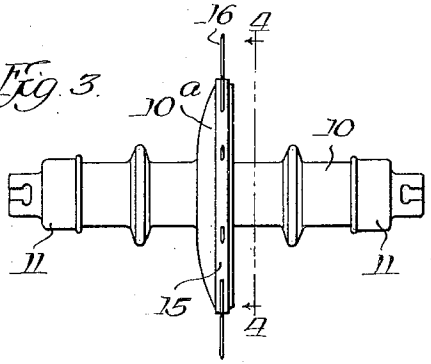


Fig. 4

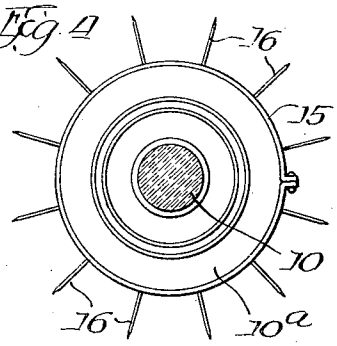


Fig. 5

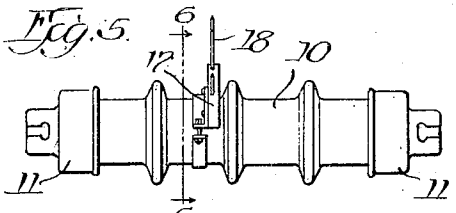


Fig. 6

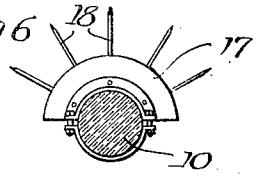


Fig. 7

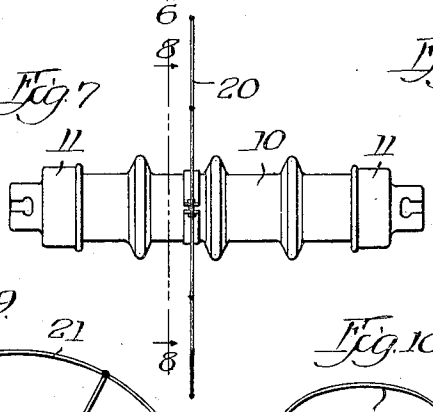


Fig. 8

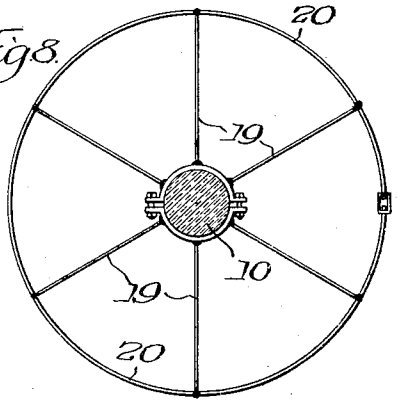


Fig. 9

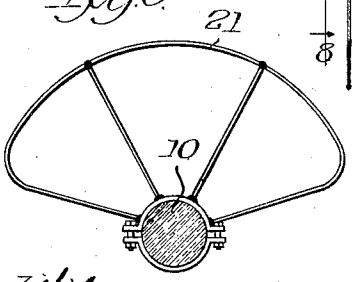
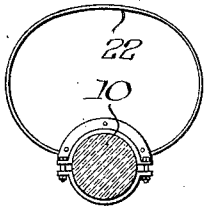


Fig. 10



Witness:

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Patented June 24, 1930 1,766,636

UNITED STATES PATENT OFFICE

JOHANNES HOLZEL, OF PASING, NEAR MUNICH, GERMANY, ASSIGNOR TO A. G. BROWN BOVERI & CIE., OF BADEN, SWITZERLAND, A JOINT-STOCK COMPANY, OF SWITZERLAND

INSULATOR GUARD

Application filed October 8, 1926, Serial No. 140,226, and in Germany October 19, 1925.

This invention relates to the protection of exposed electrical conductors and finds one application in connection with the support of high tension lines of electrical distribution systems or the contact wires of overhead traction systems.

It frequently occurs in installations wherein strain insulators of the bar or double cap type are used, such as at points where horizontal straight members or spreaders are used for positioning railway contact wires, or where such wires are shackled off at terminals or ends of sections, flash-overs and short circuits are caused by birds perching on the insulator and making contact with the two metal caps or end connections of the insulator, with their wings. The present invention is designed particularly to prevent such occurrences by presenting an obstruction to the birds perching on the insulator or making it impossible for them to come in contact with both connection caps at once.

In the drawing forming a part of this specification I illustrate various arrangements wherein the invention may be embodied, but it is to be understood that the forms here shown for illustration are not to be regarded as exhaustive of the various embodiments which the invention may take within the scope of the appended claims.

In the drawing,

Fig. 1 is a side elevational view of an insulator equipped with one form of guard;

Fig. 2 is a transverse sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a side elevational view of another form of insulator and guard;

Fig. 4 is a sectional view on approximately line 4—4 of Fig. 3;

Fig. 5 is a side elevational view of a third form of insulator and guard;

Fig. 6 is a sectional view on line 6—6 of Fig. 5;

Fig. 7 is a side elevational view of an insulator with still another form of guard;

Fig. 8 is a sectional view on line 8—8 of Fig. 7;

Figs. 9 and 10 are sectional views taken transversely of the insulator showing still further types of guards.

In all of the figures the reference numeral 10 designates an insulator, having the end caps or connection members 11 whereby it may be joined to the electrical conductor in such fashion that the insulator is supported in a position approximating the horizontal. Mounted upon the insulator in proper position between the end connections 11 is a guard member. That illustrated in Figs. 1 and 2 comprises a split ring or hoop 12 embracing the insulator and clamped in place by the bolts 14. This hoop carries radially extending barbs or prongs 13 of proper length and arranged at proper intervals to interfere with the perching of the birds upon them or in their vicinity on the insulator and affording an obstruction which will prevent a bird perched on one side of the guard from reaching, with its wings, the connection member 11 at the opposite side of the guard.

In the form illustrated in Figures 3 and 4 the insulator has a medial shed or umbrella flange 10^a, and the guard comprises a hoop 15 clamped in encircling engagement with the flange and carrying radially extending prongs 16.

In the form illustrated in Figures 5 and 6 the guard hoop carries a radially extending segmental flange 17 upon which are carried the radially extending prongs 18.

In the forms illustrated in Figures 7 and 8 the guard completely encircles the insulator, the radial members 19 supporting, at their outer ends, a spacing ring 20 which cooperates with them to constitute a screen. In the forms illustrated in Figures 9 and 10 the hoops carry wire bows 21 and 22 forming effective intercepting members extending from the insulator between its end connections.

What I claim is:

1. The combination with a line insulator having connection members at its ends, of a hoop mounted on the insulator between the connection members and radially extending portions carried by the hoop, said radial portions extending from said hoop for such

distance as to prevent short circuiting of the conection members.

2. The combination with an insulator provided with connection members at the ends thereof, of a split clamping band disposed about said insulator intermediate said members, means associated with said band for holding the same in clamped relation with respect to said insulator, and guard elements carried by said band and spaced circumferentially thereof and extending substantially radially outwardly therefrom a substantial distance from the surface of said insulator.

3. The combination with an insulator provided with connection members at the ends thereof, of a split clamping band disposed about said insulator intermediate said members, means associated with said band for holding the same in clamped relation with respect to said insulator, a radially-extending segmental flange carried by said band, and radially-extending guard elements secured at their respective inner ends to said flange and spaced circumferentially thereof and having their respective outer ends disposed a substantial distance from the outer surface of said insulator.

In testimony whereof I have hereunto subscribed my name at Munich, Germany, on the 17th day of September, A. D. 1926.

JOHANNES HOLZEL.