W. SCHAAKE.

STRAIN INSULATOR.

APPLICATION FILED JAN. 26, 1910.

1,010,077. Patented Nov. 28, 1911.

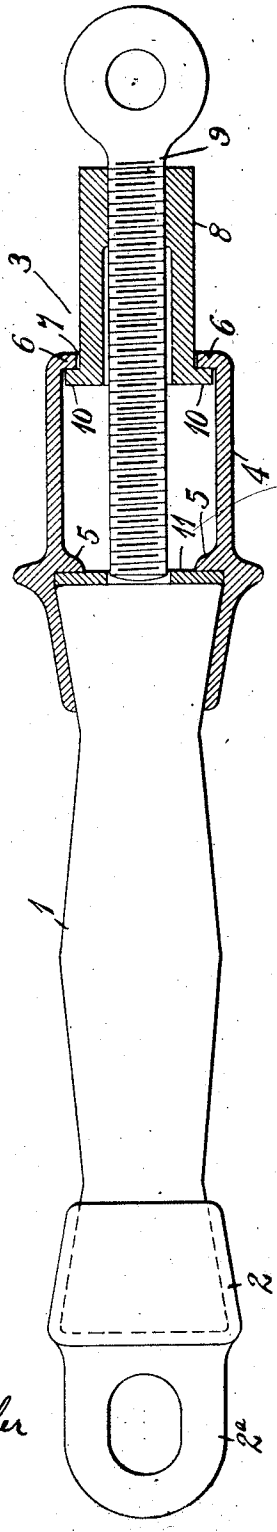


Fig. 1.

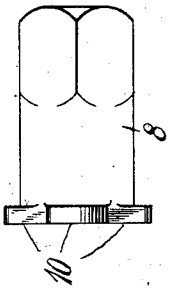


Fig. 2.

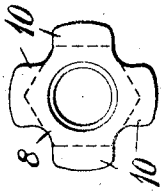


Fig. 3.

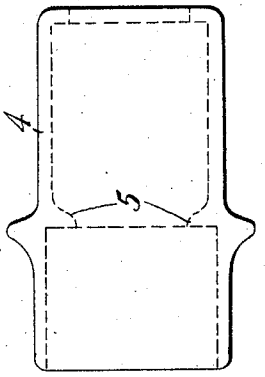


Fig. 4.

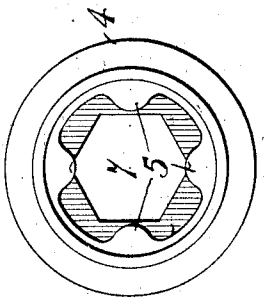


Fig. 5.

WITNESSES:

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STRAIN-INSULATOR.

1,010,077. Specification of Letters Patent. Patented Nov. 28, 1911.

Application filed January 26, 1910. Serial No. 540,236.

To all whom it may concern:

Be it known that I, WILLIAM SCHAAKE, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Strain-Insulators, of which the following is a specification.

My invention relates to electric line material and it has special reference to strain insulators.

The object of my invention is to provide a simple and durable device of the class above indicated that shall be adjustable in order to avoid the necessity for a turn buckle or other auxiliary means for taking up the slack in the conductor with which the device is employed.

Strain insulators, severally comprising a rod or bar of wood and iron or steel end members, have frequently been employed in connection with electric line structures, but it has usually been necessary to provide some independent means for adjusting the tension in the conductor with which the insulator was employed.

According to my present invention, I provide a strain insulator of the wood-bar construction, having one end so formed as to provide an adjustment of the overall length of the device, thereby obviating the necessity for auxiliary apparatus.

Figure 1 of the accompanying drawings is a partially sectional elevation of a strain insulator constructed in accordance with my invention and Figs. 2, 3, 4 and 5 are detail views of the structure shown in Fig. 1.

Referring to the drawings, the structure here shown comprises a bar 1 of wood or other suitable insulating material, a swaged member 2 which grips one end of the bar 1 and an adjustable member 3 which grips the opposite end of the bar 1.

The member 2 is provided with a ring projection 2^a by which the insulator may be attached to a line conductor or cable and it is first constructed in the form of a cup, having parallel sides and is swaged into the form shown in Fig. 1 of the drawings after it is in position on the end of the bar 1. The ends of the bar are frusto-conical in order to offer a very great resistance to the removal of the ends after the swaging process has been completed.

The adjustable member 3 comprises a hollow cylinder 4 having inwardly extending projections 5 intermediate its ends, as shown in Fig. 5 of the drawings and an inwardly projecting flange 6 at one end, which constitutes the walls of a hexagonal opening 7 to receive a nut 8, as shown in Fig. 1. In addition to the cylinder 4, the member 3 comprises an eye bolt 9, which is screw threaded so that it may be adjusted into and out of the nut 8 by rotating the nut.

The nut 8 is provided with lateral projections 10 at one end which are adapted to register with the spaces between the projections 5 of the cylinder 4, when assembling the parts, and to engage the flange 6 when they are assembled.

It is essential to provide a stop of some kind against which the end of the bar 1 may abut in order that said bar may be firmly seated when the swaging process is complete. Furthermore, it is desirable to permit the rotation of the nut 8 within the cylinder 4 without allowing it to be detached therefrom after the insulator parts are assembled.

In order to accomplish these results, I provide the nut with the flange projection 10 which coöperates with the flange 6 on the cylinder 4 and so arrange the projections 5 on the inner surface of the cylinder 4 that the projections 10 of the nut may pass between them in assembling the parts. A washer 11 rests against the projection 5 and forms a satisfactory stop against which the end of the bar 1 is forced.

The cylinder 4 is first made in the form shown in Fig. 4 and the parts are then assembled, the nut 8 being dropped into position and the washer 11 being placed within the cylinder against the projections 5. The cylinder is then placed over the end of the bar 1, and is swaged into close engagement therewith, as shown in Fig. 1.

It will be understood from the foregoing description, that the distance between the outer end of the eye bolt 9 and the end of the cylinder 4 may be varied over relatively wide limits by rotating the bolt or the nut 8 and, consequently, it is possible, after the insulator is connected to a circuit conductor, to take up a certain amount of slack and to put the insulator under tension without making use of any auxiliary apparatus.

It is evident that structural modifications may be effected within the spirit and scope of my invention, and I desire that only such

limitations shall be imposed as are indicated in the appended claims.

I claim as my invention:

1. A strain insulator comprising a bar of insulating material having enlarged ends of frusto-conical form, a metal cap swaged upon one of said enlarged ends and having an eye projection, a cylindrical member having its inner end swaged to the other end of said bar and having an internal flange at its outer end, a rotatable nut having an expanded inner end located in said cylindrical member, and an eye-bolt adapted to be adjusted longitudinally by the rotation of said nut.

2. An insulator for electric lines comprising a bar of insulating material, a cylindrical member the inner end of which is swaged upon one end of said bar and has internal projections against which the bar abuts and the outer end of which has an internal flange, a rotatable nut projecting from the outer end of the cylindrical member and having external projections to engage its flange, and an eye-bolt coöperating with said nut.

3. An insulator for electric lines comprising a bar of insulating material, a cylindrical member the inner end of which is swaged upon one end of said bar and has inner projections, and the outer end of which is provided with an internal flange against which the bar abuts, a rotatable nut projecting outwardly from the cylindrical member and having lateral projections adapted to engage said internal flange, and an eye-bolt coöperating with said nut.

4. An insulator for electric lines comprising a bar of insulating material, a flanged cylindrical member swaged upon one end of said bar and having inner projections against which the bar abuts, a nut having a notched flange adapted to register with the spaces between the projections on said cylindrical member and to engage the flange thereof, and an eye-bolt coöperating with said nut.

In testimony whereof, I have hereunto subscribed my name this 19th day of Jan., 1910.

WILLIAM SCHAAKE.

Witnesses:
E. W. P. Smith,
B. B. Hines.