May 22, 1934. A. M. SEEGER 1,960,171

LINE HOLDER FOR ELECTRIC WIRES

Filed April 6, 1933

Fig. 2

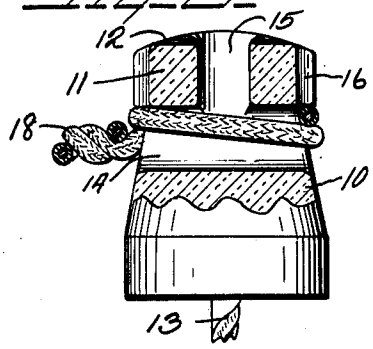



Fig. 3

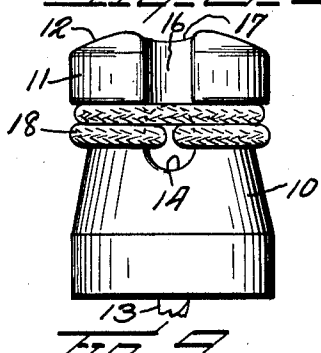



Fig. 7

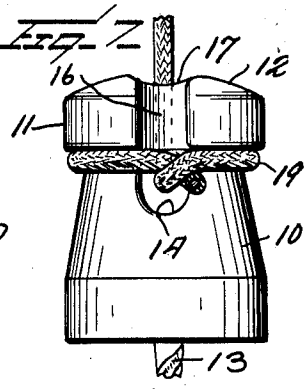



Fig. 9

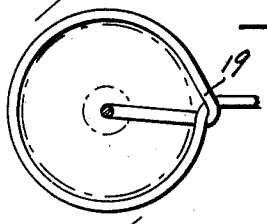



Fig. 1

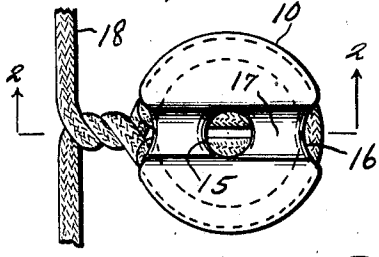



Fig. 8

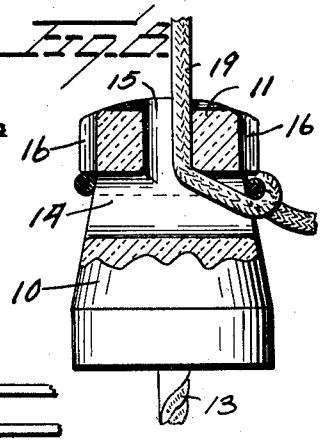



Fig. 4

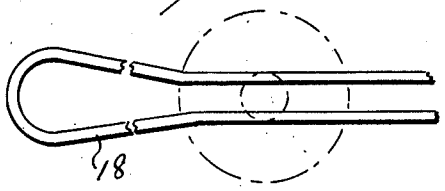



Fig. 10

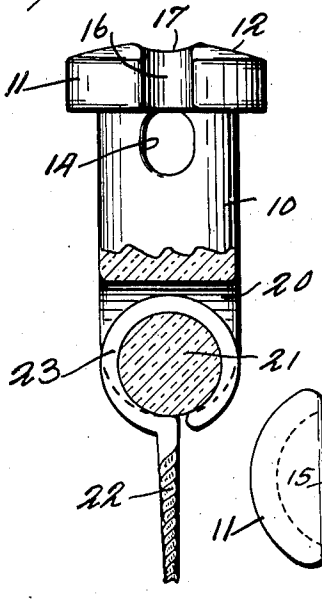



Fig. 5

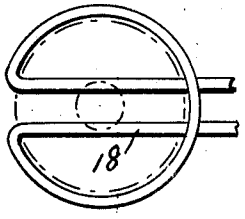



Fig. 6

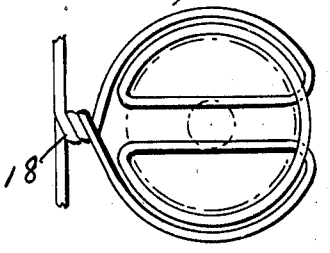
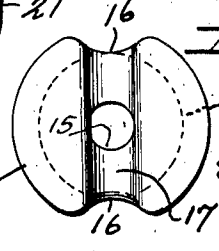



Fig. 11




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# UNITED STATES PATENT OFFICE

1,960,171

## LINE HOLDER FOR ELECTRIC WIRES

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Application April 6, 1933, Serial No. 664,807

3 Claims. (Cl. 173—313)

This invention relates to insulators such as are used for holding line wires, the lead-in wires of radios, "dead-ends" and other like situations and the general object of the invention is to provide an insulator or other line holder so constructed that line wires or lead-in wires or lead-out wires may be readily connected to the insulator without engaging the line wires or other wires to the insulator by means of ties.

A further object is to provide an insulator with an enlarged head or flange at the outer end of the insulator defining one wall of a channel and provide a wire passage extending diametrically through the insulator just below said flange or shoulder and a wire passage extending downward through the top of the insulator and intersecting the first named passage whereby it is possible to connect a line wire to an insulator without the necessity of using tie wires for the purpose and whereby it is possible to readily connect a lead-in wire or a lead-out wire to the insulator without the use of tie wires.

A further object in this connection is to provide an insulator of this type with very simple means whereby it may be engaged with a screw eye and held either tightly engaged by the eye of the screw or loosely engaged therewith so that the insulator may swing freely in different planes.

Other objects will appear in the course of the following description.

The invention is illustrated in the accompanying drawing, wherein:—

Figure 1 is a top plan view of an insulator constructed in accordance with my invention and showing line wires connected to the insulator;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is an elevation of the insulator and the wire engaged therewith;

Figures 4, 5 and 6 are diagrammatic plan views showing the manner in which the wire or conductor is engaged with the insulator;

Figure 7 is an elevation as in Figure 3 but showing the different manner of connecting a lead-in wire with the insulator;

Figure 8 is an elevation at right angles to the elevation in Figure 7 with the upper portion of the insulator broken away to show the arrangement of the lead-in wire;

Figure 9 is a diagrammatic plan view showing the manner in which the wire is connected to the insulator;

Figure 10 is an elevation of an insulator constructed as in Figures 2 and 7 but showing a novel manner of connecting the insulator to a screw;

Figure 11 is a top plan view of the structure shown in Figure 10;

Referring to these figures, it will be seen that the body of the insulator is designated 10 and that this body may be constructed of any suitable insulating material such as glass, porcelain, or the like. The body of the insulator is upwardly tapered from its base toward its upper end and at its upper end is provided with the shoulder or flange 11.

The top 12 of the insulator is rounded. The insulator is shown as provided with a screw 13 whereby it may be attached to a cross arm or post or in any other desired situation.

Extending diametrically through the insulator just below the shoulder or flange 11 is a passage 14, the ends of which are slightly rounded or flared and extending downward through the top of the insulator from its upper face 12 is a passage 15 preferably circular in form which intersects the passage 15 and opens thereinto, the ends of this passage 15 being slightly rounded. Just above the ends of the passage 14, the flange 11 or head of the insulator is formed with opposed upwardly extending grooves 16 which at their lower ends are just above the passage 14 and at their upper ends intersect slight recesses or grooves 17 formed in the top surface 12 of the insulator and extending to and intersecting the passage 16.

The insulators which are shown in Figures 1 to 8 may be used either for line wires or for lead-in or lead-out wires and have been so designed as to entirely do away with the necessity of using tie wires for the purpose of holding the conducting wires in place on the insulator. Thus in Figures 1, 2 and 3, the insulator has been shown in connection with a conducting wire 18 which extends as a line wire beyond the insulator on each side thereof. In order to connect the conducting wire 18 to the insulator, the wire 18 at the insulator is first formed to provide a bight as shown in Figure 4, this bight being inserted through the passage 14. The bight is then passed over the head or flange of the insulator as shown in Figure 5 and the two free ends of the wire as shown in Figure 6 are brought around the insulator beneath the head or flange 11 thereof and then twisted as at 18*a*.

This twisting draws the wires tightly around the insulator so that the wires eventually take the position shown in Figures 1, 2 and 3. One end of the wire 18 is then carried on to the next insulator and so on. This arrangement securely anchors the conducting wire to the insulator

without the necessity of using any tie wires as is commonly done. A firm and secure connection is thus provided which cannot come loose and which cannot get off the insulator, any tendency of the wire to slip upward off the insulator being prevented by the shoulder or flange 11. The conductor wire thus ties itself firmly to the insulator without any extra tie wires of any character whatsoever.

The same insulator may be used for lead-in wires such as are used in telephone and radio work. This is shown in Figures 7, 8 and 9 wherein the lead-in wires are designated 19. This wire is brought in through the vertical passage 16 and is then carried around the body of the insulator below the shoulder or flange 11 so that a bight 19*a* is formed as shown in Figure 9 and then the free end of the wire is passed through this bight as also shown in Figure 9. This absolutely locks the wire 19 to the insulator and prevents any possible accidental disengagement from the insulator unless desired.

It will be obvious that with this construction of insulator, wires may be brought through the passage 14, extended up through the recesses 16, back over the grooves 17 and down through the central opening and then out laterally and that a large number of different ties may be readily made for holding the conducting wire to the insulator without the necessity of using tie wires.

It will likewise be seen that the insulator is particularly adapted for telephone and radio knob work at dead ends and for straight line or bridal runs and that it can also be used for stringing all kind of like wires for farm use.

In Figures 10 and 11, I have shown an insulator designated 10*a* which is constructed on the same principle as the insulator previously described as regards its head end but which is provided with novel means whereby it may be connected with a screw-threaded shank. To this end, the lower end of the insulator is formed with a transversely extending aperture 20, the lower wall of this aperture being constituted by a transversely cylindrical cross bar 21 as it may be termed which is preferably integral with the body of the insulator and made of the same material. The screw 22 has a shank 23 which, after it is inserted in the passage 20, is bent so as to embrace the portion 21. This shank may be bent so as to tightly embrace the portion 21 or loosely embrace the portion. In either event, by rotating the insulator, the screw may be readily driven into place and brought to such position that the insulator may swing either horizontally, vertically or in any desired plane relative to the screw or the shank 23 may be tightened up to a degree which will practically prevent any swinging of the insulator. This is a particularly desirable construction where it is desired to place an insulator with its axes at an inclination to a support into which the screw 22 may be driven and yet permit the screw to be driven home for its full length.

While I have heretofore referred to this invention as being particularly adapted for insulators such as are used for conductor wires, I do not wish to be limited to this use, nor do I wish to be limited to making the bodies 10 of insulating material as these bodies may be made of metal for other uses than those set forth and may be used when made of metal for the purpose of snubbing or fastening small ropes or lines, as for instance, tarpaulins, covers, tents or fastenings on boats, docks or even in households or factories.

I claim:—

1. A line holder having a body formed at its upper end with an enlarged flange, the body just below the flange having a diametrically extending passage, the upper end of the body having a passage extending downward from the top of the body and opening into the first named passage.

2. A line holder having a body formed at its upper end with an enlarged flange, the body just below the flange having a diametrically extending passage, the upper end of the body having a passage extending downward from the top of the body and opening into the first named passage, the lateral margins of the flange at diametrically opposite points being recessed, the recesses extending vertically and being directly above the ends of the first named passage.

3. A line holder having a body formed at its upper end with an enlarged flange, the body just below the flange having a diametrically extending passage, the upper end of the body having a passage extending downward from the top of the body and opening into the first named passage, the lateral margins of the flange at diametrically opposite points being recessed, the recesses extending vertically and being directly above the ends of the first named passage, the upper surface of the body having a diametrically extending groove intersecting the central passage and said recesses.

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