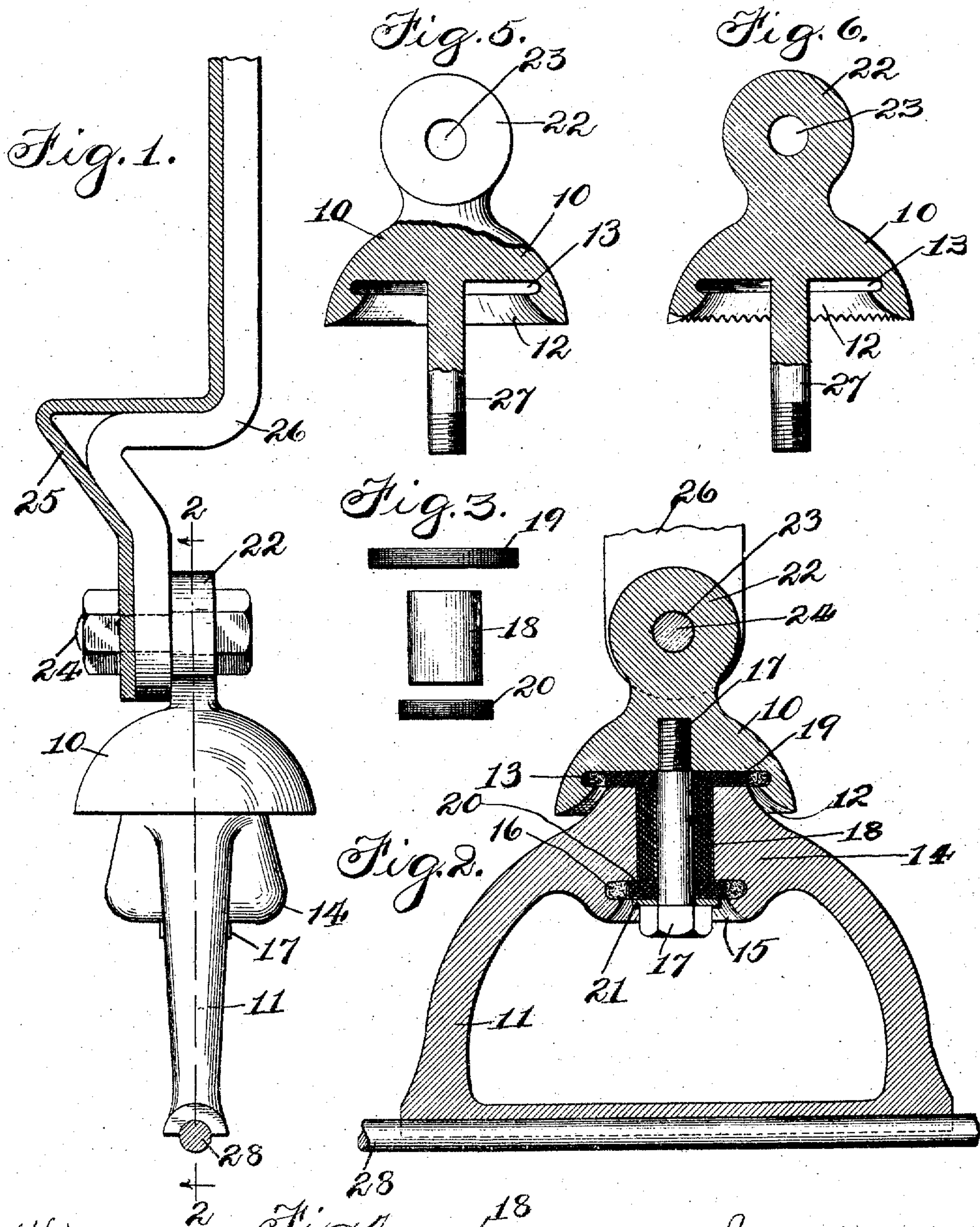


No. 772,298.

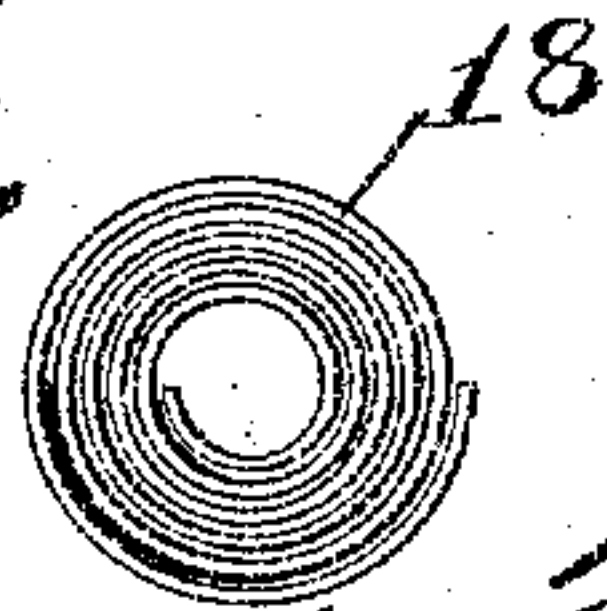
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W. H. SPILLER.  
TROLLEY WIRE SUPPORT.  
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NO MODEL.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## TROLLEY-WIRE SUPPORT.

SPECIFICATION forming part of Letters Patent No. 772,298, dated October 11, 1904.

Application filed February 2, 1904. Serial No. 191,767. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. SPILLER, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and  
5 useful Improvements in Trolley-Wire Supports, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to supports for trolley-wires, and particularly for the wires used in connection with transporting systems for the transferring of merchandise, &c., from one point in a building to another point or from building to building.

15 The object of the invention is to provide a support for this purpose of simple construction, and has particular relation to the means for securing a perfect insulation of the support from the trolley-track or other article to which it may be attached.

That which I regard as new will be set forth in the claims.

In the accompanying drawings, Figure 1 is an end elevation of my improved support, showing also a sectional view of a trolley-track rail and in elevation showing a bracket for such track, to which trolley-track rail and its bracket the support is shown as secured. Fig. 2 is a vertical section taken at line 2-2  
30 of Fig. 1. Fig. 3 is a view showing the three insulating devices employed and their relation one to another. Fig. 4 is an end view of the central insulating device. Fig. 5 is a detail, partly in section, of a modification in the construction of the upper part of the support; and Fig. 6 is also a detail in section showing another modification in the construction of the upper part of the support.

Referring to the several figures of the drawings, in which the same parts are indicated by corresponding reference characters, 10 11 indicate the two principal members of the trolley-wire support, 10 being the upper member and 11 the lower member. The upper member 10 is approximately bell-shaped and has its lower face recessed, as indicated  
45 at 12, to receive the upper end of the mem-

ber 11, and the upper end of this recess 12 is enlarged to produce an annular groove 13. The lower member 11 of the support is in general of the ordinary shape of electric-wire supports—that is, it has two diverging arms connected at the lower end by a cross-piece which is properly grooved to receive an electric wire which lies therein and is brazed or otherwise attached thereto. The upper portion of this lower member 11 is considerably enlarged to form a head 14, the under face of which is provided with a recess 15, at the upper end of which is formed an annular groove 16 similar to the annular groove 13 in the upper member.

17 indicates a bolt that connects the two members 10 and 11 together, which bolt, as shown in Fig. 2, passes through a large central opening in the head 14 of the lower member 11 and is screw-threaded into a suitable central socket in the body of the upper member 10, the head of the bolt lying partly within the recess 15.

18 indicates an insulating-bushing surrounding the central portion of the retaining-bolt 17 and lying in the large central opening, hereinbefore referred to, that is formed in the head 14 of the lower member 11. This bushing is formed of a strip or strips of mica wound as tightly as may be in spiral form, as indicated in Fig. 4, and being of a size to fill said central opening in the head 14.

19 indicates an insulating-ring which I form of the same material as the bushing 18 and is made up of a number of sheets surrounding the bolts 17 just above the insulating-bushing 18. This ring 19 is of greater diameter than the said bushing and operates to keep the two members 10 and 11 entirely separated. Such ring, it will be noted, lies directly opposite the annular groove 13. 20 indicates a second and similar insulating-ring, but of smaller size than the other, and is located immediately below the insulating-bushing 18 and directly opposite the annular groove 16.

21 indicates a washer placed between the head of the bolt 17 and the insulating-ring 20.



It will be apparent that with the parts arranged as described the two parts of the support will be firmly held together when the bolt 17 is screwed tightly up. The screwing up of this bolt will force the rings 19 and 20 firmly against the ends of the bushing 18, and thereby prevent any moisture whatever obtaining access between the several layers composing the said bushing. After the parts have been assembled in the manner described the support is then to be inverted and paraffin or other water-repellent substance poured into the recesses 12 and 15 in sufficient quantity to fill up the annular grooves 13 and 16, as indicated in Fig. 2 by dots. The filling up of these grooves with such substance effectually and completely seals the edges of the insulating-rings 19 and 20 and renders the admission of any moisture whatever between the layers composing them absolutely impossible. In the formation of the recess 12 care is taken to give such shape to it as to leave the lower edge of the upper member 10 quite sharp, which is for the purpose of causing any moisture that may settle upon the outer surface of such member to drop off more rapidly. In the form of construction shown the upper member 10 of the support is provided with a flat-faced head 22, provided with a central hole 23, through which a bolt 24 may be passed for securing the support as a whole in place. In Fig. 1 I have shown the support secured to a trolley-track rail 25 and one of its supporting-brackets 26, the bolt 24 passing through both the rail and its bracket and through the flattened head 22.

In Fig. 5 I have shown a modification which dispenses with a separate bolt for uniting the parts together, as in Fig. 2. In lieu of such separate bolt I provide a screw-threaded stem depending from the upper member 10 and which is screw-threaded at its lower end to adapt it to receive a securing-nut. This stem I have indicated by 27, but as the upper member is in all other respects the same as that shown in Fig. 2 the same reference-numerals applied to the construction of Fig. 2 are marked upon this construction.

In Fig. 6 I have also shown another slight modification in construction. In this figure the lower edge of the upper member 10 is serrated or provided with a large number of sharp teeth for aiding in shedding water that may fall upon the said member. This being the only departure from the construction shown in Fig. 5 the same reference characters are employed as in that figure.

28 indicates a portion of a trolley-wire secured to the lower member 11 of the support.

By my invention I provide a trolley-wire support that is of cheap construction, that can be readily and quickly put together, and that is strong and durable and will under all conditions of use provide absolutely perfect insulation between the two parts of the support.

Furthermore, the construction is such that while the insulating-rings and the bushing are each made up of a plurality of layers of material yet these different insulating means are each effectually sealed against any possible dampness.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. In a trolley-wire support, the combination of an upper and a lower member, each of said members being provided with a recess in its under face, means for securing said members together with the upper end of the lower member projecting into the recess in the lower face of the upper member, and insulating material in each of said recesses, substantially as specified.

2. In a trolley-wire support, the combination of an upper and a lower member, each of said members being provided with a recess, means for securing said members together, insulating material in each of said recesses, and water-repellent sealing material at the edges of such insulating material, substantially as specified.

3. In a trolley-wire support, the combination of an upper and a lower member, each of said members being provided with a recess and a groove opposite each recess, means for securing said members together, insulating material in each of said recesses, and water-repellent sealing material in each of said grooves and against said insulating material, substantially as specified.

4. In a trolley-wire support, the combination of an upper and a lower member, each of said members being provided with a recess, a bolt for securing the two members together, an insulating-disk in each of said recesses, said disks surrounding the bolt, and an insulating-bushing surrounding said bolt and located between said insulating-disks, substantially as specified.

5. In a trolley-wire support, the combination of an upper and a lower member, each of said members being provided with a recess, a bolt for securing the two members together, an insulating-disk in each of said recesses, said disks surrounding the bolt, and an insulating-bushing surrounding said bolt, said bushing being composed of layers of mica and of a length to fit between said two insulating-disks, substantially as specified.

6. In a trolley-wire support, the combination of an upper and a lower member, each of said members being provided with a recess and a groove opposite each recess, a bolt for securing the two members together, an insulating-disk in each recess located opposite one of said grooves, a water-repellent substance in each groove in contact with the edge of the disk therein, and an insulating-bushing around said bolt and having its ends covered by said disks, substantially as specified.

7. In a trolley-wire support, the combina-



tion of an upper and a lower member, said upper member having a recess in its lower face, an insulating material in said recess, and means for holding said two members together with the upper end of the lower member in contact with said insulating material, substantially as specified.

8. In a trolley-wire support, the combination of an upper and a lower member, said upper member having a recess in its lower face, an insulating material in said recess, a water-repellent sealing material at the edge of said insulating material, and means for holding said two members together with the upper end of the lower member in contact with said insulating material, substantially as specified.

9. In a trolley-wire support, the combination of an upper and a lower member, said upper member having a recess in its lower face and a groove opposite said recess, a water-repellent sealing material in said groove and in contact with said insulating material, and means for holding said two members together with the upper end of the lower member in

contact with said insulating material, substantially as specified.

10. The combination with a trolley-wire support provided with an opening there-through and with a groove opposite said opening and near one end thereof, of a bolt extending through said opening, an insulating-bushing in said opening, an insulating-disk around said bolt and opposite said groove, and water-repellent sealing material in said groove and against said disk, substantially as specified.

11. The combination with a trolley-wire support provided with an opening there-through and a recess at the inner end of said opening, of a bolt extending through said opening, an insulating-bushing in said opening, an insulating-disk around said bolt and within said recess, and water-repellent material within said recess and against the edge of said disk, substantially as specified.

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