

917,163.

J. F. SCOTT.
WIRE SUPPORT.
APPLICATION FILED NOV. 5, 1906.

Patented Apr. 6, 1909.
2 SHEETS-SHEET 1.

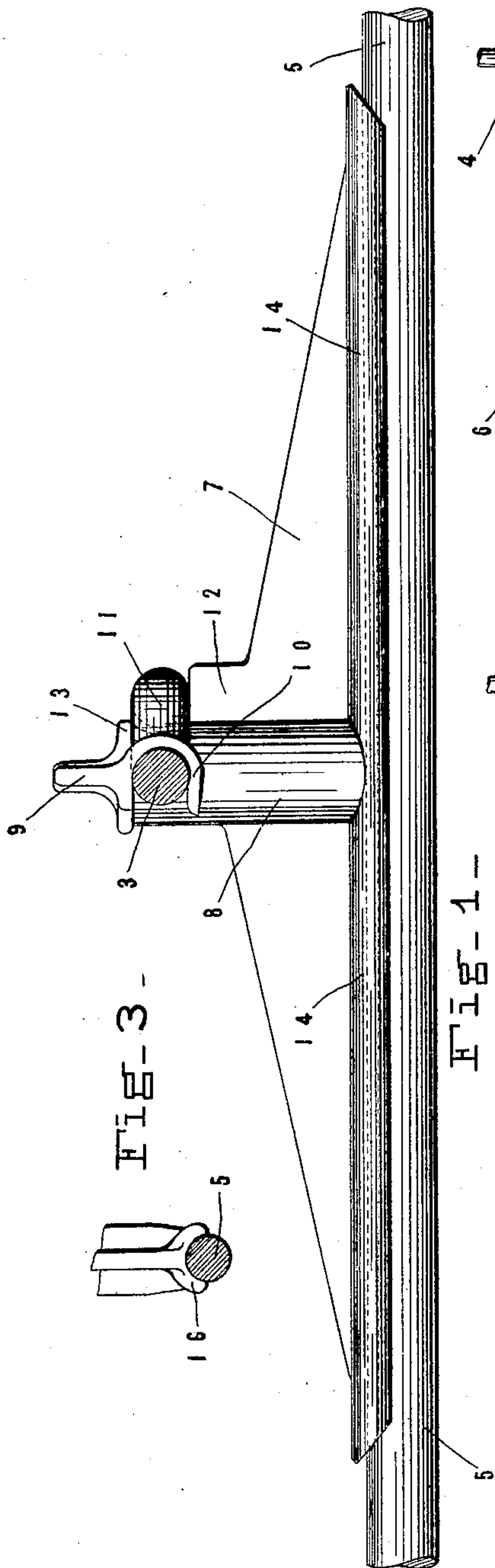


Fig-3-

Fig-1-

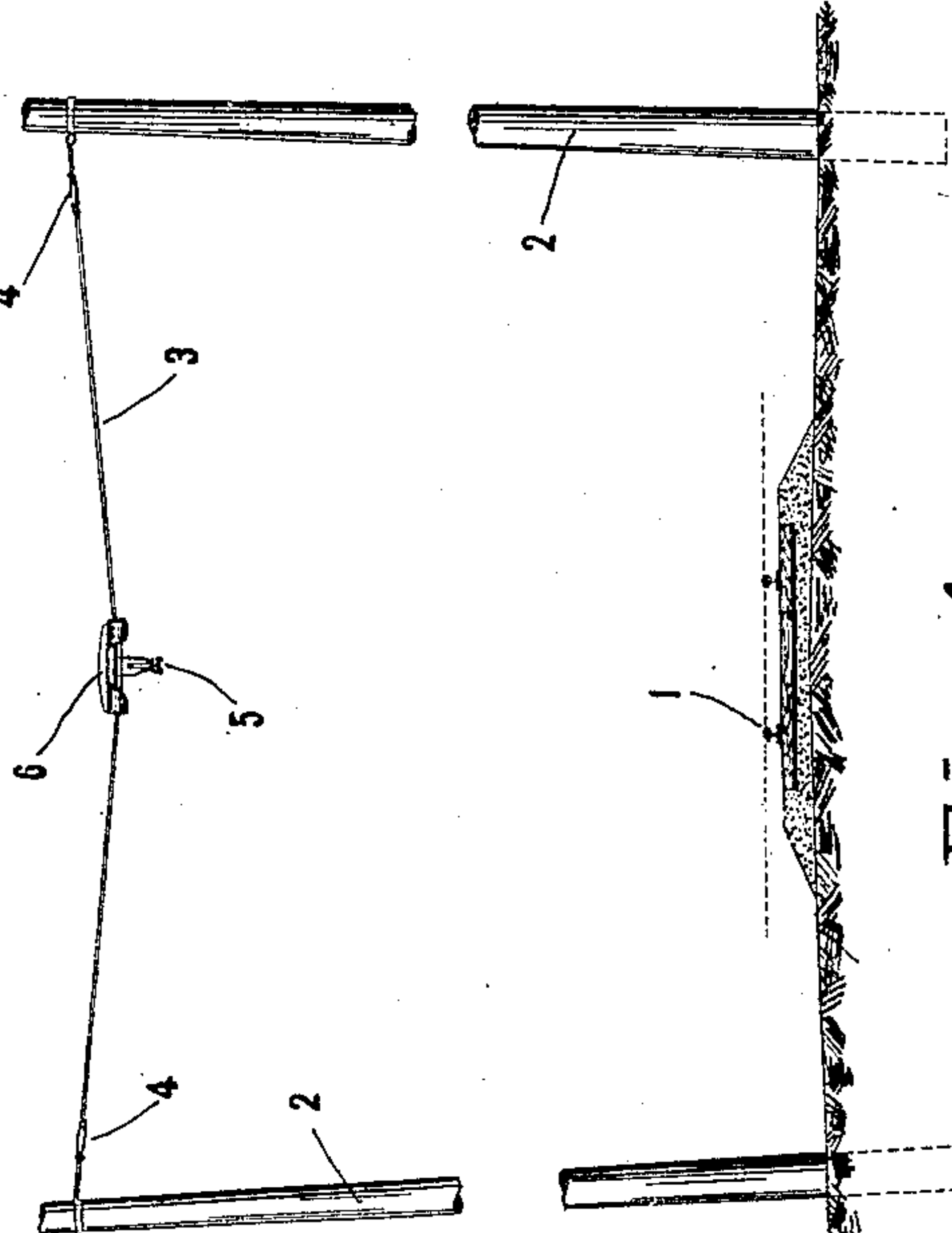


Fig-4-

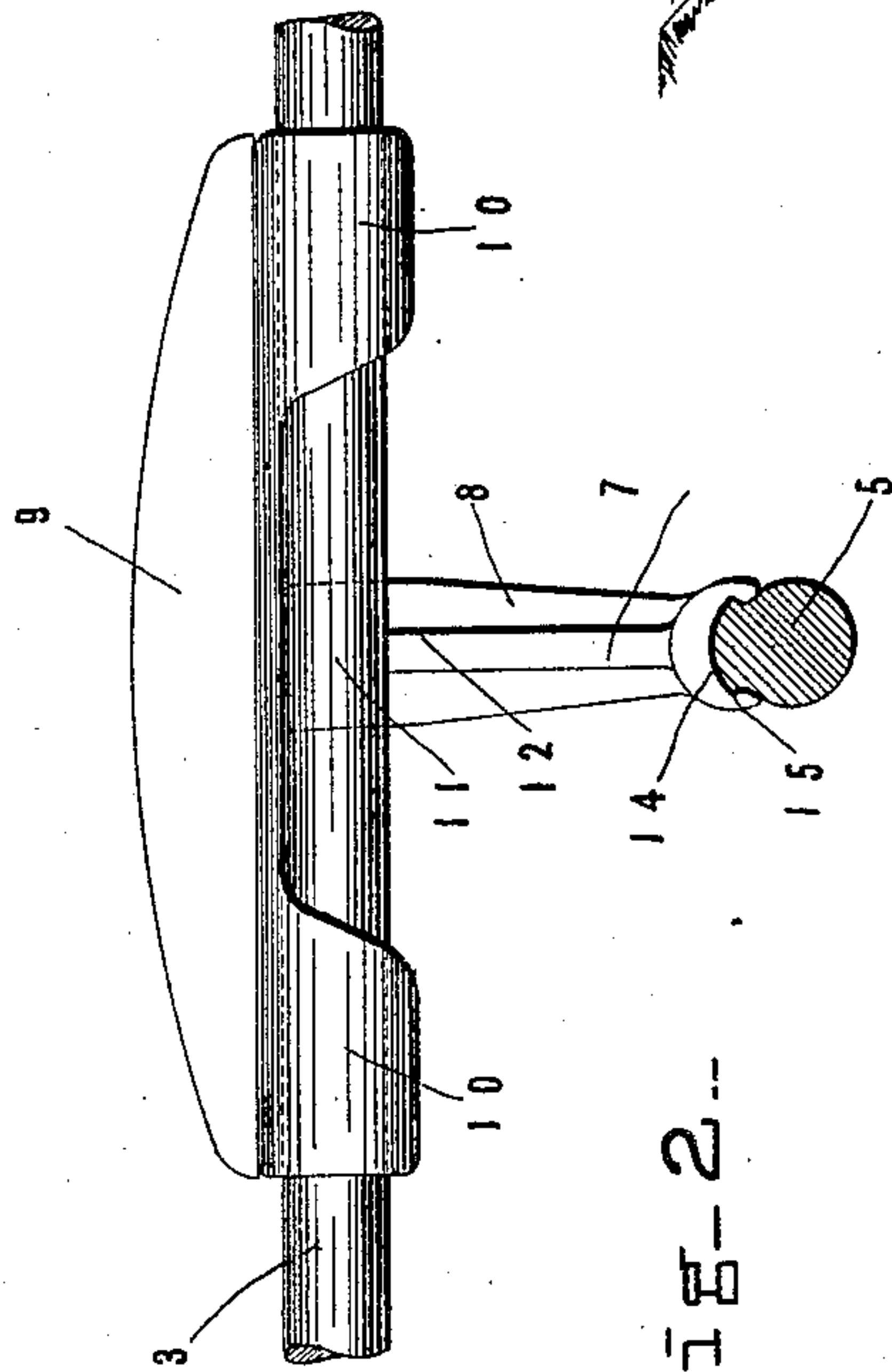


Fig-2--

WITNESSES
Norris Peters
J. F. Scott

J. F. Scott INVENTOR
BY *Duell, Warfield & Duell*
ATTORNEYS

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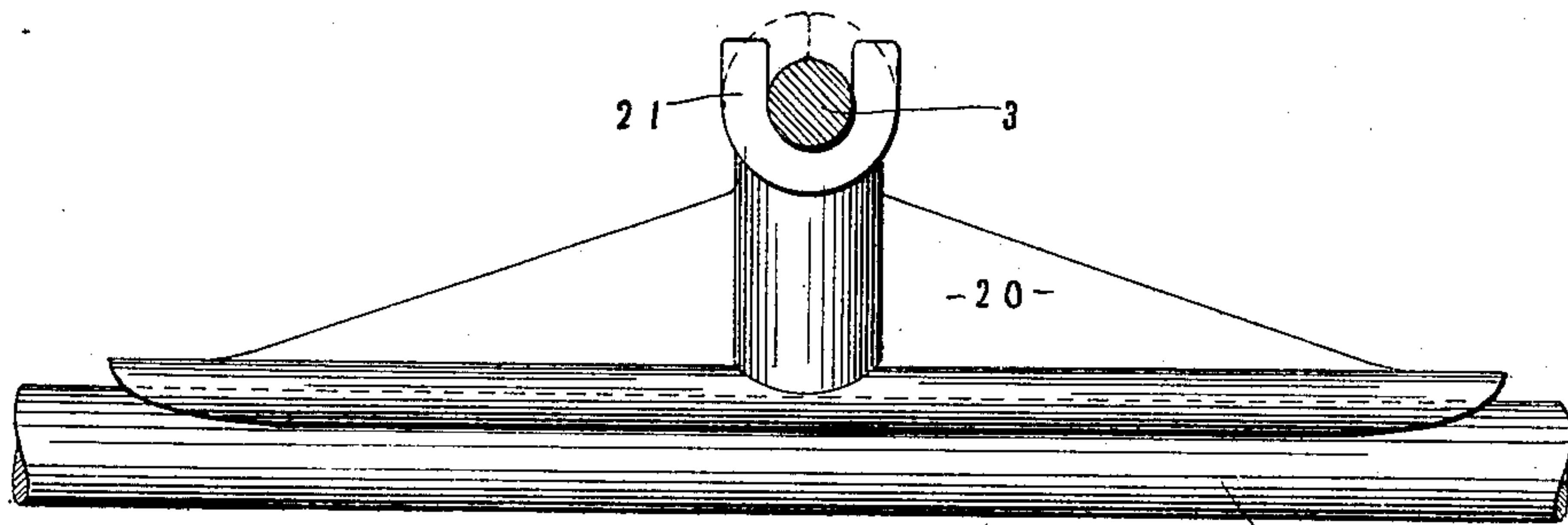


Fig. 5.

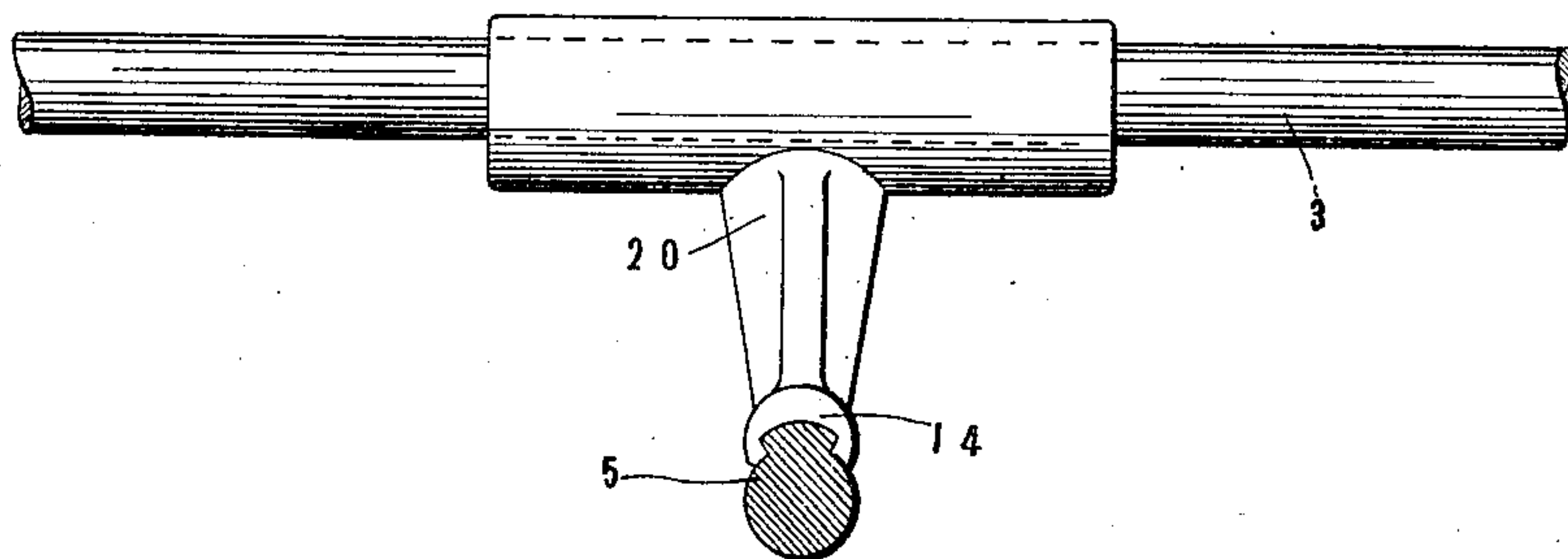


Fig. 6.

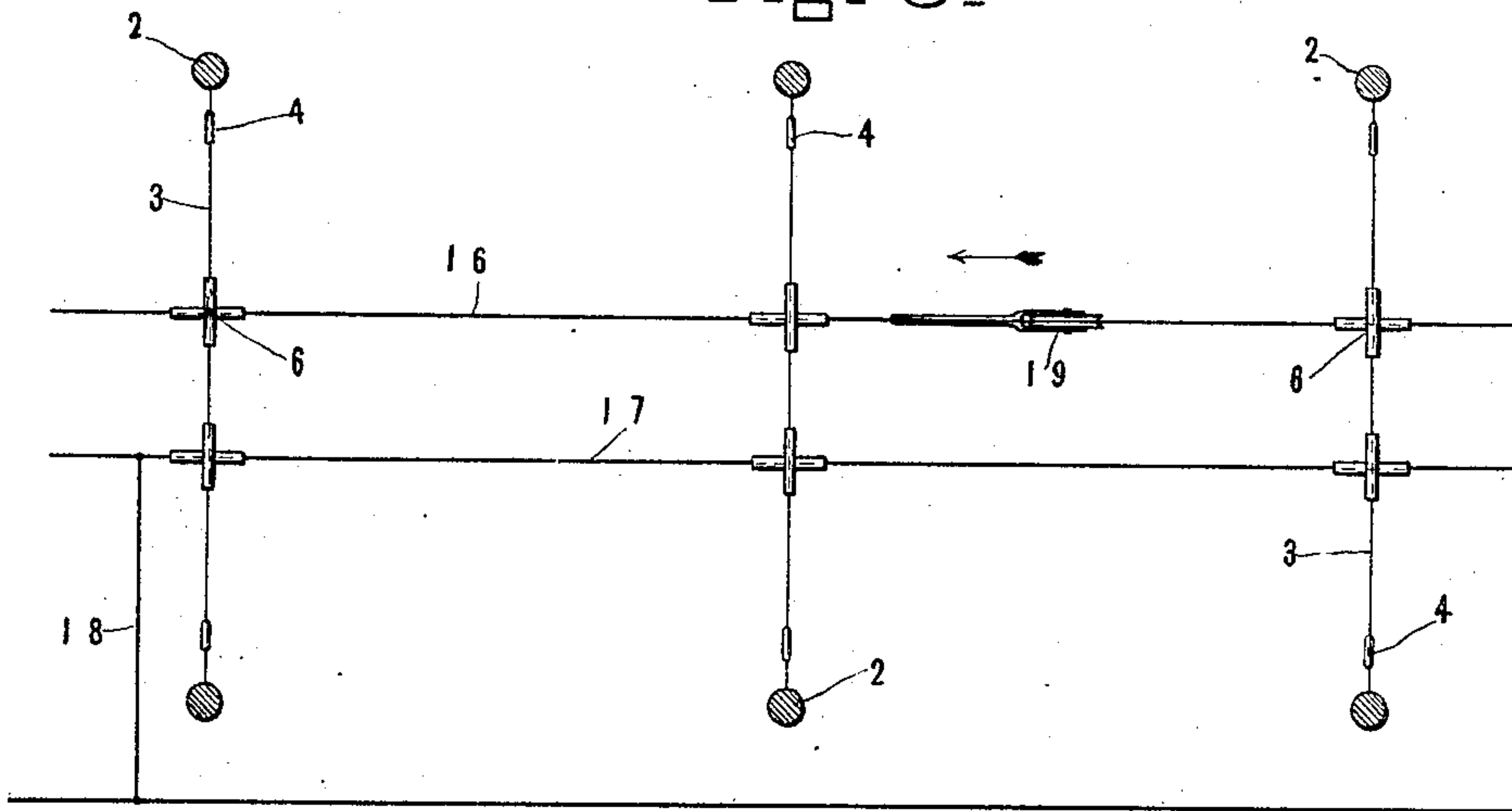


Fig. 7.

WITNESSES
Wm. H. Brown
Arthur G. Brown

J. F. Scott INVENTOR
Duell, Garfield & Duell ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN F. SCOTT, OF HIGHLAND PARK, ILLINOIS, ASSIGNOR OF ONE-HALF TO ALPHONSUS L. DRUM, OF CHICAGO, ILLINOIS.

WIRE-SUPPORT.

No. 917,163.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed November 5, 1906. Serial No. 342,063.

To all whom it may concern:

Be it known that I, JOHN F. SCOTT, residing at Highland Park, in the county of Lake and State of Illinois, have invented certain
5 new and useful Improvements in Wire-Supports, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it apper-
tains to make and use the same.

10 This invention relates to the suspension of trolley wires and the like.

One of the objects thereof is to provide a strong and durable device of simple and efficient construction for the suspension of
15 wires of the above nature.

Another object is to provide a device of the above type characterized by light weight and low cost of manufacture.

20 Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the embodiment here-
25 inafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing, wherein is shown one or more of the various possible
30 embodiments of the several features of my invention,—Figure 1 is a side elevation of the same. Fig. 2 is an end view. Fig. 3 is a similar view of a slightly different embodiment of a certain feature thereof. Fig.
35 4 is a diagrammatic view showing the support in operative position. Fig. 5 is a side elevation of another modification. Fig. 6 is an end view thereof. Fig. 7 is a diagrammatic view showing a two-track system.

40 Similar reference characters refer to similar parts throughout the several views of the drawing.

In order that certain aims of this invention may be more readily understood, it may
45 here be noted that in the case of the suspension of trolley wires and other conductors of a like general nature, it is of prime importance that the supporting means be of the strongest and most reliable construction
50 inasmuch as they are subjected, by reason of the swinging of the wire or its coating with ice or other accumulations, to severe stresses, and their falling is attended not only with delay in traffic and possible in-

jury to the station apparatus, due to the 55 short circuit, but an element of considerable personal danger to parties in the vicinity. This reliability, which is thus an essential to a satisfactory support of the nature of dealt with in this invention, is achieved by 60 a simplicity of construction in which all joints and retained devices are done away with, and, with regard to its more specific features, in which the load is transmitted 65 merely through metal, the tensile strength of which is not only of high value, but is substantially uniform. It may also be noted that inasmuch as a large number of hangers or wire supports are necessarily em-
70 ployed in the suspension of trolley wires for a road of any considerable length, it is highly desirable that the simplest and cheapest construction consistent with durability should be employed. It may also be noted that if, in a two-track trolley system, the in- 75 dividual wires be insulated one from another, the conductivity of one of these members from the point of connection with the feeder to the place of contact of the trolley is often lost, with a corresponding increase 80 in transmission losses.

The above and other advantageous features are attained in constructions of the nature of that hereinafter described.

Referring now to Fig. 4 of the drawings, 85 there is shown a track 1 above which is mounted, as by the posts 2, a span wire 3 provided with the usual insulating break strains 4. Upon this span wire is mounted the trolley wire 5 by a support 6, which is 90 shown upon a larger scale in Fig. 1 of the drawings. Support 6, which is an integral member, preferably of iron or of composition copper, comprises a web 7 having formed at its central portion a post or abut- 95 ment 8 provided with a cross web 9 having at its lateral ends depending lugs or ears 10 of a general hook-shaped conformation, as shown in the drawings. Span wire 3 is adapted to rest within these lugs and pass 100 about the abutment 8, as shown at 11, thus being securely interlocked to the support. An abutment 12 is preferably formed in the web 7 upon which the span wire rests, which, acting in conjunction with the shoulder 13, 105 tends to aid in this interlocking action. Web 7 terminates at its lower edge in a grooved portion 14, the groove being of irregular

conformation and having a slightly offset portion 15 to aid in the security of attachment of the trolley wire 5 resting therein.

In Fig. 7 of the drawings is shown a two-wire system in which the above-described wire supporting means are utilized. With this arrangement, the two trolley wires 16 and 17 are in electrical communication and hence present their joint conductivity to the current passing, as from the feeding-in tap 18 to the trolley 19. The diminution in heating losses, due to this virtual doubling in conductivity of the trolley wire, is of considerable practical importance and is a distinct advance over the widely used systems in which the trolley wires are insulated one from another.

In Fig. 3 of the drawings is shown a slightly different form of groove 15^a, in which the irregular conformation above referred to is dispensed with, and the wire held in position in any desired manner.

Another slightly different embodiment of certain features of my invention is shown in Figs. 5 and 6 of the drawings, in which the wire support 20 is formed of some malleable metal and is secured upon the span wire 3 by bending about the same the upwardly-disposed lips or flanges 21. The remaining features of this embodiment are substantially identical with that first described.

It may here be noted that the term "span wire" is used throughout this specification and the following claims in a broad sense to denote any equivalent member used as a means of support, and that the term "trolley wire" is likewise used to designate, not only a conductor adapted to co-act with a trolley wheel, but any elevated electrical conductor of a like general nature.

The method of use of the above-described embodiment of my invention should be largely obvious from the description given, but it may here be noted that the same is mounted directly upon the span wire without the use of insulation at this point, and the trolley wire is secured directly within the groove, thus doing away with the employment of a built-up construction, with a consequent tendency to weakness and unreliability.

As above set forth, the two-wire construction acts to present a decreased resistance to the current flowing to the trolley 19. This action, which should be largely obvious, is brought about by the electrical connection of each trolley wire with the span wires, the latter being insulated from their connections with the supporting posts and the chance of a ground being thus done away with at the break strains 4 between the

trolley wires and the supports. The two trolley wires thus act as a single conductor of substantially double conductivity in so far as the current from the feeding-in taps to the trolley at any given position is concerned.

It will thus be seen that I have provided a device in which the several objects of my invention and the above-enumerated advantages are, among others, attained, and which is adapted for the hardest practical use.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, I intend that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. I desire it also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A trolley wire support having a portion adapted for connection with the trolley wire and provided with a pair of depending hooks adapted to interlock with the span wire and an abutment on said portion positioned to engage the span wire between said hooks and hold the same in interlocked position.

2. An integral metallic trolley wire support having a central post provided with a longitudinal web adapted for connection with a trolley wire at its lower edge and having a cross web provided at its ends with depending hooks adapted to interlock with the span wire.

3. An integral metallic trolley wire support having a central post provided with a longitudinal web adapted for connection with a trolley wire at its lower edge and having a cross web provided at its ends with depending hooks adapted to interlock with the span wire and an abutment on said web positioned to engage the span wire between said hooks and hold the same in interlocked position.

In testimony whereof I affix my signature, in the presence of two witnesses.

JOHN F. SCOTT.

Witnesses:

C. R. FREDERICK,
E. A. TURPIN.