

(No Model.)

H. M. HANDSHY.  
TROLLEY WIRE CROSSING.

No. 567,133.

Patented Sept. 8, 1896.

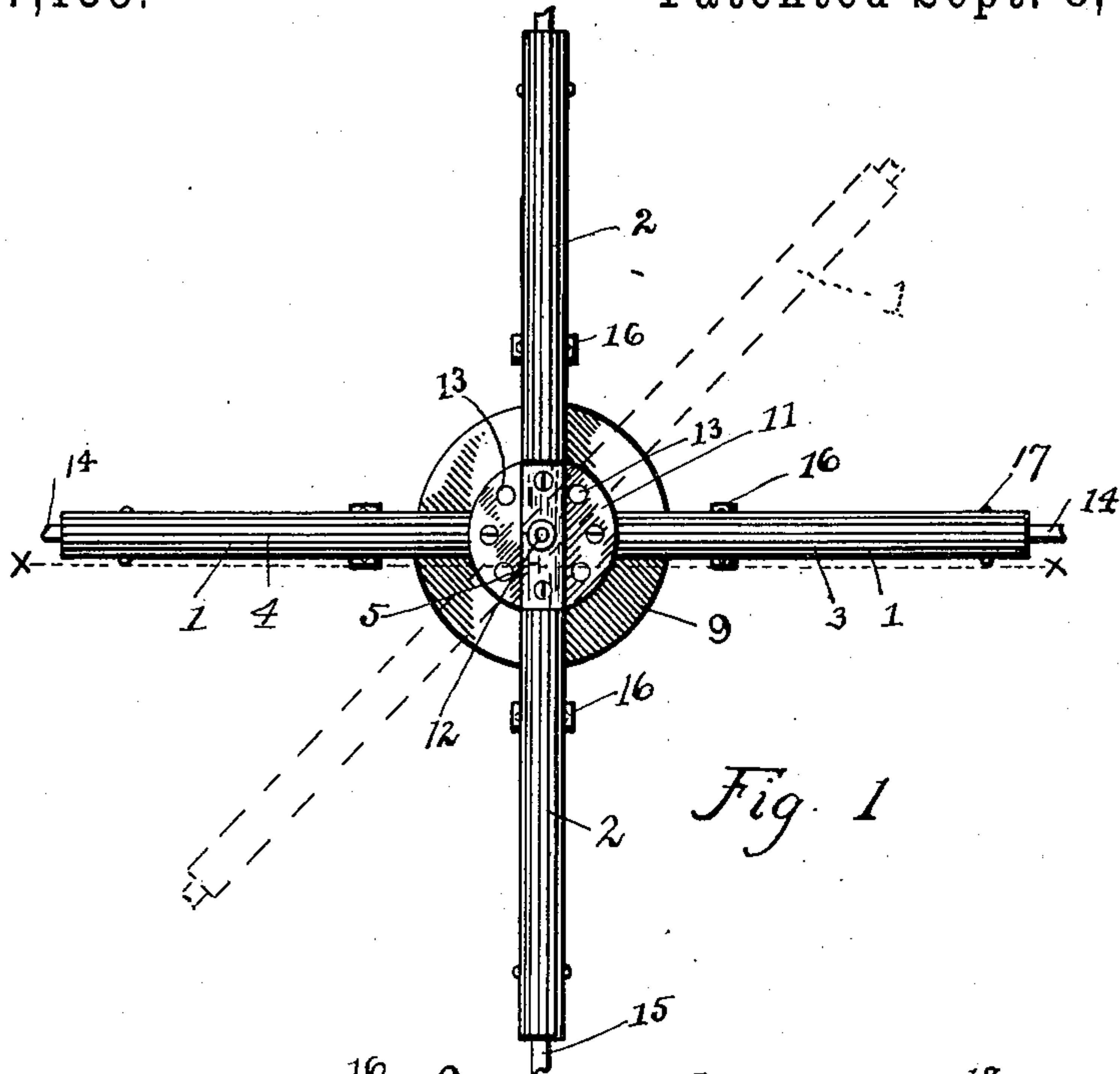


Fig. 1

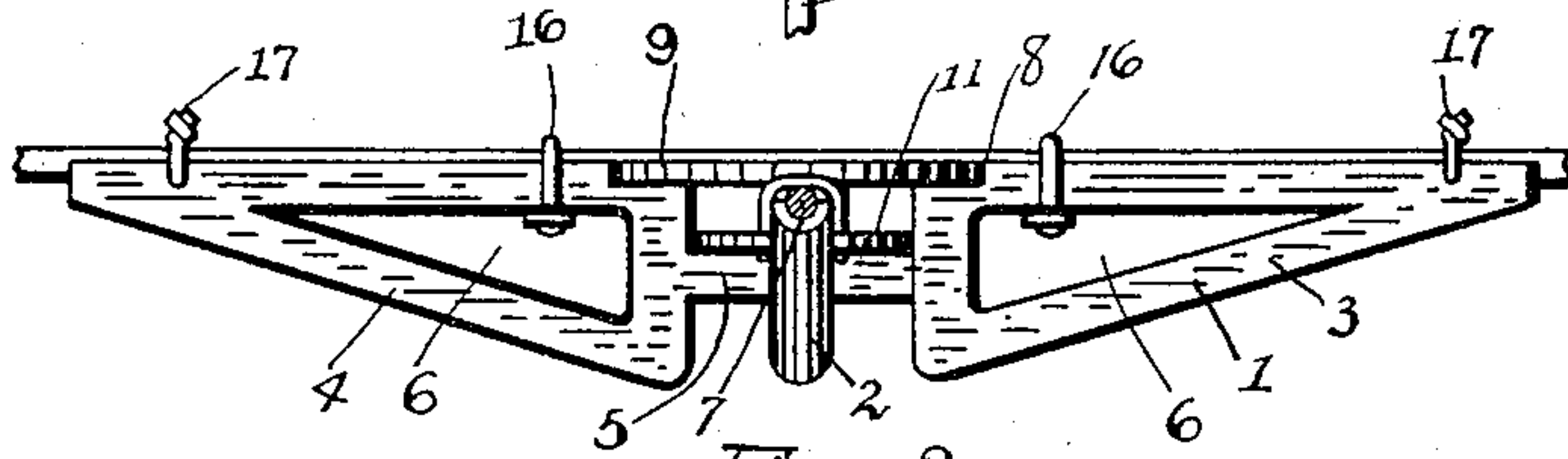


Fig. 2

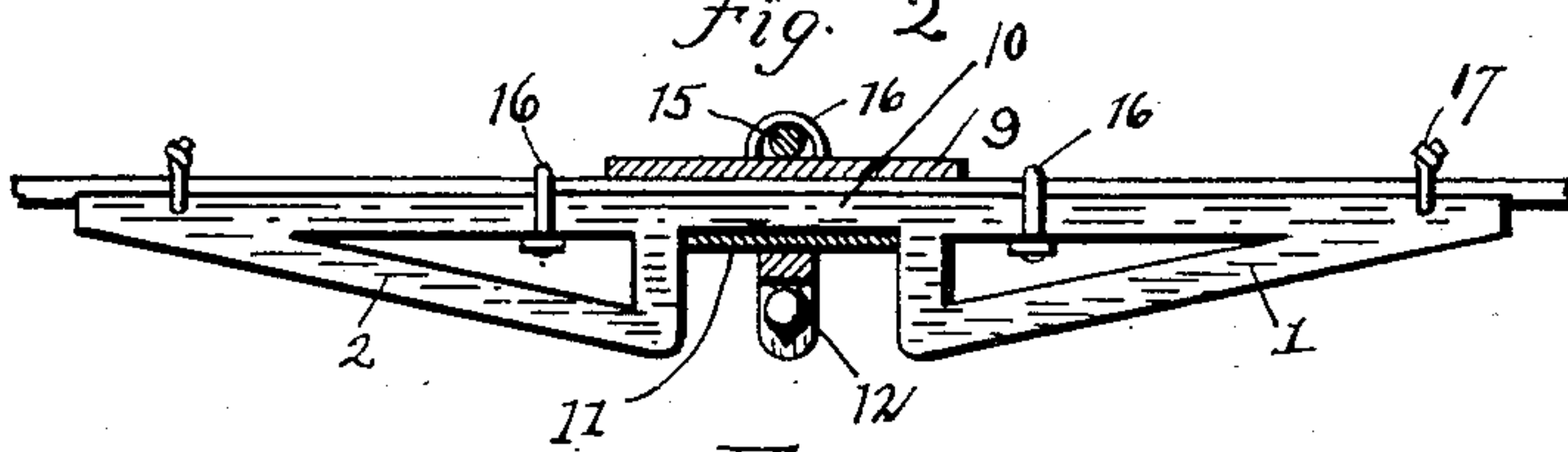


Fig. 3

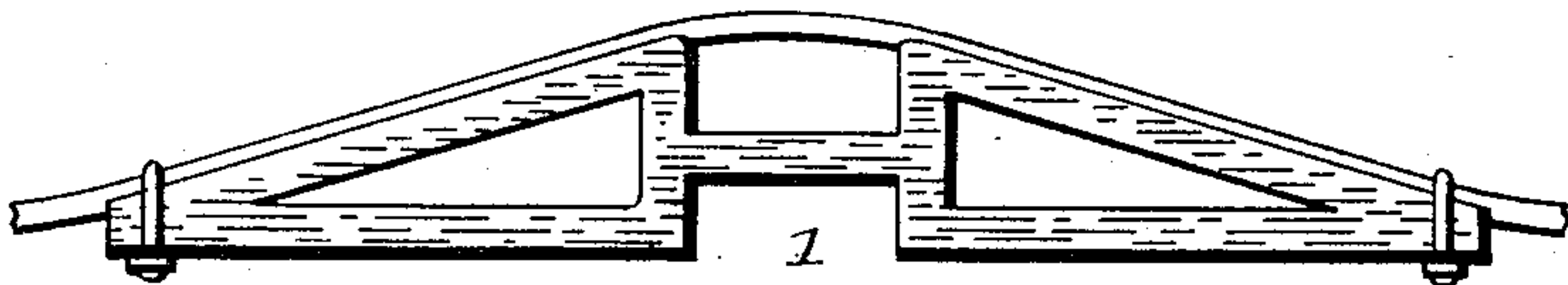


Fig. 4

Witnesses  
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# UNITED STATES PATENT OFFICE.

HENRY MILTON HANDSHY, OF SAN ANTONIO, TEXAS.

## TROLLEY-WIRE CROSSING.

SPECIFICATION forming part of Letters Patent No. 567,133, dated September 8, 1896.

Application filed March 19, 1896. Serial No. 584,001. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY MILTON HANDSHY, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a certain new and useful Improvement in Trolley-Wire Crossings, of which the following is a specification.

My invention relates to the improvement of trolley-wire crossings; and the objects of my invention are to provide a simple and effective device of this class by means of which trolley-wires may be made to cross each other without contact and at the same time admit of the passage of trolley-wheels over each of the cross-lines, to so construct and arrange my improved crossing as to admit of its adjustment for the use of lines crossing at different angles, and to produce other improvements the details of construction and operation of which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is an under-side view of my improved trolley-crossing. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional view on line  $x x$  of Fig. 1; and Fig. 4 illustrates in elevation a modified form of crossing-arm, the latter being shown inverted.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention I employ two metallic crossing-arms, which are indicated, respectively, at 1 and 2.

The arm 1 consists, as shown, in two triangular end portions 3 and 4, the inner ends of which are connected at the center of their heights by a bar 5, which is preferably formed integral therewith.

As illustrated in the first three figures of the drawings, the triangular end portions of the bar preferably have their inclines on their lower sides, the apexes thereof being at their outer ends. These triangular end portions are also preferably provided with open centers, as indicated at 6.

The upper horizontal sides of the bar portions 3 and 4 are longitudinally grooved, as indicated at 7, and the inner end of each of said triangular portions is provided on its upper side with a grooved depression or re-

cess 8, the latter being adapted to receive and form a seat for a disk-shaped hood 9 of suitable insulating material, said disk or hood thus being brought flush with the upper side of the arm, to which it is secured.

The remaining arm 2 is, as indicated more clearly in Fig. 3 of the drawings, of corresponding form with said arm 1, with the exception that the bar 10, which connects the triangular portions of said arm 2, is flush with the upper sides of said triangular portions and forms, as shown, a bridge over the space between the inner ends of said portions. To the under side of this bar or bridge portion 10 is secured diametrically an insulating-disk 11.

As shown more clearly in Fig. 1 of the drawings, the arms 1 and 2 are adapted to cross each other centrally, the bars 5 and 10 being pivotally connected at the centers of their lengths by a bolt 12, which also passes loosely through the smaller insulating-disk 11, which bears upon the bar 5.

As illustrated in Fig. 1, the disk 11 is provided adjacent to its periphery with an annular row of pin or screw holes 13, through the desired opposite ones of which pins or screws may be made to pass into the bar 5, thus admitting of the support of said arm 2 at any desired angle with the arm 1, as illustrated by the dotted lines in Fig. 1.

14 and 15 represent, respectively, the crossed trolley-wires, said wire 14 resting in the groove 7 of the upper side of the arm 1 and bearing on the insulating-hood 9 of said arm, while the wire 15 rests in the groove of the upper side of the arm 2, thus being made to pass beneath the hood 9. These trolley-wires are secured to their respective crossing-arms by means of suitable clamps, indicated at 16 and 17.

The manner of utilizing the above-described crossing is substantially as follows: The two crossing-arms 1 and 2 being connected and arranged at proper angles with each other, a trolley-wheel traveling on the wire 14 leaves said wire at the junction of said arm therewith and traveling over the lower rounded edge of said arm follows the inclines thereof until it is again in contact with said wire 14 at the opposite end of said



arm, while a trolley-wheel traveling on the wire 15 is in a similar manner allowed to cross the wire 14 by traveling upon the lower side of the arm 2. By this operation it will not  
5 only be seen that a separate crossing track or bridge is provided for each trolley-wheel, but that, owing to the employment of the insulating-disk 11, the crossed arms are out of contact with each other, and thus one trolley-  
10 line will not be affected by the current of the other.

Owing to the employment of the hood 9 of insulating material it will be seen that a connection of the two trolley-wires at their crossing-points through the medium of ice, snow,  
15 or water will be obviated.

By the employment of the means which I have described for adjusting the crossing-arms to different angles it will be observed  
20 that this crossing may be employed where two lines cross each other at other angles than a right angle.

I may employ in place of the form of arm shown at 1 and 2 that form of arm which is  
25 shown in an inverted position in Fig. 4, in which the trolley-wire is bound against the inclined edge of the arm and made to bridge the space between the triangular portions of the latter.

30 It is obvious that the trolley-wire crossing herein shown is exceedingly simple and that

the same may be produced at a reasonable cost of manufacture.

Having now fully described my invention, what I claim, and desire to secure by Letters  
35 Patent, is—

1. In a trolley-wire crossing the combination with pivotally-connected crossed conducting-arms 1 and 2, each of said arms having triangular end portions and a bar connecting said end portions openings in said  
40 bar, an insulating-plate between said bars, and openings in said plate adjacent to its periphery, each of said bars being adapted to support a trolley-wire longitudinally thereon,  
45 substantially as and for the purpose specified.

2. In a trolley-wire crossing the combination with the arms 1 and 2, each of said arms consisting of a central bar portion as described and triangular end portions, said bar  
50 portions being insulated from each other and pivotally connected, longitudinal grooves in the upper sides of said arms and an insulating hood or disk flush with and connecting the upper sides of the triangular portions of  
55 the arm 1, substantially as and for the purpose specified.

HENRY MILTON HANDSHY.

In presence of—

CARL VON SUETTER,  
ALEX ALLEN.