

(No Model.)

S. HARRIS.

MEANS FOR SUPPORTING TROLLEY WIRES.

No. 506,317.

Patented Oct. 10, 1893.

Fig. 1.

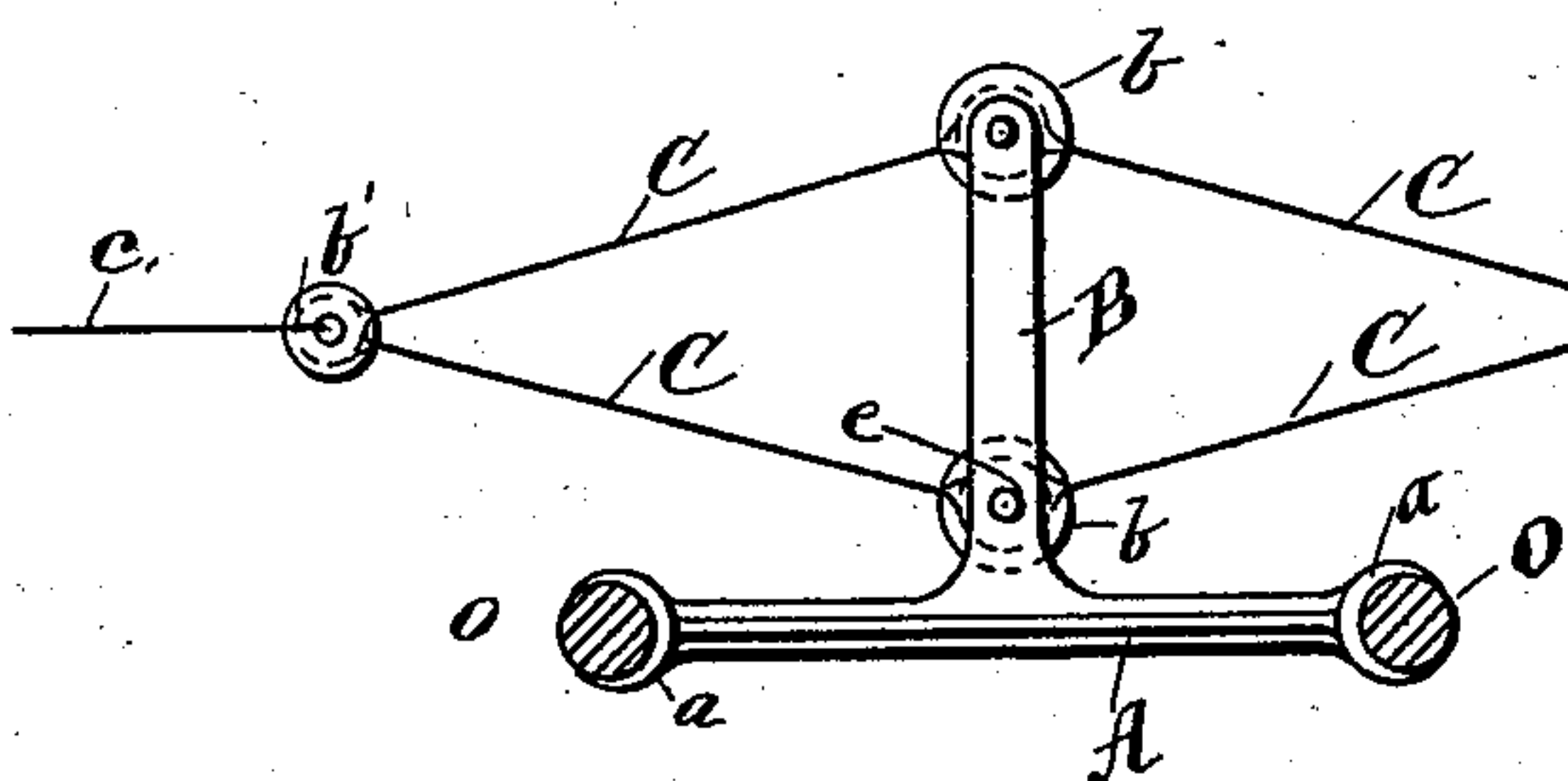


Fig. 2.

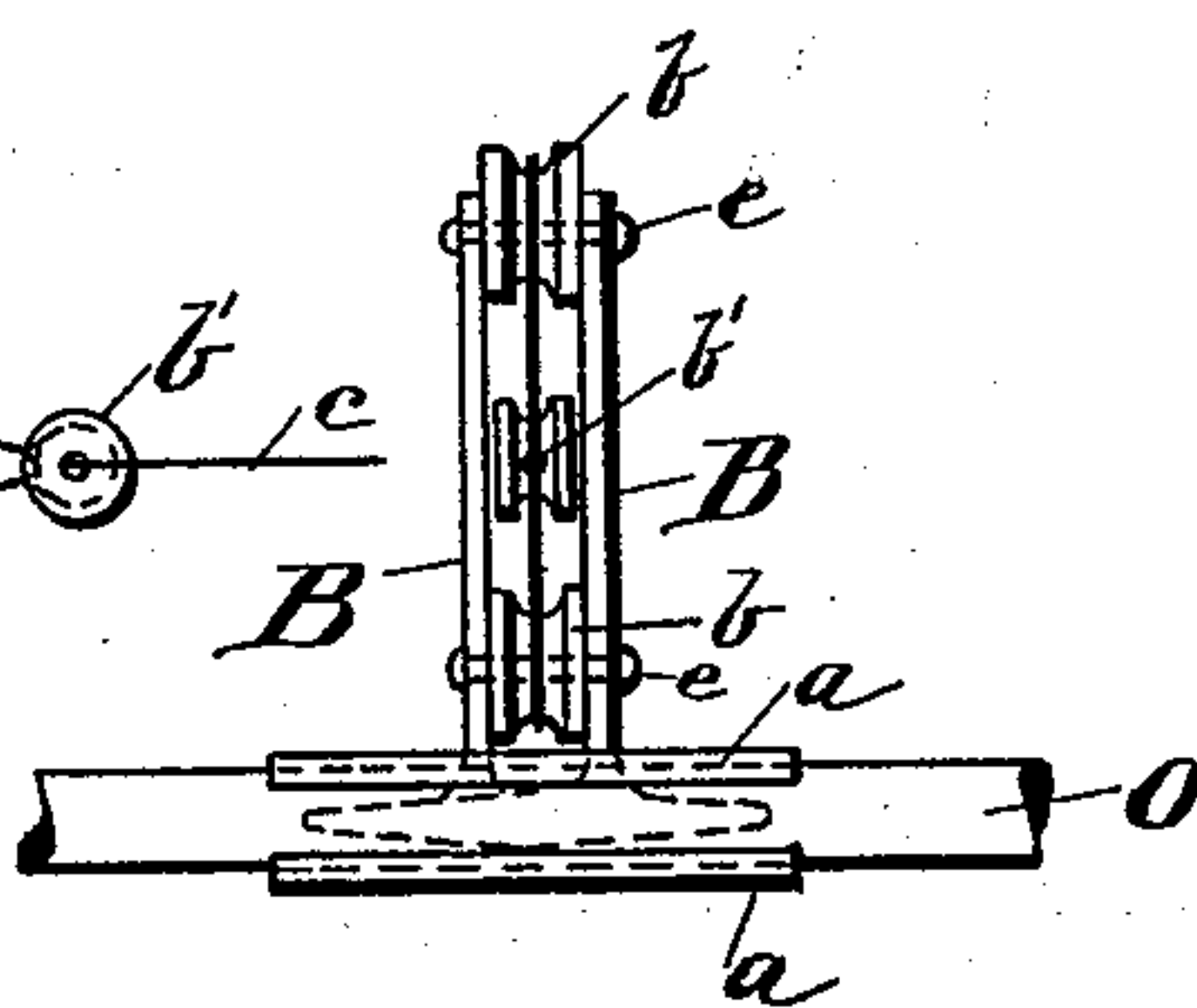


Fig. 3.

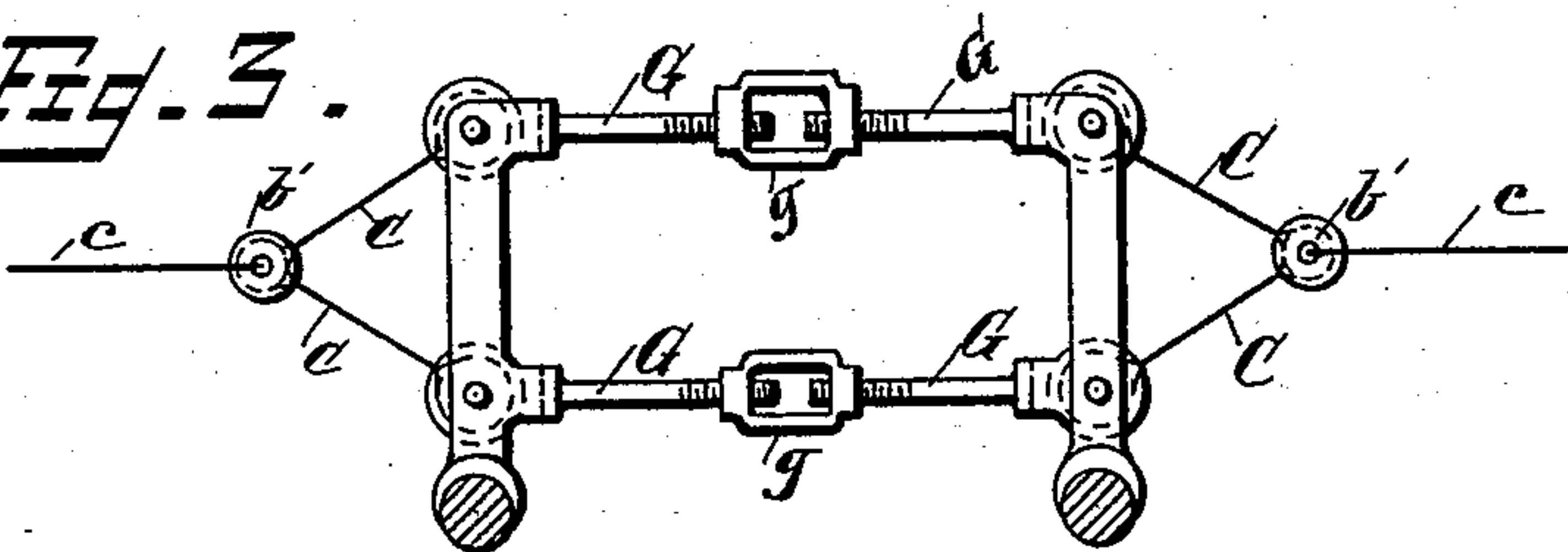


Fig. 4.

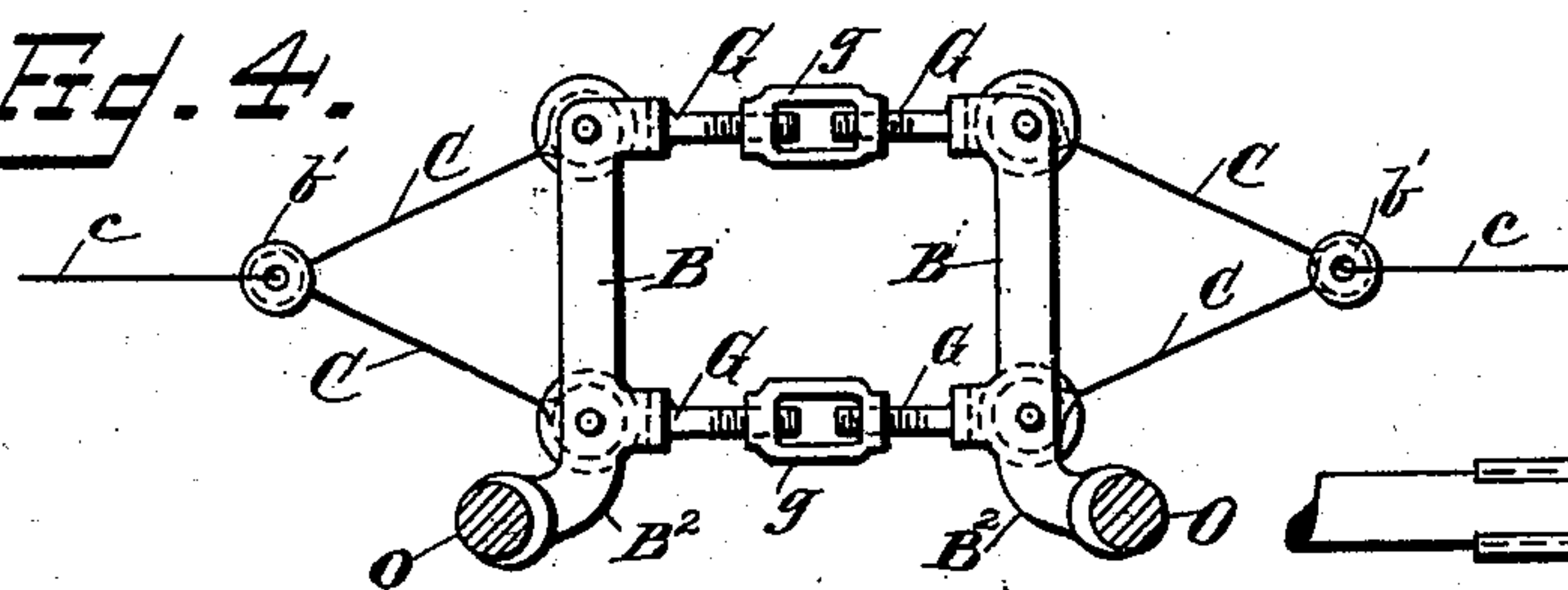


Fig. 5.

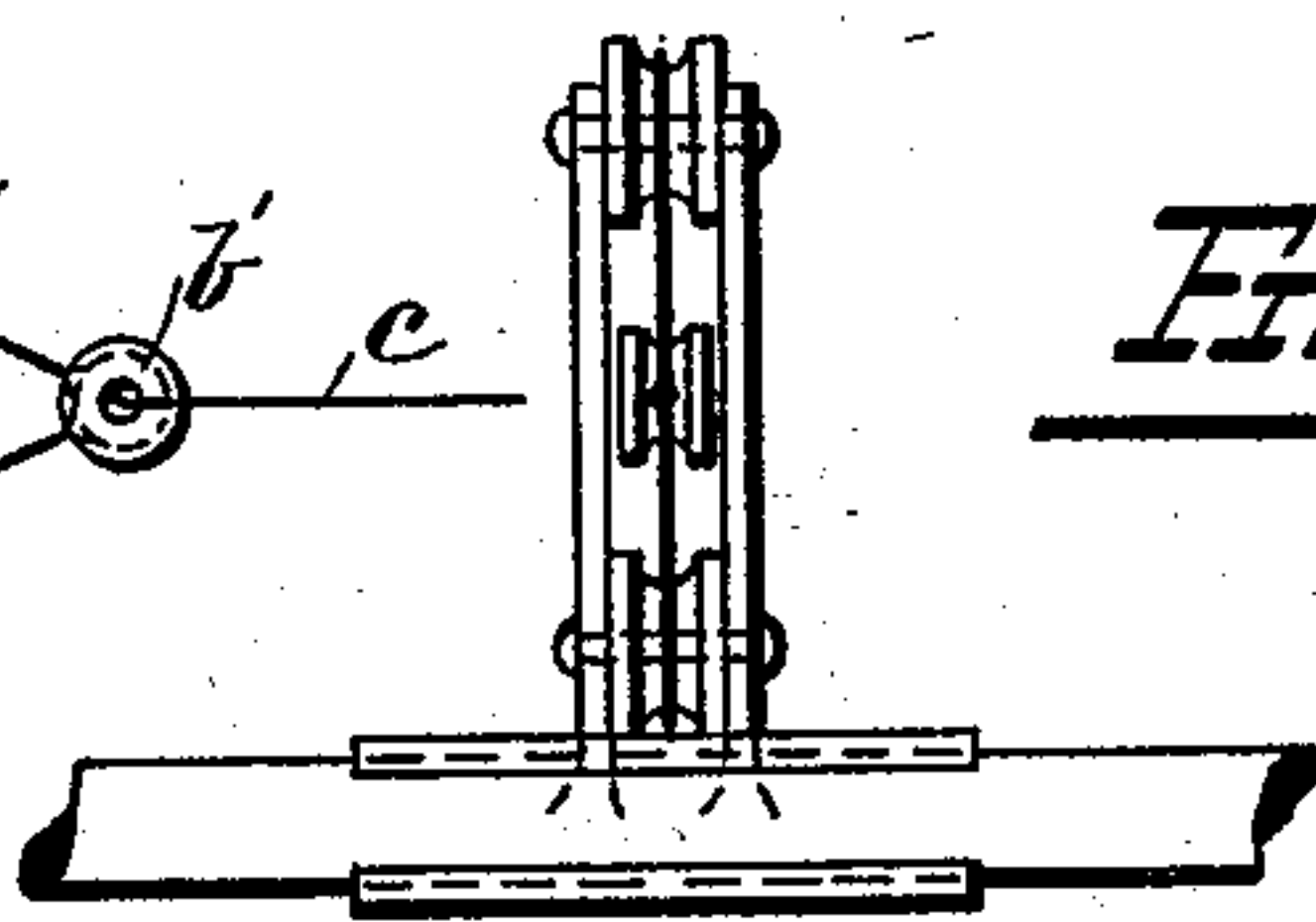
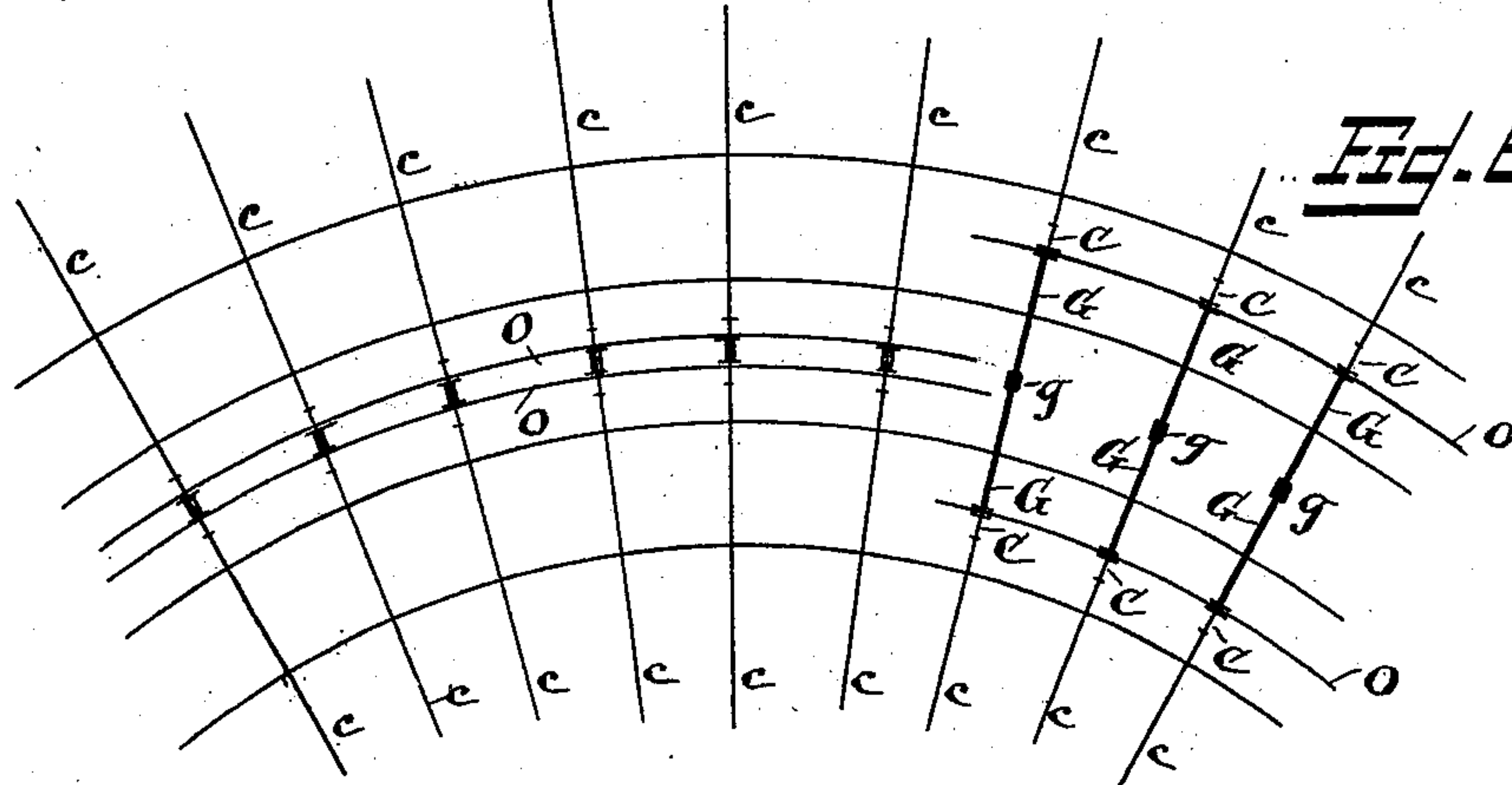


Fig. 6.



WITNESSES:

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MEANS FOR SUPPORTING TROLLEY-WIRES.

SPECIFICATION forming part of Letters Patent No. 506,317, dated October 10, 1893.

Application filed June 5, 1893. Serial No. 476,687. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HARRIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Means for Supporting Trolley-Wires; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to an improved method and mechanism for supporting trolley wires for electric street railways, the object being first to support the wires by means of truss mechanism whereby the wires are rendered more stable and in a measure the wires sustain and brace each other more especially as against lateral displacement and second to support the wires so that if desired the trolley will engage the sides of the respective wires.

In the accompanying drawings Figures 1 and 2 are elevations taken at right angles to each other and illustrating one form of device for carrying out my invention, to wit: when the wires are supposed to be near together as would be the case if the wires were located over the so-called "devil strip" and where it is desired to have the trolley engage the side of the wire and where the track is approximately straight. Figs. 3 and 4 are side elevations showing the construction where the wires are farther apart, the former showing the trolley wires in position for the trolley to engage the bottom of the wires and the latter showing what we call side contact. Fig. 5 is an end elevation corresponding with Fig. 4. The device as shown in Figs. 3 and 4 is designed more especially for curves and where the wires are located over the center of the tracks. Fig. 6 is a diagrammatic plan, the right portion showing the trolley wires located over the center of the tracks, and the left hand portion of the diagram showing the trolley wires located over the "devil strip."

In many cases it is desirable to locate the trolley wires over the devil strip and preferably near to each other; first because the wires so located are more out of the way, for instance, of the firemen in raising ladders, &c., and second if a wire breaks and the end of the wire reaches the ground it is not likely to do any harm. When the wires are thus

located, it is desirable to have the trolley engage the side instead of the bottom of the wire. In such case the construction I employ is shown in Fig. 1, in which figure A is a small cross-bar of the desired length, this bar having jaws as at *a a* for grasping the trolley wires *O O*. The jaws are long enough to reach a little more than half around the wire, so that when the jaws are compressed they grasp and hold the wire firmly. From the center of bar A and extending upward, are a pair of posts *B B*, there being two of these posts for convenience in attaching the insulating material, such for instance as porcelain, glass, &c. These insulating disks have small lateral holes at the centers thereof and a pin or rivet as at *e* secures the disks to and between the posts. The truss wires *C C* are wound around or otherwise respectively secured to disks *b* and these truss wires are also secured to similar insulating disks *b' b'* and to these latter disks are attached the span wires *c c*, the span wires of course extending to and being fastened to posts (not shown.) Around curves the devil strip is usually wider than it is along the straight track, so that long cars can pass each other at the curve; and the shorter the radius of the curve the wider the devil strip must be. Where side contact trolleys are used the trolley wires should be of about uniform distance from the sides of the cars; hence, the wider the devil strip the farther the trolley wires should be separated from each other and where this occurs and for curves generally I employ the truss shown in Fig. 4 wherein there are two pairs of posts as at *B' B'*, each post curving outward as at *B²*. The two sets of posts are connected by means of truss rods *G G* each truss rod having a turn buckle *g*. The trusses shown in Figs. 3 and 4 are substantially alike except in the former the posts are straight so that the trolley wires are held in position for a trolley to engage the under side of the wire. In diagram Fig. 6 the construction shown in Fig. 4 is supposed to be used, while at the right hand of the diagram the truss shown in Fig. 3 is supposed to be used. In either form of truss shown the points where the span wires join the truss are widely separated by reason of which the trolley wires are held more stable

than would be the case if the span wires approached nearer the trolley wires. And especially where the side bearing trolleys are used the two trolley wires brace each other later-
5 ally by reason of my improved trusses arranged as heretofore described.

What I claim is—

1. A device for supporting trolley wires, comprising jaws arranged in pairs for grasping
10 ing the trolley wires, said jaws being rigidly connected with each other, and upright extended posts, between which are secured disks for attaching or suspending wires at different elevations, substantially as described and for
15 the purpose set forth.

2. A device for supporting trolley wires and comprising jaws for grasping the trolley wire, the device having upright members for attaching truss wires at different elevations,
20 the two truss wires connecting the uprights extending in opposite directions and from thence converging to the points where the truss wires connect with the span wires, substantially as and for the purpose set forth.

3. In a device for supporting trolley wires 25 in pairs, jaws for grasping the respective trolley wires, the two pairs of jaws being rigidly connected with each other and projecting outwardly substantially in a plane with the span wires, and rigid upright posts to and between 30 which are secured disks for supporting wires at different elevations, substantially as described and for the purpose set forth.

4. In a device for supporting trolley wires, jaws for grasping the respective trolley wires, 35 the device having upright members, the latter being connected with each other by means of truss rods, such truss rods having turn buckles whereby the distance apart of the jaws may be adjusted, substantially as and 40 for the purpose set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 2d day of June, 1893.

SAMUEL HARRIS.

Witnesses:

G. P. NASH,
J. DRIFFILL.