

W. E. & J. W. DAWKINS.  
ELECTRIC RAILWAY SYSTEM.  
APPLICATION FILED FEB. 21, 1908.

911,948.

Patented Feb. 9, 1909.  
2 SHEETS—SHEET 1.

Fig. 1.

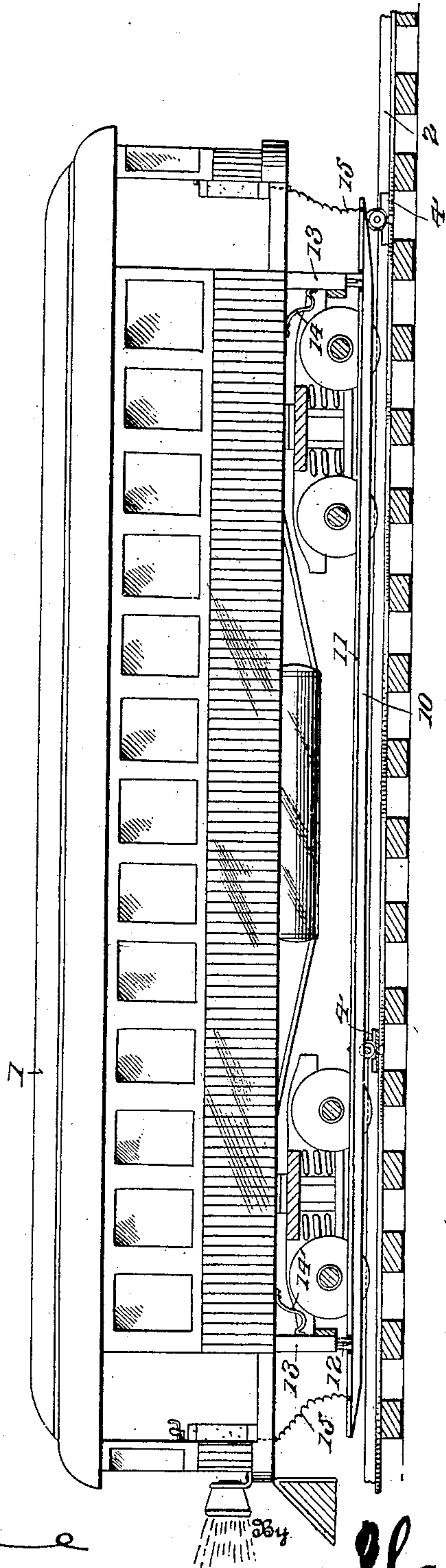


Fig. 3.

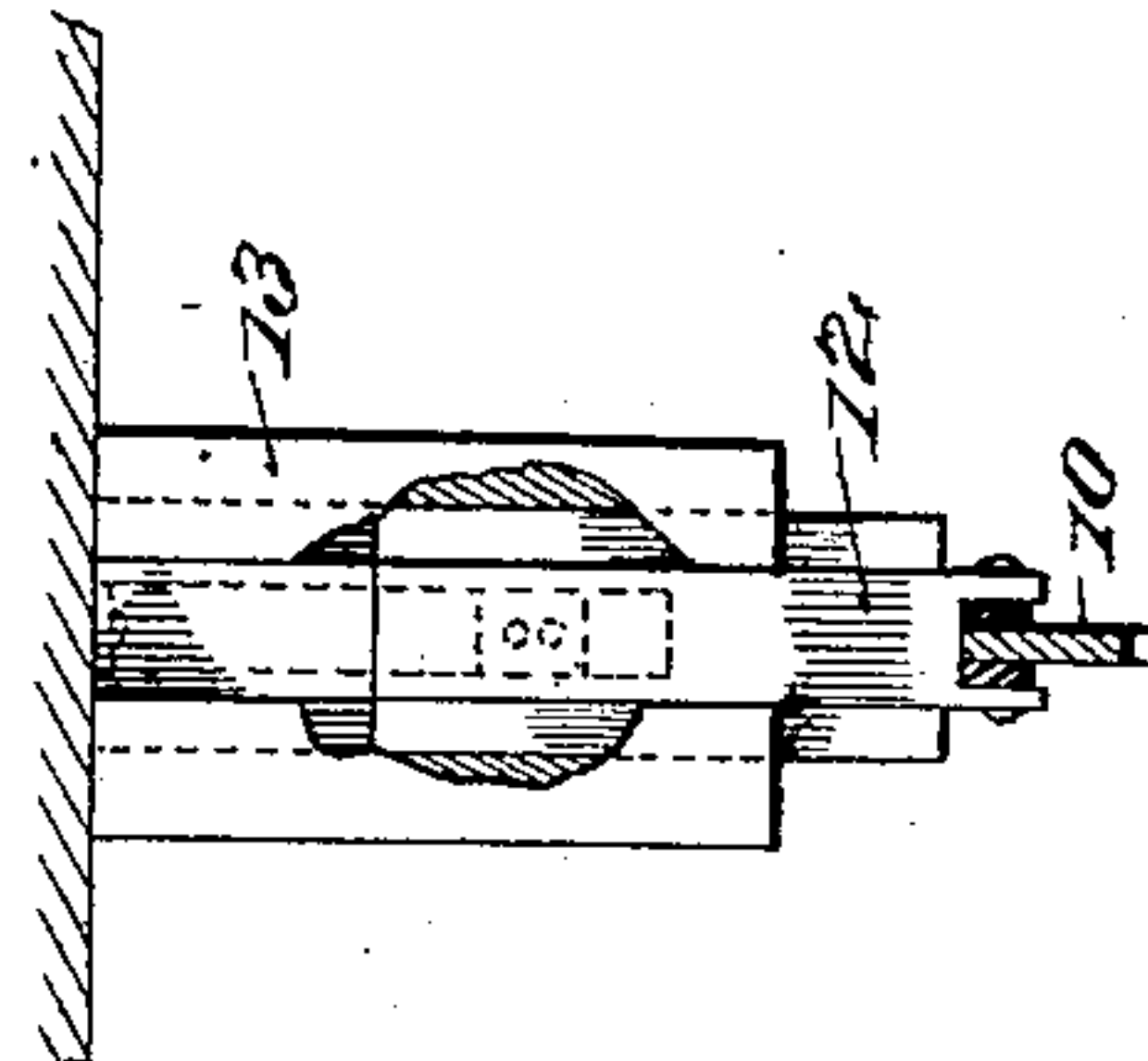
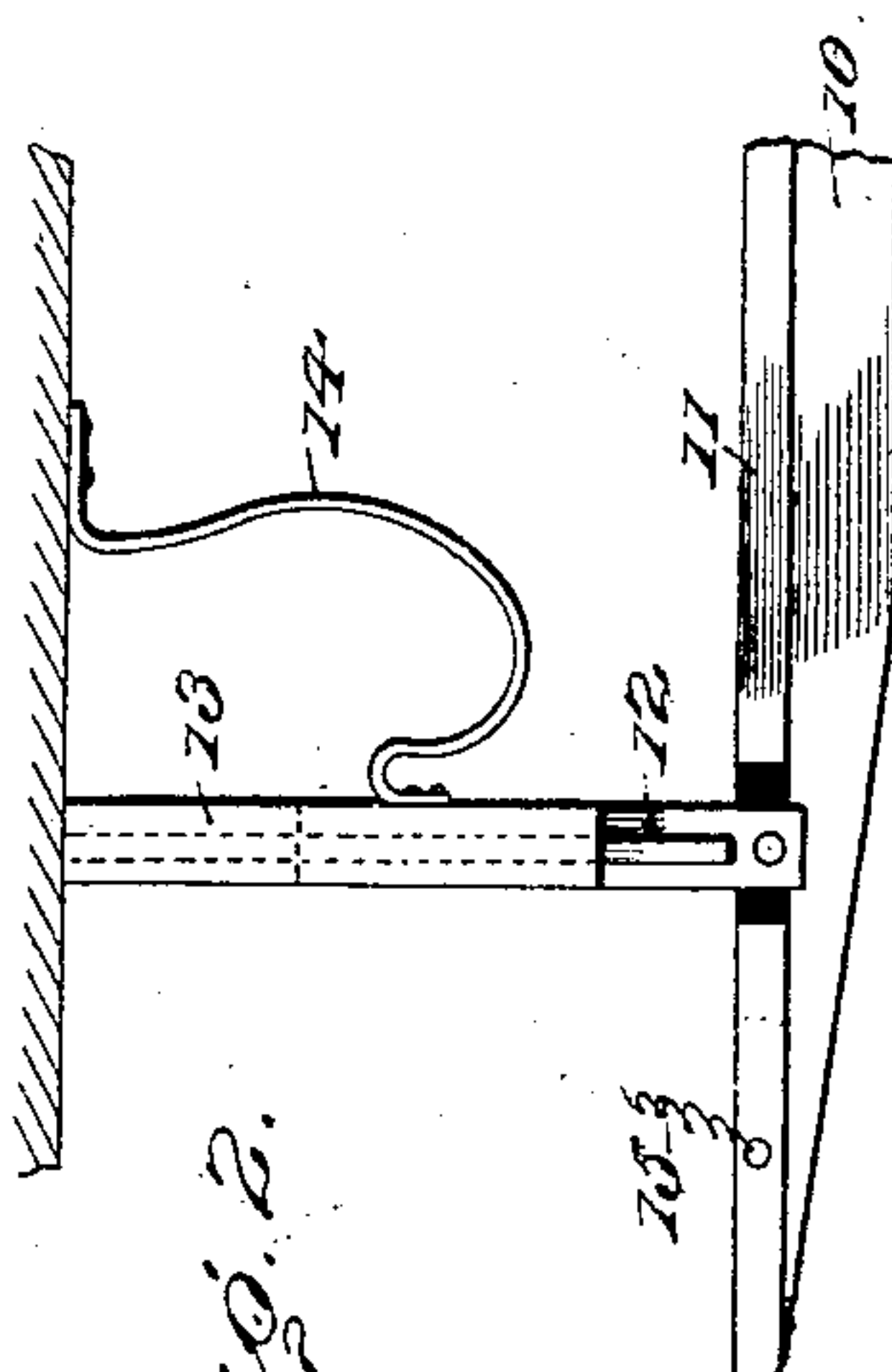


Fig. 2.



Witnesses

*John E. Dawkins*  
*John W. Dawkins*

Inventors  
*Will E. Dawkins*  
*John W. Dawkins*

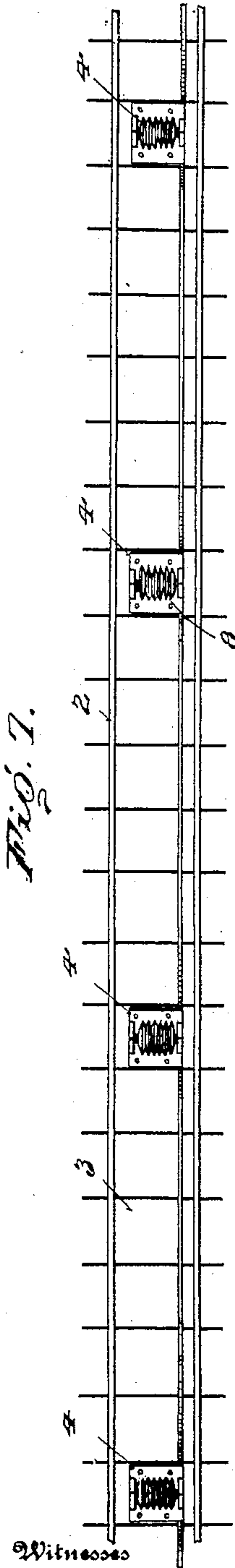
*Hammer,* Attorneys

W. E. & J. W. DAWKINS.  
ELECTRIC RAILWAY SYSTEM.  
APPLICATION FILED FEB. 21, 1908.

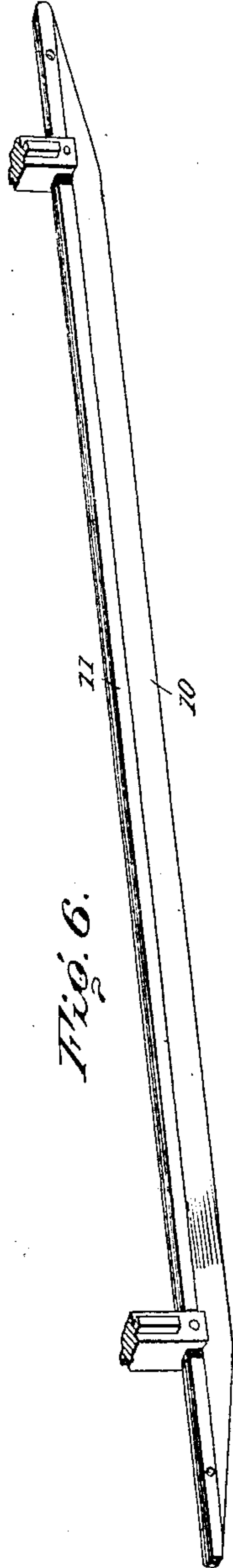
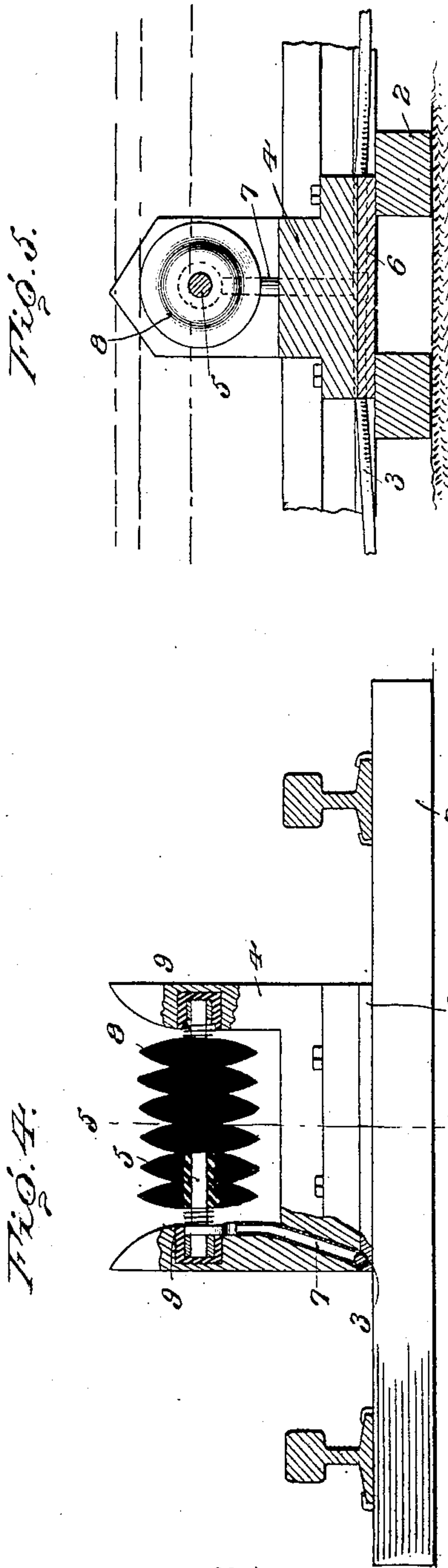
911,948.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 2.



*John W. Dawkins*  
*John W. Dawkins*



Inventors  
WILL E. DAWKINS  
JOHN W. DAWKINS

*R. H. Sawyer*, Attorneys



# UNITED STATES PATENT OFFICE.

WILL E. DAWKINS AND JOHN W. DAWKINS, OF O'FALLON, ILLINOIS.

## ELECTRIC-RAILWAY SYSTEM.

No. 911,948.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed February 21, 1908. Serial No. 417,199.

*To all whom it may concern:*

Be it known that we, WILL E. DAWKINS and JOHN W. DAWKINS, citizens of the United States, residing at O'Fallon, in the county of St. Clair and State of Illinois, have invented certain new and useful Improvements in Electric-Railway Systems, of which the following is a specification.

The present invention relates to improvements in electric railways, and more particularly to a novel system for transmitting the current from the power house to the rolling stock.

The primary object of the invention is to obviate the necessity for employing either an underground system or an overhead trolley, and with this object in view the invention contemplates a novel arrangement of elements whereby the feed wire can be laid upon the surface of the ground without danger of injury to pedestrians.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a car and a portion of the track showing the application of the invention. Fig. 2 is an enlarged side elevation of the support at one end of the blade carried by the car. Fig. 3 is a front view of the same. Fig. 4 is an enlarged transverse sectional view through the track, portions of the stand arranged between the rails being broken away. Fig. 5 is a sectional view on the line 5—5 of Fig. 4, a portion of the blade carried by the rolling stock being shown in dotted lines. Fig. 6 is a detail view of the blade. Fig. 7 is a plan view of a portion of the track.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

In the embodiment of the invention shown upon the drawings, the numeral 1 designates a car which is mounted to travel upon a track 2 in the usual manner and is designed to be driven by an electric motor. The rails of the track constitute one of the conductors of the system, the opposite conductor being in the nature of a feed wire 3 which extends along the surface of the ground and is suitably insulated. In the present instance this feed wire 3 rests upon

the ties of the track, although it will be obvious that it might be placed either under the ties or at one side of the track should such an arrangement be found more desirable. Located at suitable intervals along the track are the stands 4 which may be formed of any suitable material such as cast iron and have the upper portions thereof bifurcated. Journaled between the arms of the bifurcation of each of the stands is a contact roller 5 which may be formed of brass or other good conducting material, the said rollers being in electrical connection with the feed wire 3. For this purpose it will be observed that each of the stands 4 rests upon a base plate 6, the said members being provided at one side with corresponding grooves receiving the feed wire. Extending upwardly from the feed wire and housed within the stand is a lead 7 which has an electrical connection with the contact roller, both the lead and the roller being insulated from the stand.

A plurality of insulating disks 8 are loosely mounted upon the roller 5 so as to form a guard for the same and prevent external objects coming into contact therewith. These disks which are formed of any suitable insulating material have the edges thereof beveled and in the present instance are shown as being of a double convex formation. Located at each end of the roller 5 is a coil spring 9, the said springs serving to force the disks together and hold them in yielding contact with each other.

Carried by the rolling stock is a longitudinal blade 10 which is designed to engage the successive contact rollers 5 and produce an electrical connection therewith. The opposite ends of the blade 10 are beveled upward and if found desirable the upper portion of the blade may be reinforced by the stiffening members 11. Each end of the blade 10 is secured to the lower extremity of a slide 12, the said slides being designed to reciprocate vertically within the guide ways 13. Springs 14 are connected to the slides 12 and normally tend to force the same downwardly for the purpose of holding the blade 10 in a yielding contact with the various rollers 5. The current is taken from the blade 10 by means of suitable conductors 15 which lead to the controller and these conductors may be connected to the blade either at the ends or in intermediate portion thereof.

In the operation of the device the beveled



ends of the blade 10 are designed to engage the insulating disks 8 and force the same apart against the action of the springs 9, thereby permitting the blade to come into  
5 direct contact with the roller 5 and produce a good electrical connection therewith. It is also desired to call attention to the fact that the blade 10 is normally forced downwardly by means of the spring strips 14 and is  
10 thereby held in a yielding engagement with the contact rollers so that compensation is made for any inequalities in the elevation of the various stands.

With this construction it will be readily  
15 apparent that while the contact rollers are entirely protected by means of the insulating disks so as to prevent injury to pedestrians or others, the blade upon the rolling stock readily wedges itself between the disks  
20 into engagement with the rollers.

Having thus described the invention, what is claimed as new is:

The herein-described trolley system comprising a stand having the upper portion  
25 thereof bifurcated, a contact roller mounted

between the arms of the bifurcated portion of the stand, a feed wire having an electrical connection with the contact roller, a series of double convex insulating disks journaled upon the feed roller between the arms of the  
30 bifurcated portion of the stand, springs engaging the end disks of the series and serving to hold the various disks in yielding contact with each other, vertical guide ways upon the rolling stock, slides mounted upon  
35 the vertical guide ways, a longitudinally disposed blade carried by the slides, the said blade being designed to separate any adjacent pair of the insulating disks and engage  
40 the contact roller between the same, and springs for normally holding the blade in a yielding engagement with the contact rollers.

In testimony whereof we affix our signatures in presence of two witnesses.

WILL E. DAWKINS. [L. S.]  
JOHN W. DAWKINS. [L. S.]

Witnesses:

E. M. WINKS,  
J. C. ALEXANDER.