

No. 612,457.

Patented Oct. 18, 1898.

C. H. MYERS.
ELECTRIC RAILWAY.

(Application filed Aug. 18, 1897.)

(No Model.)

Fig. 2.

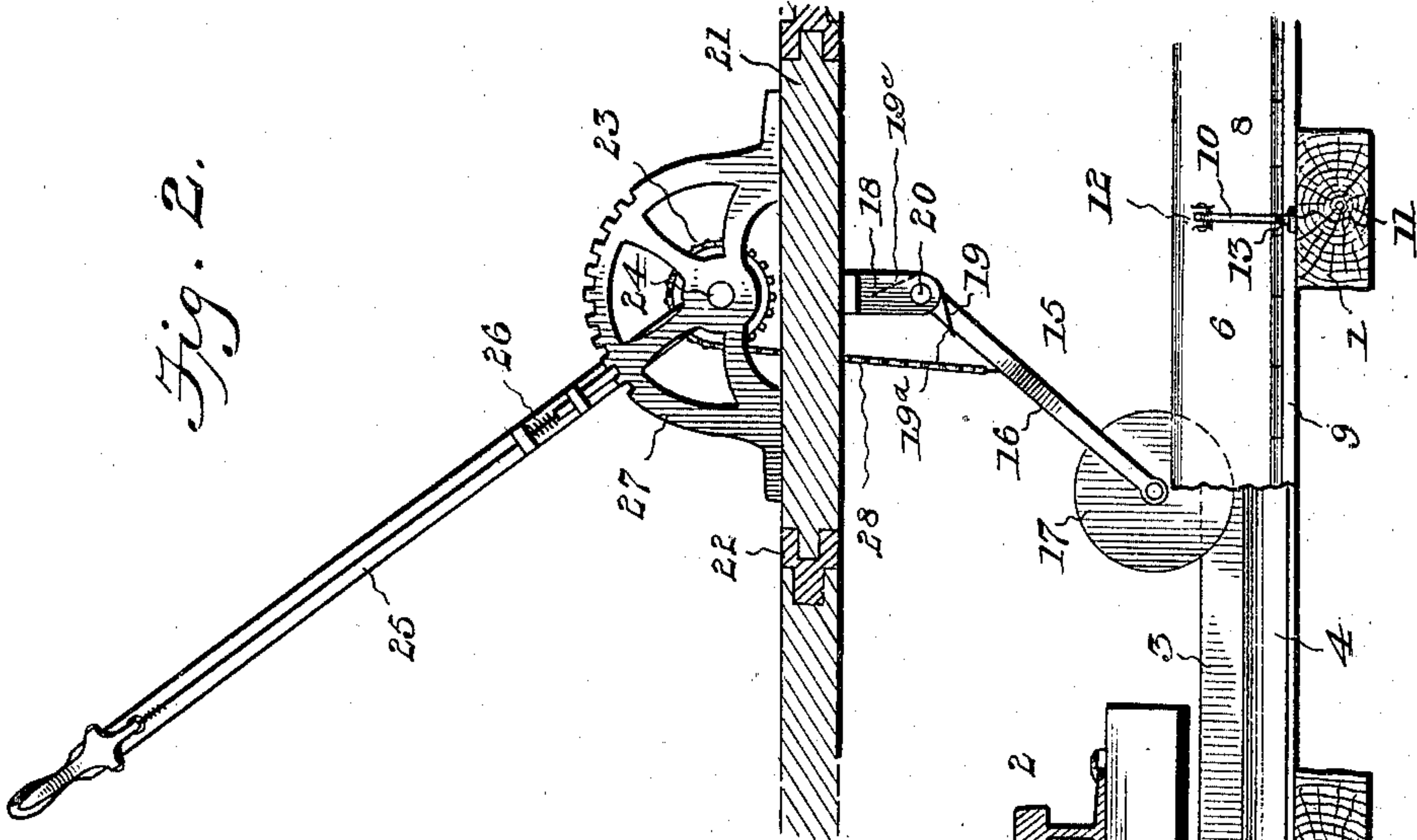


Fig. 1.

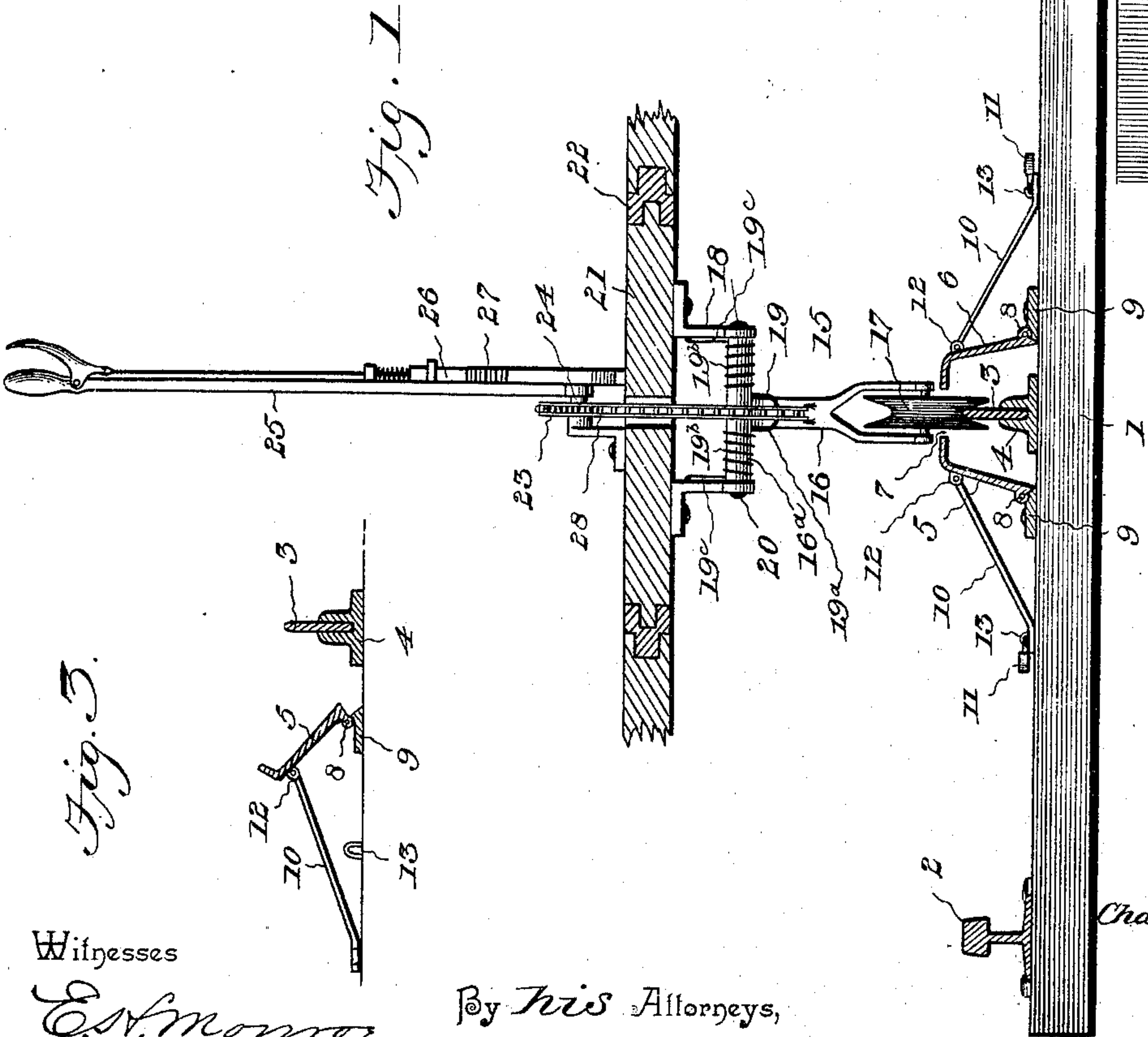
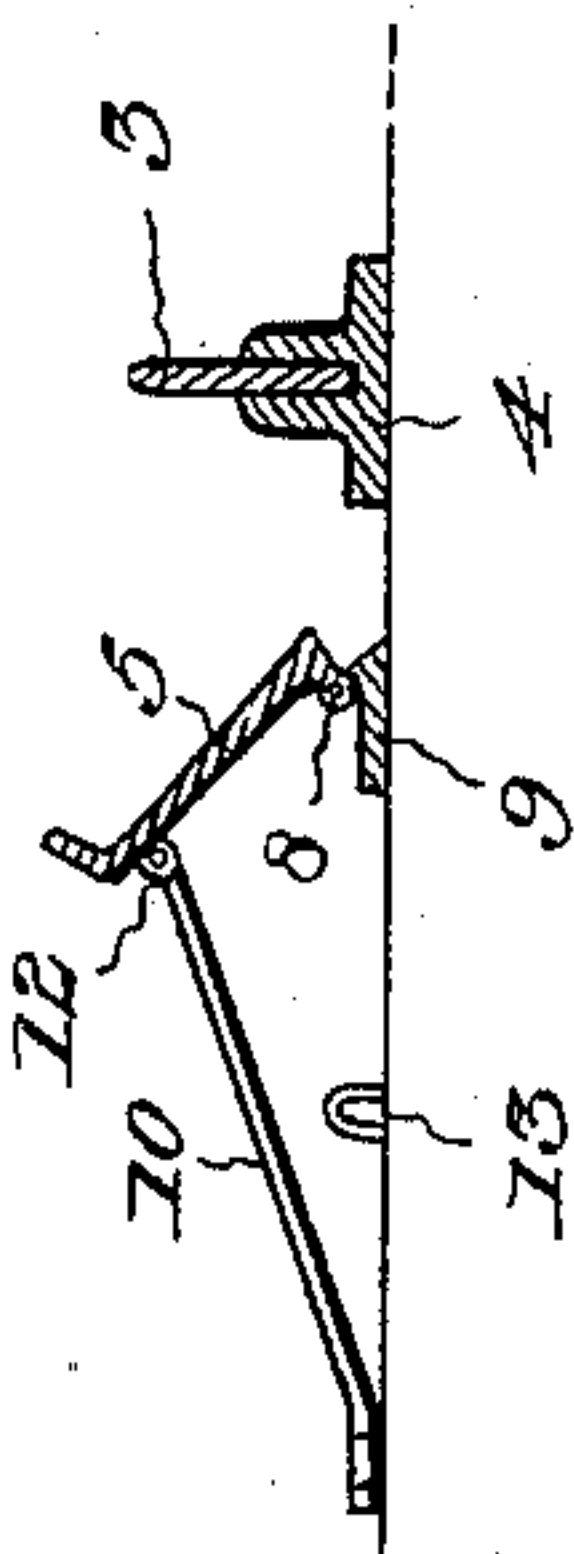


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES HENRY MYERS, OF BUFFALO, NEW YORK, ASSIGNOR TO HIMSELF
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ELECTRIC RAILWAY.

SPECIFICATION forming part of Letters Patent No. 612,457, dated October 18, 1898.

Application filed August 18, 1897. Serial No. 648,719. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HENRY MYERS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Electric Railway, of which the following is a specification.

My invention relates to improvements in electric railways especially designed for use in elevated or overhead railways and for suburban service where the track is not subject to any considerable amount of surface traffic, except at the crossings of roads and highways; and the object that I have in view is to provide an improved means for affording protection to a conductor-rail laid between the wheel-rails and designed to prevent persons afoot from stepping on the conductor-rail to be subjected to a shock from the current in said rail.

A further object of the invention is to so construct the rail-protecting appliance as to permit of ready accessibility to the conductor-rail for the purpose of inspection and repairs.

A further object of the invention is to provide an improved means for supporting the trolley and for reversing the same at the end of a route.

With these ends in view my invention consists in the novel combination of devices and in the construction and arrangement of parts which will be hereinafter fully described and claimed.

To enable others to understand my invention, I have illustrated a preferred embodiment of the same in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a sectional elevation showing one of the cross-ties and other parts of a track, also a trolley and a conductor-rail protector appliance constructed in accordance with my invention. Fig. 2 is a side view of the parts shown by Fig. 1 with one part of the rail-protector appliance broken away. Fig. 3 is a detail view showing the conductor-rail and a part of the protector appliance thrown back out of the way to permit access to be had to the conductor-rail.

Like numerals of reference denote corre-

sponding and like parts in all the figures of the drawings.

The ties and rails of an ordinary railway-track are indicated in a general way at 1 2, respectively, in Figs. 1 and 2 of the drawings. A conductor-rail for the current of electric energy is indicated at 3, and this rail is arranged midway between the track-rails 2. This conductor-rail 3 is seated in a chair 4, which is attached to the ties in any approved manner, and said conductor-rail may be insulated in the chair, or the chair itself may be of insulating material to insulate the conductor-rail from the track. The chair may be continuous, substantially as shown by Fig. 2, or a series of the chairs may be provided at suitable intervals for the proper support and insulation of the conductor-rail. I have designed this track with the mid-rail conductor for use in elevated or overhead railways, as well as for suburban traffic through sections of the country where there is not much surface traffic except at road-crossings or highways, at which crossings the track is designed to be protected in a substantial and permanent manner to permit of the passage of vehicles and the like without exposing animals and human beings to contact with the conductor-rail. At other places the conductor-rail is housed and protected by a sectional boxing or housing the members or sides of which are indicated at 5 6 in the drawings. Each side of the box-like housing consists of a metallic piece shaped to appropriate form to overhang the rail 3, and for this purpose the sides of the boxing or housing are flanged at their upper ends, so as to have the flanges extend inwardly and form between them a slot or space (indicated at 7) for the reception and travel of the wheel of the trolley, as shown by Fig. 1. The sides or members of the housing are arranged on opposite sides of the conductor-rail, and the lower edges of the housing sides are hinged or pivoted, as at 8, to brackets or plates 9, which are fastened to the ties of the track. The hinges or pivots that attach the housing sides to the plates or brackets are arranged to permit the housing sides to abut or bear against the ends of the brackets or plates 9, and thus the housing sides are limited in their

inward movement toward the conductor-rail, so as to be held or maintained in proper relation thereto.

The sides of the housing or boxing are arranged to be thrown backward and away from the conductor-rail to permit ready access thereto for inspection or repairs or for cleaning the conduit of accumulations of dirt and refuse. To attain this end, I construct each side of the boxing or housing in suitable lengths, hinge each length in the manner described, and provide means for locking the lengths of each side of said boxing or housing. One means for locking the adjustable housing is shown in the drawings as consisting of the stay or brace rods 10 and a locking contrivance 11. Each brace or stay is pivotally attached at its inner end to the boxing or housing, as at 12, while the other end of said brace or stay is constructed to engage with a staple or keeper 13, with which the lock 11 may be engaged to confine the brace or stay to the keeper. I would have it understood that I do not, however, strictly confine myself to this means for fastening the stay or brace in place, as I am aware that other devices may be substituted for the construction herein shown and described.

The trolley is indicated at 15 in the drawings, and it consists of an arm 16, a contact-wheel or traveler 17, a hanger 18, in which the trolley-arm is journaled, a spring 19 for depressing the trolley-arm to force the traveler or contact-wheel into the necessary frictional contact with the contact-rail, and means for raising the trolley-arm and its traveler against the tension of the spring. I have shown the hanger as consisting of a pair of bracket-shaped lugs and the trolley-arm as cast in a single piece to provide a fork at its lower extremity and a tubular cross-head 16^a at its upper end. This tubular cross-head of the trolley-arm is adjusted between the bracket lugs or plates, and a pivotal bolt 20 passes through the hanger brackets or lugs and the tubular cross-head of the trolley-arm in order to pivotally attach the trolley-arm to the hanger; but it is evident that other means may be resorted to for supporting the trolley-arm on the hanger. The spring 19 is made, preferably, of a single piece of stout spring-wire bent into a peculiar form to enable it to be supported on the cross-head of the trolley-arm and to engage with said trolley-arm and the hanger. This spring is first doubled upon itself to form a central loop 19^a, then bent or coiled to form the coils or eyes 19^b, and thence the ends are extended to provide the arms 19^c. The loop of the spring is adjusted to bear or press against the trolley-arm at one side of its pivotal attachment to the hanger. The coils of the springs fit on the tubular cross-head of the trolley-arm, while the extended spring-arms bear against the hanger, all as shown by Figs. 1 and 2. The spring is thus supported in operative relation to the trolley-arm and the hanger in a manner to effectu-

ally overcome any tendency of the spring to become displaced, and the described construction of the spring enables it to be applied after the hanger and the trolley-arm have been adjusted, because the wire can be bent around the parts with ease and facility.

I have provided a turn-table (indicated at 21 in the drawings) for the purpose of reversing the trolley and its operative elements at the end of a route in order that the trolley-arm may trail in rear of its supporting and pivotal devices. This turn-table is seated in a bearing-ring 22, set flush with the car floor or platform, and on the turn-table is mounted the trolley-hanger 18 and the adjusting device for the trolley-arm to raise the latter in order to have its traveler or contact-wheel free from the conductor-rail. This turn-table may be of any suitable construction, and a locking-catch may be provided at diametrically opposite points thereof for holding the turn-table in either of its adjusted positions.

As one means for raising the trolley-arm against the tension of its depressing-spring I have shown a sprocket-wheel, pulley, or drum 23, mounted on a shaft 24, to which is fastened one end of an adjusting-lever 25, said lever carrying a spring-controlled dog 26, which is arranged to engage with a toothed segment 27. This segment is attached to the turn-table, and it serves as the supporting means for the adjusting wheel, drum, or pulley 23 and the operating-lever 25. The drum, wheel, or pulley 23 is operatively connected with the trolley-arm by a sprocket-chain, strap, or cable 28, one end of which is attached to the trolley-arm at one side of its pivot 20, while the other end is coiled or wound on the wheel, drum, or pulley, as shown more clearly by Fig. 2. While I have shown the lever and its attached parts as the preferred means for raising the trolley-arm, I am aware that other devices can be substituted therefor for adjusting the trolley—as, for instance, a wheeled shaft—which, however, I have not deemed it necessary to illustrate.

Parts of my invention may be used without the whole, and minor changes in the form and proportion of parts and in the details of construction may be made by a skilled mechanic without departing from the spirit or sacrificing the advantages of the invention.

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

1. In an electric surface railway, the combination with a conductor-rail situated between the track-rails, of a continuous divided boxing or housing for said conductor-rail and arranged substantially in the horizontal plane of said track-rails, said boxing or housing consisting of sectional sides which are hung independently of each other for adjustment toward or from the conductor-rail which they inclose, and means for locking the divided sides of said housing in fixed relation to the conductor-rail, substantially as described.

2. In an electric surface railway, the combination with a conductor-rail situated between the track-rails, of an exposed boxing or housing coextensive with said conductor-rail and arranged in substantially the horizontal plane of the track-rails, said boxing or housing consisting of independent hinged sides arranged to inclose the conductor-rail and to form above the same a continuous traveler-slot, and independent locking devices for the respective sides of the boxing or housing, whereby either side of said housing may be released and adjusted to expose the rail, substantially as described.

3. In an electric surface railway, the combination with a conductor-rail situated between the track-rails, of an exposed boxing or housing having its respective sides hung for adjustment toward or from the conductor-rail and said sides arranged to disclose the conductor-rail and forming a traveler-receiving slot, braces attached to the hinged sides of the housing, and locking devices engaging with said braces, substantially as described.

4. In an electric surface railway, the combination of a turn-table, a hanger attached thereto, an arm pivoted to said hanger and

carrying a traveler, and an adjusting-lever mounted on the turn-table and operatively connected with the arm, substantially as described.

5. The combination with a hanger, of a trolley-arm having a cross-head, a bolt which passes through said head and the hanger to pivotally attach the trolley-arm thereto, a spring having its coils fitted on the cross-head and with its loop and extended arms engaging with the trolley-arm and the hanger, respectively, and means for adjusting the trolley-arm against the tension of said spring, as and for the purposes described.

6. The combination with a turn-table, of a hanger attached thereto, a spring-controlled trolley-arm pivoted in said hanger, a segment mounted on said turn-table, a wheel having a flexible connection with said trolley-arm, and a lever for adjusting said wheel, as and for the purposes described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES HENRY MYERS.

Witnesses:

JOHN H. SIGGERS,
THEODORE DALTON.