(No Model.)

W. LUER.

CONDUIT RAILWAY TROLLEY.

No. 592,711. Patented Oct. 26, 1897.

Fig. 1.

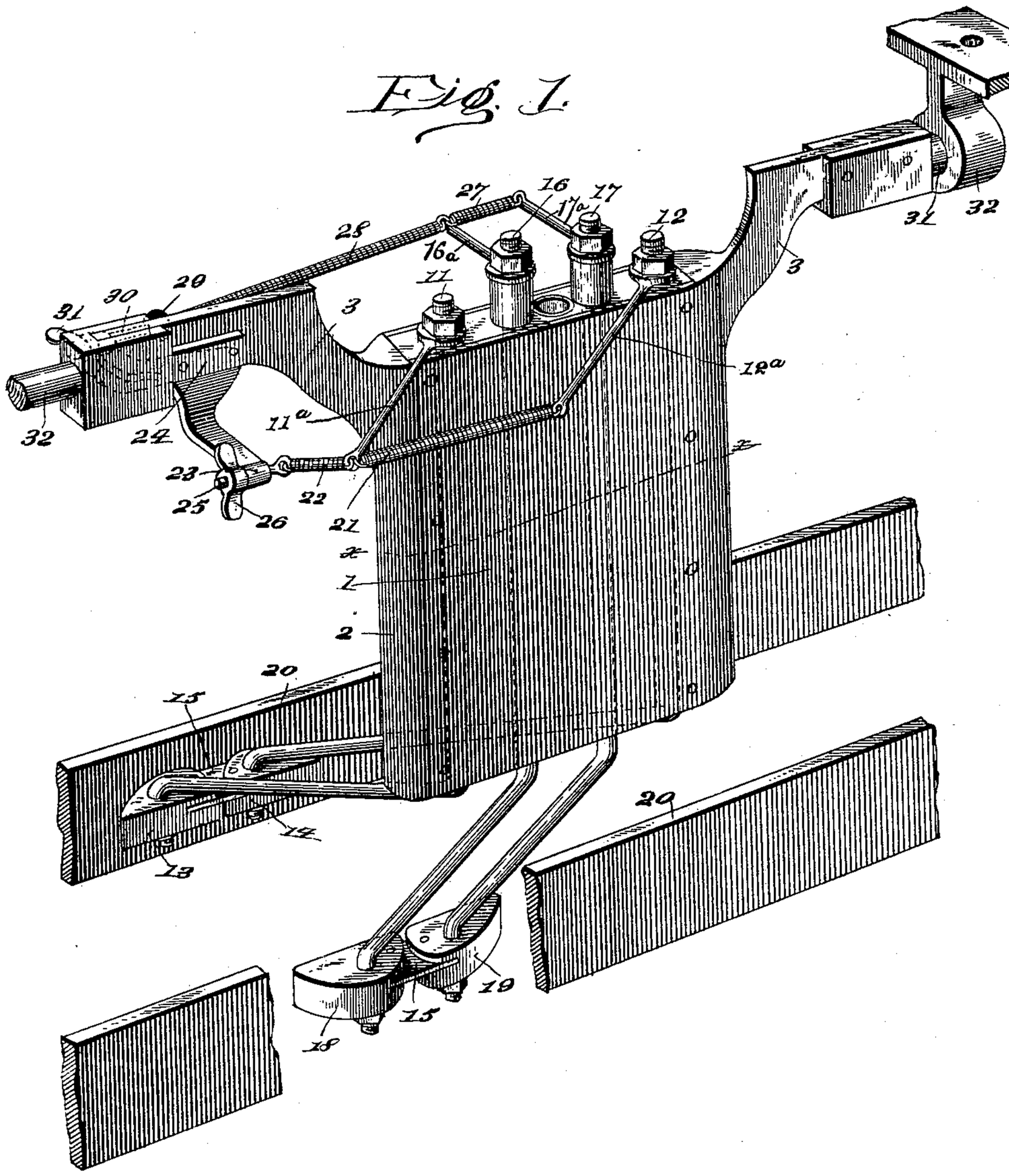
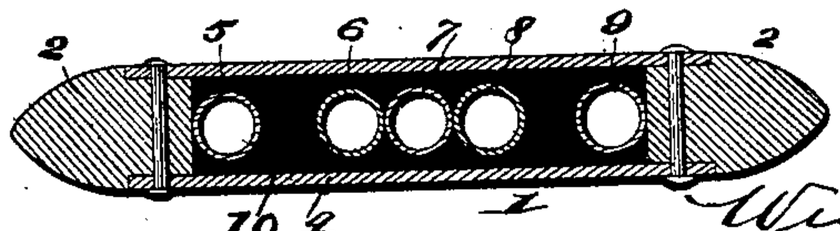


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM LUER, OF CHICAGO, ILLINOIS.

CONDUIT-RAILWAY TROLLEY.

SPECIFICATION forming part of Letters Patent No. 592,711, dated October 26, 1897.

Application filed January 4, 1896. Serial No. 574,364. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LUER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Conduit-Railway Trolleys; 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 appertains to make and use the same.

My invention relates to improvements in the traveling contact devices such as are used in underground electric-railway systems for conveying the current from electric conductors to the motor on the car.

It consists of improvements by means of which absolute and certain contact is secured notwithstanding any irregularity in the conductor-rails. Provision is made for the wear of the parts by providing the contact-blocks with a good conducting-sole and the adjustability of tension, and the construction is economical and simple and not liable to get out of order or require frequent and expensive repairs. The manner in which I attain these objects is fully set forth in the following detailed specification and is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention; and Fig. 2 is a sectional view on the line *x x*, Fig. 1.

Like reference-numerals indicate like parts in the several views.

1 indicates the main frame of my device, which is composed of the end pieces 2, having lateral wings 3, and said pieces are connected by the side plates 4, which are bolted to the end pieces, as clearly shown. Within the box, which is formed by these end pieces and side plates, are the vertical tubes 5, 6, 7, 8, and 9, of brass or steel. The tubes 5 and 9 are in direct contact with the end pieces 2, while the tubes 6 and 8 are in positive contact with the tube 7, which is the hitch-post for the main power connection with the motor in the car. Surrounding these tubes, except at the points of contact referred to, is a suitable packing 10. Through the tubes 5 and 9 extend rods 11 and 12, having at their upper ends rods 11^a and 12^a, connected therewith at approximately right angles with said tubes. The lower ends of said rods 11 and 12 pass through the contact-blocks 13 and 14, respectively, and are held therein by nuts screwed on the threaded ends of said rods. The contact-blocks 13 and 14 are the switch-blocks, are linked together by the link 15, which permits independent lateral movement, and are supported or carried by the rods 11 and 12, as shown. Through the tubes 6 and 8 extend rods 16 and 17, which have their lower portions bent at approximately right angles with said tubes and again bent to pass through the contact-blocks 18 and 19, respectively, from which power is received from the conductors 20. These rods and contact-blocks are secured together in the same manner as the other blocks, and the blocks are linked together, so as to permit lateral movement independent of each other within certain limits. It will be seen that as the rods 11 and 12 and 16 and 17 are loosely held in their respective contact-blocks the latter may have a rocking movement which permits them to pass the ends of the conductor-rails without danger of being caught thereon.

The ends of the rods 11^a and 12^a are connected with each other by means of coil-springs 21, and the former is connected, by means of a similar spring 22, with the wing 23 of the plate 24, which is screwed or bolted to one of the wings 3 of the main frame 1. The connection between the spring 22 and the wing 23 is by means of the pin 25, which passes through the wing 23 and has its outer end threaded for the reception of a thumb-nut 26, by the adjustment of which a greater or lesser tension may be had upon the spring 22, and hence upon the rods 11 and 12, the movement of which in either direction effects a corresponding movement in the lower ends of said rods.

The upper ends of the rods 16 and 17 are connected with the coil-spring 27 by means of short rods 16^a 17^a. From the end of the rod 16^a extends a similar coil-spring 28, the other end of which is secured in the rubber insulator 29, which is connected on its opposite side with the pin 30, carrying on its outer threaded end the thumb-screw 31, by means of which the tension on the spring 28 is controlled, and through said spring the tension on the rods 16 and 17.

The main frame 1 and its dependent parts are suspended under the car-floor from the shaft 31, which is supported in the brackets 32, which are secured to the bottom of the car. By providing one end of said shaft with a handle it may be turned so as to throw the frame up against the bottom of the car, so that it will be out of the way when going into the car-barn or in changing the motive power from underground to overhead means.

The construction of my invention is so simple that its operation will be readily apparent, and no description thereof seems necessary.

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

1. The combination with an electric conductor and vehicle of a frame secured to the bottom of the vehicle, a series of rods carried by said frame, adjustable contact-blocks supported by said rods and means for regulating the contact between said blocks and the conductors substantially in the manner and for the purposes set forth.

2. The combination with an electric conductor and vehicle of a frame suspended from the bottom of the vehicle and adapted to swing thereunder, a series of rods carried by said frame, contact-blocks having link connections supported by said rods, spring connections between each pair of the series of said rods and means for regulating the tension of said springs substantially as set forth.

3. The combination with an electric conductor and vehicle of a frame suspended from the bottom of the vehicle, a series of rods carried by and revolving in said frame, contact-blocks arranged in pairs and adapted to allow lateral oscillatory movement, and supported by said rods so that they are normally in contact with said conductor, and means for regulating the contact between said blocks and said conductors substantially as and for the purposes set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM LUER.

Witnesses:
DAVE KENMAN,
ADOLPH KLEIN.