

No. 633,165.

Patented Sept. 19, 1899.

C. F. P. STENDEBACH.

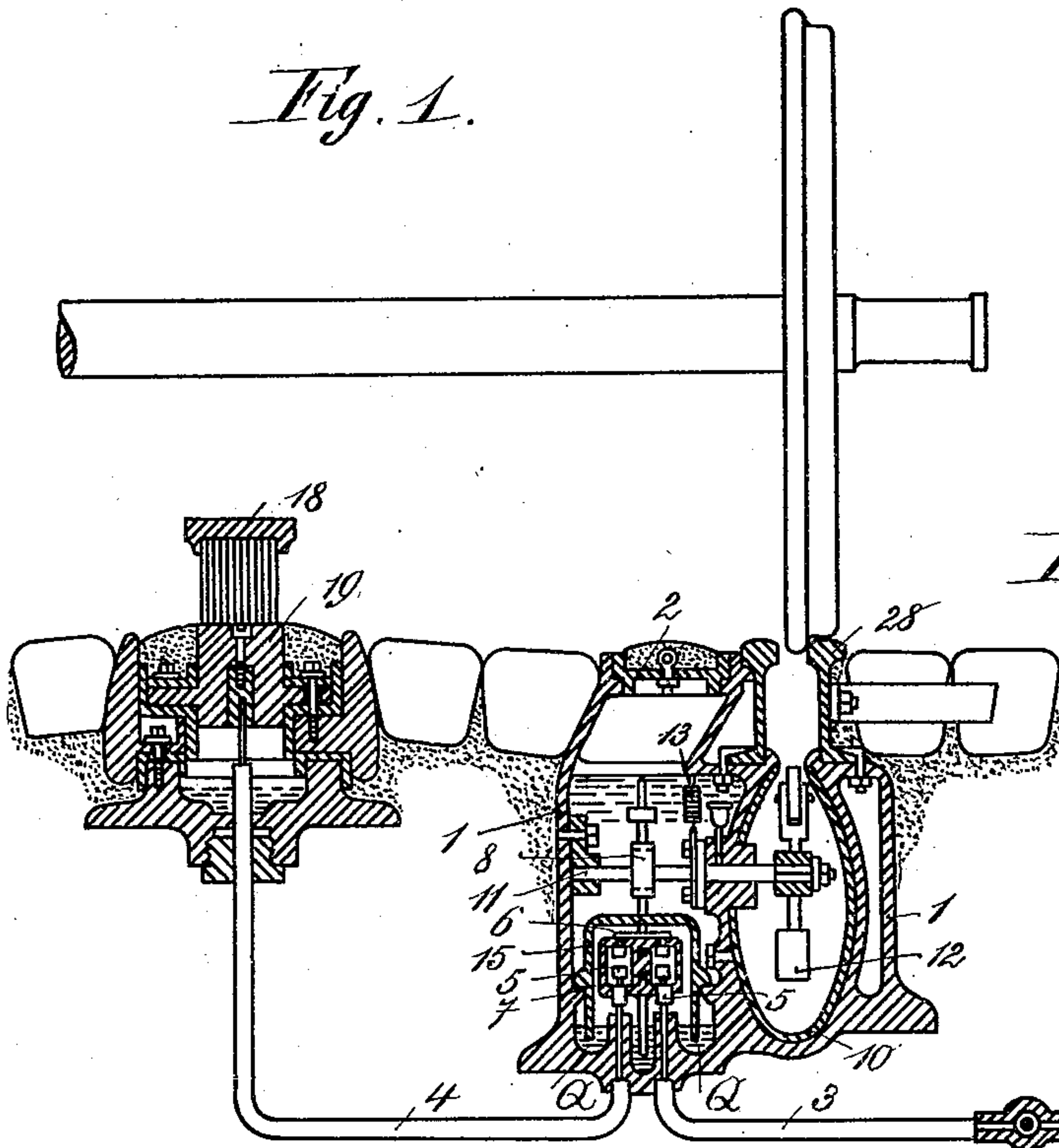
DEVICE FOR FEEDING CURRENT TO ELECTRICALLY DRIVEN CARS.

(Application filed Apr. 1, 1898.)

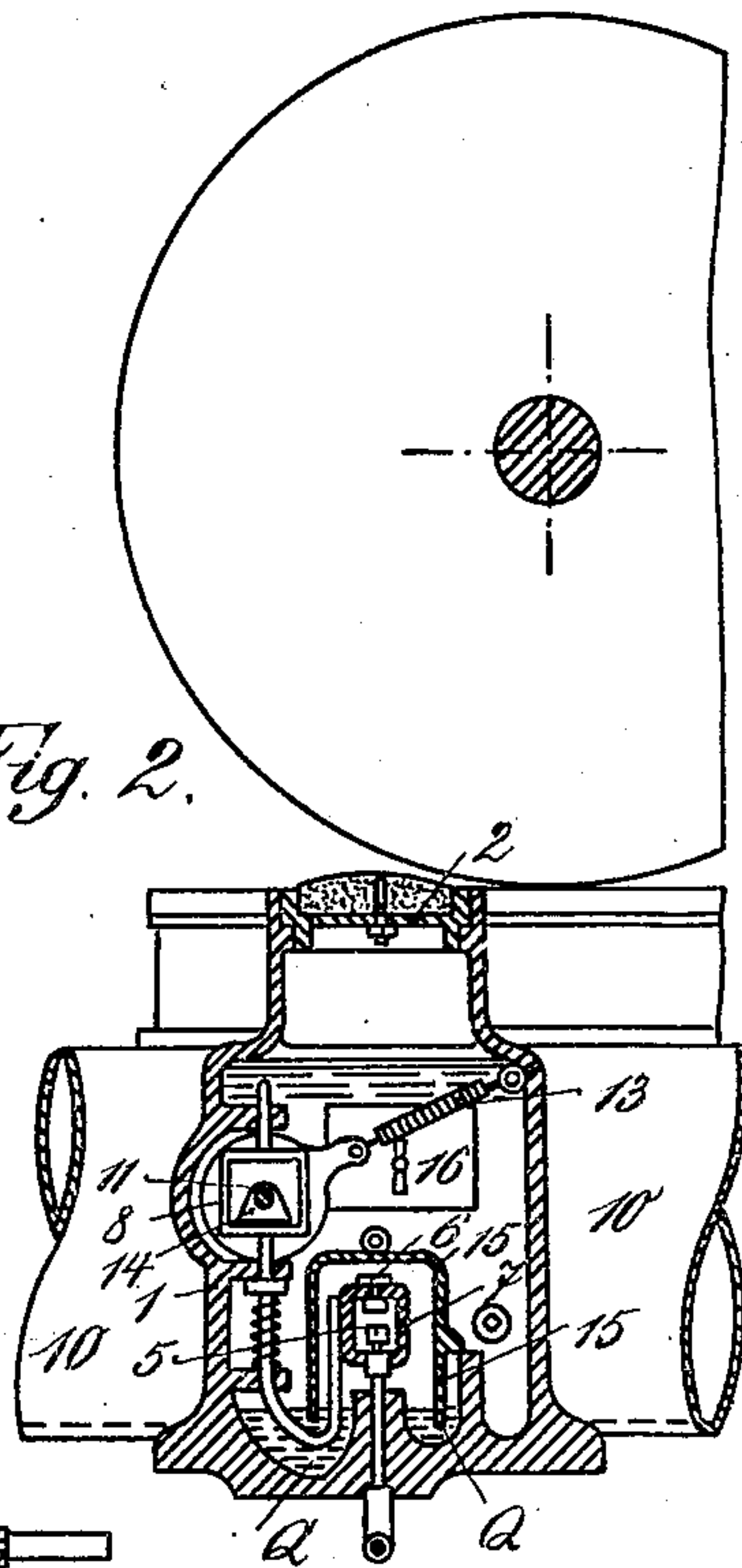
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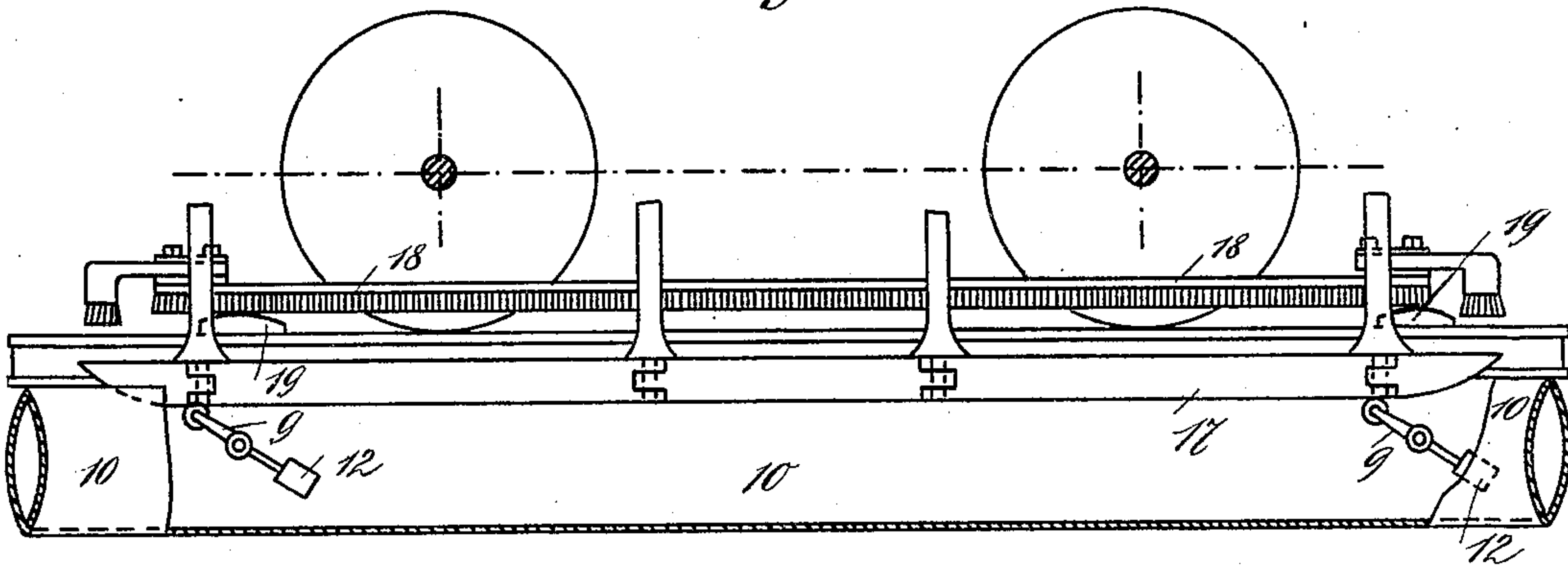
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses  
*Alfred Meisinger*  
*Hans Barlach.*

Inventor  
*Carl Friedrich Philipp*  
*Stendebach*  
*by Casimir Herpenny*  
*att'y*

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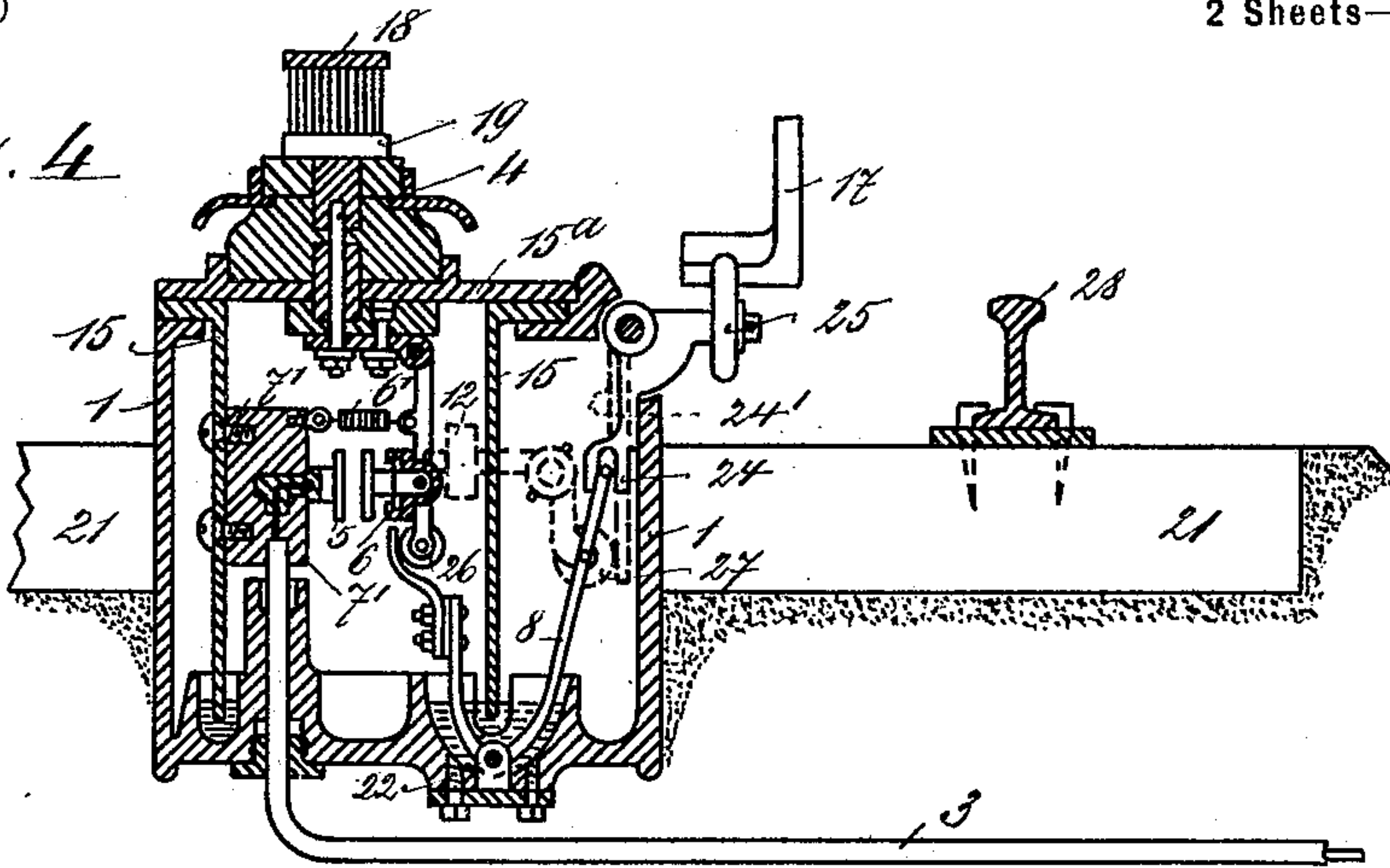
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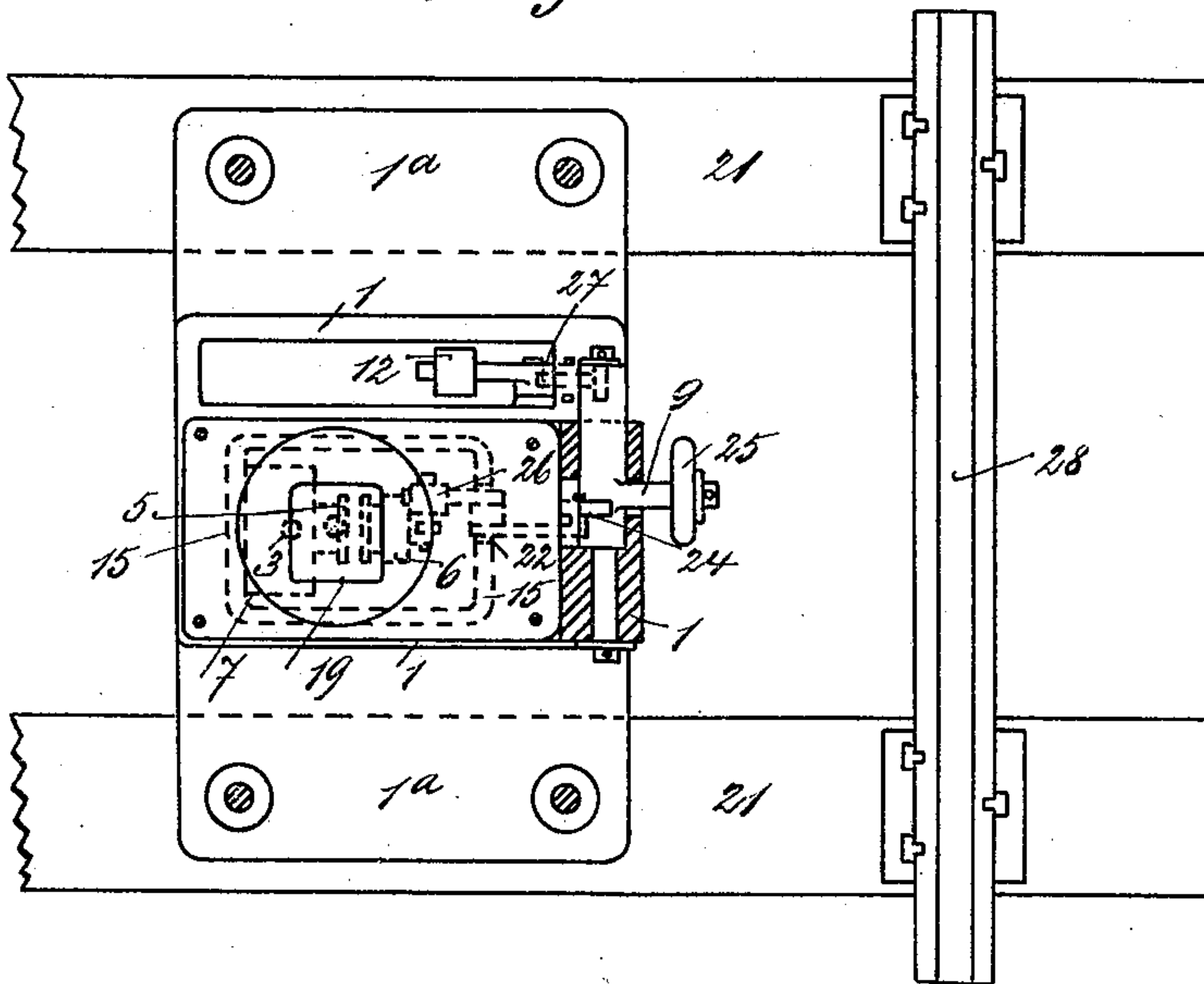
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*Fig. 4*



*Fig. 5*



Witnesses:-  
*Alfred Meisters*  
*Hans Barlach*

Inventor  
*Carl Friedrich Philipp*  
*Stendebach*  
by *Eustace W. Thompson*  
*att'y*



# UNITED STATES PATENT OFFICE.

CARL FRIEDRICH PHILIPP STENDEBACH, OF LEIPSIC, GERMANY.

DEVICE FOR FEEDING CURRENT TO ELECTRICALLY-DRIVEN CARS.

SPECIFICATION forming part of Letters Patent No. 633,165, dated September 19, 1899.

Application filed April 1, 1898. Serial No. 676,114. (No model.)

*To all whom it may concern:*

Be it known that I, CARL FRIEDRICH PHILIPP STENDEBACH, a subject of the King of Saxony, residing at Leipsic, in the Kingdom of Saxony, German Empire, have invented a certain new and Improved Device for Feeding Current to Electrically-Driven Cars, of which the following is a full, clear, and exact description.

The present invention consists of a device for feeding current to electrically-driven cars.

The invention comprises the details of construction hereinafter set forth and particularly pointed out in the claim.

In order to render the present specification more easily intelligible, reference is had to the accompanying drawings, in which similar figures of reference denote similar parts throughout the several views.

Figure 1 is a part cross-section through a tram-line with the feed mechanism out of operation; Fig. 2, a part side elevation of Fig. 1, showing the contact-boxes in longitudinal section; Fig. 3, a longitudinal section through the channel in which the levers are located which are operated by the plow to make contact with the main conductors; Fig. 4, a cross-section through the device as adapted for a permanent way; Fig. 5, a plan of Fig. 4.

According to the present invention a plow running below the rail is employed to operate a series of contacts which establish communication successively to a series of supply-points arranged intermediate of the rails, and the current is conveyed to the car-driving organ by means of a runner adapted to brush over the said contact supply-points. For the purposes of the present specification, therefore, the device for operating the contacts will be termed the "plow," the means for conveying the electricity from the supply-contacts arranged intermediate of the rails the "runner," the said contact-points the "supply-contacts," and the devices for establishing contact between the main conductor and the supply-contacts the "main contact."

Referring to Figs. 1 to 3, the contact-box 1 is also employed to support the rails in the case of tram-lines and is in connection with a channel 10 advantageously of sheet-steel or the like, said channel passing through a correspondingly-formed part of said box 1. A

branch 3 from the main conductor and the branch conductor 4, leading to the supply-contact 19, each enter the bottom of the box 1 and have their ends so arranged as to be capable of being connected electrically by means of the contacts 6, arranged in the cage or bell 15, said contacts when lowered contacting with the ends 5 of the said conductors 3 and 4, and thus supplying current to the supply-contact 19. From this point the current is conveyed to the driving organ of the car by means of the runner 18, attached to the car, and which will be hereinafter more particularly described. The contacts 5 and 6 are covered by a bell 15, the lower edge of which dips in a channel containing quicksilver. Thus the said contact is air-tightly closed, and no moisture can penetrate to it and cause the parts to rust. The main contact is operated by a plow 17, extending from the car down into the channel 10, in which the contact-operating levers 9 are located. These levers 9 are double-arm levers and are fast on a shaft 11, mounted in and extending transversely through the box 1. Fast to the shaft 11 is an eccentric 14, which operates a lever mechanism 8, vertically guided and having its lower end bent round to extend through the quicksilver Q, underneath the bell 15, within which it is attached to the bow or frame 7, carrying the contacts 6. When the shaft 11 is turned by the action of the plow on the lever 9, the eccentric 14 operates to depress the lever mechanism 8, which carries the contact-piece 6 down with it and makes contact between the main conductor and the supply-contact 19. When the plow releases the lever 9, the parts are returned to their initial position by means of the spring 13 of the eccentric-rod and the counterpoise 12 on the arm of lever 9. The counterpoise 12 could, if desired, be arranged within the chamber 1. A door 16 enables communication between the box 1 and the channel 10. As will be seen from Fig. 3, the plow 17 is of sufficient length to depress the next lever 9 before it has released the first one, and so on. The runner 18, on the other hand, is advantageously shorter by a small distance than the plow, so that it will have passed over the supply-contact and a short distance beyond the same before the current-supply to the



said contact has been cut off, and thus the formation of sparks at the main contact will be effectually avoided.

Figs. 4 and 5 illustrate the invention in connection with a permanent way. In this case the boxes 1 are provided advantageously with lateral flanges 1<sup>a</sup>, and the conductor 4 to the supply-contact 19 is mounted in the cover 15<sup>a</sup> of the box. The contact end 5 of the conductor 3 is mounted in the insulated block 7', while the contact end 6, which is in connection with the branch line 4, is mounted on the swinging lever pivoted to the cover 15<sup>a</sup> of the box. All these parts are inclosed air-tightly by means of the walls 15, extending down into the quicksilver channel and acting similarly to the bell 15 of Figs. 1 to 3. The contact-operating-lever system 8 is pivoted at 22 below the quicksilver and has one arm extending upwardly at each side of the wall 15. The outer arm is engaged by the bifurcated end 24 of the bell-crank lever 9, having roll 25 adapted to be depressed by the plow 17. The counterpoise 12 is also mounted on a bell-crank lever, Fig. 4, having a roll 27 at its lower end, against which a downwardly-extending arm 24', fast to the shaft of the bell-crank lever 9, rests. The upwardly-extending inner end of the arm or lever system 8 bears against a roll 26, mounted on the end of the swinging lever carrying the contact 6, said lever being pulled toward the contact 5 by means of a spring 6', but normally held out of contact with same by the action of the counterpoise 12. When the roll 25 is depressed,

the lever mechanism 8 will be thrown over and allow the spring 6' to make contact between 5 and 6 and allow current to flow to the supply-contact 19, whence it will be conveyed to the driving organ of the car through the runner 18.

I claim as my invention—

The combination of a box mounted in proximity to the rail of a line, a contact-point therein for a main conductor and a branch conductor, as specified, a movable contact-piece to establish contact, a bell surrounding said contacts and having its lower edge immersed in quicksilver as specified, a rotary shaft mounted in proximity to said contacts, a pivoted lever extending through said quicksilver and operatively connected to said movable contact, and means in connection with said rotary shaft to operate said lever, when said shaft is turned, a lever fast on said shaft and extending in proximity to a passing car, means in connection with said car to rotate said lever, a supply-contact intermediate of the rails and in connection with said branch conductor and a runner on the car to contact with said supply-contact when the main contact is closed in the manner and for the purpose substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

CARL FRIEDRICH PHILIPP STENDEBACH.

Witnesses:

HERM. SACK,

RUDOLPH FRICKE.