

No. 829,770

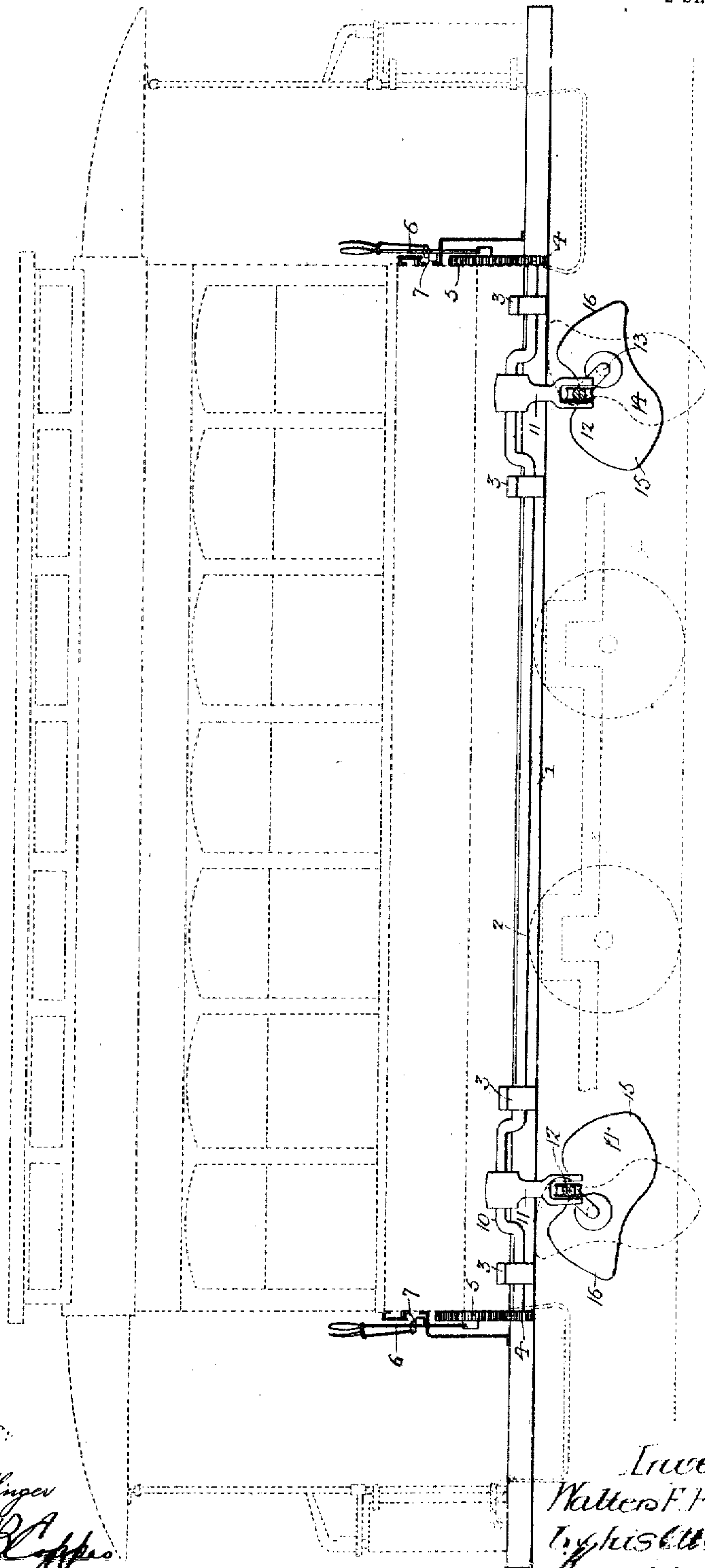
PATENTED AUG. 28, 1906.

W. F. FISTER.
EMERGENCY BRAKE FOR CARS.

APPLICATION FILED FEB. 12, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
Walter F. Fister
Augustus B. Coffey

Inventor
Walter F. Fister
By his attorneys
H. W. Brown & Howard

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2 SHEETS—SHEET 2

Fig. 2.

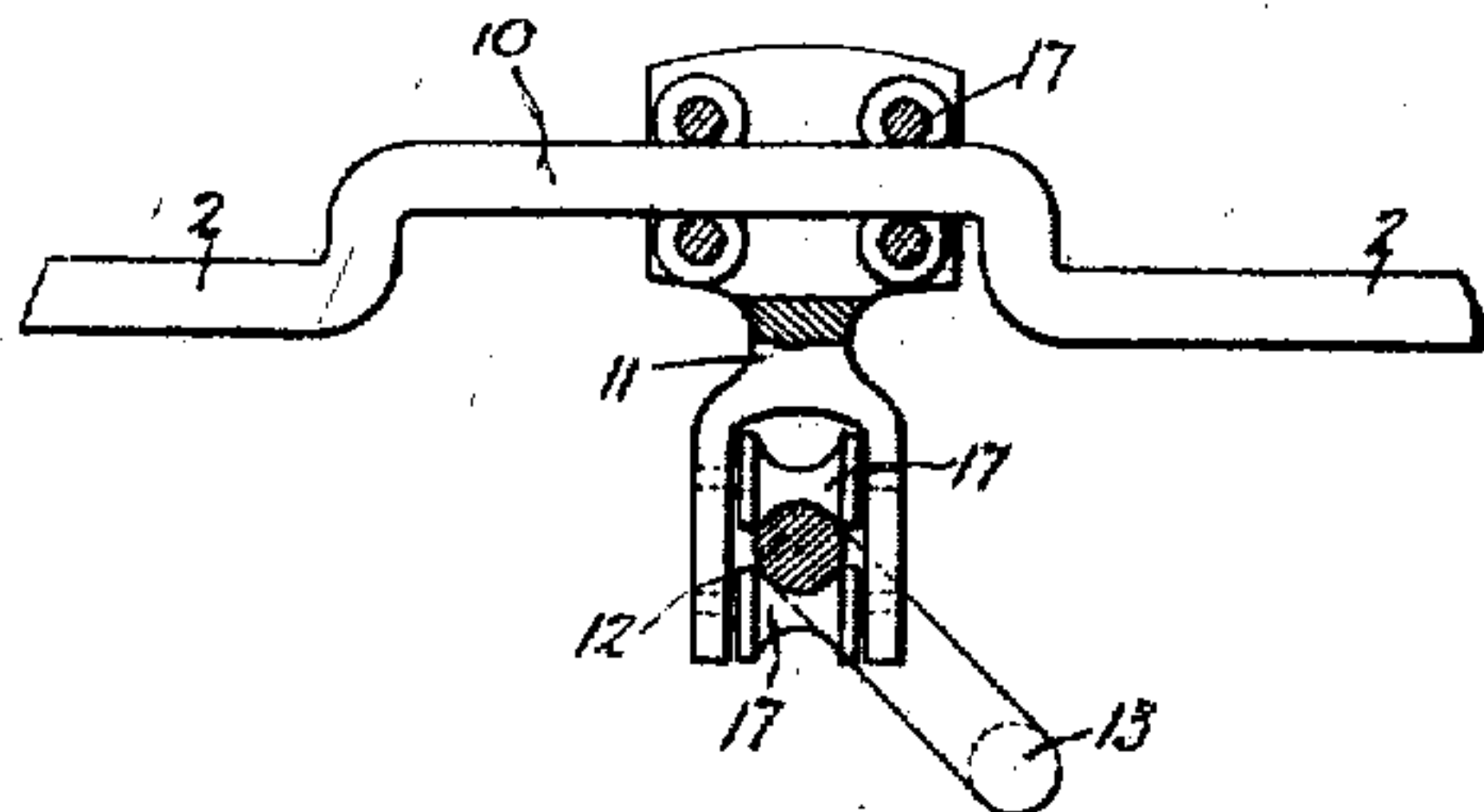
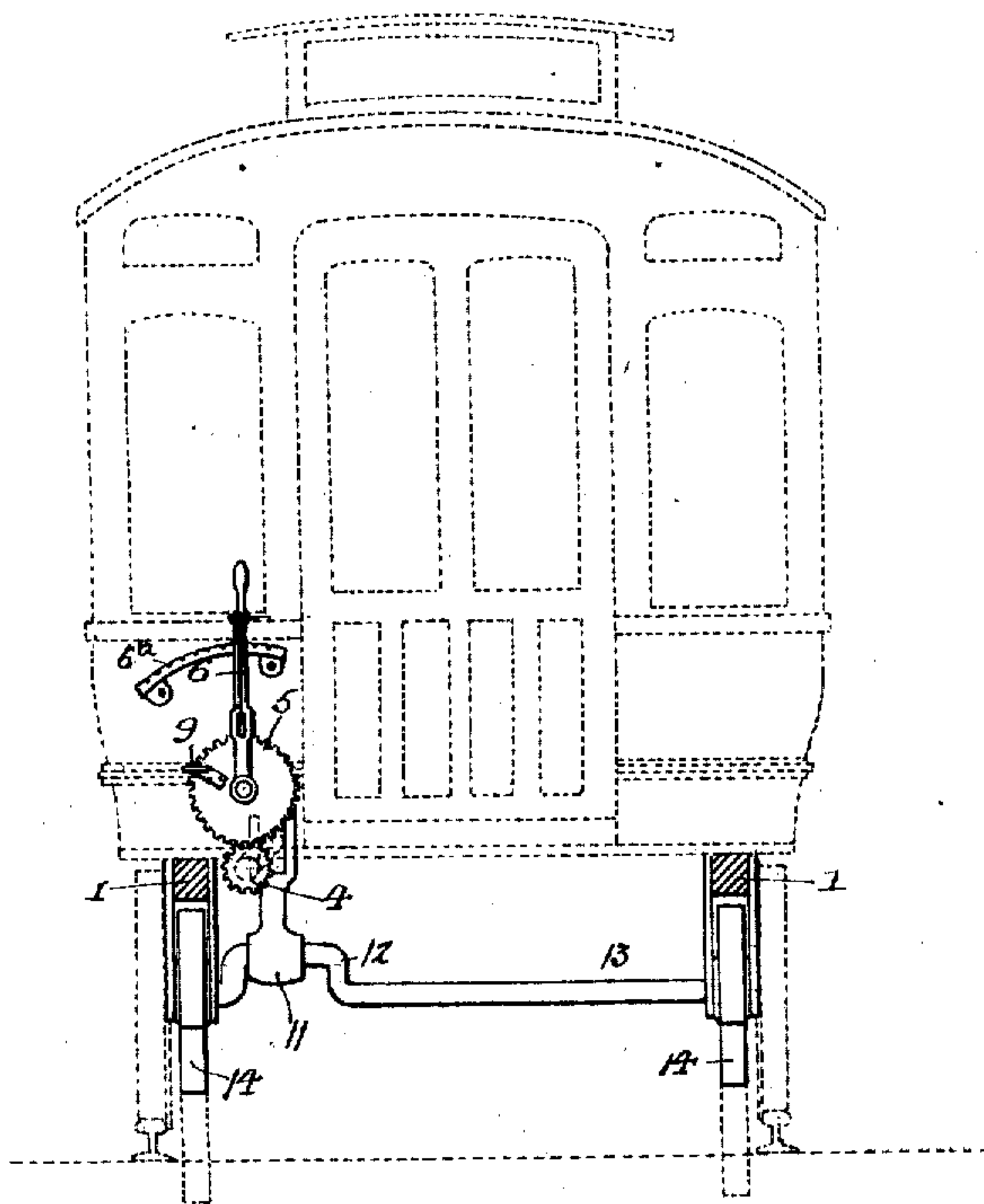


Fig. 3.

Witnesses:
Walter F. Pullinger
Augustus R. Pappes

Inventor:
Walter F. Fister.
by His Attorneys,
Howson & Pappes

UNITED STATES PATENT OFFICE.

WALTER F. FISTER, OF HAMBURG, PENNSYLVANIA.

EMERGENCY-BRAKE FOR CARS.

No. 829,770.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed February 12, 1906. Serial No. 300,870.

To all whom it may concern:

Be it known that I, WALTER F. FISTER, a citizen of the United States, residing in Hamburg, Berks county, Pennsylvania, have invented certain Improvements in Emergency-Brakes for Cars, of which the following is a specification.

My invention relates to that class of emergency-brakes which act upon the roadway inside of the track-rails upon which the car or other vehicle is adapted to move, the object of my invention being to provide a quick-acting brake of this class and to so construct the brake that it can be put into action from either or both of the platforms of the car and will be semi-automatic in its action, the braking devices at the rear end of the car being rendered fully operative by the weight and momentum of the car. All of the braking devices hang free when not in use, but are adjusted to operative position by a partial turn of a wheel or shaft within convenient reach of the motorman or conductor.

In the accompanying drawings, Figure 1 is side elevation, partly in section and in dotted lines, of sufficient of a trolley-car to illustrate thereon in full lines braking mechanism constructed in accordance with my invention. Fig. 2 is an end view of the same, partly in section; and Fig. 3 is an enlarged view illustrating one of the features of the braking mechanism.

On the under side of the car, at each side of the same, is a longitudinal beam 1, which may form part of the ordinary structure of the car or may be a special beam added to such structure, as preferred.

Extending longitudinally from one end of the car to the other, parallel with one of these beams 1, is a shaft 2, which is mounted in suitable bearings 3 at the opposite ends of the car and is geared at each end of the car by means of spur-wheels 4 and 5 to a short shaft mounted in suitable bearings upon the corresponding platform of the car, said shaft having mounted thereon, so as to be free to turn, an operating-lever 6, preferably provided with a locking-bolt 7, whereby it may be caused to engage with the spur-wheel 5 when the handle of the lever is grasped by the motorman, thus providing for a partial rotation of the spur-wheel 5 by means of the lever 6 when such rotation becomes necessary, a notched comb or segment 8 serving to retain the lever in position after adjustment.

Projecting from the face of the spur-wheel 5 is a stirrup 9, which provides for direct operation of said spur-wheel by the foot to the extent of a partial turn, this being the preferable method of imparting the initial motion to the wheel, the lever 6 being used as an emergency device for continuing the movement of the wheel if the initial movement imparted thereto by the stirrup should prove to be insufficient for the purpose of applying the brakes. Where extended movement is permitted, the lever 6 may, if desired, be applied directly to the shaft 2. The said shaft 2 has near each end a crank 10, which is connected by a link 11 to a crank 12 on a rock-shaft 13, the latter extending transversely across the car and being free to turn in suitable depending bearings on the car-frame.

Rigidly secured to the rock-shaft 13 is a pair of swinging brake-blocks 14, disposed just inside of the track-rails. Normally—that is to say, when the car is running free—the parts are in the position shown by full lines in Figs. 1 and 2, the brake-blocks 14 occupying the position there shown and being free from contact either with the car-frame or road-bed. By imparting a quick turn to the shaft 2, however, the cranks 10 and 12 will be shifted so as to move the crank-blocks 14 from the positions shown by full lines in Fig. 1 to those shown by dotted lines in said figure, the lower portion of each brake-block being forced firmly into contact with the road-bed. That face of each brake-block 14 which contacts with the road-bed may be pointed or may possess such a degree of eccentricity in respect to the axis of rotation of the block, as shown at 15, for instance, that when the blocks at the rear of the car are forced into contact with the road-bed the engagement of the latter with the blocks will tend to continue the movement of the same until such movement is arrested by contact of a portion 16 of each block with a corresponding beam 1, by which time the other portion 15 of the block will be fully depressed and will, if desired, exert a lifting effect upon the beams 1, thereby bringing the weight of the car and its load upon the brake-blocks at the rear of the car and effecting the quick stopping of any further forward movement of the car, the brake-blocks at the rear of the car being therefore semi-automatic in their action. The brake-blocks at the forward end of the car, although set to swing reversely from those at the rear end, will aid in the braking

effect, since they will bear upon the road-bed with a force proportionate to the power exerted upon the spur-wheel 5 and to the pull exerted by the rear brake-shaft 13 upon the shaft 2.

In order to insure the easy movement of the brake-blocks through the medium of the double-crank mechanism employed for operating the same, each end of the link 11 may be provided with antifriction-rollers 17 above and below the crank, as shown in Fig. 3, and both of the cranks 10 and 12 may be elongated, so as to provide for the movements of the links 11 due to the swing of said cranks.

I claim:

1. An emergency car-brake consisting of a swinging brake-block mounted below the body of the car and having two eccentric portions, of which one is capable, when the device is in action, of contacting with the road-bed and the other with the beam on the car-frame.

2. An emergency car-brake consisting of a swinging brake-block mounted below the body of the car, and having, below, an eccentric face for contact with the road-bed and above, an eccentric locking-face for contact with a beam on the car-frame.

3. The combination of swinging brake-blocks at the front and rear ends of the car, with means for swinging those at one end of the car into operative position by movement of reverse direction from that imparted to those at the opposite end of the car the parts being so arranged that the application of the brake-blocks at one end of the car tends to apply those at the other end thereof.

4. The combination of swinging brake-blocks at the front and rear ends of the car, with means for swinging the same into contact with the roadway, said blocks being constructed each with two eccentric portions so disposed that contact of one portion with the roadway will cause the other portion to engage the car and will tend to continue the movement of the blocks.

5. The combination of swinging brake-blocks, a transverse shaft supporting said blocks so as to permit of their being turned

into engagement with the roadway and with the car, a longitudinal shaft having operative connection with said transverse shaft, and means for imparting a partial turn to said longitudinal shaft.

6. The combination of swinging brake-blocks, a crank-shaft carrying the same, a longitudinal shaft also having a crank, and a link connecting said crank with the crank of the brake-blocks.

7. The combination of swinging brake-blocks, a crank-shaft carrying the same, a longitudinal shaft having a crank, and a link connecting said crank with the crank of the brake-blocks, both cranks being elongated.

8. The combination of swinging brake-blocks, a crank-shaft carrying the same, a longitudinal shaft having a crank, and a link connecting said crank with the crank-shaft of the brake-blocks, said link having rollers for engaging the cranks.

9. The combination of a longitudinal brake-operating shaft on the under side of the car, and gearing for operating the same, one of the wheels of said gearing having a projecting stirrup for being acted upon and given a partial turn by the foot.

10. The combination of a longitudinal brake-operating shaft on the under side of the car, and gearing for operating the same, one of the wheels of said gearing having a projecting stirrup for being acted upon by the foot and a lever for hand action.

11. The combination of a longitudinal brake-operating shaft on the under side of the car, and gearing for operating the same, one of the wheels of said gearing having a projecting stirrup for being acted upon by the foot, and a lever for hand action, said lever being loosely mounted on the shaft of the gear-wheel and being provided with a bolt whereby it can be locked to said wheel.

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

WALTER F. FISTER.

Witnesses:

WILLIAM H. GIBBONS,
HARRY J. HARKINS.