

(No Model.)

H. H. WESTINGHOUSE.
CAR BRAKE.

No. 435,373.

Patented Aug. 26, 1890.

FIG. 1.

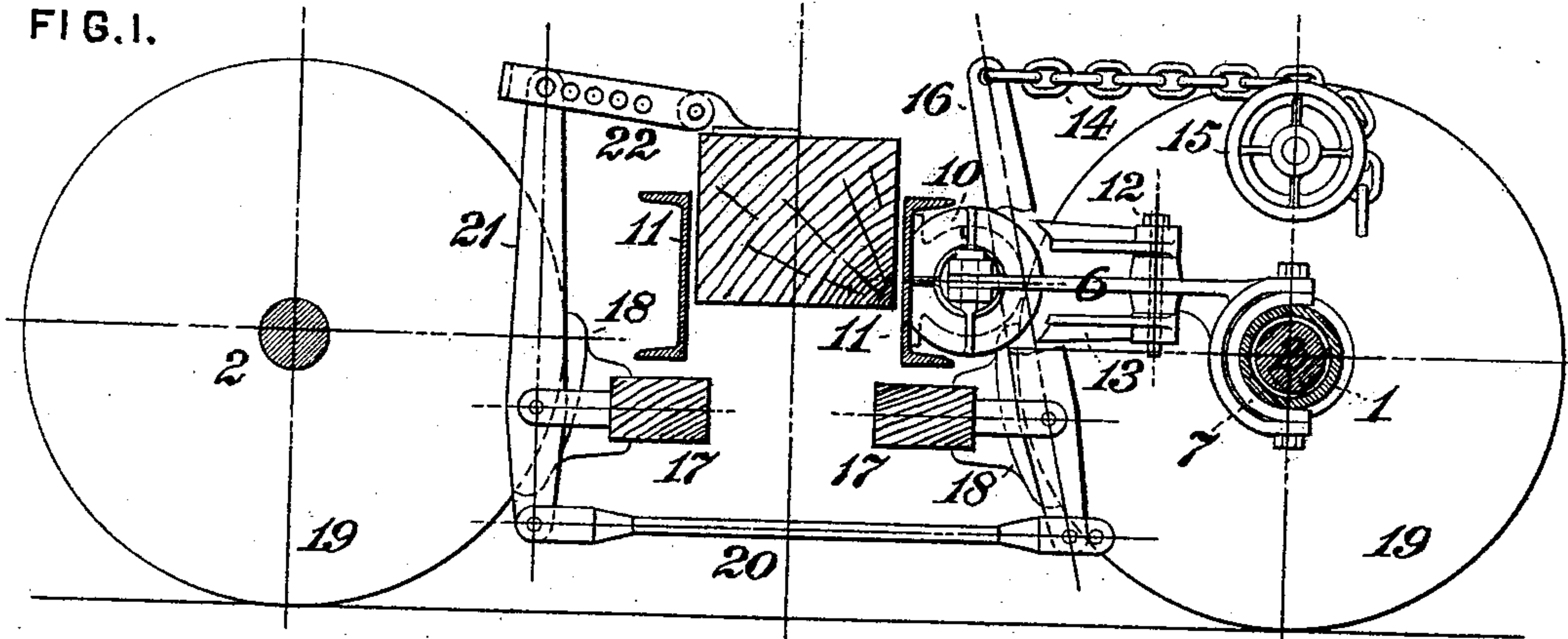
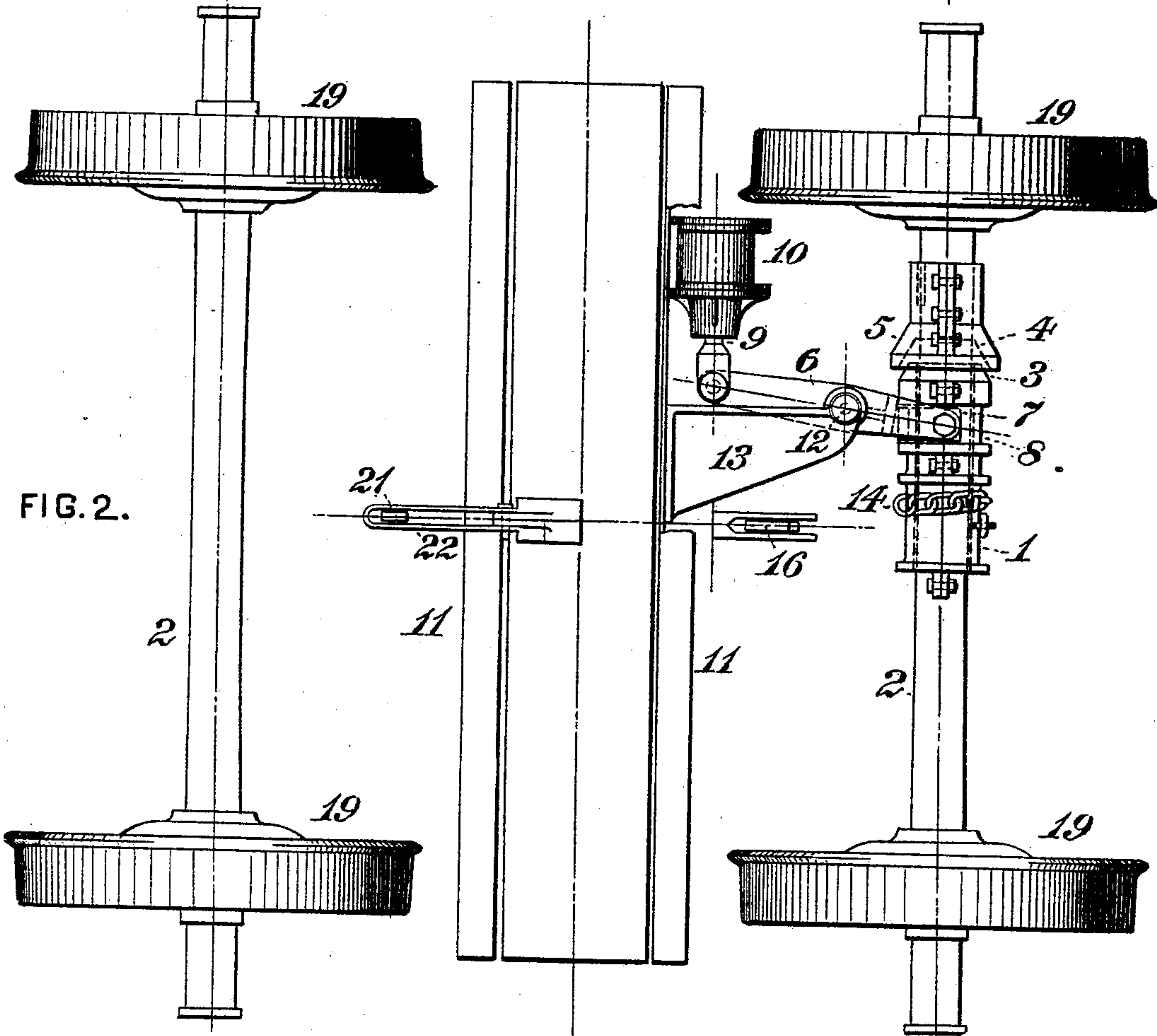


FIG. 2.



WITNESSES:

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INVENTOR,

H. H. Westinghouse,
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Att'y.

UNITED STATES PATENT OFFICE.

HENRY HERMAN WESTINGHOUSE, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR
TO THE WESTINGHOUSE AIR BRAKE COMPANY, OF SAME PLACE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 435,373, dated August 26, 1890.

Application filed January 6, 1890. Serial No. 336,110. (No model.)

To all whom it may concern:

Be it known that I, HENRY HERMAN WESTINGHOUSE, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Car-Brakes, of which improvement the following is a specification.

My invention relates to railroad-car brakes of that class generically termed "friction-brakes," in which the brake-shoes are applied to the wheels by the winding of a cord or chain connected to the brake-levers upon a drum which is rotated by being brought into frictional contact with a member fixed on and rotating with an axle of a car.

The object of my invention is to provide a brake of such character in which the contact of the driving and driven members may be effected by the application of fluid-pressure, and in which the winding-drum may be at all times held entirely clear of the axle and its connections other than as to the contact required in and for the application of the brakes.

To this end my invention, generally stated, consists in the combination of a tubular winding-drum having a bore of greater diameter than a car-axle which it incloses, and provided with a friction-face adapted to be brought into contact with a corresponding face fixed to the axle, and a lever coupled at its opposite ends to a sleeve on the drum and to the rod of a fluid-pressure piston and pivoted intermediately to a fixed member of the car or truck frame.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a vertical longitudinal section through so much of a car-truck as is necessary to illustrate the application of my invention, and Fig. 2 a plan or top view of the same.

In the practice of my invention I provide a tubular winding-drum 1, which is formed in two sections bolted together around one of the axles 2 of a railroad-car, the bore of the drum being of greater diameter than the axle, so as to be at all times out of contact with the latter, and which is provided at one of its ends with a conical friction-face 3. The drum is

supported and moved longitudinally upon the axle, so as to bring its face 3 into and out of contact with a corresponding face 4 on the inside of a friction-socket 5 fixed upon the axle, as required to effect the application and release, respectively, of the brakes by a lever 6, pivoted at one end to a sleeve 7 of semi-circular or U form fitting in a circumferential groove 8 on the winding-drum, and at the other to the piston-rod 9 of a fluid-pressure cylinder 10, secured to one of the transoms 11 of the truck in which the axle 2 is mounted, the lever 6 being pivoted intermediately by a bolt 12 to a bracket 13, also secured to the transom or with the cylinder to a portion of the car-frame, if a truck is not employed. Such construction serves to maintain the winding-drum in proper axial relation to the axle and admit of its longitudinal movement thereon without preventing its rotation when required. A chain 14 is secured to a pin or projection on the periphery of the winding-drum and passing over a guide-sheave 15, mounted in a fixed bearing, is secured at its opposite end to the live brake-lever 16, which is pivoted to a break-beam 17, carrying brake-shoes 18, adapted to bear against the treads of the wheels 19. The live lever 16 is coupled at its lower end by a rod 20 to the lower end of a dead brake-lever 21, which is pivoted at its upper end to a stop or guide 22, and is intermediately pivoted to a brake-beam 17, carrying shoes 18, adapted to bear against another pair of wheels 19, similarly to the lever 16.

The application of the brakes is effected by admitting air or other fluid under pressure to the cylinder, the resultant outward movement of whose piston and piston-rod 9 moving the outer end of the lever 6 and, through the connected sleeve 7, coincidentally moving the winding-drum 1 toward the friction-socket 5 of the axle and pressing the face 3 of the former against the face 4 of the latter. The friction thereby induced rotates the drum within the sleeve 7, and by winding the chain 14 upon the drum exerts draft upon the brake-levers 16 and 21 and applies the brakes. Upon the release of fluid-pressure in the cylinder 10 its piston is returned to normal position by a spring in the usual manner, there-

by drawing the winding-drum 1 away from the friction-socket and releasing the draft of the chain upon the brake-levers and brake-shoes.

5 It will be seen that my improvement provides an extremely simple and direct application of fluid-pressure in effecting the frictional engagement of the winding-drum and its actuating friction-socket, and the winding-drum being, when not in operation for
10 effecting the application of the brakes, held out of contact with the axle, the undue wear and noise which are induced in prior appliances of this type are under my invention
15 wholly obviated.

I claim as my invention and desire to secure by Letters Patent—

1. In a car-brake, the combination of a tubular winding-drum encircling a car-axle and
20 having a bore of greater diameter than said axle, and a friction-face at one of its ends, a friction-face fixed on the axle, a sleeve fitting freely circumferentially on the drum and supporting the same out of contact with any

interior or exterior bearing member, an actuating-lever pivoted to said sleeve and to a fixed support, and a chain connecting the winding-drum with a brake-applying lever, substantially as set forth. 25

2. In a car-brake, the combination of a tubular winding-drum encircling a car-axle and having a bore of greater diameter than said axle and a friction-face at one of its ends, a friction-face fixed on the axle, a sleeve fitting
30 freely circumferentially on the drum and supporting the same out of contact with any interior or exterior bearing member, a lever pivoted to said sleeve and to a fixed support, a fluid-pressure cylinder having its piston-rod coupled to said lever, and a chain connecting the winding-drum with the brake-applying lever, substantially as set forth. 35 40

In testimony whereof I have hereunto set my hand.

H. HERMAN WESTINGHOUSE.

Witnesses:

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