No. 679,150. Patented July 23, 1901.

T. B. HYLAND.

BRAKE FOR CARS.

(Application filed May 6, 1901.)

(No Model.)

Fig. 1.

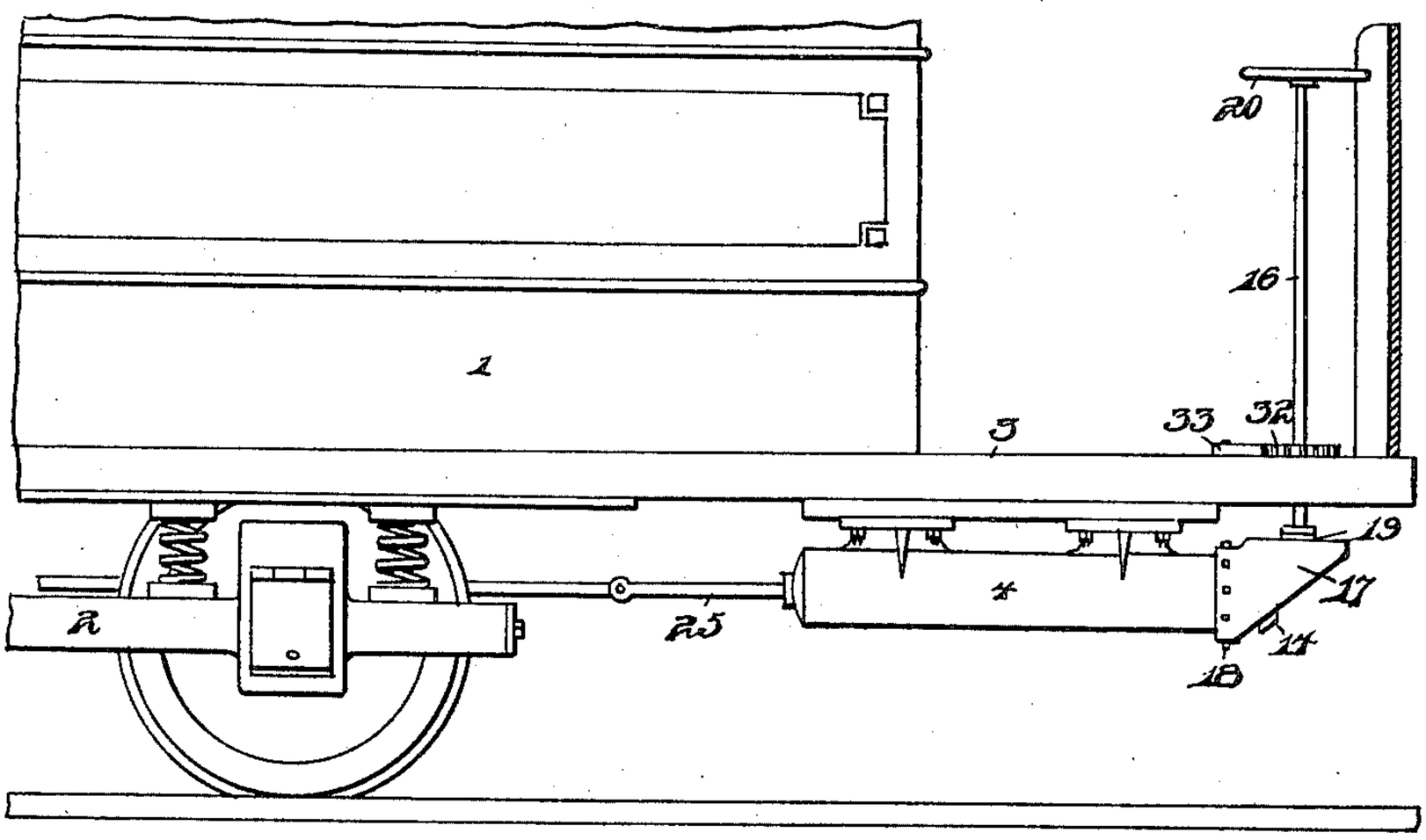


Fig. 2.

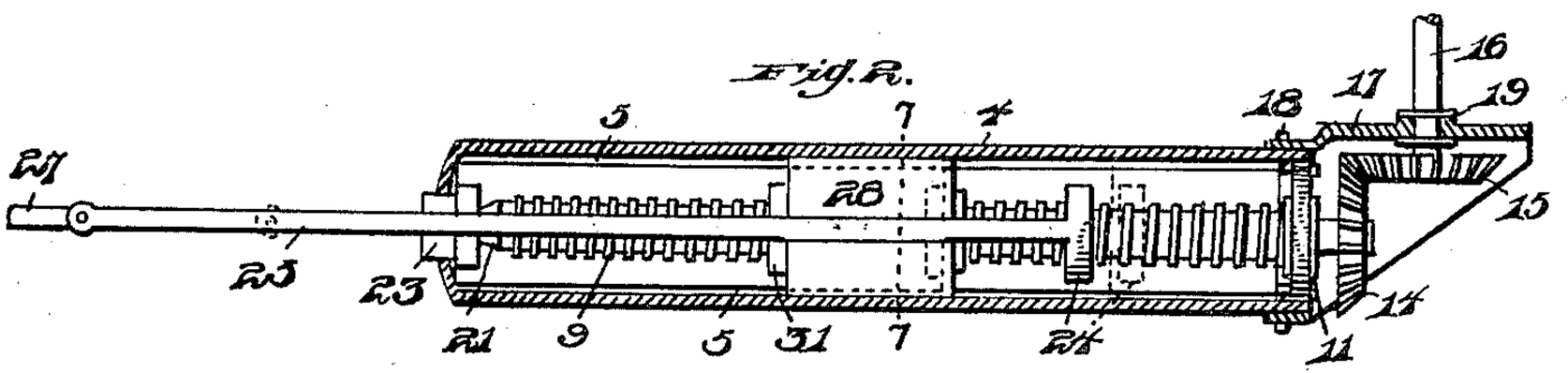


Fig. 3.

Fig. 4.

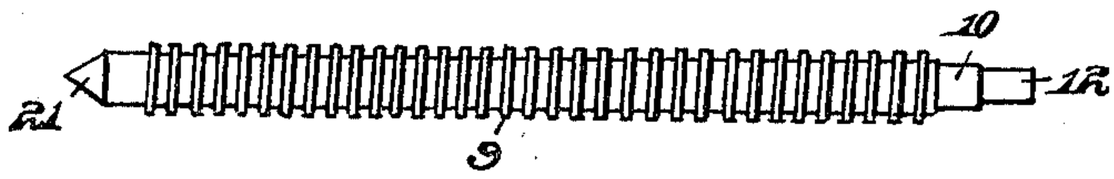


Fig. 5.

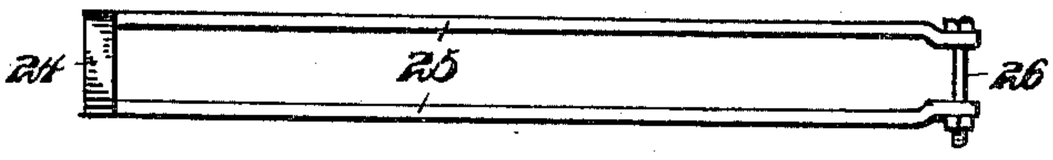


Fig. 6.

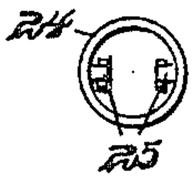


Fig. 7.

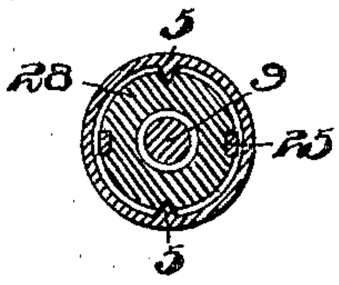


Fig. 8.

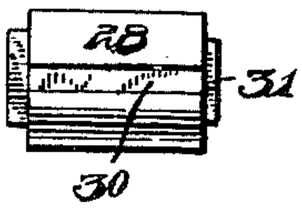


Fig. 9.

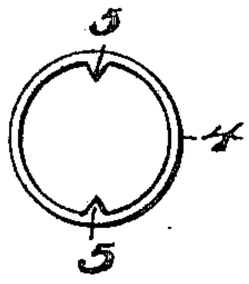
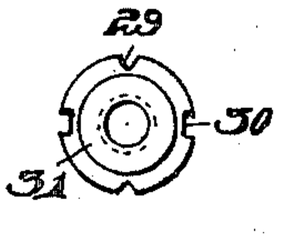


Fig. 10.



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By
H. C. Evert & Co
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UNITED STATES PATENT OFFICE.

THOMAS B. HYLAND, OF PITTSBURG, PENNSYLVANIA.

BRAKE FOR CARS.

SPECIFICATION forming part of Letters Patent No. 679,150, dated July 23, 1901.

Application filed May 6, 1901. Serial No. 58,973. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. HYLAND, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Brakes for Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in car-brakes, and more particularly to that class employed on street-railways and the like.

The invention has for its objects the provision of novel means whereby the brake-beams carrying the brake-shoes may be easily operated; furthermore, to provide novel means that will be extremely simple, strong, durable, and comparatively inexpensive to manufacture.

Another object of the invention is to incase the mechanism below the platform of the car in a manner that will protect the same and will prevent the mechanism from becoming injured or out of order.

The invention, briefly described, consists of a casing arranged underneath the platform of the car, in which casing is arranged a worm connected to the beveled cog-wheels, which are operated by means of the brake-shaft. In this casing are also arranged a sliding yoke and a guide, suitably secured in guideways, that will communicate movement to the brake-rods connected to the brake-beams. (Not shown in the drawings.)

With the above and other objects in view the invention consists in the novel combination and arrangement of parts to be hereinafter fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of the forward portion of a car having my improved attachment connected thereto. Fig. 2 is an enlarged vertical sectional view of my improved brake-operating mechanism. Fig. 3 is a detail vertical sectional view of the bearing-block arranged in the casing. Fig. 4 is a side elevation of the worm. Fig. 5 is a side elevation of the yoke. Fig. 6 is an end view thereof. Fig. 7 is a transverse vertical sectional view taken on the line 7 7 of Fig. 2. Fig. 8 is a side elevation of the guide-block. Fig. 9 is an end view of the casing. Fig. 10 is an end view of the guide-block.

In the drawings the reference-numeral 1 indicates the car.

2 indicates the truck, and 3 the platform, of the car. Under the platform of the car is rigidly secured a casing 4, which is suitably supported by means of hangers or straps, as shown in Fig. 1 of the drawings. In this casing are guides 5, V-shaped in cross-section and which slide in guiding-ways provided therefor, as will be hereinafter described.

The reference-numeral 9 indicates a worm-shaft having formed on its one end a neck 10, which is rotatably mounted in the bearing 11, secured to the end of the casing. The neck carries an extension 12, upon which is mounted a beveled cog-wheel 14. This beveled cog-wheel 14 meshes with the beveled cog-wheel 15, mounted on the lower end of the brake-staff 16, extending through the casing 17, which is attached at 18 to the cylindrical casing 4. Collars 19 are arranged upon the brake-staff 16, above and below the casing 17, to retain the brake-staff in proper position. At the upper end of the brake-staff is secured a hand operating-wheel 20. The other end of the worm-shaft 9 is formed with a cone-shaped bearing 21, operating in the cone-shaped recess 22, formed in the bearing-block 23, which is rigidly secured in the rear end of the cylindrical casing 4. A yoke is arranged to operate on the worm-shaft 9, the collar 24 of said yoke surrounding the shaft and the parallel rods 25 being connected at their rear ends by a bolt 26 to the brake-rod 27, leading to the brake-beam. (Not shown.)

The reference-numeral 28 is a guide-block having formed therein V-shaped guideways 29, adapted to receive the guides 5 of the cylindrical casing. This guide-block is also provided with longitudinal guideways 30, through which the rods 25 of the yoke extend. The said guide-block 28 also carries a base 31 on each side.

The reference-numeral 32 represents a

ratchet-wheel mounted on the brake-staff above the platform of the car, which may be locked by means of the pawl 33.

The operation of my improved brake-operating mechanism is as follows: When it is desired to apply the brakes, the hand-wheel 20 is operated, thereby rotating the brake-staff 16 and the cog-wheel 15. The said cog-wheel communicates movement to the cog-wheel 14, which in turn rotates the worm-shaft and actuates the yoke, communicating movement to the brake-rods 27. Simultaneous with this operation the guide-block is also operated upon the worm-shaft, providing a sliding bearing for the yoke.

The many advantages obtained by the use of my improved device will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a car-brake, the combination with the brake-rods, of a cylindrical casing attached to the car-body, guides carried by the inner circumference of said casing, a guide-block arranged within the casing and provided with guideways to receive the guides of the casing, a worm-shaft journaled in the casing, a yoke mounted on said shaft and slidably engaging the guide-block, connections between said yoke and the brake-rods, and means connected to the worm-shaft for operating the same, substantially as described.

2. In a brake-operating mechanism, the combination of a cylindrical casing, a worm-shaft secured therein, a yoke operating on said worm-shaft connected to brake-rods, a beveled gear secured to the end of the said worm-shaft, a beveled gear meshing with said first-named beveled gear, and a brake-shaft connected to said last-named beveled gear, substantially as described.

3. In a brake-operating mechanism, the combination of a cylindrical casing having guides formed therein, a worm-shaft secured in said cylindrical casing, a yoke operating on said worm-shaft connected to brake-rods, a guide-block mounted on said worm-shaft having guideways formed therein operating in the said guides of the cylindrical casing, beveled gears connected to said worm-shaft, and a brake-staff connected to one of said beveled gears, all parts being arranged and operating substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

THOMAS B. HYLAND.

Witnesses:
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S. T. YOUNG.