

No. 720,151.

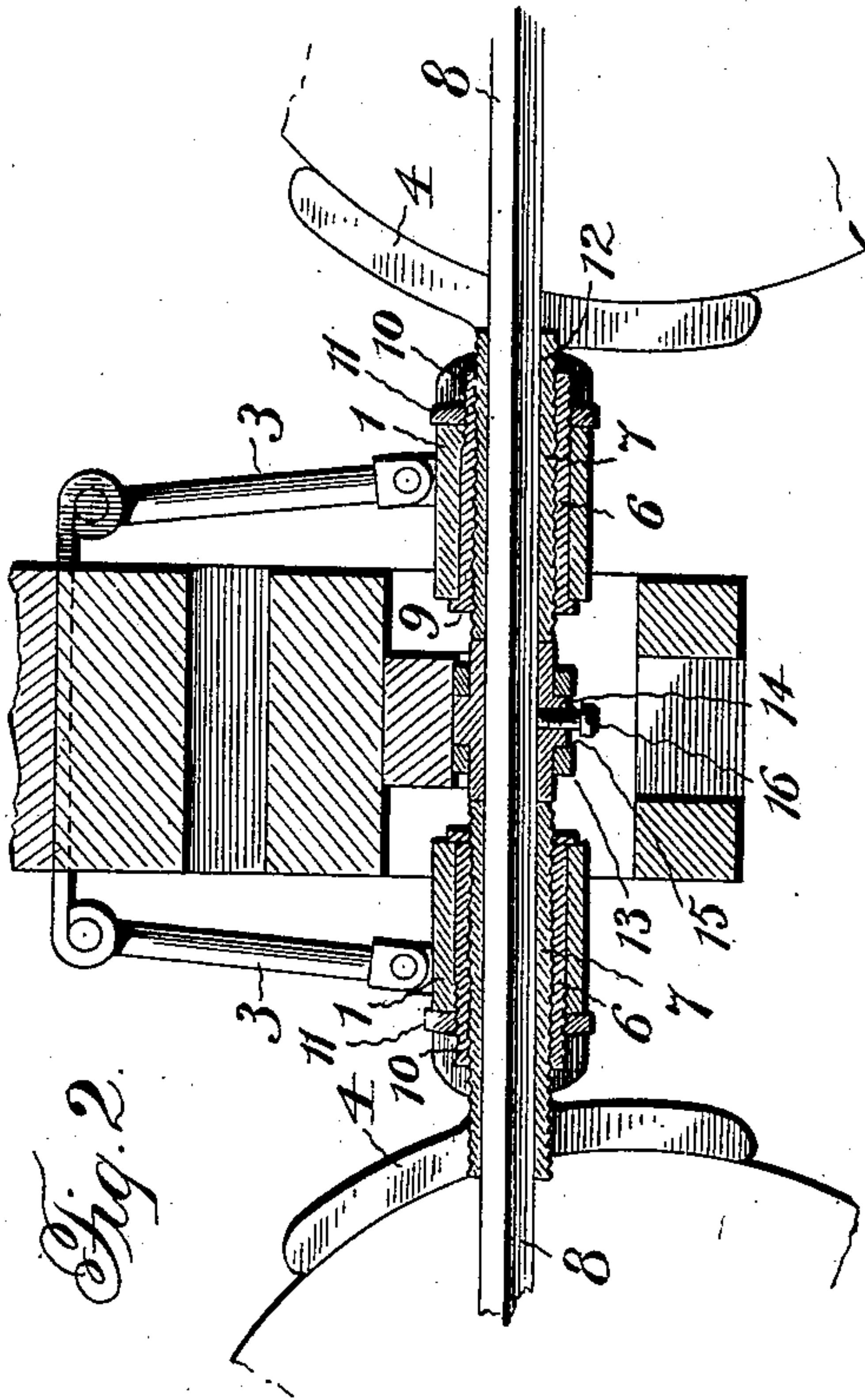
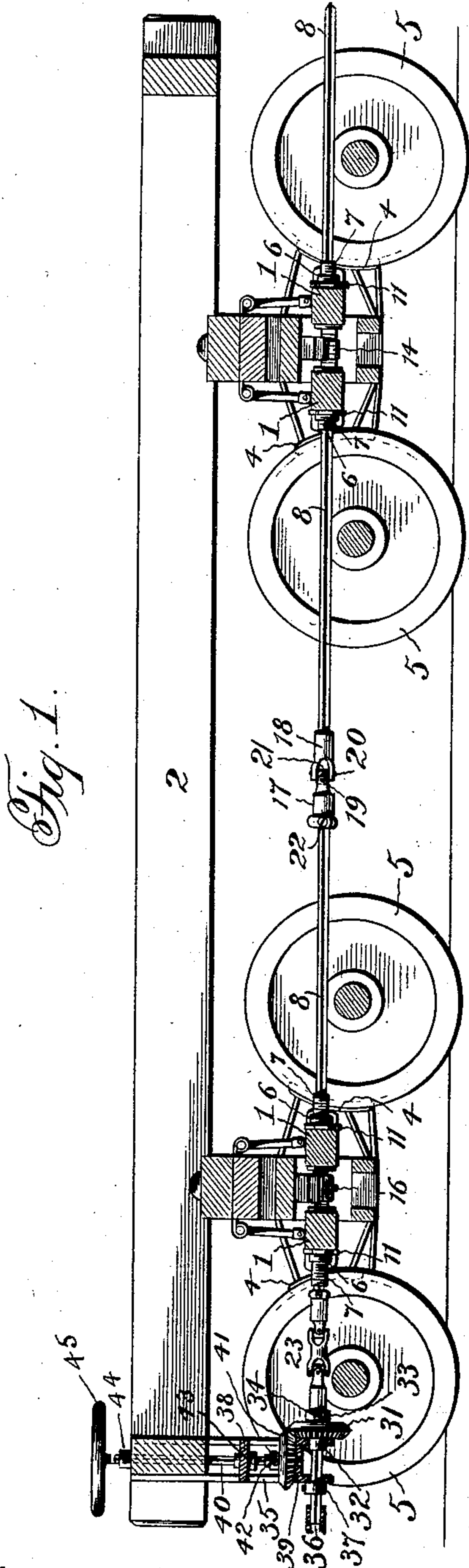
PATENTED FEB. 10, 1903.

H. JONES.
CAR BRAKE.

APPLICATION FILED NOV. 13, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
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NO MODEL.

2 SHEETS—SHEET 2.

Fig. 3.

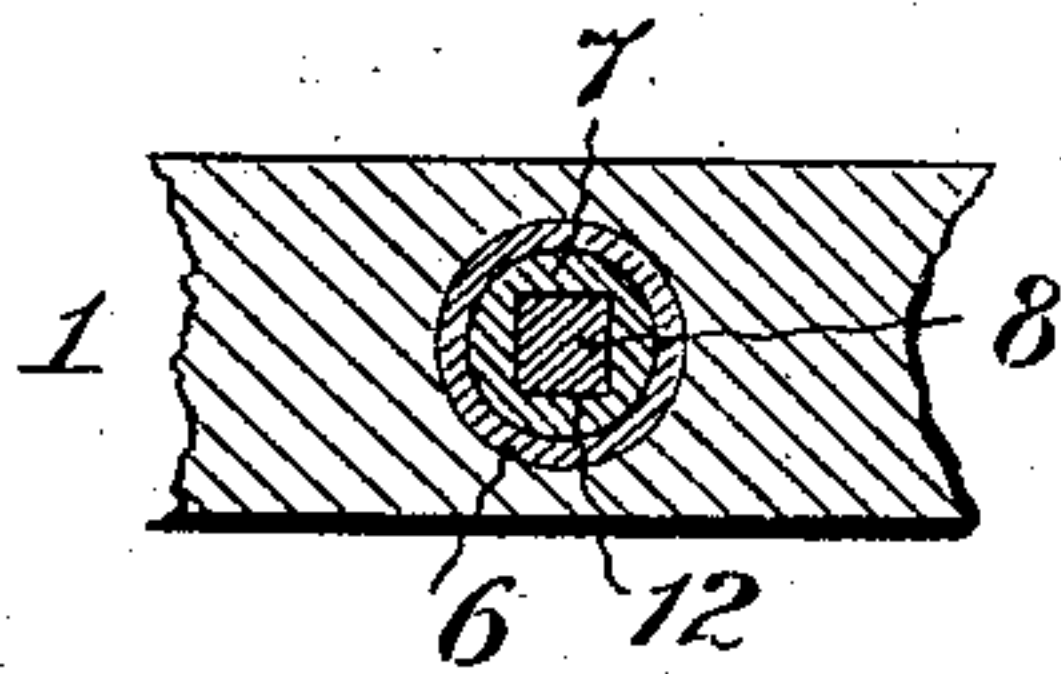


Fig. 6.

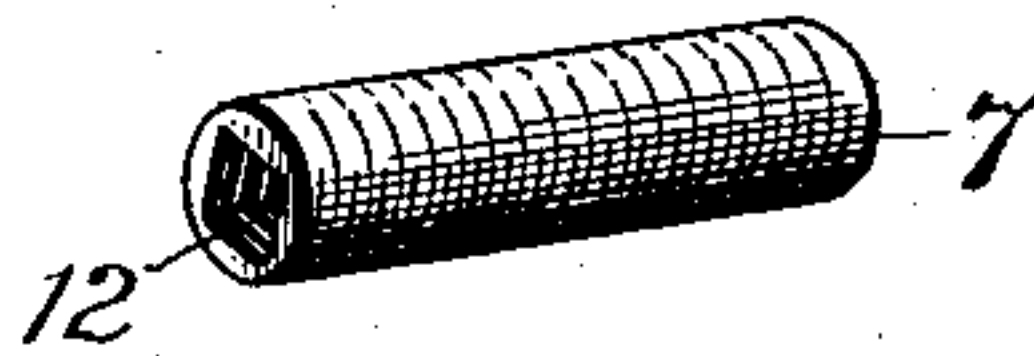


Fig. 7.

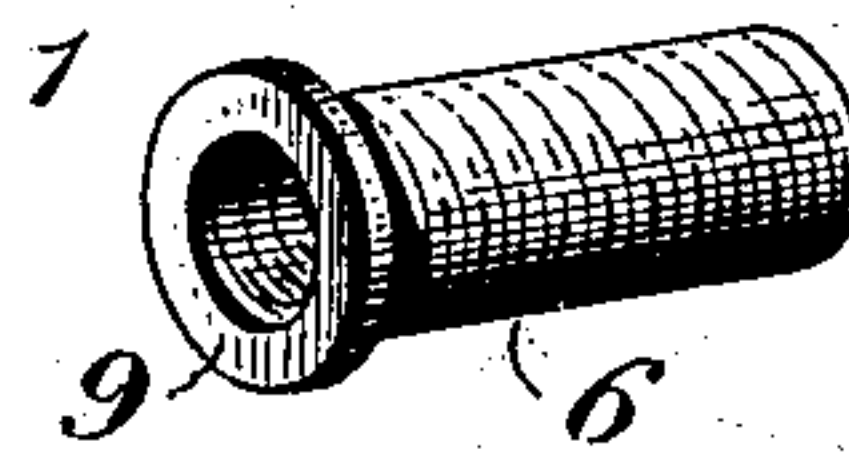


Fig. 4.

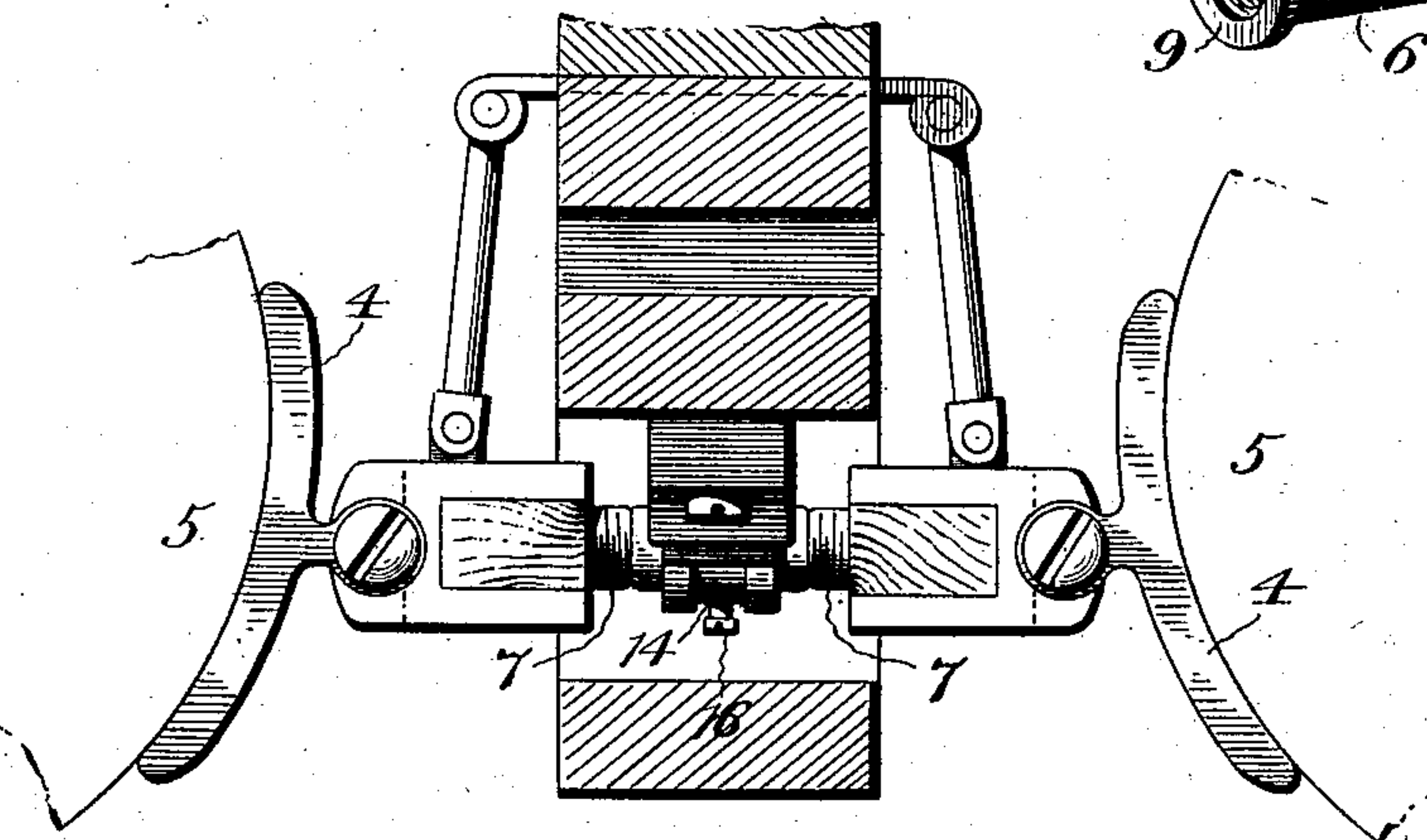


Fig. 8.

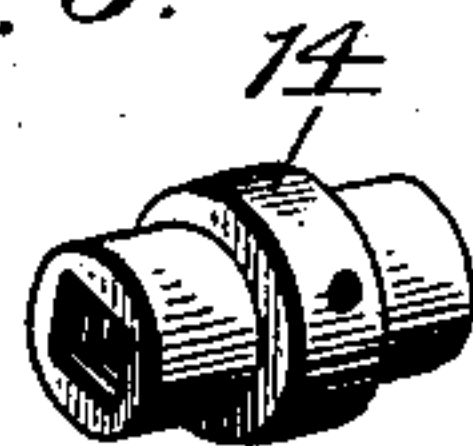


Fig. 5.

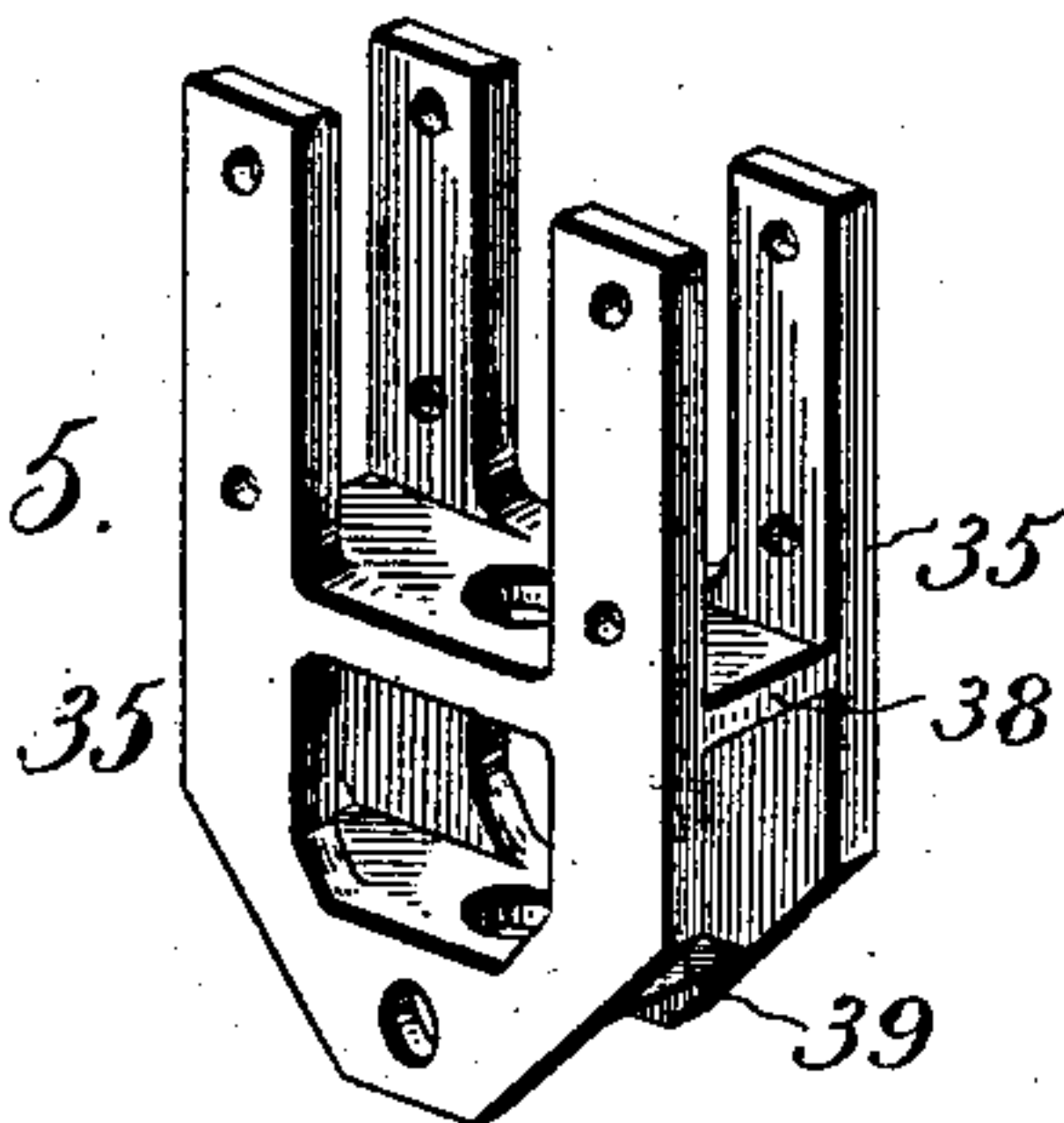
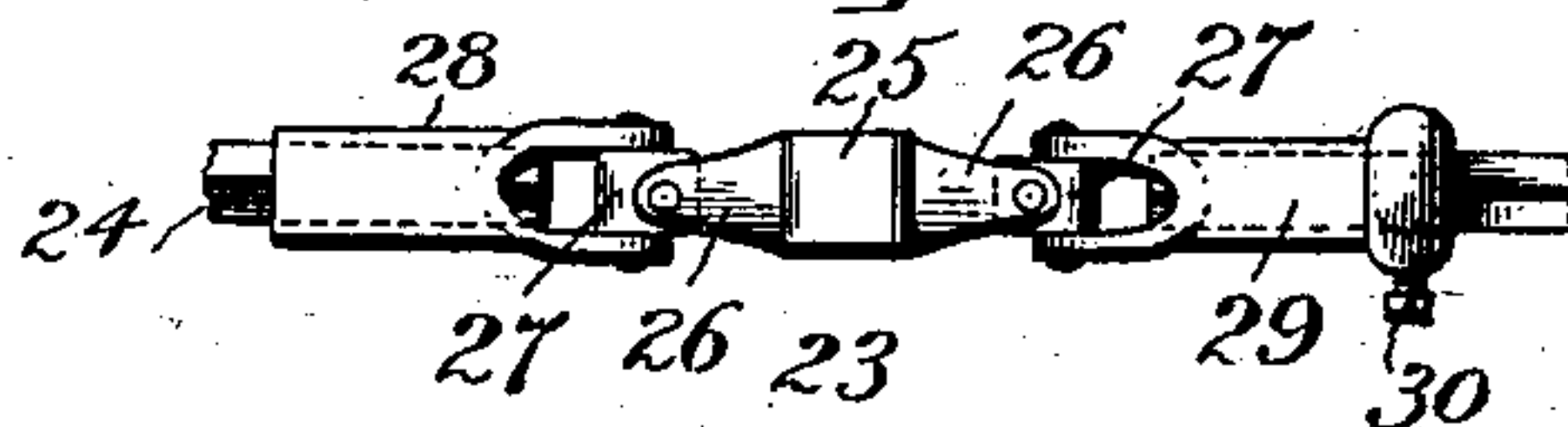


Fig. 9.



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UNITED STATES PATENT OFFICE.

HUGH JONES, OF EDWARDSDALE, PENNSYLVANIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 720,151, dated February 10, 1903.

Application filed November 13, 1902. Serial No. 131,155. (No model.)

To all whom it may concern:

Be it known that I, HUGH JONES, a citizen of the United States, residing at Edwardsdale, in the county of Luzerne and State of Pennsylvania, have invented new and useful Improvements in Car-Brakes; 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.

The invention relates to improvements in car-brakes of that class which are provided with longitudinal shafts and screws to effect an application of the brake; and it has for its object to provide an exceedingly simple and inexpensive brake of this character of great strength and durability adapted to be readily applied to passenger, freight, and other cars of the ordinary construction and capable of yielding freely to the vibratory movements and play of the trucks and to the lateral movement of the same incident to rounding curves.

A further object of the invention is to provide a brake of this character capable of being readily arranged to permit an application of the brake from the tops and sides of freight-cars and from the platforms of coaches and adapted also to permit cars to be coupled and uncoupled.

The invention consists in the novel construction and arrangement of parts hereinafter described and shown, and particularly pointed out in the claims hereto appended.

In the drawings forming part of this specification, and in which like numerals of reference designate corresponding parts, Figure 1 is a longitudinal sectional view of a car-brake constructed in accordance with this invention and shown applied to a car. Fig. 2 is an enlarged sectional view of a portion of the brake, taken longitudinally of one of the trucks. Fig. 3 is a transverse sectional view of the same. Fig. 4 is an enlarged sectional view of one end of the brake mechanism, illustrating the construction of the bearing-bracket. Fig. 5 is a detail perspective view of the bearing-bracket. Fig. 6 is a detail view of one of the hollow screws. Fig. 7 is a detail view of one of the interiorly-threaded sleeves. Fig. 8 is an enlarged sectional

view of the central coupling. Fig. 9 is a detail view of the double end coupling.

Referring to the drawings, 1 1 designate brake-beams suspended from a car-truck 2 by means of links 3 and provided at their ends with brake-shoes 4, which are adapted to engage car-wheels 5 in the usual manner, and the said brake-beams are provided with central openings for the reception of the interiorly-threaded sleeves 6, which are adapted to be engaged by hollow screws 7 of a longitudinal shaft 8. The interiorly-threaded sleeves are each provided at the inner end with a flange 9, and the outer end 10 is exteriorly threaded for the reception of a nut 11, which engages the outer face of the brake-beam, the inner face being engaged by the said flange, whereby the interiorly-threaded sleeve is firmly clamped to the brake-beam.

The shaft 8, which is composed of sections, as hereinafter explained, is square in cross-section to fit rectangular openings 12 of the hollow screws 7; but it may be of any other polygonal shape, or any other suitable means may be provided for preventing the screws from rotating on the shafts. The truck is provided with a central slotted bearing 13 for the reception of a collar 14, which has an enlarged portion operating in the slot 15 and which is fixed to the shaft by means of a clamping-screw 16, whereby the shaft-sections are securely held in their adjusted positions and are prevented from moving longitudinally through the trucks. When the shaft is rotated, the hollow screws which abut against the ends of the collar are adapted to force the brake-beams outward to carry the brake-shoes into engagement with the car-wheels, and the screws are also adapted to permit the brake-shoes to move inward off the wheels when the shaft is rotated in the reverse direction.

The main sections of the shaft, which extend through the trucks, are connected by a central coupling forming a universal joint and consisting of sleeves 17 and 18, having inner enlarged bifurcated ends forming perforated ears and receiving pivots 19 and 20, which extend through a central block or piece 21, whereby the two sleeves are connected to

form a universal joint. The sleeve 17 is provided with a clamping-screw 22, which engages one of the shaft-sections, and the other sleeve loosely receives the other shaft-section. The sleeves of the coupling form sockets to receive the adjacent ends of the main shaft-sections, and the sleeve 18, which loosely receives its shaft-section, is adapted to permit the same to slide longitudinally to vary the length of the shaft to allow the trucks to swing horizontally and move laterally in rounding curves.

The shaft is connected at one end of the car by a double coupling 23 with a short end shaft-section 24, and it consists of a central member 25, having bifurcated ends 26, pivoted to blocks or pieces 27, similar to blocks or pieces 21, and these blocks or pieces 27 are pivoted to sleeves 28 and 29. One of the sleeves is provided with a set-screw 30 for engaging the main shaft-section, and the other sleeve loosely receives the adjacent end of the end section 24. This coupling forms universal joints in a manner before described and permits a longitudinal play of the parts.

The end section 24 of the shaft carries a bevel-gear 31, provided with a rectangular opening to receive the shaft-section 24 and having an enlarged hub portion 33, which is secured to the shaft-section by a set-screw 34. The gear is also provided with a hub portion 32, forming a journal and arranged in a bearing-opening of a bracket 35. The outer end of the section 24 is connected by a coupling 36 with a shaft-section that extends between the cars, and the said coupling 36, which is constructed in the same manner as the central coupling, has a loose sleeve to permit the cars to readily separate when uncoupled. The bevel-gear is journaled at the inner side of the bracket, and a collar 37 is secured by a set-screw to the shaft-section 24 to form a journal or bearing portion at the outer side of the bracket.

The bearing-bracket, which is open, as shown, is composed of two vertical sides secured to the frame of the car and connected by horizontal portions 38 and 39, which are provided with registering openings for the reception of a vertical shaft 40. The vertical shaft 40 carries a horizontal bevel-gear 41, which meshes with the vertical bevel-gear 31 and which is secured to the vertical shaft by a set-screw 42. The horizontal bevel-gear is provided with a lower bearing portion to fit the opening of the horizontal portion 39 of the bearing-bracket, and a collar 43, which is secured to the shaft, is arranged in the bearing-opening of the horizontal portion 38 of the bracket.

The vertical shaft extends through the framework of the car, being provided at its upper portion with a collar 44. A suitable crank 45 or hand-wheel is provided for rotating the shaft to operate the brake.

It will be seen that the brake is exceedingly

simple and inexpensive in construction, that it possesses great strength and durability, and that it is adapted to all kinds of cars.

I desire it to be understood that various changes in the form, proportion, and minor details of construction within the scope of the appended claims may be made without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is—

1. In a car-brake, the combination with a truck, of brake-beams, interiorly-threaded sleeves mounted on the brake-beams, a longitudinal shaft, hollow screws arranged on the shaft and engaging the sleeves and arranged to abut against the truck, and means for operating the shaft, substantially as described.

2. In a car-brake, the combination of a truck provided with a slotted bearing, a collar journaled in the bearing and having an enlarged portion operating in the slot, brake-beams, interiorly-threaded sleeves mounted on the brake-beams, hollow screws engaging the sleeves and abutting against the ends of the collar, a shaft passing through the sleeves and collar and engaging the former and secured to the latter, and means for operating the shaft, substantially as described.

3. In a car-brake, the combination of a truck having a central slotted bearing, a collar journaled in the bearing and having an enlarged portion operating in the slot, said collar being also provided with a polygonal opening, brake-beams provided with openings, interiorly-threaded sleeves arranged in the openings and provided at one end with flanges and having exterior threads at the other end, nuts arranged on the exteriorly-threaded ends, hollow screws provided with polygonal openings and engaging the sleeves, a polygonal shaft passing through the said openings and secured to the collar, and means for operating the shaft, substantially as described.

4. In a car-brake, the combination of a car, brake-beams having interior screw-threads, hollow screws, engaging the same, main shaft-sections engaging the screws and coupled together and capable of a limited longitudinal movement with relation to each other, a bearing-bracket, mounted on the car, vertical and horizontal shaft-sections, mounted on the bracket, gearing connecting such shaft-sections, a double coupling connecting the horizontal section with the adjacent main section and slidable on one of such parts, and a shaft-section designed to extend between cars and having a coupling slidable on the horizontal section, substantially as described.

In testimony whereof I have hereto affixed my signature in the presence of two witnesses.

HUGH JONES.

Witnesses:

DEAN SWIFT,
ALBERT S. GATLEY.