

(No Model.)

2 Sheets—Sheet 1.

P. McMULLEN.  
CAR BRAKE.

No. 528,302.

Patented Oct. 30, 1894.

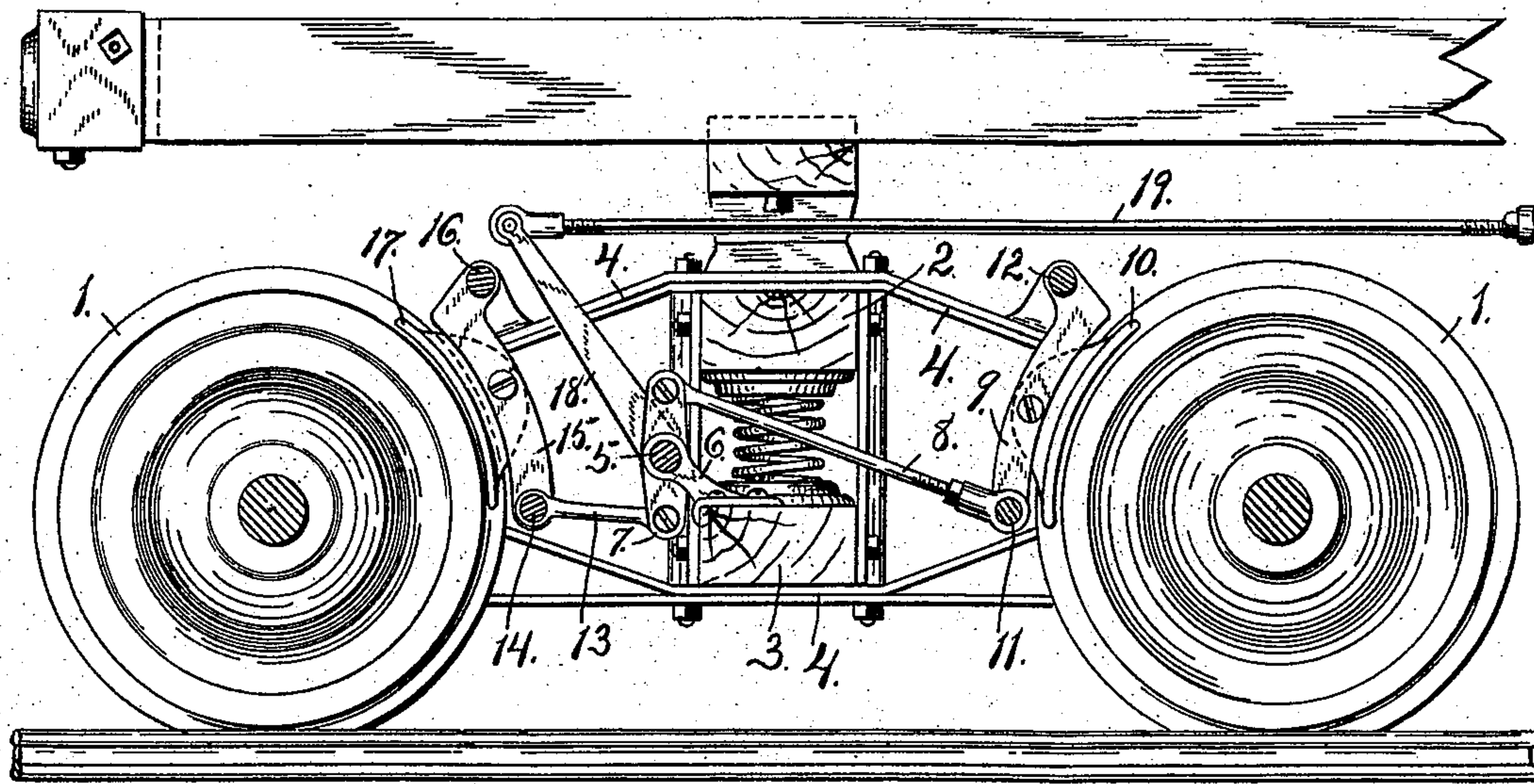


Fig. 1.

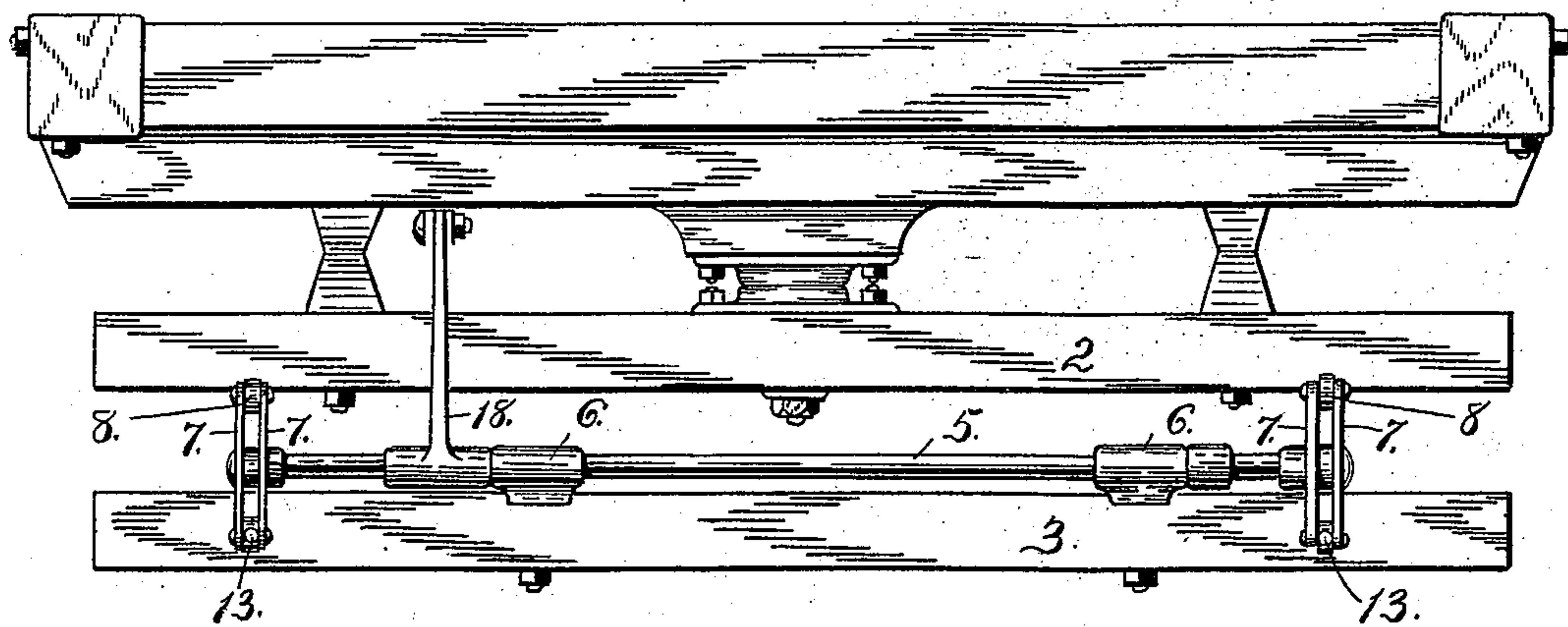


Fig. 2.

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*Geo. C. Wightman*

Inventor.

*Peter M. Mulhen,*

*By Miller and Holdick.*

*Attorneys.*

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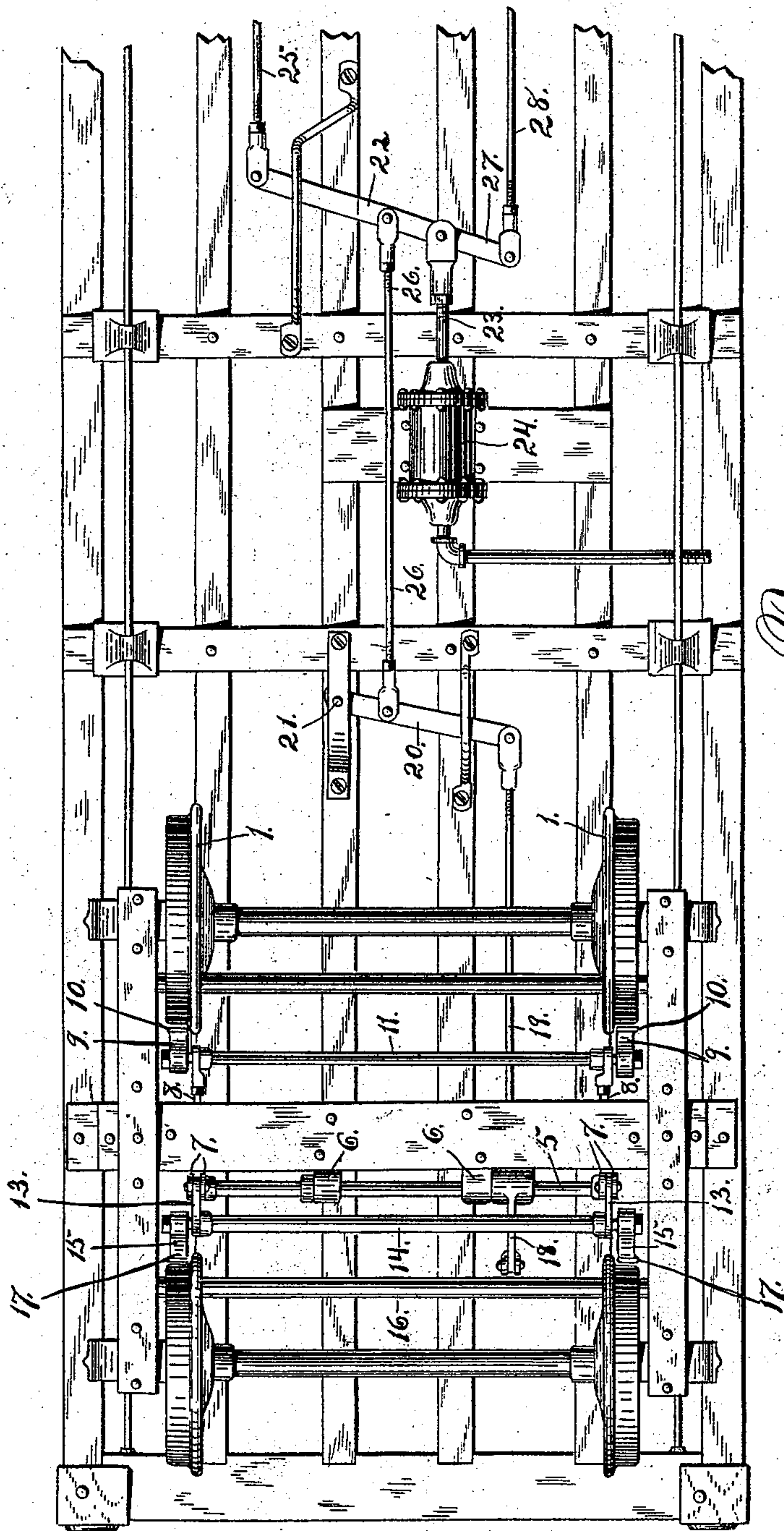


Fig. 3

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# UNITED STATES PATENT OFFICE.

PETER McMULLEN, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO  
MICHAEL CALLAHAN, OF SAME PLACE.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 528,302, dated October 30, 1894.

Application filed October 9, 1893. Serial No. 487,658. (No model.)

*To all whom it may concern:*

Be it known that I, PETER McMULLEN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain 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 it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of car-brakes in which the brake-shoes have a bearing down contact with the upper portion of the tread of the wheels. In Patent No. 487,681, issued to me on the 6th day of December, 1892, a brake-mechanism is claimed consisting of "a framework secured to the upper side of the truck and extending over the wheels, levers pivoted to the framework, brake-shoes pivoted to the levers over the wheels and located for bearing-down contact with the upper portion of the tread of the wheels, the upper ends of the levers being connected together and operated from the source of power." In this construction one pair of brake-shoes has bearing-down contact with the outer sides of one pair of wheels and the other pair has bearing-down contact with the inner sides of the other pair of wheels on the same truck.

The object of my present invention is to do away with the extra framework to which the brake-mechanism is attached and to concentrate the operative parts which effect the bearing-down contact of the brake-shoes with the upper portion of the tread of the wheels and to that end my invention consists substantially of pivoted levers located between the two pairs of wheels, brake-shoes carried by these levers and rods pivoted to the lower ends of the levers carrying the brake-shoes and operated by the source of power to force the brake-shoes carried by the pivoted levers against the opposite inside upper portions of the tread of the two pairs of wheels.

My invention further consists of details of construction, all of which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a car-truck with my improved brake-mechanism attached. Fig. 2 is a partial end elevation of Fig. 1, and Fig. 3 is an under side view of a portion of a car with my improved brake-mechanism in position.

Referring to the drawings, 1. 1 are the wheels; 2, the upper cross-beam; 3, the lower cross-beam, and 4 the iron connecting strips of the car-truck to which my improved brake-mechanism is applied.

5 is a shaft journaled in the brackets 6 6 which are rigidly secured to the lower cross-beam 3 of the truck at its upper rear edge. This shaft turns loosely in its bearings or brackets 6 and has rigidly secured at each end in line with the wheels the double-armed levers consisting of the two parts 7. 7. Between the upper ends of the parts 7. 7. of the double-armed lever is pivoted one end of the connecting rods 8. 8. the other end of each rod being pivoted to the cross-rod 11 secured at each end to the lower ends of the levers 9. 9 which are in turn pivoted at their upper ends to the cross-rod 12 secured at each end to a bracket on the iron connecting strips 4 of the diamond-frame and 10. 10. are the brake-shoes centrally pivoted to the levers 9 in such a position that when they are forced against the wheels they have a bearing-down contact with the upper and inner portion of the tread of the wheels as clearly shown.

Between the lower ends of the parts 7. 7 of the double-armed levers, is pivoted one end of the connecting rods 13. 13, their other ends being pivoted to the cross-rod 14 secured at each end to the lower ends of the levers 15 which are in turn pivoted at their upper ends to the cross-rod 16 secured at each end to a bracket on the iron connecting strips 4 of the diamond-frame, and 17. 17 are the brake-shoes centrally pivoted to the levers 15. 15. in such a position that when they are forced against the wheels they have a bearing-down contact with the upper and inner portion of the tread of the opposite wheels as clearly shown.

18 is an arm rigidly secured at one side to the shaft 5 having pivoted at its outer end the connecting rod 19 which is in turn connected to the source of power.

In operation the power being applied to the



rod 19 throws the arm 18 to the right (see Fig. 1) which turns the journaled shaft 5 in the same direction and with it the double-armed levers 7. 7. The ends of the double-armed levers are forced in opposite directions and by means of their pivoted connected rods 8 and 13 communicate the applied power to the lower ends of the pivoted levers 9 and 15, carrying the brake-shoes 10 and 17. These brake-shoes are in this manner caused to exert a bearing-down contact in opposite directions upon the inner and upper portion of the treads of the two sets of wheels of the truck with the result desired.

It will be seen that with my improved construction herein outlined the proper amount of frictional contact of the brake-shoes upon the wheels can be quickly and effectively applied at the points indicated, the extra frame work shown in my prior patent herein referred to is entirely dispensed with and the operative parts of the brake-mechanism are concentrated into a much smaller compass and located entirely between the two sets of wheels upon the truck.

In Fig. 3 I have shown an improved arrangement of parts for applying the power either by compressed air or by the ordinary hand wheel of which 20 is a lever pivoted at one end to the body of the car as at 21 and pivotally connected at its other end to the connecting rod 19 attached to the brake-mechanism. 22 is another lever pivotally connected to the piston 23 of the compressed air cylinder 24 and to the connecting rod 25 secured to the brake-mechanism at the other end of the car.

26 is what I term an equalizing rod which is pivotally connected at its ends to the levers 20 and 22 permitting the power to be exerted to both brake mechanisms with equal force. The extension 27 of the lever 22 has pivoted to its outer end the rod 28 which is attached at its other end to the hand-brake-wheel. Not shown. By this peculiar arrangement of the pivoted levers 20 and 22 with their loosely connected equalizing bar 26 I am enabled to apply the pressure equally to the wheels of each truck, for should the power be unequally applied at the start, the surplus power applied at one point will be at once equalized by the rod 26. This arrangement also enables the power to be applied equally well for all positions of the trucks, relative to the body of the car, as they change position in passing around curves in the track.

I claim—

1. In a brake mechanism for railway-cars, the combination with the wheels of the truck, and a diamond-frame connecting the axles

thereof; of brackets mounted upon said frame, levers pivotally connected at their upper ends to said brackets, double-armed levers connected with a source of power, connections between the double-armed and single levers for moving the latter, and brake shoes centrally pivoted to said single levers and standing adjacent the inside and upper portions of the treads of the wheels, as and for the purpose set forth.

2. In a brake mechanism for railway-cars, the combination with the wheels of the truck, and a diamond-frame connecting the axles thereof; of brackets mounted upon said frame, levers pivotally connected at their upper ends to said brackets, double-armed levers connected with a source of power, rods connecting the opposite ends of the double-armed levers with the lower ends of said single levers, and brake shoes centrally pivoted to the single levers and standing adjacent the inside and upper portions of the treads of the wheels, as and for the purpose set forth.

3. In a brake mechanism for railway-cars, the combination with the wheels of the truck, and a diamond frame connecting the axles thereof; of brackets mounted upon said frame, cross-rods mounted in said brackets, levers connected at their upper ends with said cross-rods and having their lower ends connected by other cross-rods, connections between the latter cross-rods and a source of power for applying the brakes, and brake shoes centrally pivoted to said levers and standing adjacent the inside and upper portions of the treads of the wheels, as and for the purpose set forth.

4. In a brake mechanism for railway-cars, the combination with the wheels of the truck, and a diamond-frame connecting the axles thereof; of brackets mounted upon said frame, cross-rods mounted in said brackets, levers connected with said cross-rods and having their lower ends connected by other cross-rods, double-armed levers moved by a source of power, rods connecting the opposite ends of the double-armed levers with the cross-rods at the lower ends of said single levers, and brake shoes connected with the single levers and standing adjacent the inside and upper portions of the treads of the wheels, as and for the purpose set forth.

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

PETER McMULLEN.

Witnesses:

O. E. HODDICK,  
W. T. MILLER.