

No. 878,181.

PATENTED FEB. 4, 1908.

E. A. BARBER.
SINGLE TRUCK CAR.
APPLICATION FILED JULY 18, 1907.

Fig. 1.

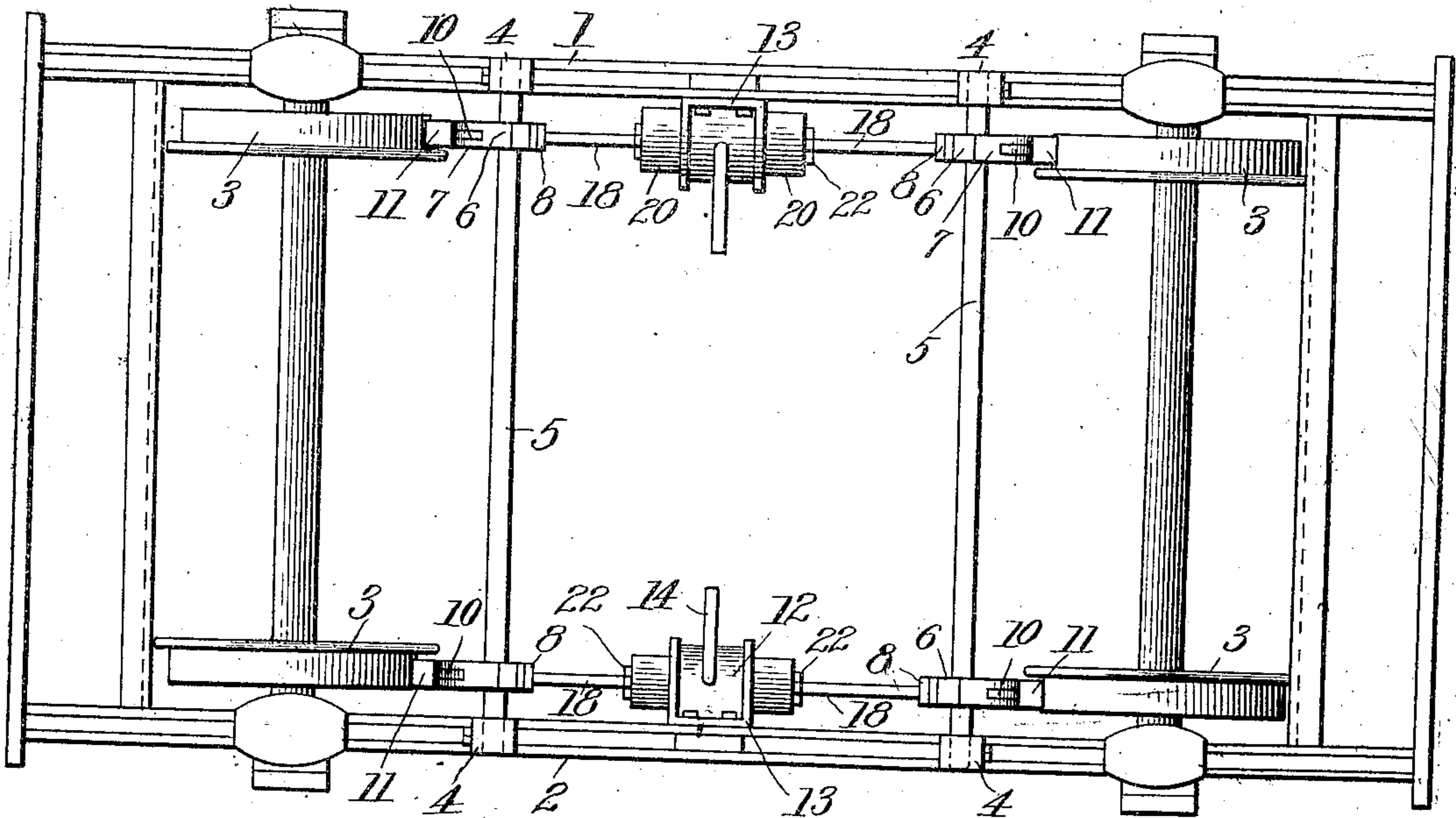


Fig. 2.

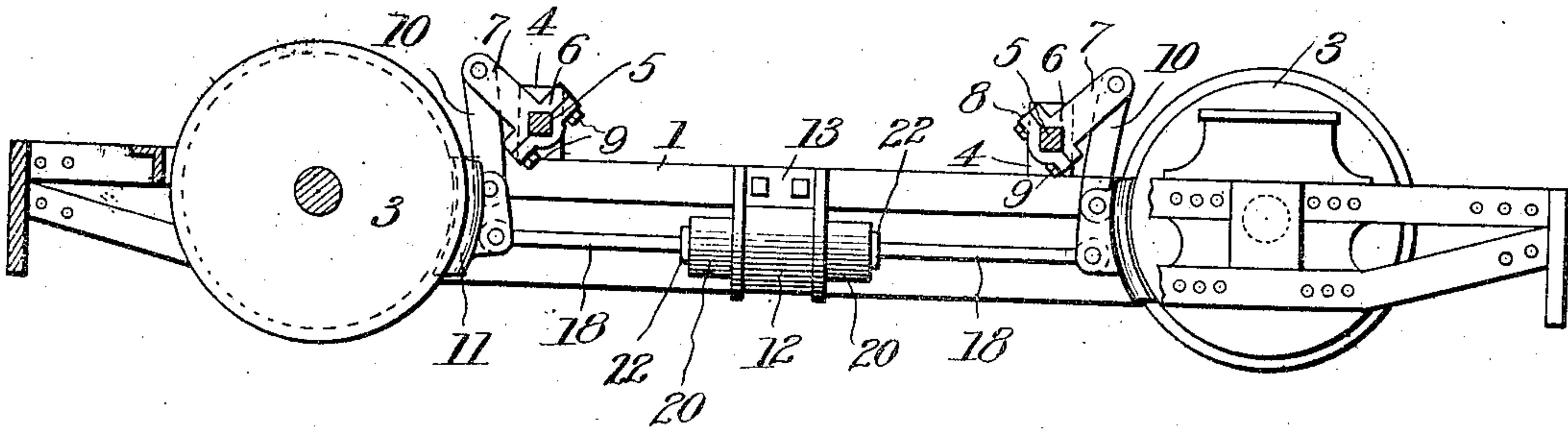
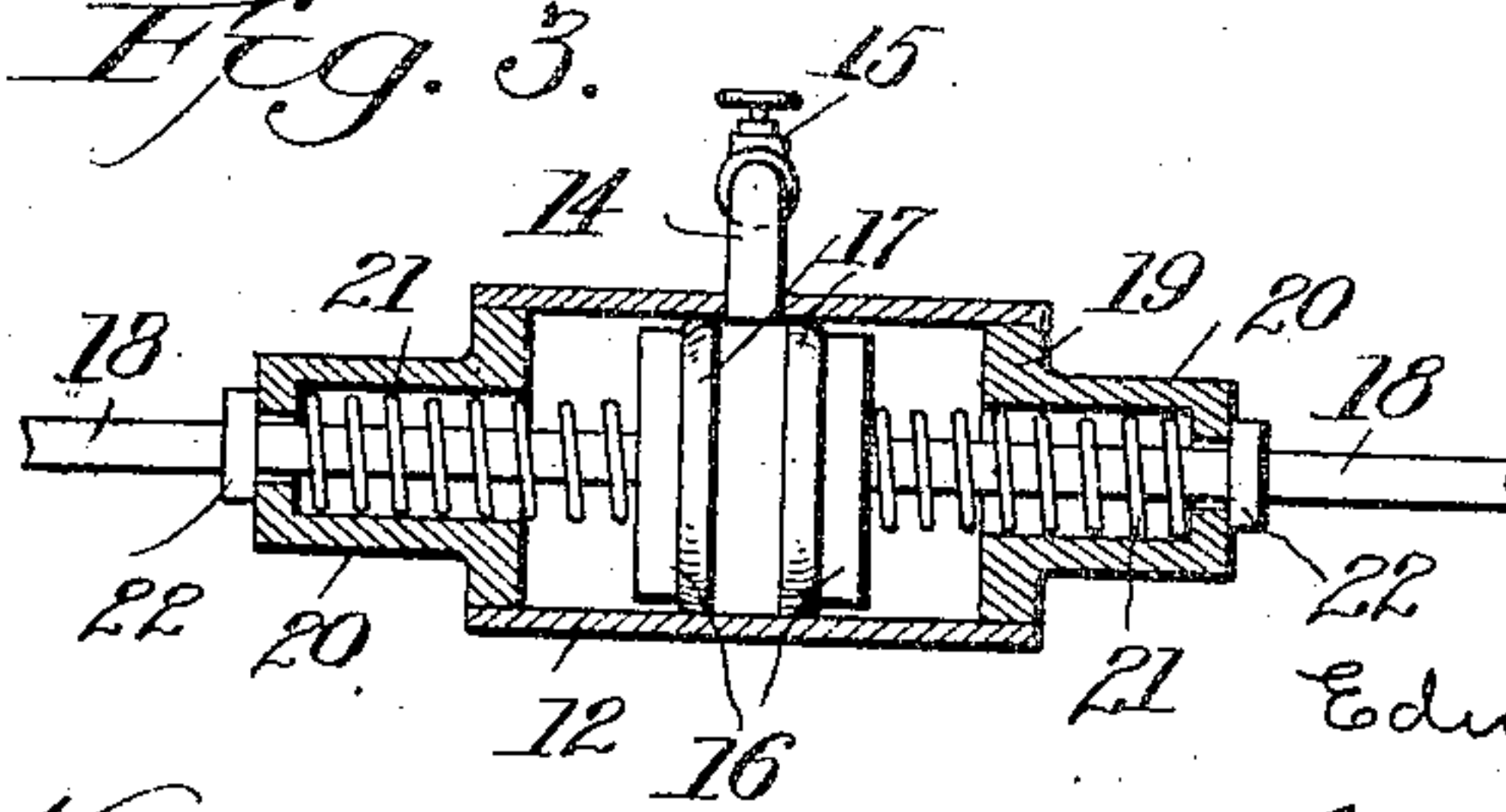


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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SINGLE-TRUCK CAR.

No. 878,181.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed July 18, 1907. Serial No. 384,485.

To all whom it may concern:

Be it known that I, EDWARD A. BARBER, a citizen of the United States, residing at Watertown, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Single-Truck Cars, of which the following is a specification.

The object of my invention is to adapt air brakes to single-truck street railway cars without employing the multiplicity of levers, fulcrums, draw rods, etc.; a further object of my invention is to provide an independent braking system for each side of the car of such a nature that all the brakes are applied with equal advantage and effect, and with these minor objects in view, my invention consists in the combination of parts hereinafter fully described and particularly pointed out in the claims.

In the drawing forming part of this specification: Figure 1 is a top plan view of a car truck, embodying my invention, parts being removed. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical longitudinal section through one of the cylinders.

1 and 2 represent the outer side-frames of a single car truck, in which are journaled the wheels 3.

4 are standards projecting upwardly from the side frames and arranged in pairs on opposite sides of the truck.

5 are truss rods extending transversely across the truck with their ends secured in the standards 4.

6 are castings on the arms 7, providing brake-hanger brackets which are rigidly secured by caps 8 and the bolts 9 upon the truss rods 5 at points inside of the side-frames and in the vertical planes of the wheels.

10 are brake hangers pivotally suspended from the brackets 7 and supporting at their lower ends the brake shoes 11.

12 are cylinders provided with integral cast brackets 13, by means of which said cylinders are bolted to the inside of the side frames 1 of the truck and from which they project inwardly into the planes of the wheels.

14 are pipe connections leading into the cylinders 12 from a suitable source of fluid pressure supply, which connections are provided with stop cocks such as shown at 15 in Fig. 3.

16 are opposed brake pistons mounted in the cylinder 12, and provided with suitable gaskets 17.

18 are piston rods, each of which extends from a piston 16 to its corresponding hanger 10. Each end of a cylinder 12 is provided with a head 19, having a cylindrical elongation 20, in which is seated one end of a coil spring 21 which surrounds the piston rod, and at its other end seats against the piston. The openings in the elongations 20 are of greater diameter than the piston rods, so that the piston rods are free from confinement between their ends, and their outer ends may move in an arc with respect to the piston, and compensate for creeping of the brake-shoe with the wheel, and avoid the clattering that would otherwise ensue.

In order to prevent mud, etc., from passing into the cylinders around the piston rods, I close the openings in elongations 20 by stop collars 22 mounted upon said piston rods.

It will be seen that my system provides independent or duplex brakes for the respective sides of the car in that if either cylinder 12 develops a break or its associated parts become disarranged, it may be thrown out of operation by closing the stop cock, thus cutting off the supply of air, and permitting the brake on the other side of the car to supply braking power, so that the car may complete its trip in safety.

Each cylinder, mounted on a side frame, projects inward into direct line with the wheels on its side of the truck, and, consequently, the pistons connected with the brake hangers are in direct line with the brake shoes and thus impart a direct and positive thrust against the wheels with corresponding increase of braking efficiency. It will be noted that as the wheels are mounted near opposite ends of the single truck and thus provide an elongated wheel base, the space occupied by the cylinders 12 and the piston rods is ample to mount the parts without crowding or necessitating the use of over connections, and enables the brake to be self-compensating and insure balanced braking action. Moreover the space thus occupied is not usually utilized in car trucks.

It will, of course, be understood that changes may be made in the details of construction without departing from the spirit of my invention, and hence, I would have it

understood that I do not wish to be limited to the specific details of construction shown.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A truck for single truck street railway cars comprising side frames, pairs of wheels journaled near the respective ends of the truck, between said side frames, and brakes comprising fixed brake-members secured at intermediate points to, and projecting inwardly from the respective side frames of the truck, the opposed movable members of the brakes, brake shoes supported in braking relation to the wheels, and rods connected at their respective ends to the movable members of the brakes and with the brake shoes.

2. A truck for single truck street railway cars comprising side frames, pairs of wheels journaled near the respective ends of the truck, between said side frames, and brakes comprising fluid pressure cylinders supported at intermediate points on, and projecting inwardly from the respective side frames, opposed pistons fitted in said cylinders, brake shoes supported in braking relation to the wheels and piston rods connected at their respective ends to the pistons and with the

brake shoes, but free from confinement between their ends.

3. A truck for single truck street railway cars comprising continuous side frames rigidly connected together at their ends, pairs of wheels between the side frames, journaled in bearings near the respective ends of the truck, and providing an elongated wheel base, rods extending transversely between and rigidly connected to the side frames near the respective pairs of wheels, brake shoes suspended from said rods, in braking relation to the wheels, brake cylinders mounted upon the side frames at points intermediate of the rods and having connections through which fluid pressure is supplied, and projecting inwardly from said side-frames into the planes of the wheels, opposed pistons in said cylinders, and piston rods connecting the respective pistons directly with the brake shoes.

The foregoing specification signed at Watertown, N. Y. this sixth day of June, 1907.

EDWARD A. BARBER.

In presence of witnesses—
ALBERT H. LEFEBVRE,
WILLIAM R. CLARK.