

No. 702,025.

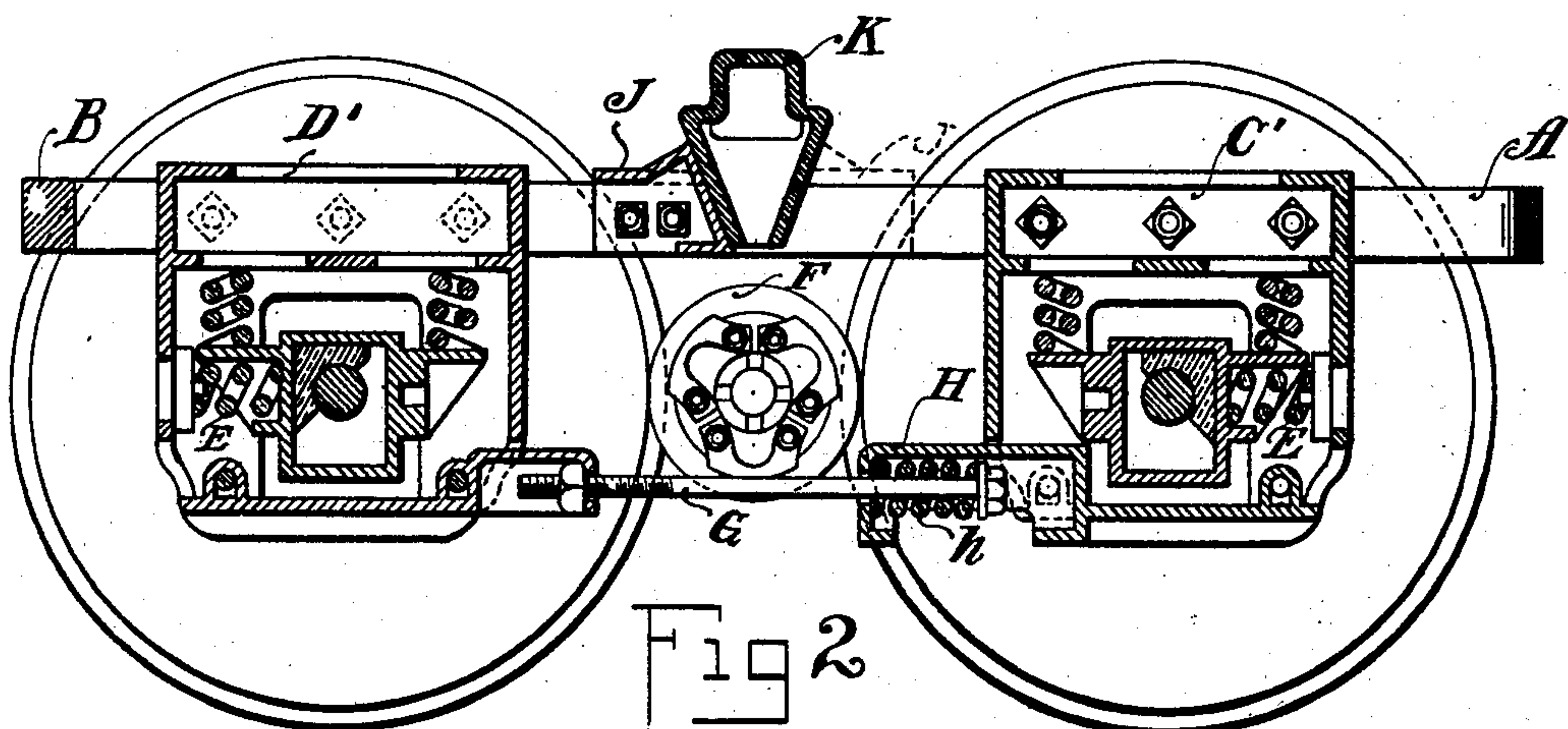
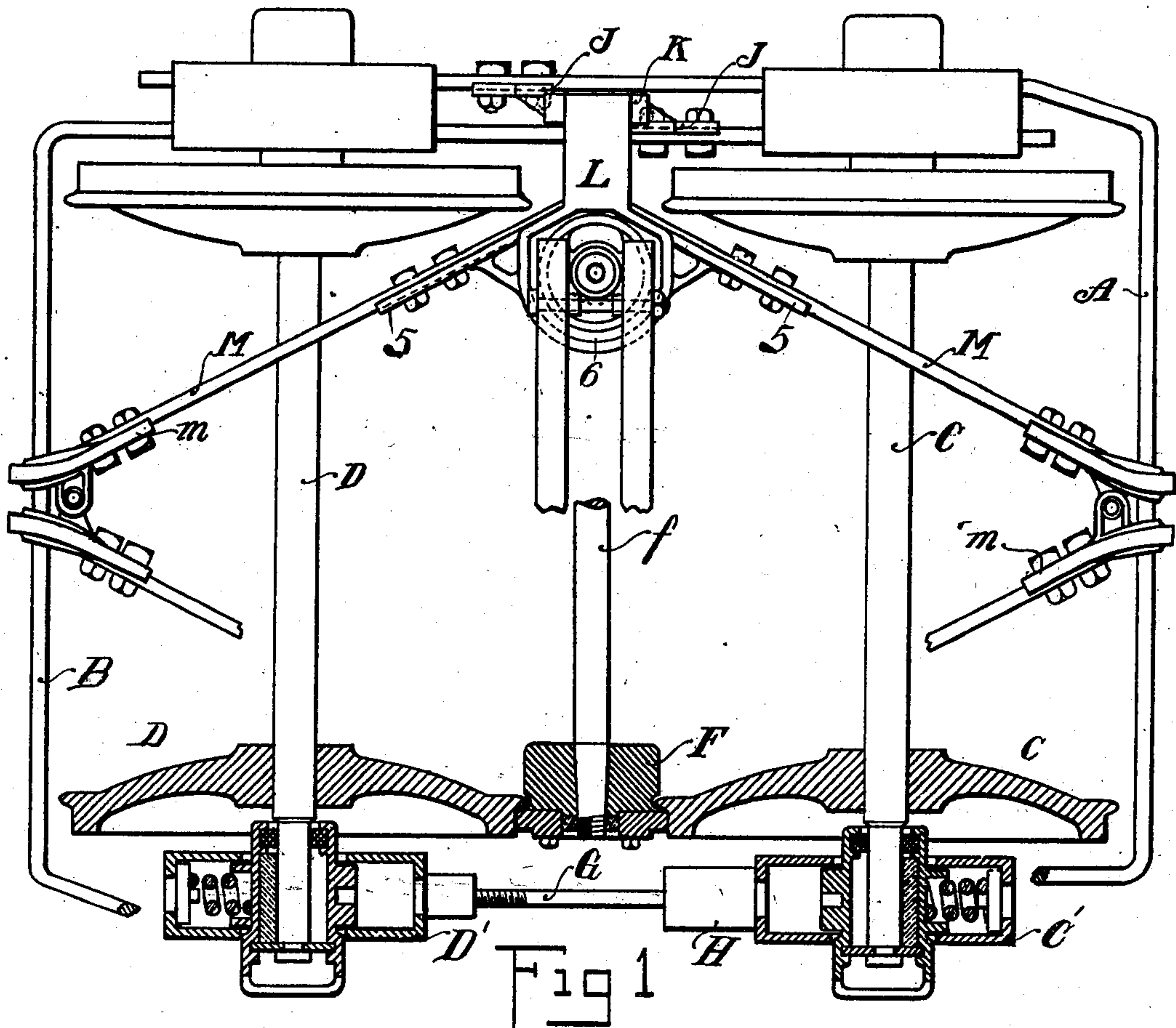
Patented June 10, 1902.

J. F. McELROY.  
FRICTION DRIVEN TRUCK.

(Application filed Dec. 15, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses  
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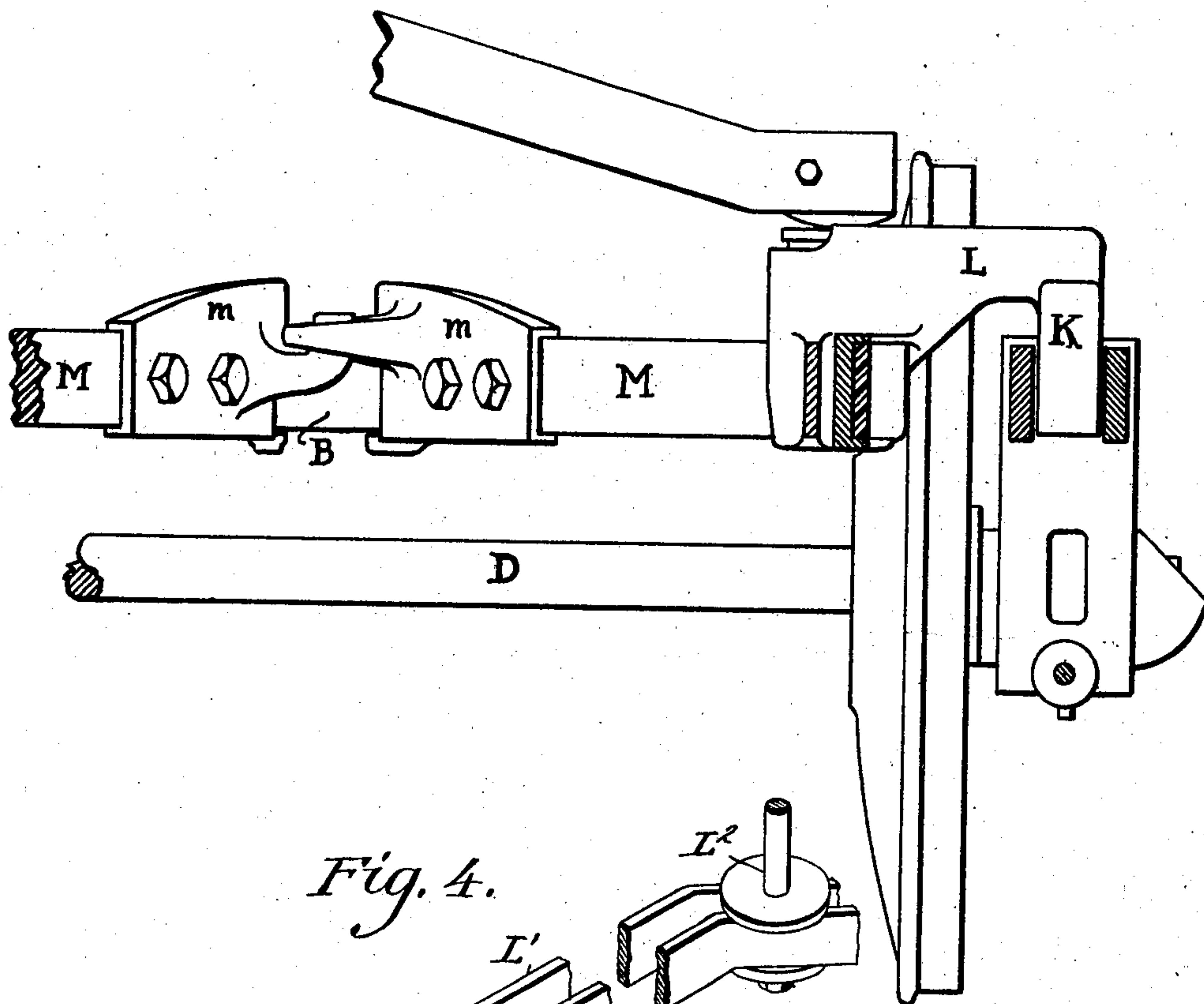
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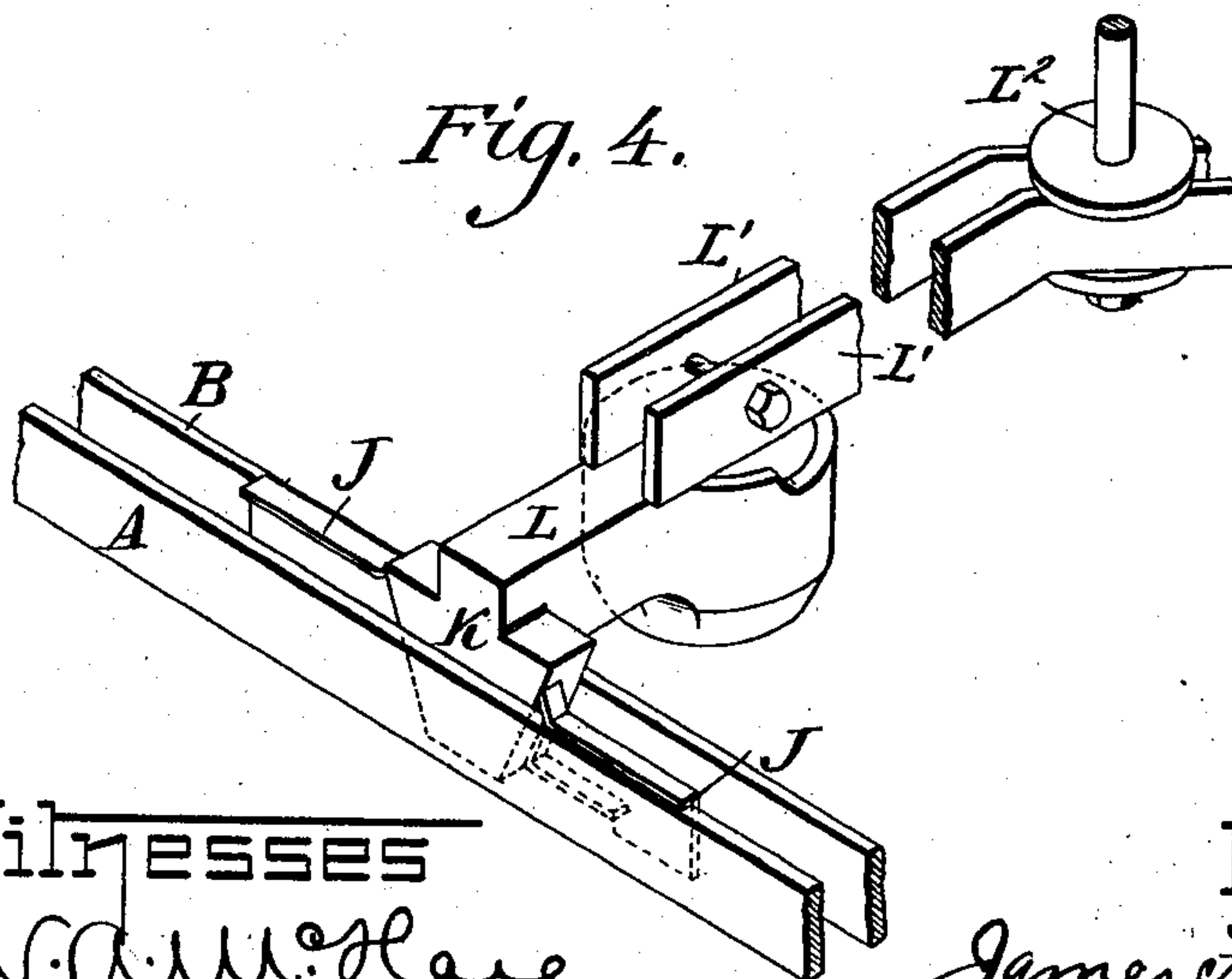
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*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

JAMES F. McELROY, OF ALBANY, NEW YORK, ASSIGNOR TO CONSOLIDATED CAR-HEATING COMPANY, OF ALBANY, NEW YORK, A CORPORATION OF WEST VIRGINIA.

## FRICTION-DRIVEN TRUCK.

SPECIFICATION forming part of Letters Patent No. 702,025, dated June 10, 1902.

Application filed December 15, 1898. Serial No. 699,363. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. McELROY, a citizen of the United States of America, and a resident of Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Friction-Driven Trucks, of which the following is a specification.

My invention relates to friction-driven trucks; and the object of my invention is to provide a truck adapted for propulsion by an electric or other motor by means of a friction-roller in contact with the drive-wheels so constructed that the weight of the car-body and load will exert a pressure upon the friction-roller of the drive-wheels in proportion to the weight of said car-body and load. I attain this object by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan, partly in section; and Fig. 2 is an elevation, partly in section. Fig. 3 is a cross-section with parts omitted, showing in detail the support for the wedge-shaped block K and the manner of uniting the braces M. Fig. 4 is a detail view showing the connection of the wedge K in reference to the overlapping side pieces A B and its relation to the car-support.

Similar characters refer to similar parts throughout the several views.

I arrange a double interlocking frame consisting of two parts A and B, to each of which parts is mounted a pair of drive-wheels C D. The pedestals C' D', in which said drive-wheels are mounted, are secured to their respective frames by means of bolts, as shown in Fig. 2, or in any suitable manner. Within the pedestals C' D', respectively, I preferably arrange a spring E E for the purpose of allowing a slight give between the drive-wheels and the friction-roller F, placed between them, sufficient to allow a slight horizontal play in case dirt or gravel should be wedged between the drive-wheels and the friction-roller.

Attached to one of the pedestals D' on each side of the car I secure, by means of a nut or in any other suitable manner, one end of the rod G, the opposite end of which is preferably secured within a projection H, secured to the pedestal C' on the same side of the car

and provided with an interposing spring h within said projection H, the tendency of said spring being to draw together the pedestals, and therefore the drive-wheels. The rod G and the spring connection form a means of drawing the drive-wheels in contact with the friction-roller sufficient to overcome the tractive effect of the drive-wheels on the track when there is no car-body or load placed on the truck.

On each side of the truck and to each of the parts A and B of the frame I secure plates J J, said plates J J slightly separated from each other and presenting two adjacent faces flaring upward and outward from each other. Fitting between said adjacent faces of the plates J J on each side of the truck I arrange a wedge-shaped block K, suitably mounted to the support L. The braces L' are secured to the casting L and extend to the bottom of the car, to which they are connected by means of the king-bolt L<sup>2</sup>, thus carrying the car-body. The support L is a casting to which on each side is attached an arm 5 5, which is bolted or otherwise secured to the braces M M, respectively. The portion of the casting L comprised within the angle made by the arms 5 5 is adapted to contain a spring or series of springs 6. Forming part of the support for the car-body I arrange the braces M M, extending toward the ends and center of the truck and capable of movement upon the parts A and B of the truck-frame, said braces being suitably secured together at the front and rear of the truck by means of the locking-plates m m or in any suitable manner. The friction-roller is mounted upon the shaft f and operated by a motor. (Not shown.) As thus arranged it is apparent that the weight of the car-body and load will tend to depress the wedge-shaped block K between the plates J J on each side of the truck, and as on each side of the truck there is a plate attached to each of the two parts composing the frame of the truck and a pair of wheels secured to each of said portions of the frame the operation of the wedge will be to cause the two portions of the frame to interlock and the wheels to be drawn in closer contact with the friction-roller placed between them.



The construction of truck described herein is very simple and the means for keeping the drive-wheels in contact with the friction-roller are positive, regardless of the amount of load that is carried thereon. The arrangement of the pedestals with the springs E E, allowing for a very slight give between the drive-wheels and the roller, will allow for dirt getting between the drive-wheels and the roller without making it necessary to raise the plate J and the wedge K for every slight obstruction.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. In a car-truck, a truck-frame composed of two parts yieldingly connected arranged to overlap each other at the sides of the truck, with means for causing a slight horizontal movement of said parts in reference to each other, substantially as described.

2. In a car-truck, a truck-frame, composed of two parts yieldingly connected, overlapping each other at the sides of the truck, and braces adapted to hold said parts in suitable relation to each other, with a pair of drive-wheels mounted in each of the parts of said frame, and means for causing the drive-wheels to revolve by the action of a motor, substantially as described.

3. In a car-truck, a truck-frame, consisting of two parts, arranged to overlap each other at the sides of the truck and yielding connections between the parts of said frame, with means, actuated by the weight of the car-body and load, for causing a slight horizontal movement of the parts of said frame in reference to each other, substantially as described.

4. A car-truck, consisting of a frame composed of two parts arranged to overlap each other at the sides of the truck, a pair of wheels mounted in each part of said frame, a friction-roller mounted to engage with two of said wheels on one side of the truck, with a means for interlocking said frames, substantially as described.

5. In a car-truck, a frame, consisting of two parts, a pair of drive-wheels mounted in each part of said frame, a friction-roller mounted to rotate between and in contact with said wheels, and means for interlocking the parts of said frame in such a manner that the weight of the car-body and the load will tend to draw the wheels in contact with the friction-roller, substantially as described.

6. In a car-truck, two pairs of drive-wheels, pedestals in which said drive-wheels are mounted, the journal-boxes in said pedestals provided with a resilient cushion allowing for a certain horizontal give of the drive-wheels, the friction-roller mounted between said

drive-wheels, and a means for connecting the pedestals on the drive-wheels on one side of the car in such a manner that the drive-wheels will be drawn in contact with the friction-roller, substantially as described.

7. In a car-truck, a frame, consisting of two parts, a pair of drive-wheels mounted in each part, a friction-roller mounted to rotate between and in contact with said drive-wheels on one or both sides of said truck, a plate secured to each of said parts of said truck-frame on each side of the truck, each plate so arranged and located in reference to the drive-wheels on the part of the frame carrying said plate that pressure brought to bear upon said plate will cause said drive-wheels to move toward the friction-roller, with a means, actuated by the weight of the car-body and load, for bringing pressure to bear upon said plates, substantially as described.

8. In a car-truck, a frame, consisting of two parts, a pair of drive-wheels mounted in each of said parts, a friction-roller mounted to rotate between and in contact with said drive-wheels on one or both sides of said truck, a plate secured to each of said parts of the frame on each side of said truck, so arranged in reference to each other that a wedge-shaped block may be placed in contact with said plates on each side of the truck and that the weight placed on said blocks will tend to cause the parts of the frame to move upon each other, and means for mounting said wedge-shaped blocks in such a manner that the weight of the car-body and load will come upon them, substantially as described.

9. In a car-truck, a frame composed of two parts, a pair of drive-wheels mounted in each part of said frame, a friction-roller arranged to revolve in contact with two of said drive-wheels on one or both sides of said truck, a plate attached to each part of said frame and on each side of said truck, said plates arranged in reference to each other in such a manner as to allow for the entrance of a wedge-shaped block between adjacent faces of said plates on each side of the truck, wedge-shaped blocks mounted in connection with the body of said truck adapted to engage with said plates on each side thereof, all so arranged and connected up that the weight of the car-body and load on the car will tend to draw the parts of the frame horizontally toward each other, substantially as described.

Signed by me at Albany aforesaid this 13th day of December, 1898.

JAMES F. McELROY.

Witnesses:

A. N. A. MCHAIG,  
CHAS. B. MITCHELL.