

UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

RUNNING-GEAR FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 238,618, dated March 8, 1881.

Application filed November 15, 1879.

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Running-Gear for Street-Cars; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 represents a side elevation of the running-gear of a tram-car having my improvements applied thereto. Fig. 2 is a vertical longitudinal section, taken centrally through the sill and the running-gear, of one wheel. Fig. 3 represents a detail view of the pedestal connecting braces.

The two rails of a tramway-track are constantly varying in plane, sliding the car from side to side with shocks and concussions discomforting to passengers, giving labor to horses, and detriment to the car structure.

Progress in the art is developing on tramways comfort to passengers, ease to horses, and durability of construction. My invention herein referred to is of this class. For this purpose I modify the connections between the car body and wheels, axles, pedestals, and those parts constituting the running-gear of the car, so that the agitations above referred to are not communicated to the body of the car or its burden. To do this I make a box-pedestal, A, with its bed-plate B about one inch wider than the sill C of the car-body, and at each side verge of the bed-plate raise a flange, *a*, to stiffen the bed-plate, the flanges being separated sufficiently to prevent their coming in contact with the car-sill. At each end of the bed-plate is formed a lodgment or seat, *b*, for a super-spring, *c*, preferably of rubber. The bottom of the lodge *b* is provided with an opening of sufficient diameter to receive a downward projection or hub, *d*, of the super-spring. The front and rear walls of the lodge are opened to discharge water or other foreign substance. The jaws of the pedestal may be of ordinary dimensions to fit the standard axle-box. The walls I prefer to make with

openings, and these curved in such form as will afford the most strength with the least weight. The lower wall of each boundary is—chiefly for strength—made in the form of a prominent lip. The surface surrounding the bolt-holes in the face is made in convex or semi-spherical form, the increase of metal around the orifice compensating for the loss of strength by the perforation, and also affording a better seat for the side bar, *e*, connecting the pedestals.

The car-sills have secured to them at the proper places inverted cups for receiving the upper ends of the super-springs, with holes in the bottom of the cups corresponding with those in the bottoms of the super-spring lodges. Central to these cup-holes are bored upward through the sills holes for the fastening-bolts, these holes being of larger diameter (about one-eighth of an inch) than the bolts.

The pedestals do not touch the car-body, neither are they attached directly to the car-body, but indirectly through the super-springs, the pedestal and its super-springs being put in place and there held by the fastening-bolts *f*, which pass through the free holes in the sills and through the spring-cups, super-springs, and that part of the pedestal forming the bottom of the spring-lodge.

A rubber washer, *g*, or equivalent, of hemispherical or other suitable form and dimensions, covered by a cockle-washer, *h*, is placed between the head of each bolt *f* and the sill C, and in like manner between the pedestals and the nuts. The cockle-washer *h*, especially when having stops against which the head or nut may rest, indents the rubber washer and prevents recoil or loosening of the nut.

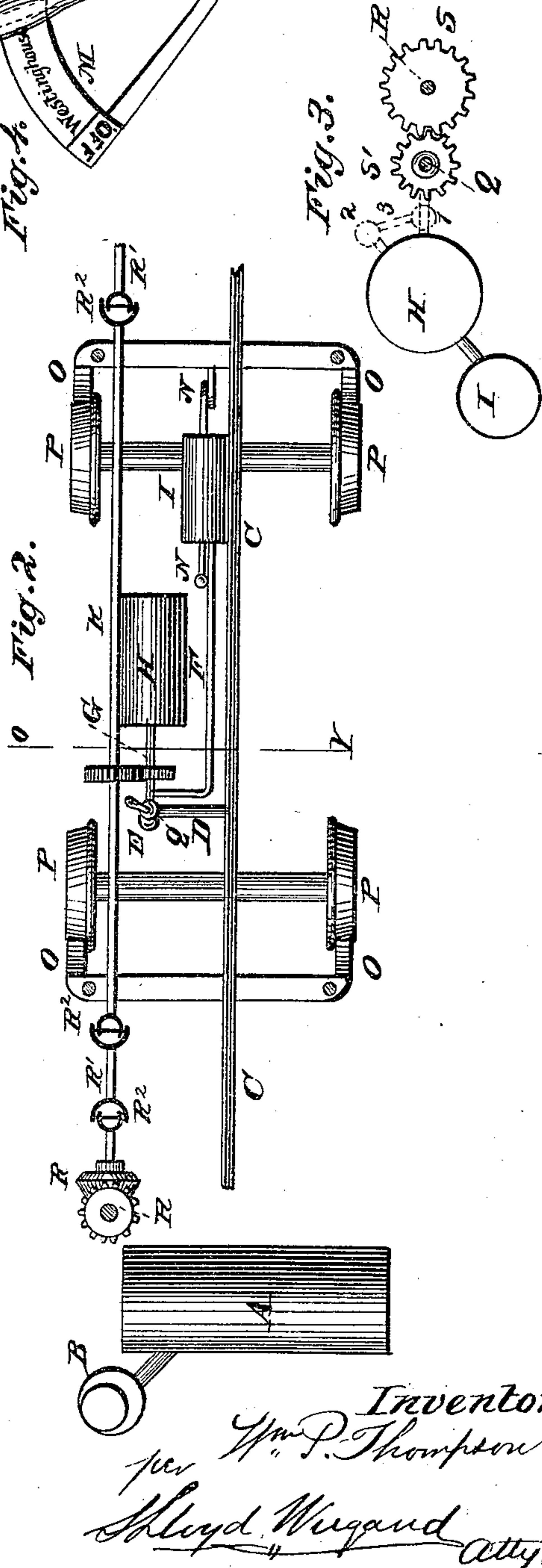
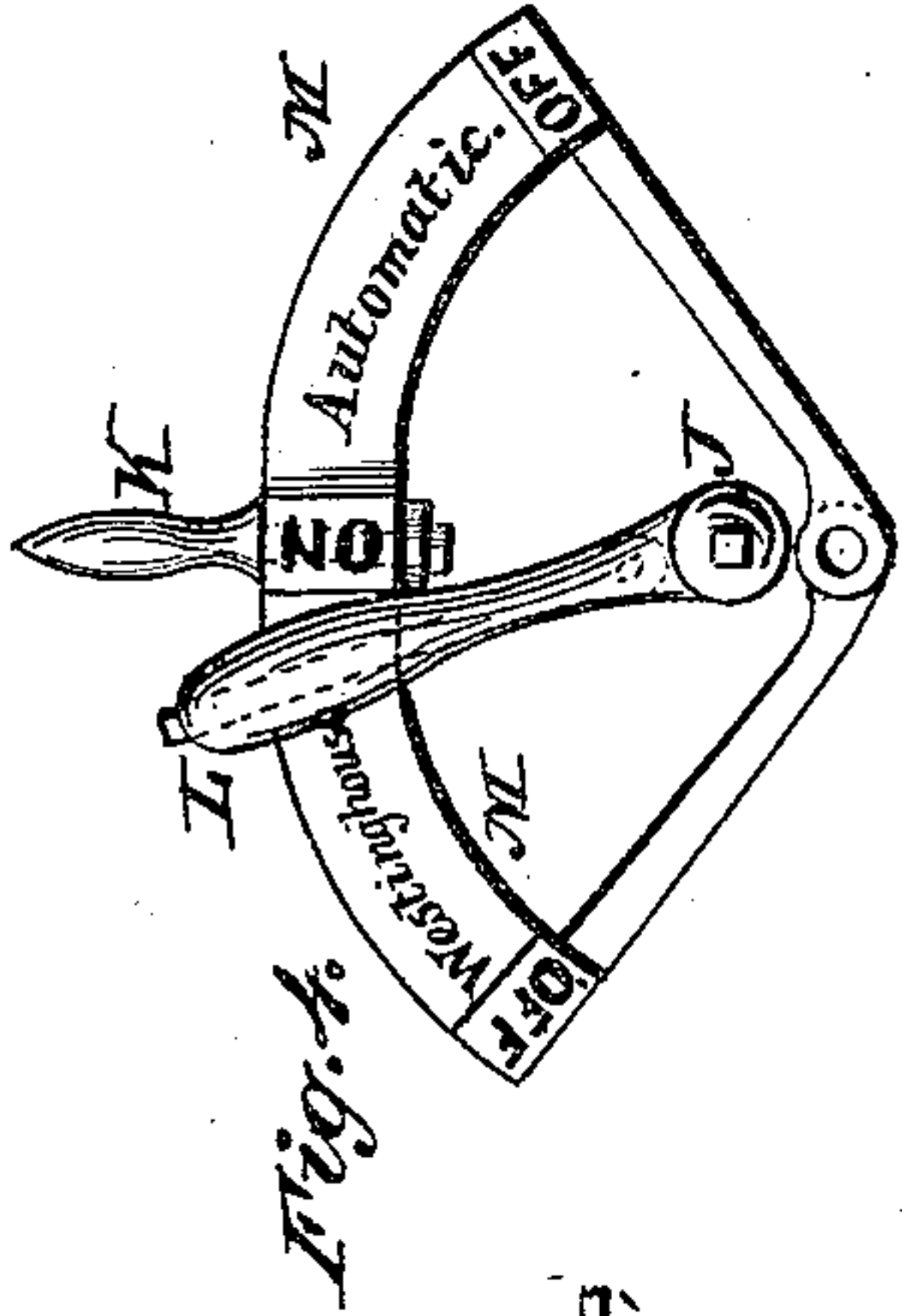
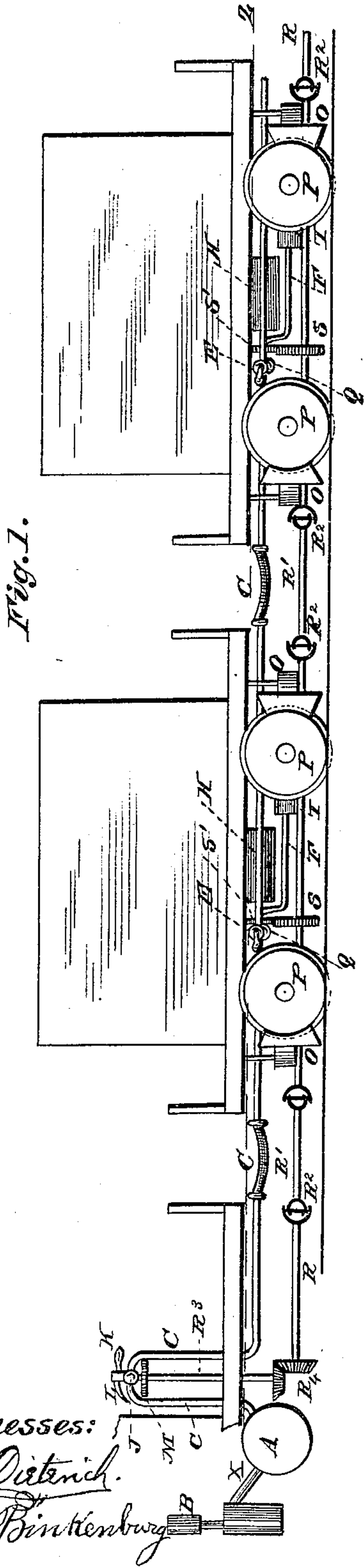
It is intended to have the fastening-bolts *f* screwed up only sufficient to take up any slack which might occur with a car when loaded to its utmost. The two pedestals at each side of the car are united by a side bar, *e*, each end of which is cupped to fit the hemispherical boss. This form of union holds the pedestals in relative position with less dependence upon the bolts. The side bar performs the additional service of holding the bottom of the pedestals in restraint from undue outward thrust, which is accomplished by staying the side bar to the bottom structure of the car by

(No Model.)

W. P. THOMPSON.
Fluid Pressure Brake.

No. 238,619.

Patented March 8, 1881.



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