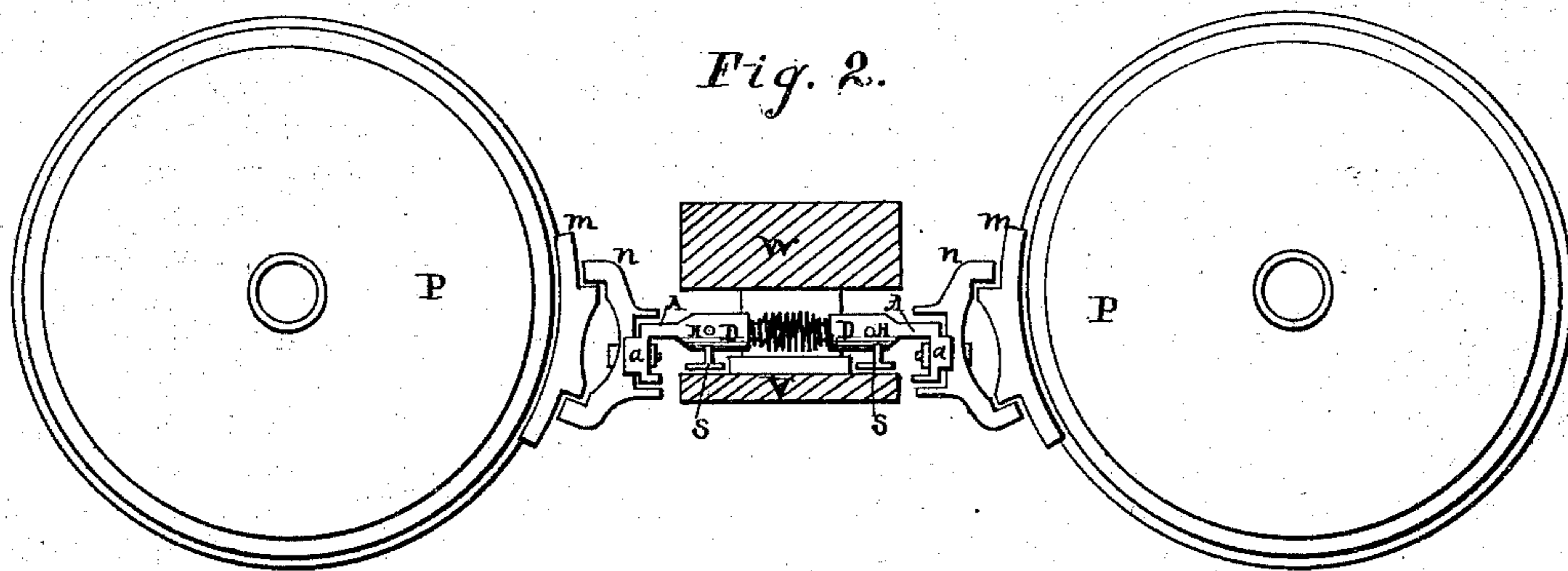
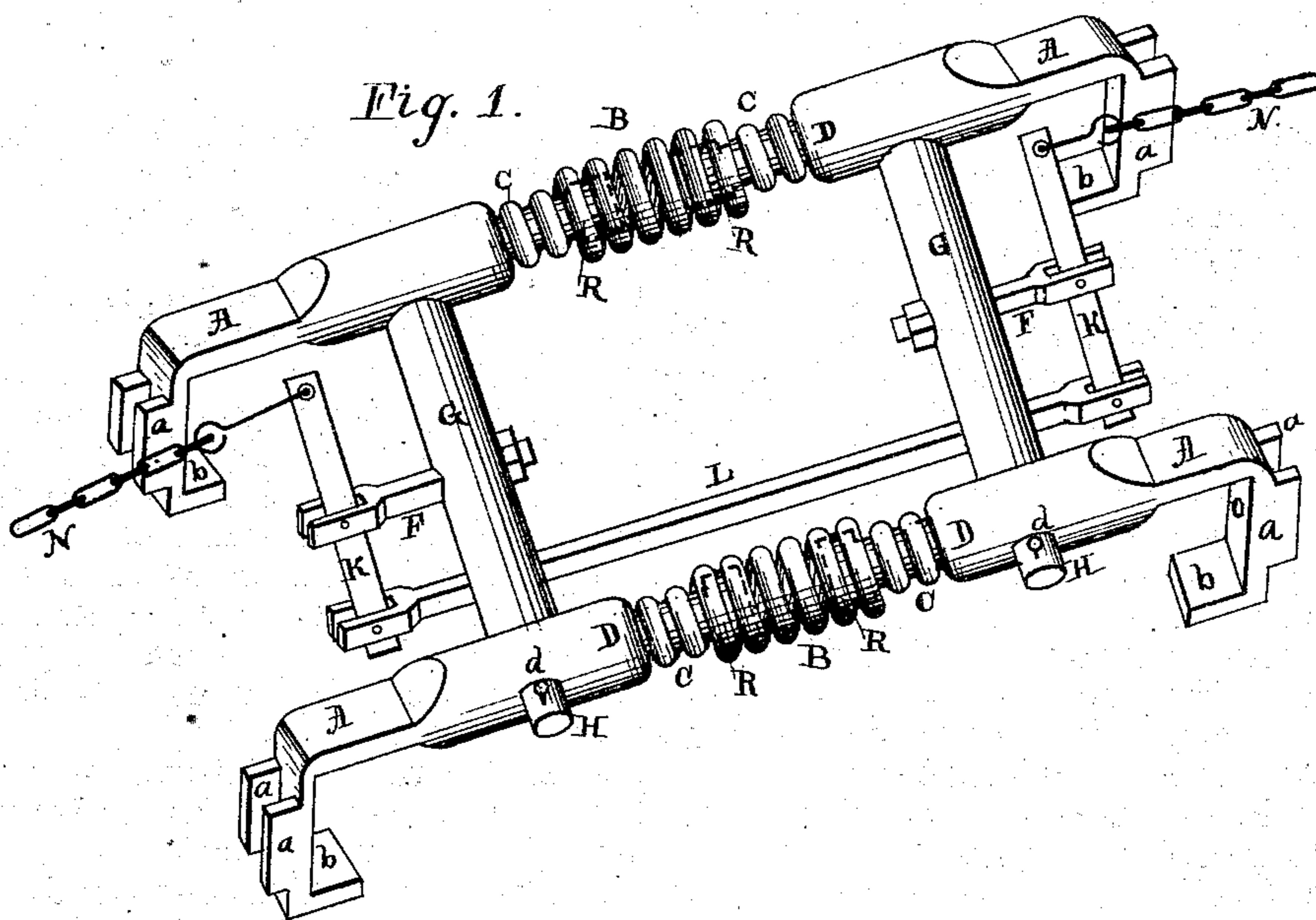


**M. MADDEN.**  
**Car-Brakes.**

No. 158,426.

Patented Jan. 5, 1875.



WITNESSES:

INVENTOR.

*Theophilus Weaver,*  
*Peter Stucker,*

*Michael Madden.*

# UNITED STATES PATENT OFFICE.

MICHAEL MADDEN, OF HARRISBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIAM C. McFADDEN, OF SAME PLACE.

## IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **158,426**, dated January 5, 1875; application filed October 1, 1874.

*To all whom it may concern:*

Be it known that I, MICHAEL MADDEN, of the city of Harrisburg, county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Car-Brakes, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective representation of my car-brake mechanism, showing the position of the brake-levers thereon and other attachments. Fig. 2 is a side elevation of a car-truck having my car-brake mounted thereon.

The nature and object of my invention consist, first, in dispensing with the common brake-bar on which the shoe-holders are usually mounted, and which are located objectionably low, and, instead thereof, I employ shoe-holders, arranged plunger-form between the spring-plank and bolster, and connect them by transverse stays above the lower side of the truck-timbers. Second, a peculiar retracting-spring connection, by which the shoe-holding plungers are withdrawn when traction is off the brake-chain. Third, a peculiar form of plunger-front, adapted for the application of the brake-shoes.

In the following description, similar letters refer to similar parts in both figures of the drawing.

A represents the shoe-supporting plungers, which are connected in pairs by coiled springs B, swivel style, being twined tightly, at their diminished ends C, around necks formed on the ends D of said plungers. The middle parts of the springs B are made, by enlarged coils of the wire, to admit the heads on the inner ends of the plungers, indicated at R, which are retainers for the connecting-spring. The plungers A are transversely connected by the parallel bars G, which are provided at their ends with the tenons H, to pass through the plunger-bodies D, and which are retained therein by the keys or skeins *d*. Connected with the transverse bars G are the draft-bars F, cleft at their outer ends to admit the brake-levers K, which are inserted in them in the usual manner, and their lower ends are also hitched together by the connecting-rod L, in the usual

way. The chains N, levers K, draft-bars F, and connecting-rod L are old devices. The remaining parts in Fig. 1 I regard as new, and as my invention.

By my construction and arrangement I dispense with the old-fashioned clevis and strap-hangers, as well as the brake-bar. Instead of the latter I employ the transverse yokes or bars G. The old-style brake-bar is usually hung to swing beneath the truck-timbers W V, where it is liable to be torn from its supports, if by inadvertence or malice any obstruction is placed on the track, and where it is also a menace to life, if, by mishap, a person is prostrated between the tracks, it being the lowest part of truck apparatus.

I therefore locate my improved shoe-supporting plunger, as shown in Fig. 2, between the bolster W and spring-plank V, in such a manner that it may ride horizontally on chairs S, on said plank V. I thus present the plungers in a line a little below the centers of the wheels, and the shoes and liners *m n*, now in common use, are attached by bolts to the front ends of the plungers, in position as shown. It is designed to use any of the shoes and liners now in use, but it is evident the front ends of the plungers *a b* may be so modified as to dispense with the liner-holder, as a liner may be directly attached to my plunger by the usual bolt. The office of the springs B is to connect the plungers A in such a manner that the liners may be positively retracted from contact with the wheels P, when tension of the brake is released, to avoid desultory friction, as is now the case with the swinging brakes.

The plunger-fronts are made box-form, to correctly seat the holders now in use, as shown in Fig. 2, *a* being side flanges thereon, to resist torsional or lateral strain on the holders. The transverse bars G are located to retreat wholly between the bolster W and the plank V, and the plungers A are located between the truck-springs Z; and the lever K may be so applied as to operate the connecting-bar L, when it is inserted between the timbers W and V.

Having thus fully and clearly specified the construction and nature of my invention, I

hereunto append what I regard as new and useful, and what I desire to secure by Letters Patent of the United States, in the following claims:

1. The plungers A, in combination with the springs B, substantially as and for the purpose set forth.

2. The plungers A, in combination with the transverse bars G, said plungers being connected in pairs by the springs B, for operation substantially as shown and described.

3. The brake-rigging frame A B G, in combination with the lever K, draft-jaw bar F, and connecting-rod L, all for operation substantially as set forth.

In testimony that I claim the foregoing as my invention I have hereunto set my hand and seal this 30th day of September, 1874.

MICHAEL MADDEN. [L. S.]

Witnesses:

THEOPHILUS WEAVER,  
PETER STUCKER.