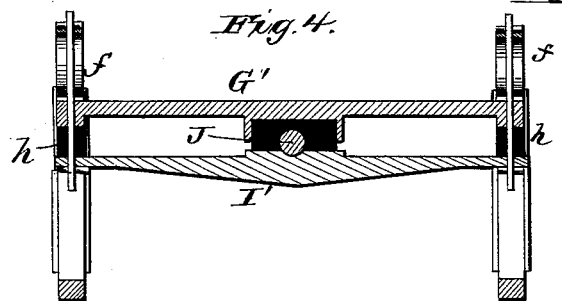
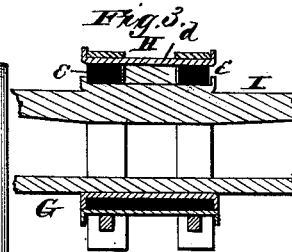
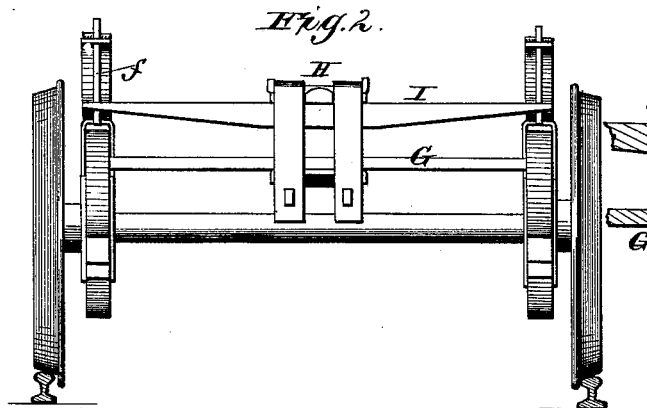
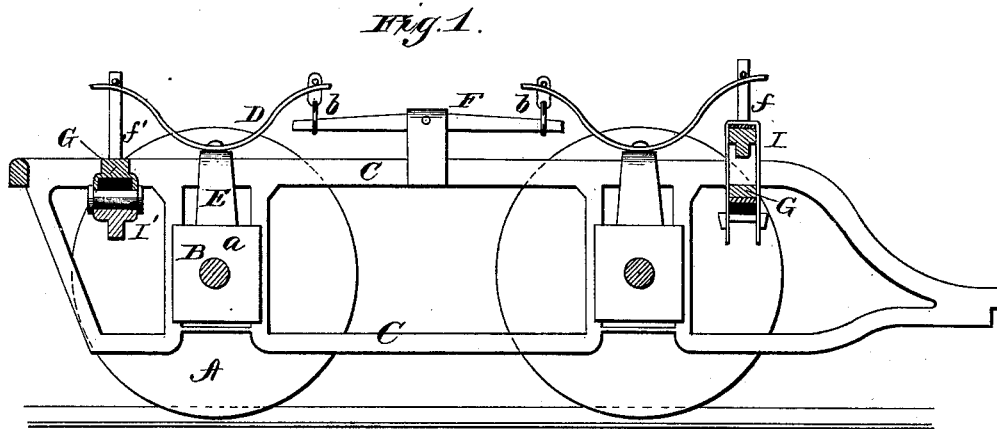


J. J. THOMAS.
Spring-Equalizer for Car-Trucks.

No. 218,796.

Patented Aug. 19, 1879.



WITNESSES
Frank L. Curand
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UNITED STATES PATENT OFFICE.

JOHN J. THOMAS, OF SELMA, ALABAMA.

IMPROVEMENT IN SPRING-EQUALIZERS FOR CAR-TRUCKS.

Specification forming part of Letters Patent No. **218,796**, dated August 19, 1879; application filed June 16, 1879.

To all whom it may concern:

Be it known that I, JOHN J. THOMAS, of Selma, in the county of Dallas, and in the State of Alabama, have invented certain new and useful Improvements in Universal Equalizers for Locomotive-Engines and Car-Trucks; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention relates to locomotive-engines; and it consists in the construction and arrangement of the spring-connection for such engines, the object of which is to produce a uniform or equal vibration in all the springs and spring-connections, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a longitudinal section of a locomotive-truck embodying my invention. Fig. 2 is an end view of the same. Figs. 3 and 4 are detailed views of parts thereof.

A A represent the driving-wheels of any ordinary locomotive, connected by axles B B, as shown.

C is the frame, secured to the driving-axes through boxes *a a*, the same as in all ordinary engines.

D D are the springs, constructed in the usual manner, and resting on spring-saddles E E, which straddle the frame and rest on the spring-boxes *a a* in any of the known and usual ways. The springs D D are connected between the forward and back drivers by spring-hangers *b b*, and equalizing-bars F F also, in the usual manner for locomotive-engines.

G G' are additional cross bars or braces running from one side of the frame to the other, and made solid to the frame at both front and back of the engine. To the front cross-brace, G, is a suspended and adjustable center-bearing, H, with which is connected the equalizing-bar I. This equalizing-bar I is cushioned at each end of the gib-strap *d* by means of a plate of rubber, *e*, as shown in Fig. 3, and it is

connected at the extreme ends to the front ends of forward springs by means of hangers *f f*.

The usual manner of construction is to attach the spring-hangers *f f* to the frame of the engine; but by the connection as above described the hangers are attached to the ends of the equalizing-bar I, which is attached to the engine-frame at but one point, which is through the center-bearing H. By the last-named connection a continuous or endless connection is formed from the springs on one side of the engine to those on the other, and when a driving-wheel on either side of the engine receives a jar or concussion from unevenness of the track, or from any other obstruction, the jar is readily transmitted from one side to the other through the equalizing-bar I, thereby producing an unusual sympathy of motion or oscillation from one end of the truck to the other.

The back end of the engine-frame is constructed and connected in precisely the same manner as the front, and to accomplish the same purpose, except the center-bearing J is made to oscillate under the cross-bar G', the equalizing-bar I' being underneath, and the spring-hangers *f'* passing through slots in the side bars of the engine-frame, for the reason that this style of construction is more applicable and more practicable to some builds of engines than the style represented in the front end of the engine; but either style will produce the same result, whether attached to the front or back part of the engine.

On the spring-hangers *f'* are placed rubber cushions *h*, to prevent the frame from striking the boxes in the event of an extraordinary rough place in the track, or a broken rail, or when the engine should get off the track and ride the cross-ties.

This improvement can be attached to any style of locomotive now in use.

The boiler and other machinery of a locomotive are attached to the frame in the usual manner, and hence are not represented in the drawings.

By the application of this improvement to a locomotive-engine it is claimed that the general concussion and jar are neutralized and thoroughly distributed through all the suspen-

sions, thereby producing more comfort to the engineer and fireman, producing less strain on the springs and less breakage of springs, and less wear and tear to the machinery in general, and preventing the usual rolling and oscillation, and tends to keep the frame and boiler on a general level, irrespective of the concussion of the driving-wheels.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a locomotive-truck, with the ordinary springs D and equalizing-bars F, of the front and rear equalizing-bars I I', connected by hangers to the outer ends of

the springs D, and having elastic center-bearings, substantially as and for the purposes herein set forth.

2. The combination of the center-bearing J, equalizing-bar I', hangers f', and rubber cushions h, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of May, 1879.

JOHN J. THOMAS.

Witnesses:

WM. C. WOOD,

W. W. McCOLLUM.