

(No Model.)

J. E. HUGHES.

EQUALIZING MEANS FOR LOCOMOTIVE ENGINES.

No. 545,628.

Patented Sept. 3, 1895.

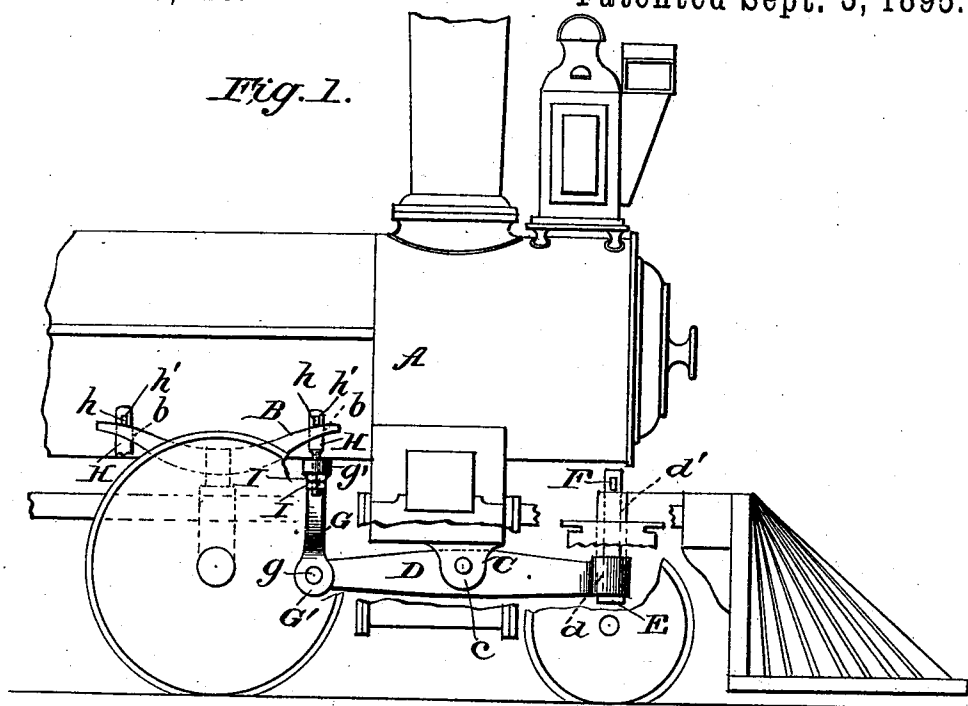


Fig. 2.

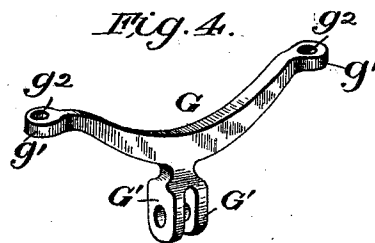
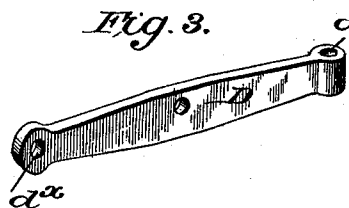
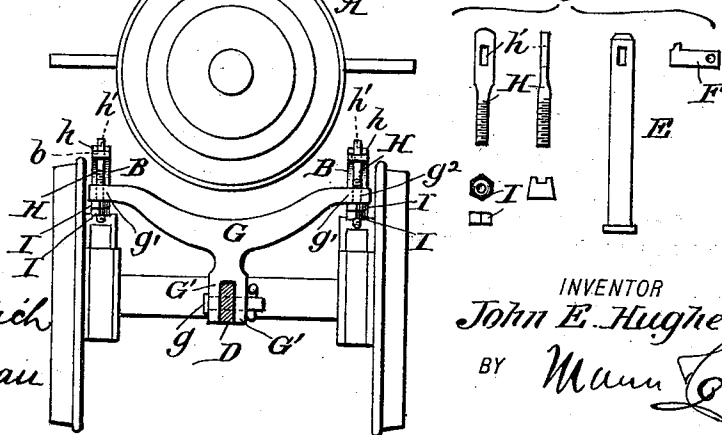


Fig. 5.



WITNESSES:
Fred G. Dietrich
Jos. A. Ryan

INVENTOR
John E. Hughes
BY *Mann L.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN E. HUGHES, OF PINE BLUFF, ARKANSAS, ASSIGNOR OF TWO-THIRDS TO SPENCER W. KENWARD AND ROBERT M. GALBRAITH, OF SAME PLACE.

EQUALIZING MEANS FOR LOCOMOTIVE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 545,628, dated September 3, 1895.

Application filed October 6, 1894. Serial No. 525,130. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. HUGHES, residing at Pine Bluff, in the county of Jefferson and State of Arkansas, have invented certain new and useful Improvements in Equalizing and Guiding Means for Locomotive-Engines, of which the following is a specification.

My invention relates to certain improved equalizing devices for Mogul and consolidated locomotive-engines which are designed to keep the engine from causing the flanges of the forward driving-wheel tire, as also the truck-flanges, to become cut by the shifting weight thereof; and it has, primarily, for its object to provide a simple arrangement of equalizing devices which can be easily and quickly adjusted, whereby to cause the engine-truck to guide the engine from one side to the other, as may become necessary.

With other objects in view, which hereinafter will appear, the invention consists in such novel features of construction and peculiar combination of parts, as will be first described in detail, and then be pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a locomotive-engine with my improvement applied, parts being broken away to the more clearly illustrate the several parts. Fig. 2 is an elevation, partly in section, illustrating the relation of the front drivers, the engine-body, and the equalizing devices. Fig. 3 is a perspective view of the longitudinal equalizing-beam. Fig. 4 is a similar view of the transverse equalizing-bar, and Fig. 5 illustrates in detail the several pivot and connecting pins hereinafter referred to.

In the accompanying drawings, A indicates the engine-body, B the forward driving-springs, and C the engine-saddle, which, except as hereinafter specified, are of the ordinary construction.

D indicates a longitudinal centrally-disposed equalizing-beam, pivoted near its center on the lugs *c c* of the engine-saddle C, as most clearly shown in Fig. 1. The front end of this beam has a vertical aperture *d*, through which passes a large pin E, having a head or

bearing portion at the lower end, which also passes through an apertured ear *d'* on the cradle of the engine-truck, it being held secured by a pin F, whereby it is made rigid with the cradle of the engine-truck and held from swinging itself at such end, but capable of adjusting the cradle when moved for such purpose. The opposite end of the beam D is provided with a transverse aperture *d''*, which end is fitted between the apertured ears *G' G'* of a transverse equalizing-bar or inverted yoke-frame G, and is pivotally connected thereto by the cross-pin *g*. Such connection, while allowing for an up-and-down motion, holds the beam D from side play. The upper portion of the frame G terminates in horizontal ears *g'*, which are apertured, as at *g''*, through which pass hangers H H, the heads of which pass through elongated openings *b b* in the forward driving-springs, such heads having apertures *h'*, through which pass the gibs or keys *h*, the hangers being held secured by the nuts I I, as shown.

From the foregoing, taken in connection with the accompanying drawings, it is thought the complete structure and operation of my invention will be readily apparent. In the practical application, should the engine, when running, cause the flange on the right forward driving-wheel to cut away, the nuts I I on the right-side end of the bar G would be screwed up to raise such side until the ears *G' G'* and the back end of the longitudinal bar are central with the engine, the same operation being performed on the opposite side of the bar G should the flange on the left side of the wheel be cut.

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

1. The combination with the engine truck cradle, the engine saddle, and the front drive springs, of a longitudinal bar pivoted about the center of its length to the engine saddle and having its front end secured to the truck cradle, a transverse bar having apertures in its ends and a projection on its lower surface to which the rear end of the longitudinal bar is pivoted, and threaded hangers secured to

the springs passing down through the apertures of the said transverse bar and provided with nuts thereon, substantially as described.

2. The combination with the engine truck
5 cradle, the engine saddle, and the front drive springs, of a longitudinal bar pivoted at about its middle to the engine saddle and provided at its front end with a vertical aperture and at its rear end with a transverse aperture, a
10 bolt securing the front end of the said bar to the truck cradle, a transverse bar having vertical apertures in its ends and provided with

spaced lugs on its under side at the middle and between which the rear end of the longitudinal bar is pivoted, hangers secured to the
15 springs and having their ends threaded and projecting through the openings of the transverse bar, and nuts on the said hangers, substantially as described.

JOHN E. HUGHES.

Witnesses:

O. K. WHEELER,
ALEX LAZARUS.