

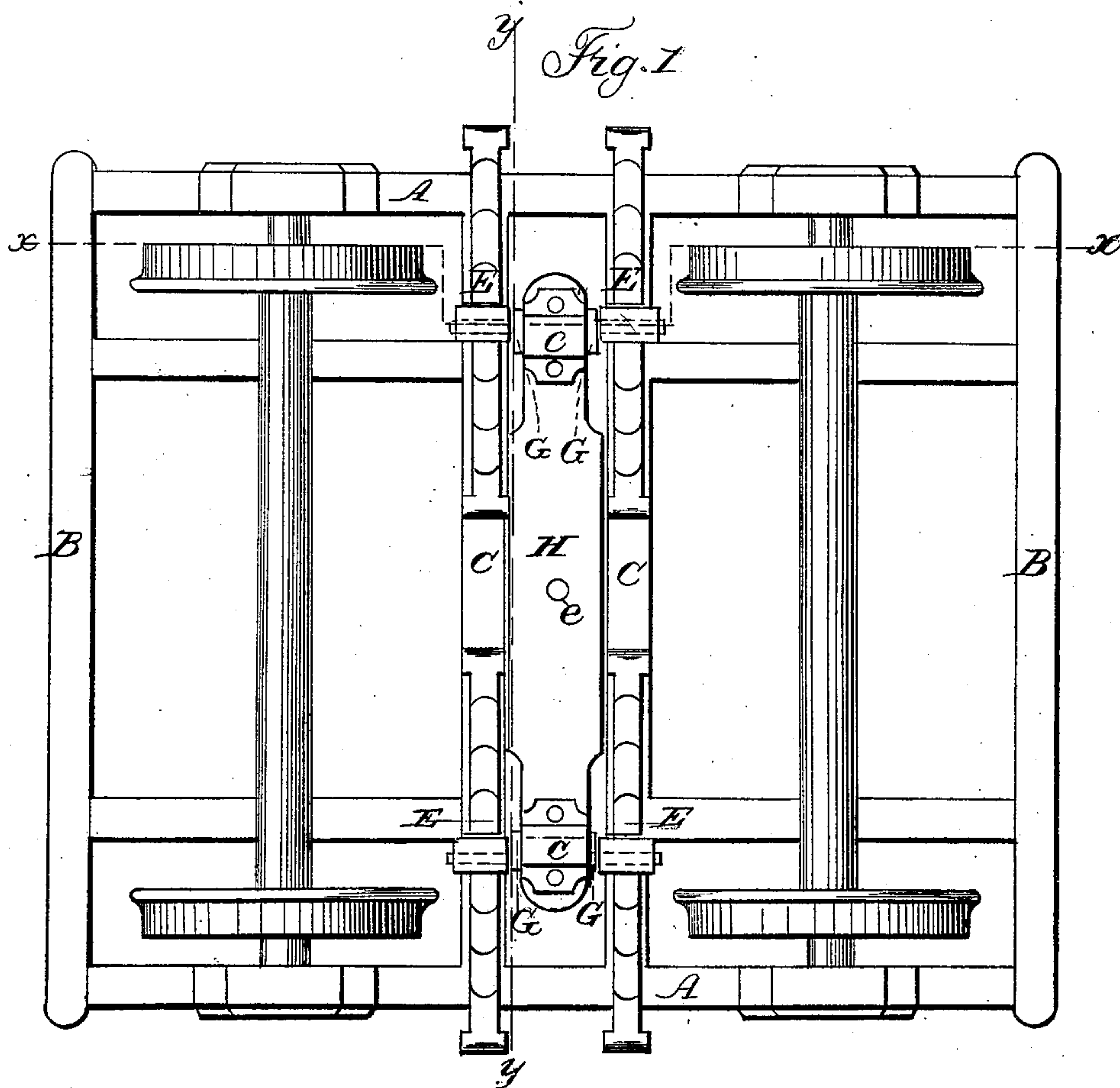
M. LaR. HARRISON.

2 Sheets—Sheet 1.

Car Truck.

No. { 2,735. }
 { 33,739. }

Patented Nov. 19, 1861.



Witnesses:

J. W. Coombs
J. W. Reed

Inventor:

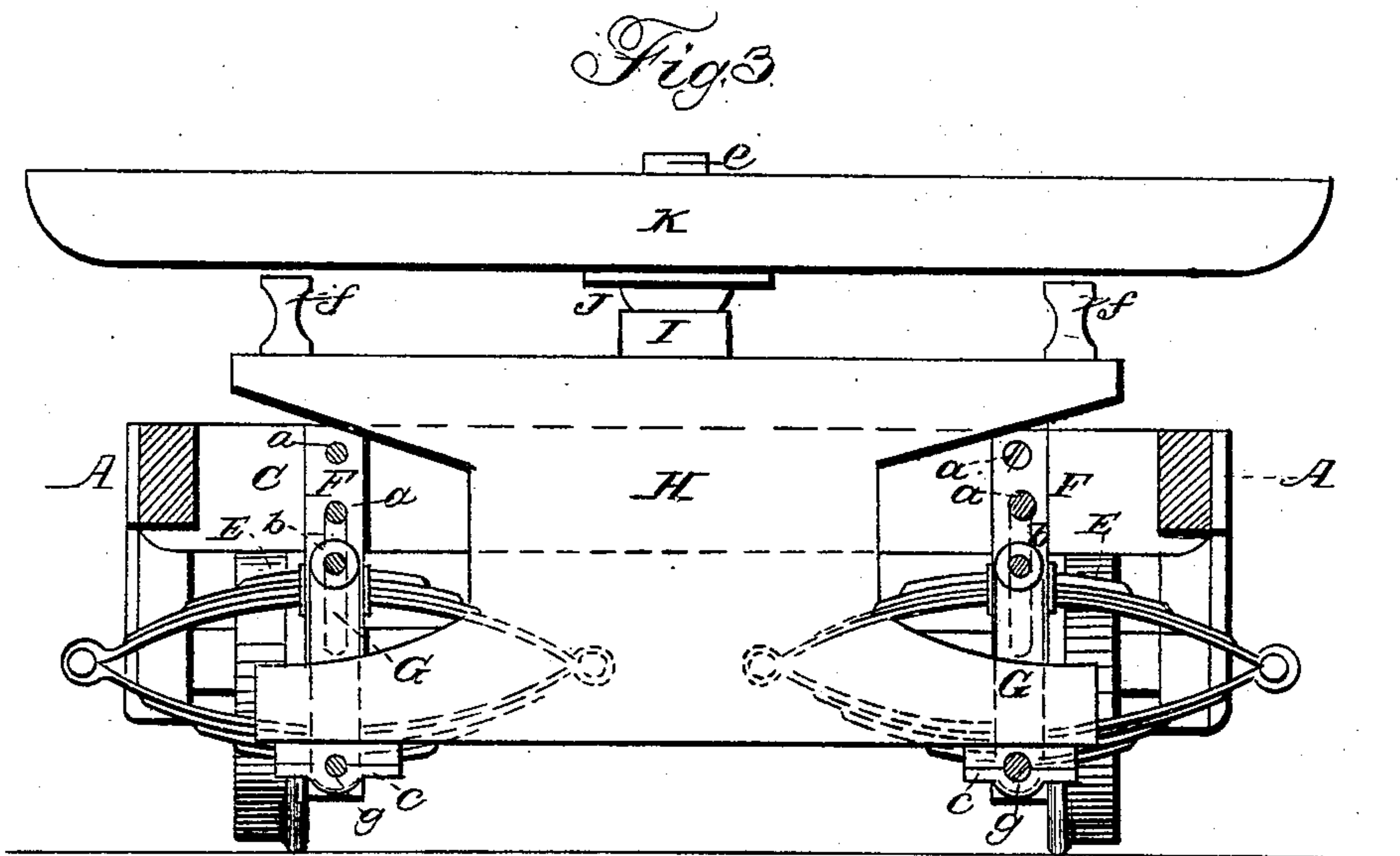
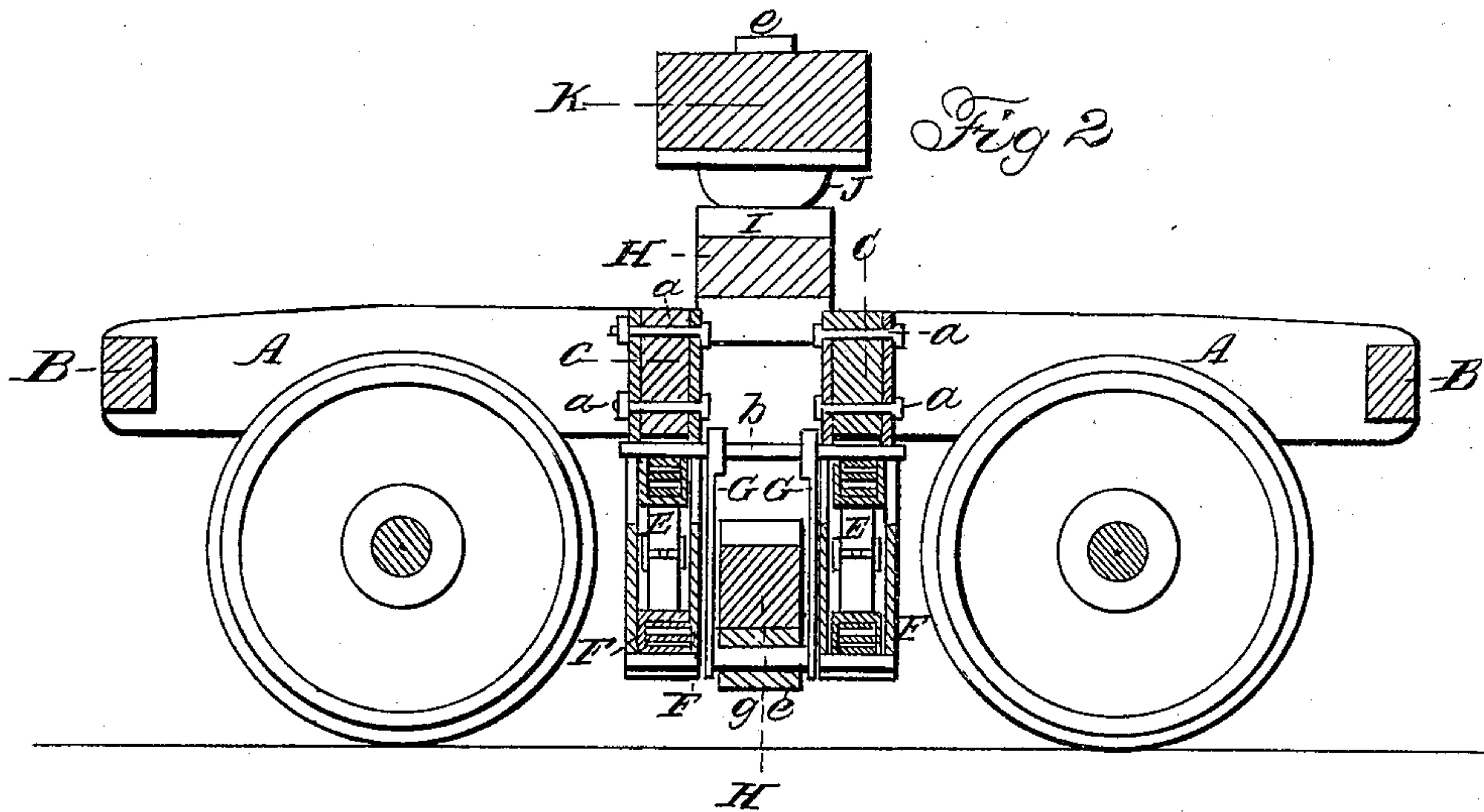
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UNITED STATES PATENT OFFICE.

M. LA RUE HARRISON, OF BURLINGTON, IOWA.

IMPROVED MODE OF APPLYING BOLSTERS IN RAILROAD-CAR TRUCKS.

Specification forming part of Letters Patent No. 33,739, dated November 19, 1861.

To all whom it may concern:

Be it known that I, M. LA RUE HARRISON, of Burlington, in the county of Des Moines and State of Iowa, have invented a new and Improved Mode of Applying Bolsters in Railroad-Car Trucks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an inverted plan of a railroad-car truck with my invention applied; Fig. 2, a vertical section of the truck and one of the car-transoms in the line *x x* of Fig. 1, and Fig. 3 a vertical section of the truck in the line *y y* of Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

A A are the side pieces, B B the end pieces, C C the cross-girders, and D D the braces, of the truck-frame.

E E are the springs, which may be of any form or material, arranged below the cross-girders C C, where they are supported in stirrups F F, which are rigidly secured to the said girders by bolts *a a*.

G G are two pendulous stirrups supporting opposite ends of the bolster H, each suspended from the two springs on its side of the truck by a long bolt *b*, which extends across and rests in bearings provided upon the tops of the two springs, the stirrup hanging between the springs in such manner as to be capable of swinging like a pendulum in a direction transverse to the car-truck. The bolster is arranged between the side straps of the said stirrups G G, and is furnished at its bottom with two boxes *c c* to receive journals *g* at the bottoms of the said stirrups. The bolts *b b* pass through slots *d d*, which are provided in the rigid spring-stirrups F F to permit their moving up and down with the compression and dilatation of the springs; but these slots are wide enough to confine the movement of the said bolts to lines perpendicular with the truck.

I is the center plate on the top of the bolster, matched by a corresponding plate J on the bottom of the transom K of the car-body, through which the king-bolt *e* passes.

f f are side plates secured on top of the bolster near the ends thereof to constitute bearings for the transom K.

In the old arrangement of the bolster it is

supported on the top of the springs in such manner as to have the motion of an inverted pendulum in its lateral oscillations, and consequently the car at best is very unsteady; and the only way to provide for any lateral oscillation of the car, and at the same time render it safe, has been so to construct the portion of the bolster between the wheel-beams or side pieces A A of the truck-frame that its oscillation will be limited by the said beams, against which it is consequently constantly striking, much to the damage of the rolling-stock and annoyance of the passengers. By my mode of supporting the bolster in swinging stirrups at a distance below the bearings on the tops of the springs the full effect of the elasticity of the springs is obtained, but the car is more steady. The motion being that of a pendulum, the tendency of the car to leave its central position is to some extent counteracted by gravitation, the force of which becomes greater the farther it moves from that position, so that there is no necessity of confining the bolster between the wheel-beams of the truck. The bolster may be applied in this way in the same place from which one applied in the ordinary way has been removed without any alteration of the truck and at small expense.

Instead of four stirrups F F with one spring in each, as represented, two of such stirrups with two springs in each may be used. The springs may be placed between the cross-girders C C instead of under them, as represented.

My invention is applicable to six-wheeled as well as to four-wheeled trucks. In six-wheeled trucks the cross-girders C C should be set farther apart, and the bolster should be composed of two lower or bed pieces set at some distance apart, and its top piece be supported on the bed-pieces by cross-ties.

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

The employment of a swinging bolster H, made in one piece, in combination with the pendulous stirrups G G, springs E E, slotted stirrups F F, boxes *c c*, and bolts *b b g g*, all as herein shown and described, for the purpose set forth.

M. LA RUE HARRISON.

Witnesses:

AMOS T. HALL,
FRED L. FAKE.