

(No Model.)

2 Sheets—Sheet 1.

G. M. & J. A. BRILL.

MOTOR CAR.

No. 373,639.

Patented Nov. 22, 1887.

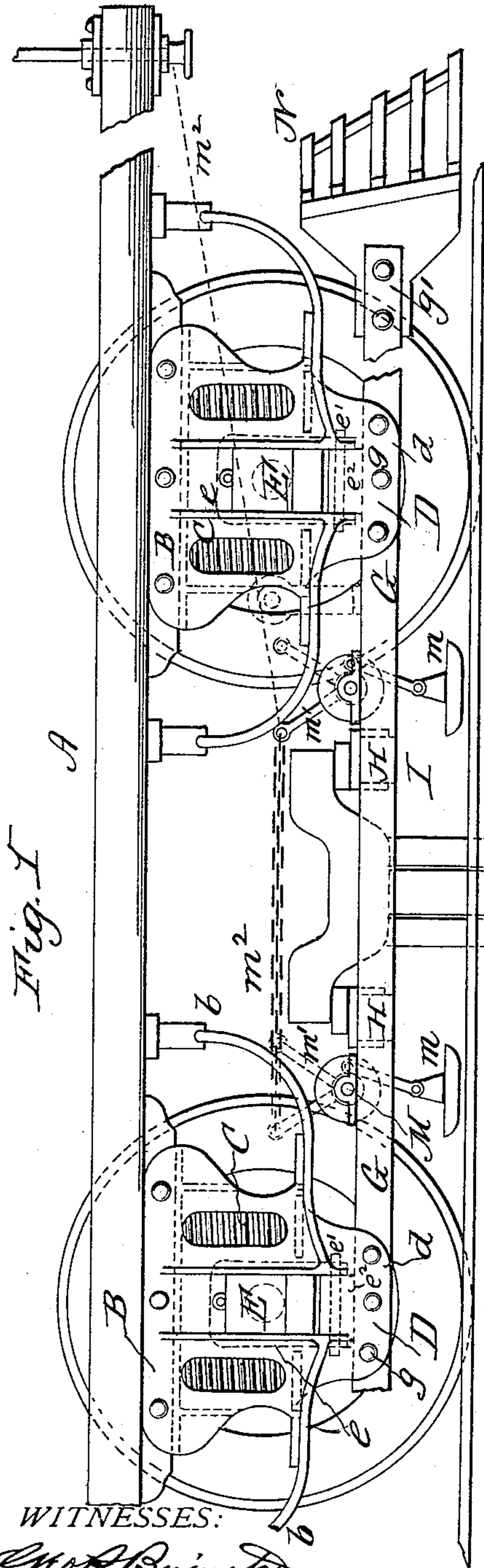


Fig. 1

WITNESSES:

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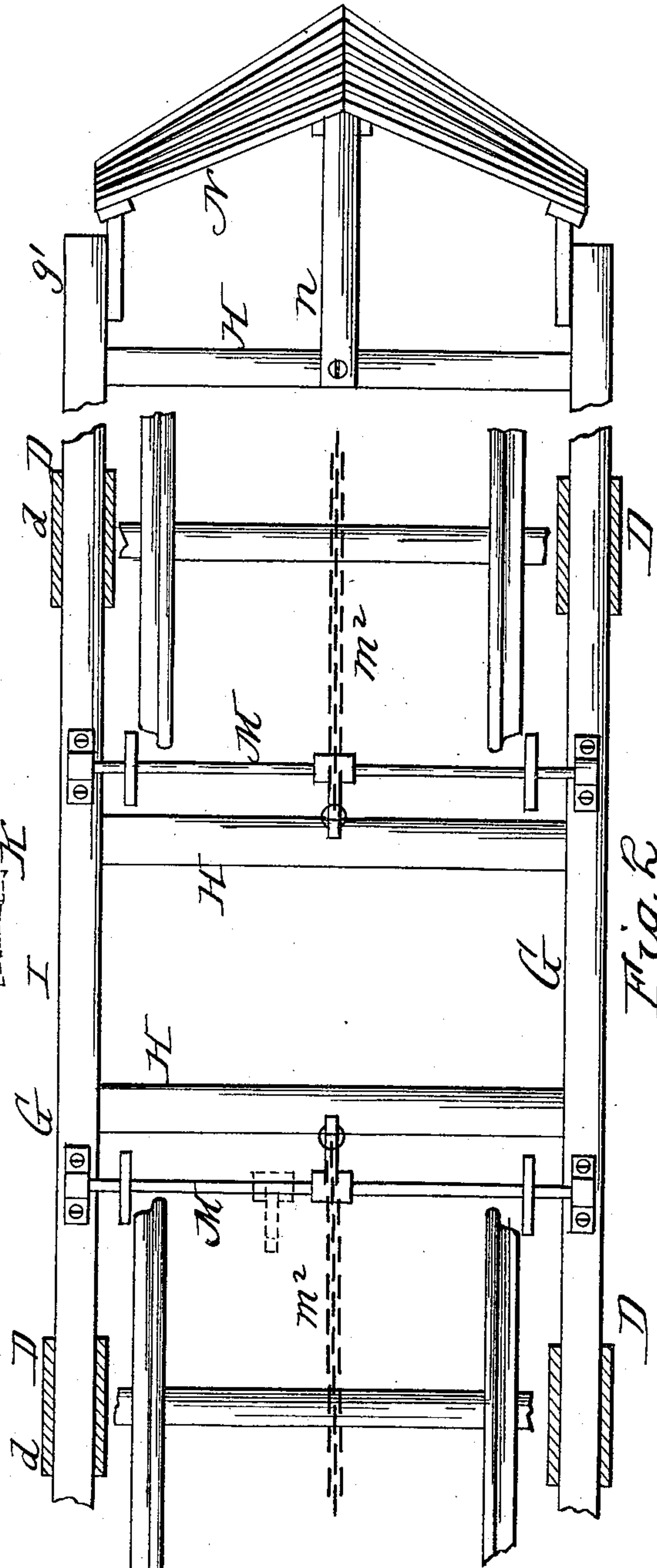


Fig. 2

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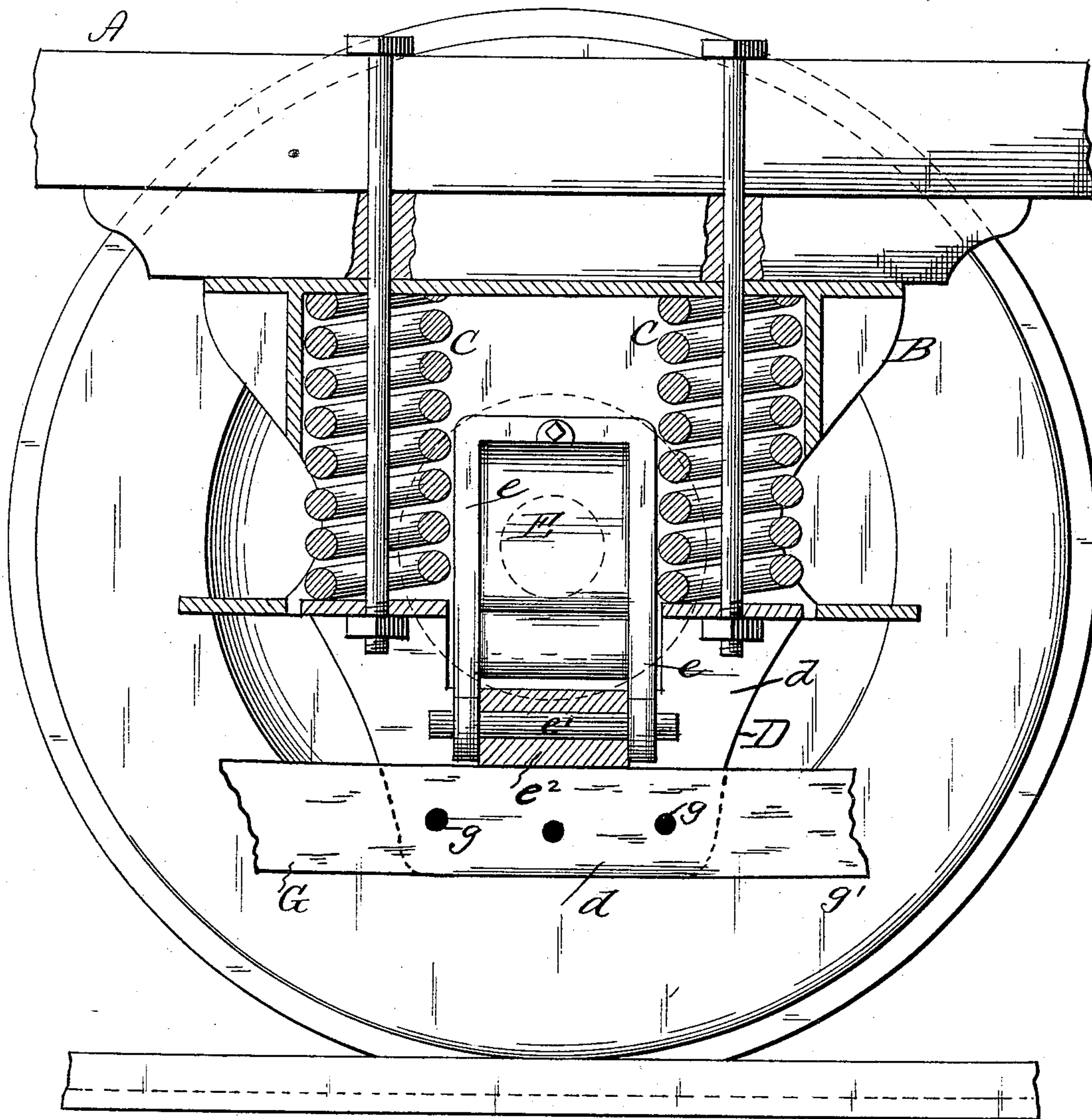


Fig. 3

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UNITED STATES PATENT OFFICE.

GEORGE M. BRILL AND JOHN A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

MOTOR-CAR.

SPECIFICATION forming part of Letters Patent No. 373,639, dated November 22, 1887.

Application filed April 11, 1887. Serial No. 234,422. (No model.)

To all whom it may concern:

Be it known that we, GEORGE M. BRILL and JOHN A. BRILL, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Cable and other Motor-Cars, of which the following is a specification.

Our invention has relation, generally, to railway-cars having axle-box pedestals affixed to the longitudinal sills or bolsters of the car or truck frame, loose axle-boxes in said pedestals, saddles for the lower part of the pedestals, which saddles are loosely supported upon the axle-boxes, and springs between the saddles and pedestals, and particularly to cable-motor railway-cars similarly equipped and having a supporting-frame for the gripping or engaging device for the traveling cable. Heretofore this frame has usually been attached either directly to the car-body or truck-frame, or to a frame journaled upon the axles or secured to the axle-boxes. In the one case the grip and the cable, when gripped, are directly subject to the vertical vibrations of the car, and in the other they are likewise subject not only to vertical vibrations of the car, but also to the lateral thrust or movement of the axles. In either case the subjection of the grip and cable to the influences described is objectionable, for reasons well known to those operating the described form of railways.

Our invention has for its object to avoid these objections, and to accomplish which we support the grip upon bars or a frame so located that it is not subjected to either the vertical or other vibrations of the car-body or truck-frame or to the lateral thrust of the axles, and the construction which we employ to attain this result admits of the use of track-rail brake-shoes or mechanism whereby both the weight of the car and wheels are utilized for braking purposes, and likewise of the use of life-guards or fenders which are not subject to the vibrations of the car nor to the end-thrust of the axles, and this constitutes a further object of our improvements.

Our invention accordingly consists of a frame secured to the loosely-supported saddles of the axle-boxes of track-rail brake-shoes and of life guards or fenders mounted upon said frame, and, further, of the combination, construction,

and arrangement of parts, as hereinafter described and claimed.

In the drawings, Figure 1 represents a side elevation of part of a cable-railway car embodying our improvements; Fig. 2, a plan of grip-frame, running-gear, track-rail brakes, and life-guards or fenders; and Fig. 3, a sectional view of axle-box pedestals, showing the saddle therefor and springs for the car-body.

A indicates a portion of a railway-car or truck-frame, to the longitudinal sills or bolsters of which are affixed, in the usual or other suitable manner, the axle-box pedestals B, preferably having braces b. In these pedestals are loosely-supported axle-boxes E.

D represents the saddles at the lower part of the pedestals, which saddles are loosely supported upon the axle-boxes, preferably by means of a link-connection, as shown, to admit of end-thrust of the boxes and axles independently of the saddles, all of which parts are preferably constructed and arranged for operation in the usual or other suitable manner. The lower sides, d, of the saddles in our case are made larger or depend downwardly to a greater extent than heretofore for the reception of longitudinal bars G, of any suitable shape in cross-section. These bars G are firmly fastened or bolted to the saddle, as indicated at g, and are connected by cross-bars H, of channel or other form in cross-section, to provide a stiff and rigid frame, I, for the grip K, which frame connects or is attached to all the saddles of the axle-boxes of the car or truck frame, and as these saddles are not subject to either the vertical vibrations of the car or truck frame or to the end-thrust of the axles it follows that the grip and any other appurtenances affixed to frame I are likewise relieved from said influences and the objections incident thereto.

Mounted at suitable places upon frame I are cross-shafts M, which have eccentrically connected therewith in any desired manner brake-shoes m, for impingement with the track-rails, and also have operating-levers m', having a chain or other connection with each other and with the brake-rods m² at the end of the car in such manner that either all the brake-shoes for a car may be simultaneously operated by one brake-rod, as shown in Fig. 1, or different sets of brake-shoes be separately operated by

different brake-rods, as indicated in Fig. 2. These brake-shoes or their eccentric-connection with shafts M may be connected together by longitudinal bars and have guides or ways secured to the frame I; or these parts may be otherwise provided for, as desired.

By operating the brake rods the shoes *m* are depressed to and bear upon the track-rails, lifting both the wheels and car-body and utilizing their combined weight for braking purposes.

The lifting of both the wheels and car-body is accomplished as follows: The lower ends of the link-connections *e*, it will be noted, are journaled on pintles *e'*, mounted in transverse bars *e''*, formed integral with the sides *d* of saddle D and located slightly below the axle-boxes in the usual manner. Below these bars *e''*, and preferably abutting against the under side of the same, are the longitudinal bars G of frame I, secured to saddles D between their sides *d*, as more plainly shown in Fig. 3. Consequently, when the brake-shoes *m* are applied to the track-rails, the bars G of frame I and the saddles D are raised first, causing the transverse bars *e''* of the saddles to abut against the under side of the axle-boxes E, which in turn with the axles and wheels are raised, and as they are elevated the weight of the car compresses the springs C, or they settle, and the car-body in turn is raised by the brake-shoes, if the extent of movement of the latter is sufficient.

If desired, the ends of the bars G of frame I may be continued past the axle-box pedestals, as indicated at *g'*, to form supports for a fender or life-guard, N, constructed as desired, and having a central brace-rod or connection, *n*, with one of the cross-bars H of frame I. These fenders or life-guards, so supported, may be brought as close to the surface of the roadway as deemed advisable, as they are not subject to the vibrations of the car.

In case the street or other car is not propelled by traveling cables the brake-shoes and life-guards, either or both, are alone connected to or supported by the frame I—that is to say, the frame I, secured to the axle-box saddles, may be applied to any form of street, steam-railway, or other propelled car for supporting devices or appliances thereupon, so as to free them from the influences of the vibrations of the car and the end-thrust of the axles.

What we claim is—

1. A car or truck frame having affixed to its longitudinal sills or bolsters axle-box pedes-

tals, axle-boxes loosely supported in said pedestals, saddles loosely supported upon the axle-boxes, springs between the saddles and pedestals, and a frame, I, secured to said saddles, substantially as set forth.

2. In a cable motor car or truck frame having affixed to its longitudinal sills or bolsters axle-box pedestals, axle-boxes loosely supported in said pedestals, saddles loosely supported upon the axle-boxes, springs between the saddles and pedestals, a frame, I, secured to the saddles, and a gripping device supported upon said frame, substantially as set forth.

3. In a cable motor car or truck frame, the combination of axle-box pedestals, saddles therefor, axle-boxes loosely connected to said saddles, a frame supported by said saddles and a grip device, and track-rail brake-shoes mounted upon said frame, substantially as set forth.

4. The combination, with a railway car or truck and its running-gear, of track-rail brake-shoes and actuating devices for braking the shoes upon the rails to simultaneously raise the car or truck and its running-gear for utilizing their combined weight for braking, substantially as set forth.

5. In a railway-car, the frame I, secured to the saddles of the axle-box pedestals, and track-rail brake-shoes mounted upon said frame, substantially as set forth.

6. In a railway-car, the frame I, secured to the saddles of the axle-box pedestals, and a fender or life-guard secured to said frame, substantially as set forth.

7. In a cable-railway car, the combination of a frame, I, secured to the saddles of the axle-boxes and a grip, track-rail brake-shoes, and a life-guard secured to said frame, substantially as set forth.

8. In a railway-car, the combination of frame I, secured to the loosely-supported saddles of the axle-box pedestals, brake-shoes supported upon said frame, and actuating devices for the brake-shoes.

9. A railway-car having axle-box pedestals provided with loosely-supported saddles, in combination with a frame, I, secured to said saddles, substantially as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE M. BRILL.
JNO. A. BRILL.

Witnesses:

R. HAWKINS,
R. S. REED.