

A. M. ALLEN.

2 Sheets—Sheet. 1.

Car Brake.

No. 91,404.

Patented June 15, 1869.

FIG. 1.

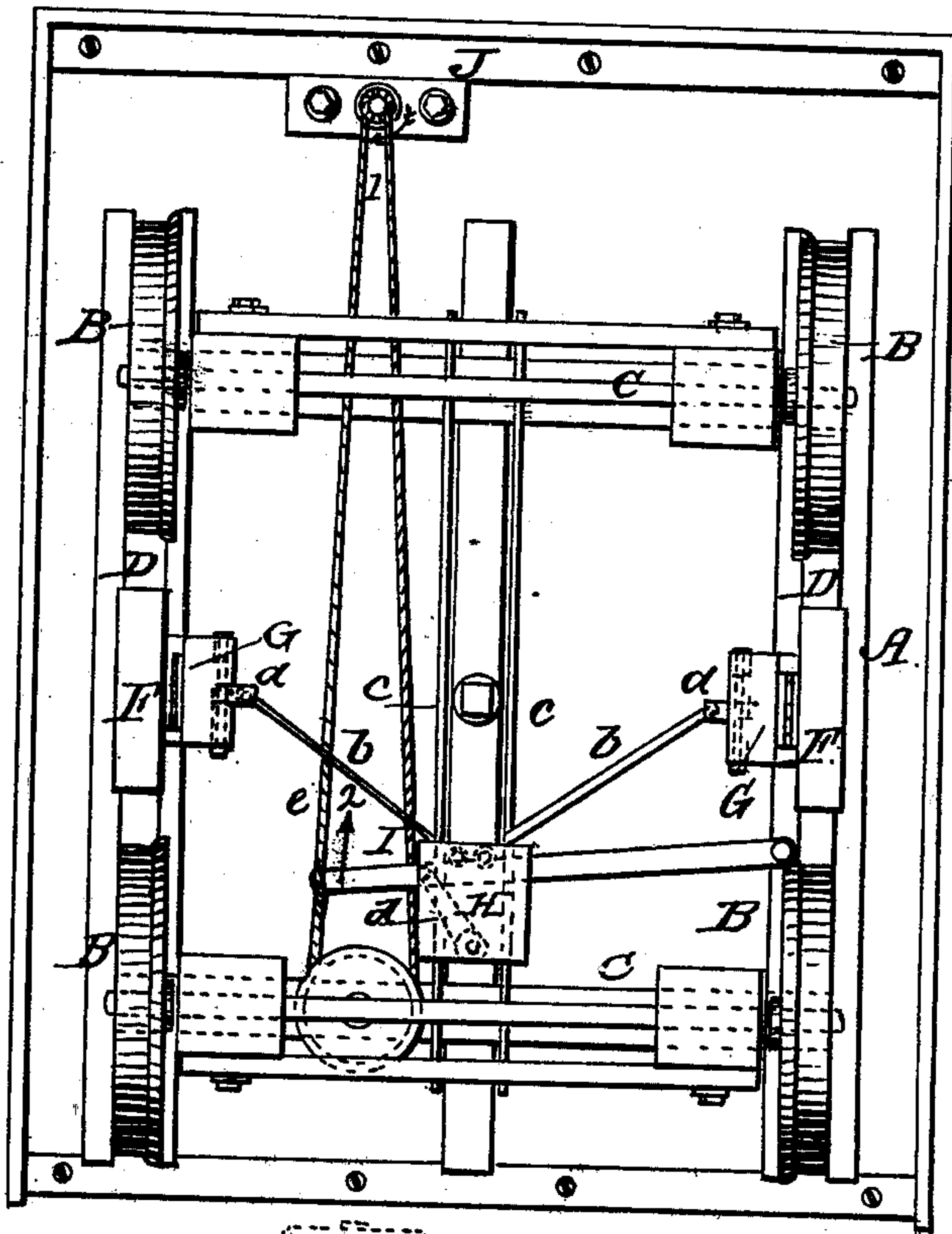
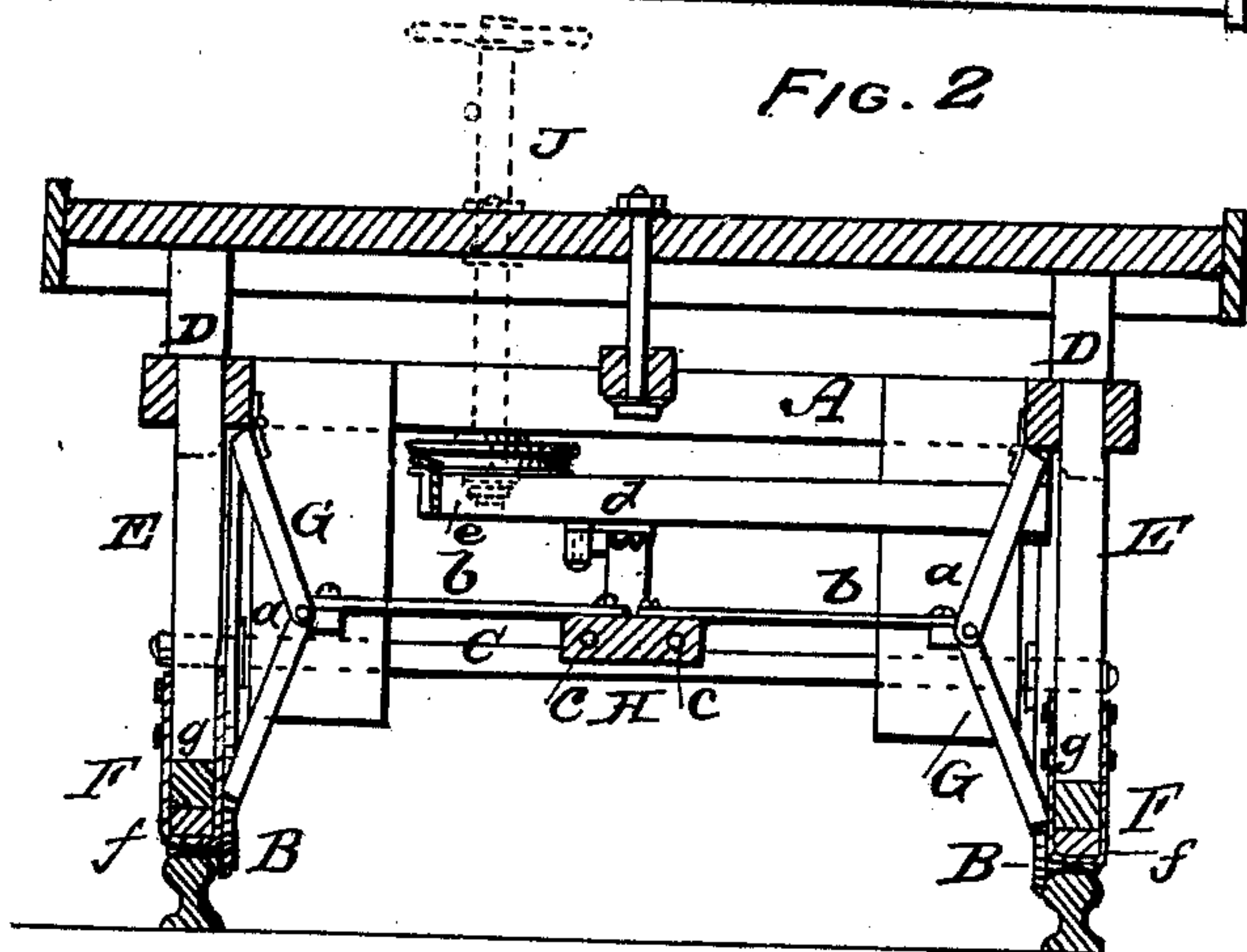


FIG. 2



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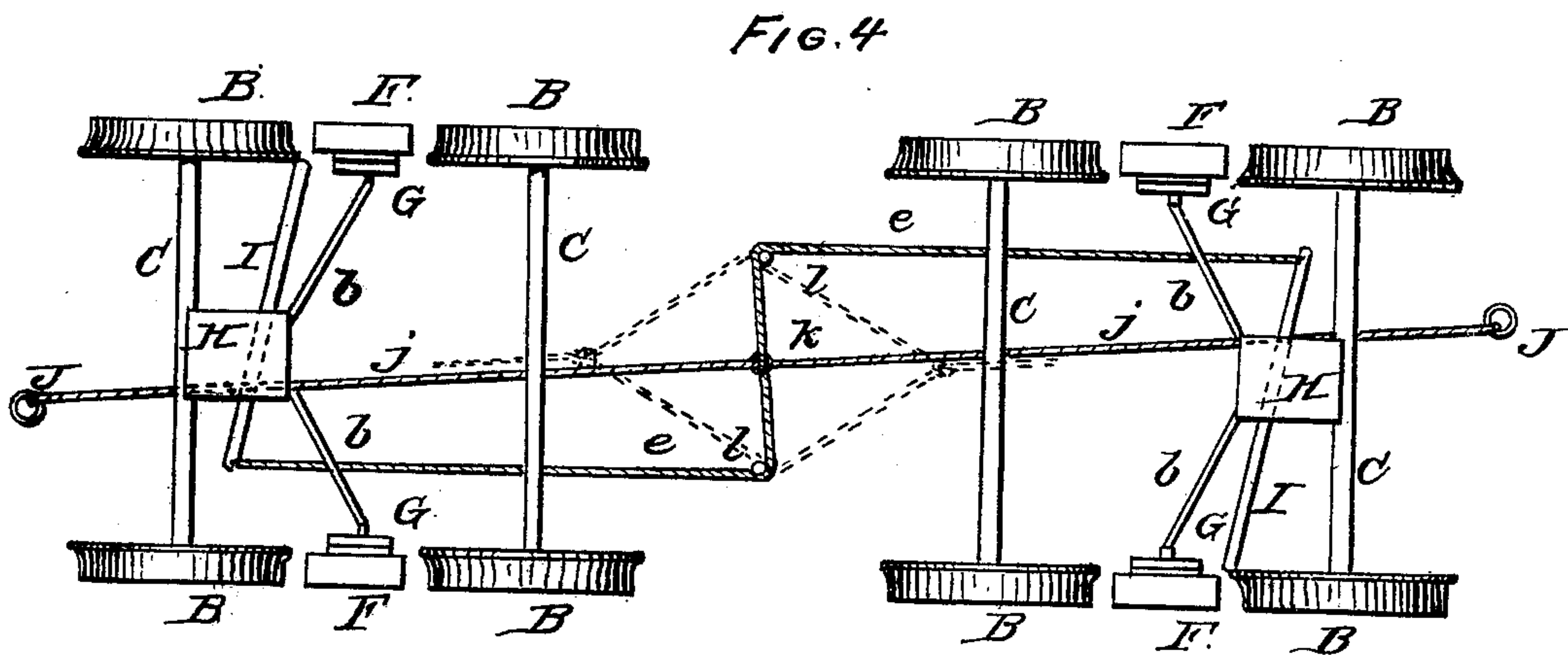
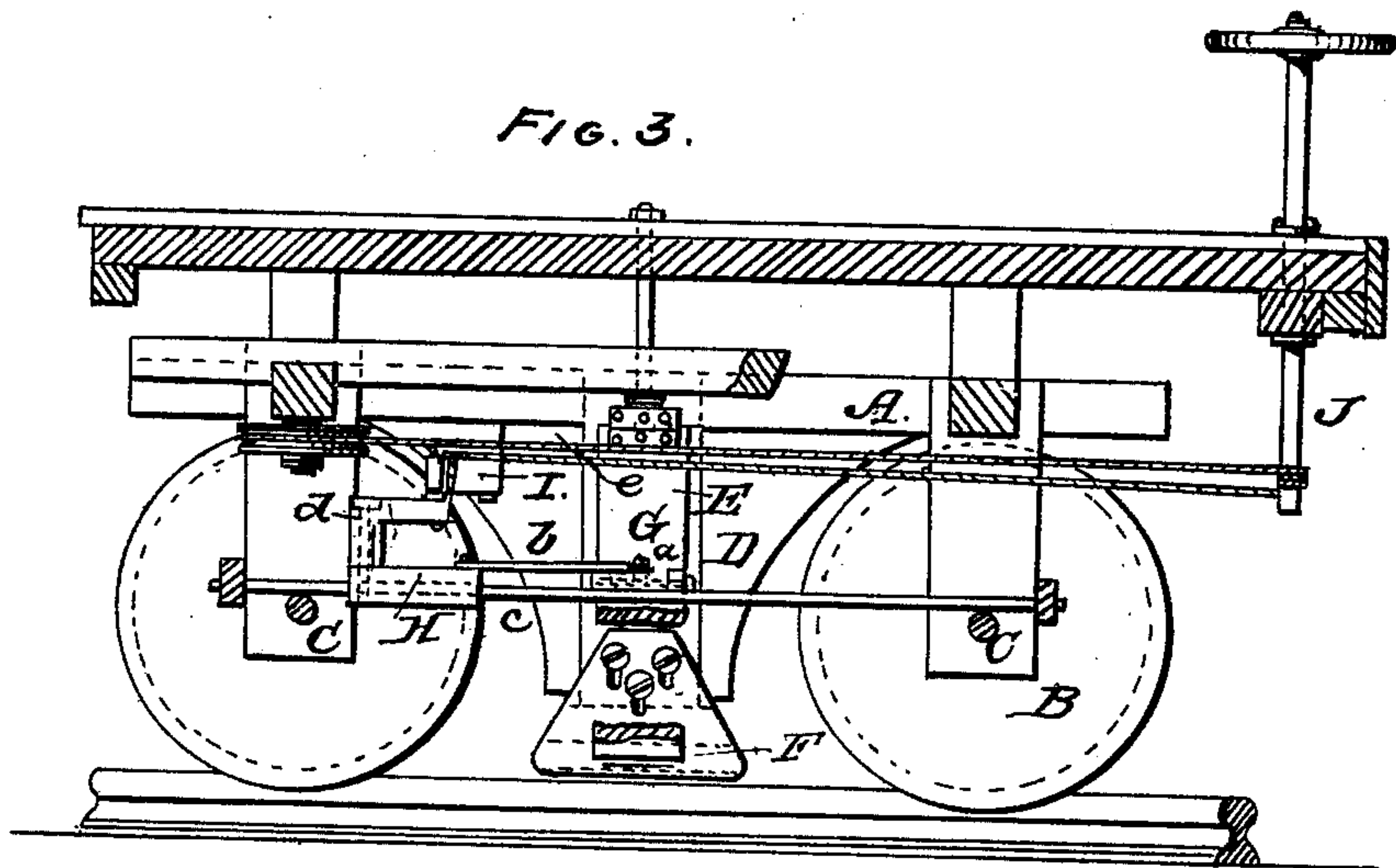
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WITNESSES.

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ARTHUR M. ALLEN, OF NEW YORK, N. Y.

Letters Patent No. 91,404, dated June 15, 1869.

IMPROVED RAILWAY-CAR BRAKE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ARTHUR M. ALLEN, of the city, county, and State of New York, have invented a new and useful Improvement in Car-Brakes; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents an inverted plan of this invention.

Figure 2 is a transverse section of the same.

Figure 3 is a longitudinal section thereof.

Figure 4 is a diagram illustrating the arrangement of my brake when it is to be operated from opposite ends of a car.

Similar letters indicate corresponding parts.

This invention relates to certain improvements in that class of car-brakes in which the brake-shoes are brought to bear upon the rails, instead of on the peripheries of the wheels.

My improvement consists in the arrangement of toggle-levers, acting on brake-shoes which slide up and down in suitable guides attached to the truck-frame, in combination with a lever, which connects with the windlass or windlasses, and which serves to impart motion to a slide that connects, by hinged arms, with the toggle-levers of the brake-shoes, in such a manner, that by turning the windlass in one direction, the toggle-levers are straightened out, and the brake-shoes are brought to bear, with a slow and powerful motion, upon the tops of the rails on which the car runs, and thereby the wheels are lifted clear off the track, and the motion of the car is checked, and by turning the windlass in the opposite direction, or by a weight and bell-crank acting on the lever, the brake-shoes are raised from the rails, and the motion of the car proceeds unchecked.

The brake-shoes are backed up with an elastic cushion, so that sudden jars or shocks are avoided.

In the drawing—

The letter A designates the frame of a car-truck, which forms the bearings for the axles C of two pairs of wheels B, and which connects with the platform of the car in the usual manner.

To the side timbers of the frame A are secured the hangers D, which form the guides for slides E, to the bottom ends of which are secured the brake-shoes F, so that by moving the slides E down in their guides, the shoes are brought to bear on the tops of the rails on which the truck stands, and by raising the slides, the shoes are caused to clear the rails.

The motion of the slides E is effected by means of toggle-levers G, which are hinged, at one end, to the truck-frame, and at the opposite end to the shoes, while their fulcrum a connect, by arms b, with a cross-

head, H, that is fitted on guide-rods c, secured to the truck-frame, as shown in figs. 1 and 3.

Said cross-head connects, by a link, d, with a lever, I, which is pivoted, at one end, to one of the side timbers of the truck-frame, while its opposite end connects, by a rope or chain, e, with the windlass J, secured in the end of the platform in the usual manner.

If the windlass is turned in the direction of arrow 1, marked near it in fig. 1, the lever I swings in the direction of arrow 2, and the toggle-levers G are straightened out, so that the brake-shoes F are caused to bear down upon the rails with a slow but powerful motion.

The truck is thereby gradually lifted off from the rails, its whole weight being supported by the brake-shoes, and the motion of the truck is quickly and effectually checked.

By turning the windlass in the opposite direction, or by bell-cranks and weights, acting on the levers I, the brake-shoes are lifted up again, and the truck is allowed to move on without obstruction.

The brake-shoes are constructed of blocks f, of wood or other suitable material, backed up by elastic cushions g, of India rubber or other suitable material, and said blocks and cushions are retained by slotted face-plates p, so that the working-faces of the shoes are permitted to adapt themselves to any unevenness occurring in the track, and sudden jars or shocks are avoided.

The corners of the shoes are rounded, so that the same will not interfere with the ends of the rails, or with crossings.

It will be readily understood, that by this arrangement the brake-shoes can be brought to bear upon the rails with the required force to lift the truck clear off the track, and by the peculiar combination of the toggle-levers G, arms b, cross-head H, and lever I, this object can be accomplished with comparatively little power applied to the windlass.

In fig. 4, I have illustrated the arrangement of my brake, whereby the brake-shoes at both ends of a car can be operated by turning the windlass at either one or the other end of the car.

In this case the windlass J connects, by ropes j, with a ring, k, which connects, by ropes e, with the levers I.

The ropes e run over pulleys l, secured to the truck-frame, and by turning either of the windlasses, both ropes e are strained simultaneously, and the shoes at both ends of the car are operated.

On releasing the windlass, the shoes are raised by bell-cranks and weights, or other suitable means.

My brake is also applicable to horse-cars, and it is obvious that it can readily be adapted to cars of any desired construction.

I do not wish to claim the arrangement of brake-

shoes to bear down upon the rail of a railroad-track; but

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

1. The toggle-levers, G, arms *b*, cross-head H, and lever I, in combination with the windlass J, and rising and falling brake-shoes F, constructed and operating substantially as shown and described.

2. The elastic cushions *g*, in combination with the blocks *f*, of rising and falling brake-shoes F, substantially as set forth.

ARTHUR M. ALLEN.

Witnesses:

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C. WAHLERS.