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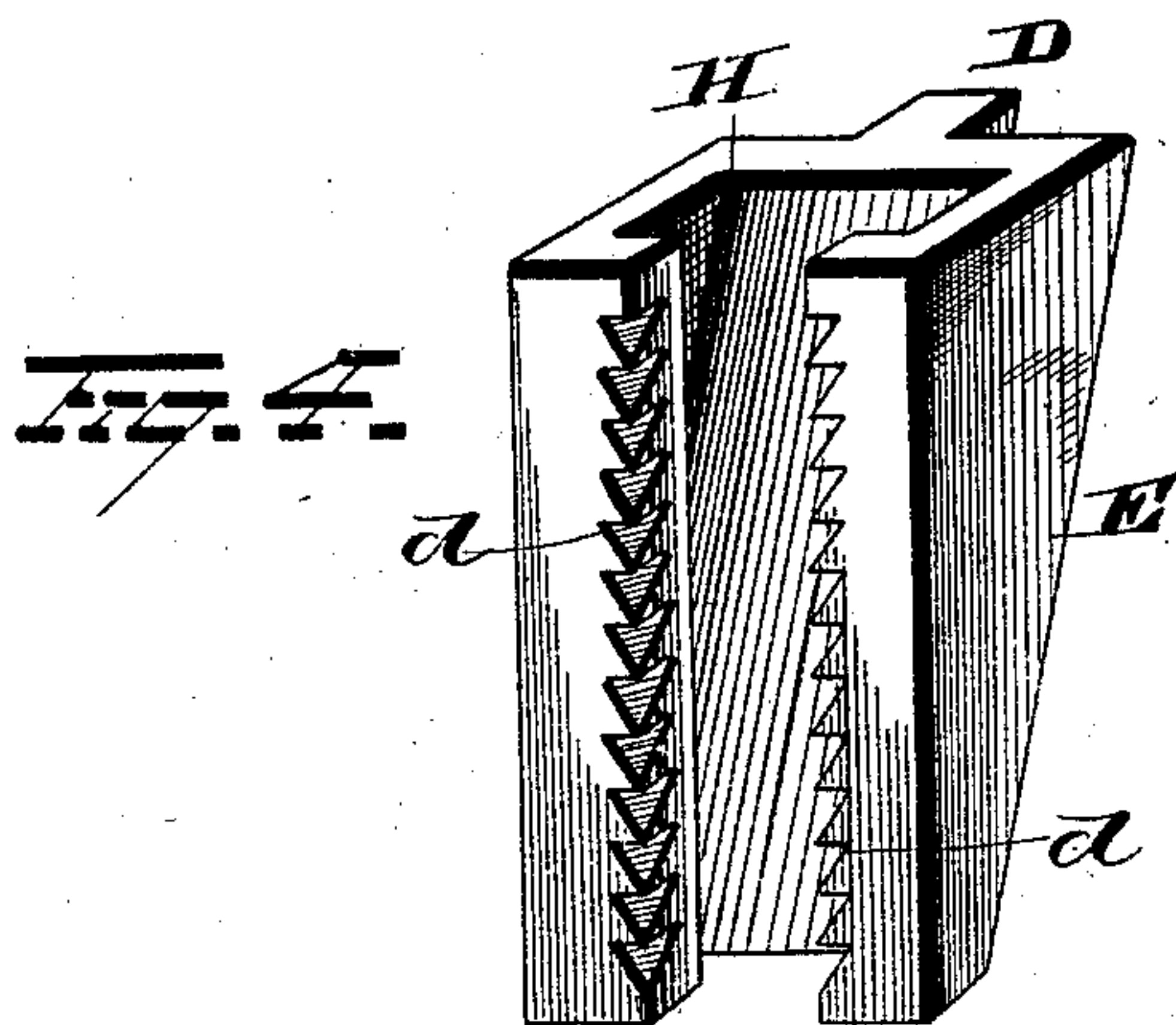
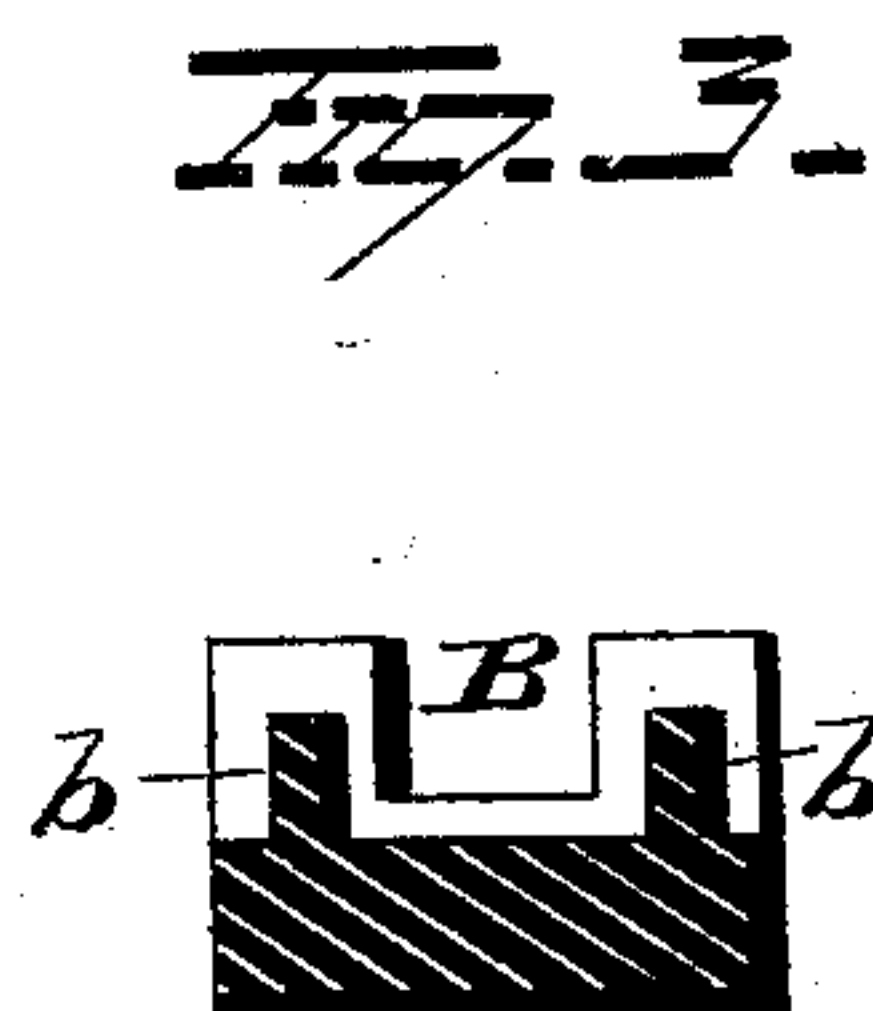
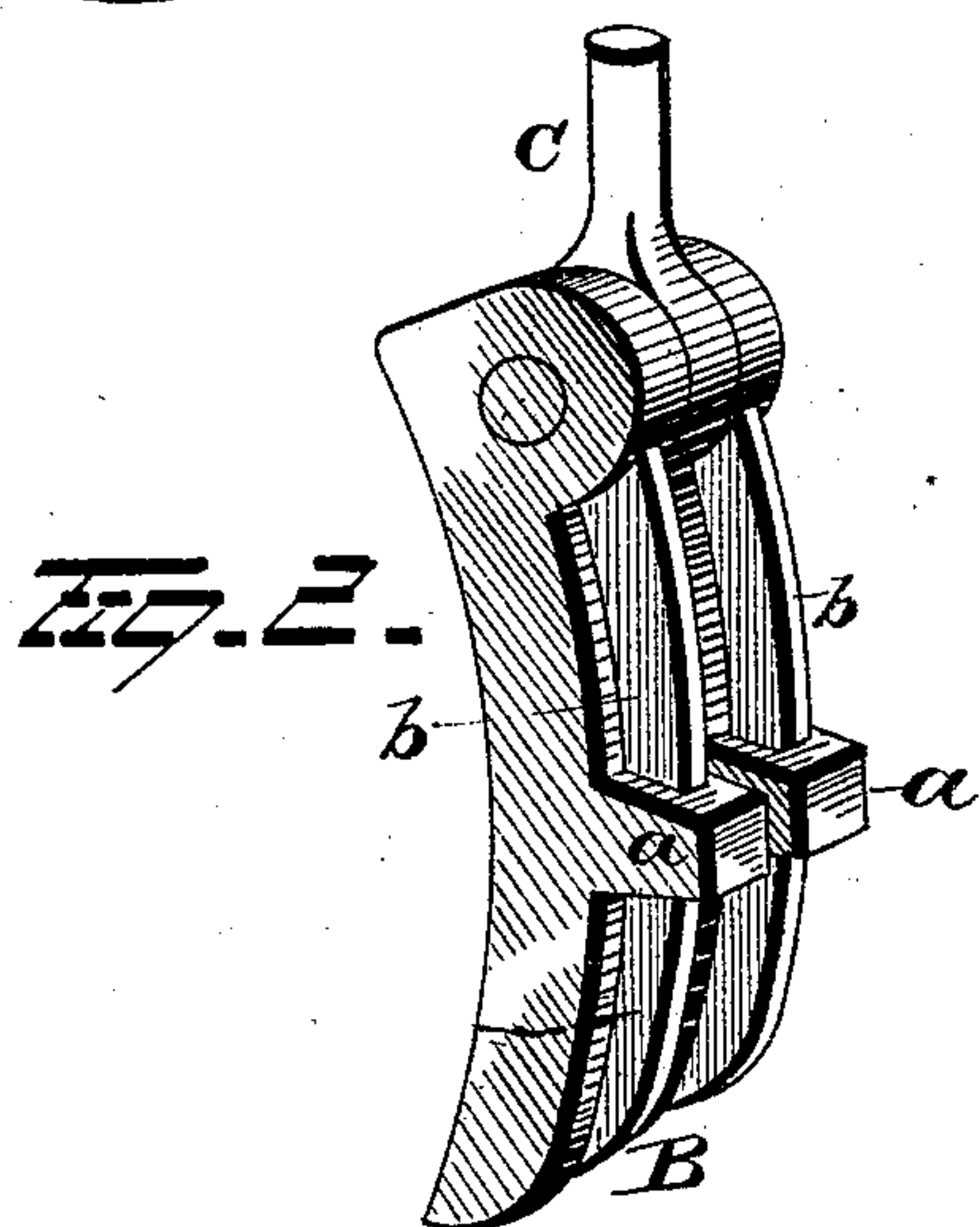
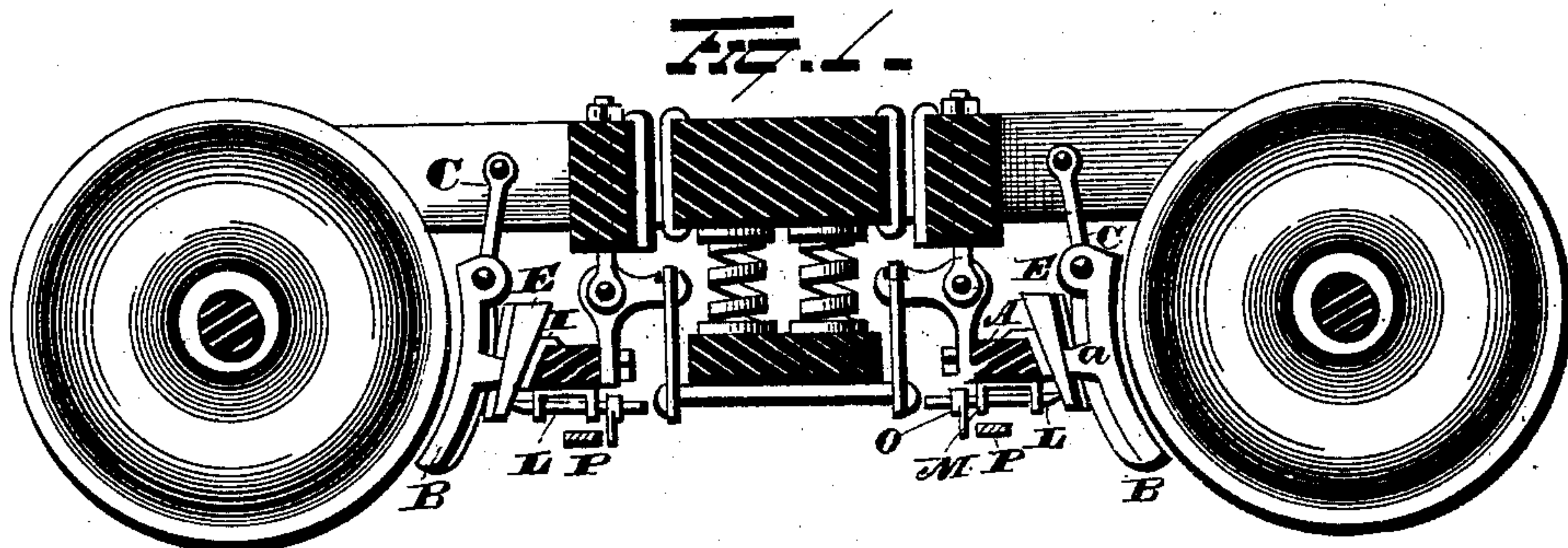
2 Sheets—Sheet 1.

J. F. MALLINCKRODT.

CAR BRAKE.

No. 273,566.

Patented Mar. 6, 1883.



WITNESSES
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George Cook.

INVENTOR
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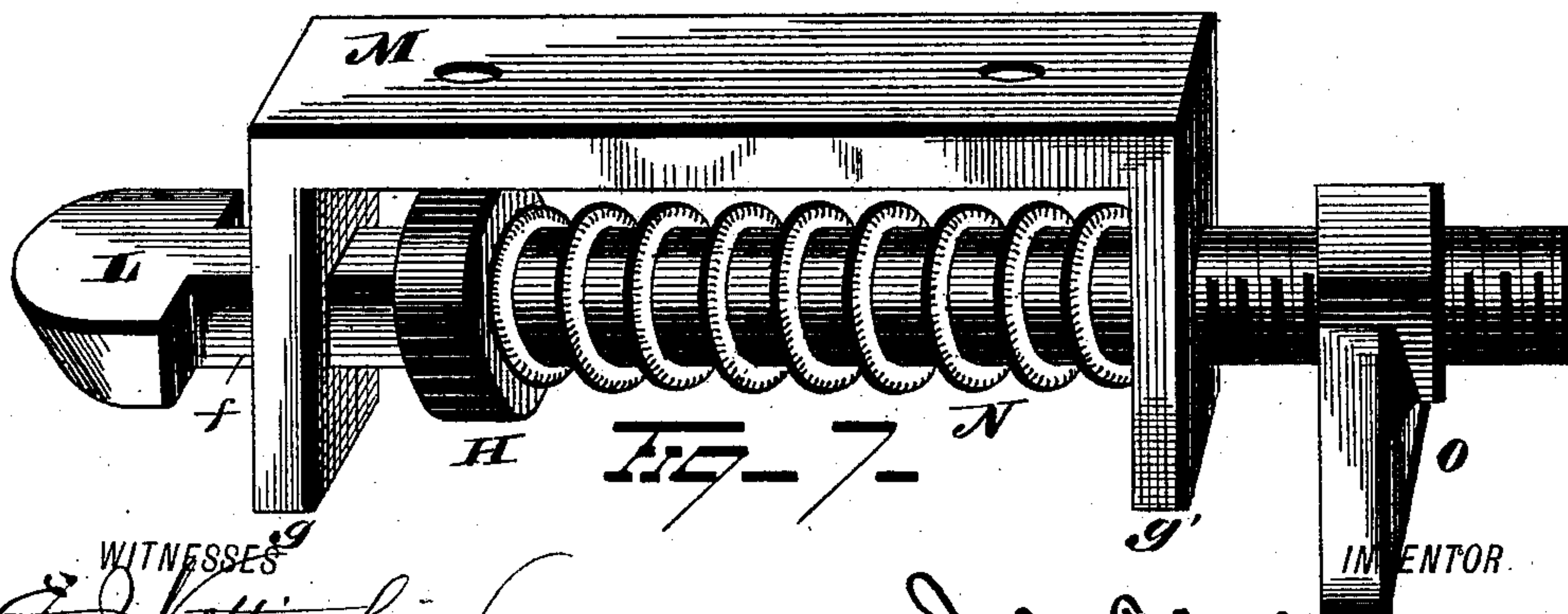
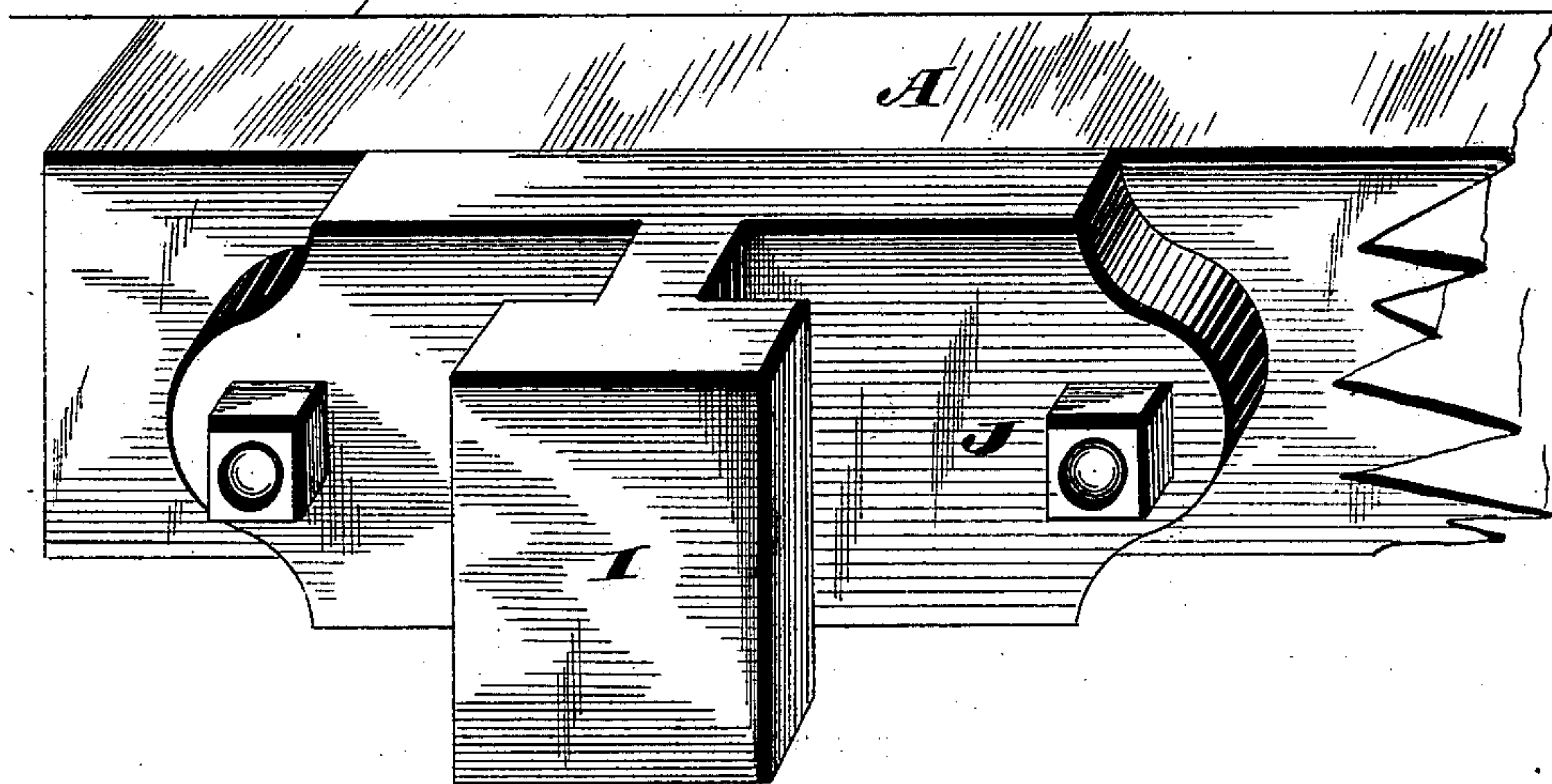
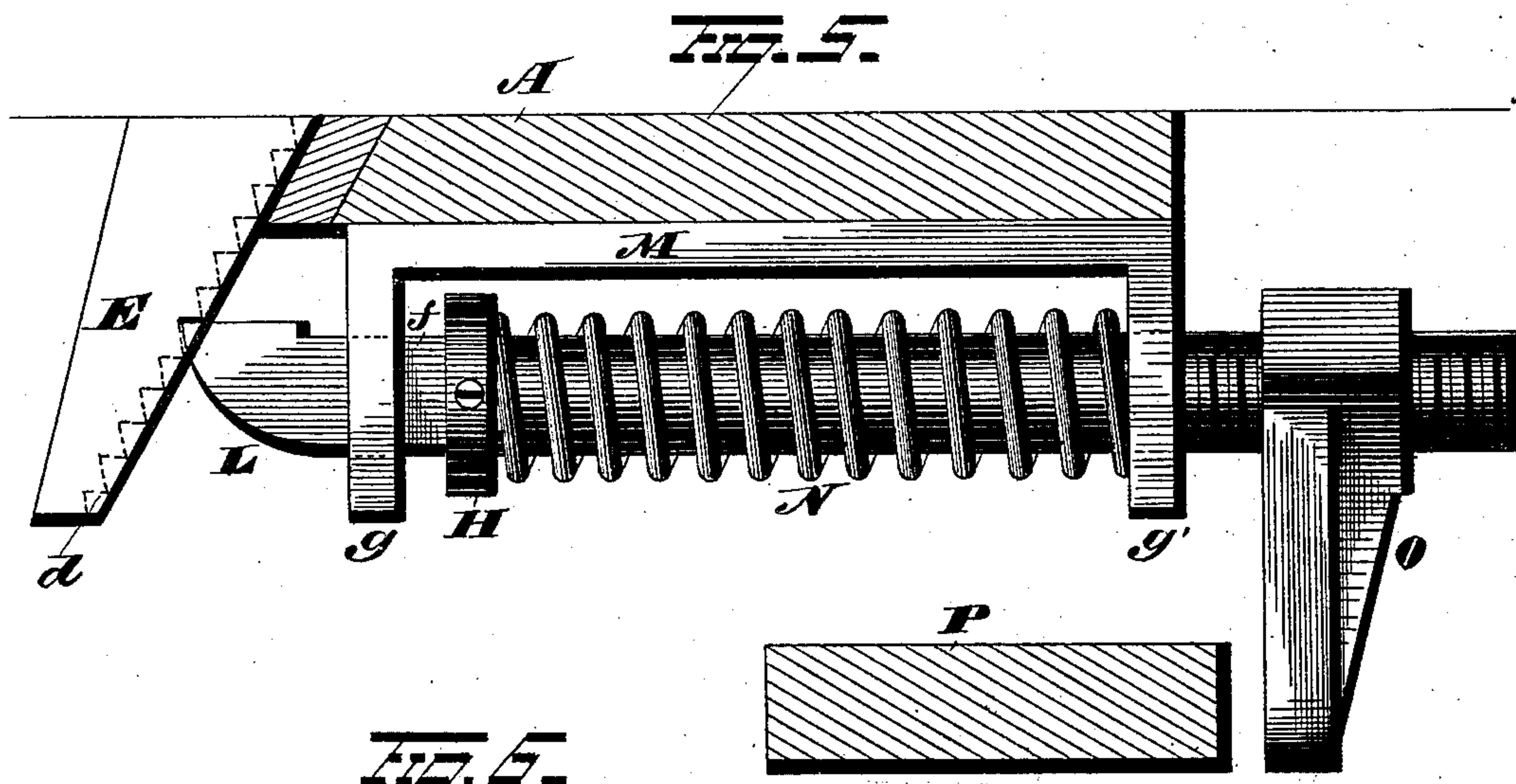
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UNITED STATES PATENT OFFICE.

JOHN F. MALLINCKRODT, OF ZALESKI, OHIO, ASSIGNOR TO THE MALLINCKRODT BRAKE COMPANY, OF EAST ST. LOUIS, ILLINOIS.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 273,566, dated March 6, 1883.

Application filed January 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. MALLINCKRODT, of Zaleski, in the county of Vinton and State of Ohio, have invented certain new and useful
5 Improvements in Railroad-Car Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

10 My invention relates to an improvement in railroad-car brakes, the object of the same being to provide means for automatically compensating for and taking up the wear on the brake shoes or wheels; and, with this end in
15 view, my invention consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a vertical sectional view of a truck
20 embodying my invention. Fig. 2 represents a perspective view of the brake-shoe; Fig. 3, a transverse sectional view of the same. Fig. 4 is a view of the compensating-wedge. Fig. 5 shows in elevation a view of the wedge, the
25 bolt, and brace. Fig. 6 is a perspective view of one end of the brake-beam and the T-iron for holding and guiding the wedge, and Fig. 7 is a perspective view of the wedge-bolt and its bearings.

30 In the drawings I have shown my improved compensating device in connection with an improved truck and brake-operating mechanism; but I do not limit the employment of the compensating device therein shown to any
35 particular construction of truck or brake-operating mechanism, as it is adapted to be employed on any kind of truck and perform its office in a satisfactory manner.

40 A represents brake-beams adapted to be moved by any desired means, and B are the metallic brake-shoes, suspended from the car-truck by the links C. Each brake-shoe is curved on its front face to conform to the contour of the wheel, and is provided on its rear face with
45 the rearwardly-projecting studs *a* and the strengthening-ribs *b*. The studs *a* on the rear face of the brake-shoes are separated for the introduction between them of the rib D of the compensating-wedge E. This wedge E is also
50 made of metal, and is provided with the open

T-shaped slot H, in which the T-iron I, secured to the beam A, rests. The base J of the iron I is secured in an inclined position to the beam, and when the parts above described are placed in position, as shown in Fig. 1, the wedge E
55 rests in an inclined position, with its large end upward. The tendency of this wedge is to slide downward between the plate J and the brake-shoe, and force the brake-shoe against the wheel; but this tendency is overcome by
60 the wedge-bolt L, the front end of which is sharpened or pointed, and adapted to engage the teeth *d*, formed on the rear face of the wedge E on both sides of the open slot H, and hold
65 the wedge up in position. This bolt L is supported in the metallic plate M, which latter is secured transversely across the brake-beam on the under side thereof, in line with the
70 wedge E. The bolt L is provided with squared or angular portion *f*, which latter passes through
75 and moves in the depending arm *g* of the plate M, for the purpose of preventing the bolt from turning. This bolt is also provided with the rigid collar H, against which one end of the
80 spiral spring N bears. This spring N encircles the bolt L, and the rear end thereof bears against the depending arm *g'* of the plate M. The rear end of the bolt L is screw-threaded, and is provided with the removable and ad-
85 justable tail-nut O, by means of which the bolt is withdrawn from the wedge by striking against the rigid brace P, the ends of which latter are rigidly secured to the opposite sides
90 of the truck-frame.

In ordinary brakes the brake-beams move
85 a certain distance to set the brakes, and as the wheels or the brake-shoes wear away the amount of movement is increased. In steam or air brakes this dead motion of the beam, occasioned by the wearing of the parts, causes
90 an enormous waste of air or steam employed to set or release the brakes; but with the aid of my improvement this dead motion of the beam, together with the waste of the steam or
95 air, is avoided without affecting the efficiency of the brake.

When the parts are applied to a car-truck, the tail-nut O is set or adjusted to engage the brace P simultaneously as the shoe B engages
100 the wheel. As the shoe or wheel wears away

it necessarily follows that the tail-nut O will engage the brace P before the shoe B reaches the wheel. When this happens, the instant the tail-nut strikes the brace, the bolt L is withdrawn from the wedge, which latter falls by gravity and compensates for the wear on the brake shoes or wheels and prevents all lost motion of the brake-beam. The parts remain in this position until the brakes are again released, when the bolt L assumes its normal position and prevents the further descent of the wedge. Every time the tail-nut strikes the brace it withdraws the bolt and allows the wedge to drop slightly, if there is more than a certain amount of slack between the shoe and wheel.

From the foregoing it will be seen that as fast as the shoe wears beyond a certain amount the wedge follows up by its own weight, thereby restraining the brake-beam to a fixed amount of movement and doing away with the dead motion that at present causes an enormous waste of air or other power employed to set or release the brakes.

My invention is simple in construction, is of few parts, is durable and effective in use, and is adapted to be applied to all ordinary forms of brakes now employed.

It is evident that numerous changes in the construction and relative arrangement of the several parts might be resorted to without departing from the spirit of my invention; and hence I would have it understood that I do not limit myself to the exact construction shown, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In a car-brake, the combination, with a brake-beam and a brake-shoe loosely suspended from the car-truck, of mechanism interposed between the shoe and beam for automatically moving the shoe away from the brake-beam as the shoe or car wheel wears away.

2. In a car-brake, the combination, with a brake-beam and a brake-shoe suspended from the car-truck, of a sliding wedge interposed between the shoe and beam.

3. In a car-brake, the combination, with a brake-shoe and brake-beam, of an interposed

wedge and means for automatically holding and releasing the wedge.

4. In a car-brake, the combination, with a brake-beam and brake-shoe, of an interposed wedge, a sliding bolt for holding the wedge, and means for disengaging the bolt and wedge.

5. In a car-brake, the combination, with a brake shoe and beam, of an interposed wedge, a spring-actuated bolt for holding the wedge up in position, and means for automatically disengaging the bolt and wedge.

6. The combination, with a brake-beam and a brake-shoe provided on its rear face with studs, of a wedge provided on its front face with a rib adapted to rest and move between the studs on the rear face of the shoe.

7. The combination, with the brake-beam and a brake-shoe provided on its rear face with means for engaging and guiding the wedge, of a wedge provided on its front face with a rib adapted to engage the shoe, means for guiding the wedge, and a holding-bolt.

8. The combination, with a brake-shoe and brake-beam, of the wedge constructed as described, the T-plate for holding and guiding the wedge, and a spring-actuated bolt.

9. The combination, with the brake-shoe, brake-beam, wedge, and T-shaped plate, of a spring-actuated bolt secured to the under side of the brake-beam and adapted to operate as described.

10. The combination, with the brake-shoe, brake-beam, wedge, and T-shaped iron, of the spring-actuated bolt secured to the under side of the beam and provided with a tail-nut adapted to strike against a rigid brace, for the purpose set forth.

11. The combination, with a brake-shoe, brake-beam, and a sliding wedge, of a spring-actuated bolt secured to the under side of the beam, and provided with an adjustable tail-nut and a rigid brace, all of the above parts combined and adapted to operate as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN F. MALLINCKRODT.

Witnesses:

PAT. O. DONNELL,
W. H. B. SANDS.