

(Model.)

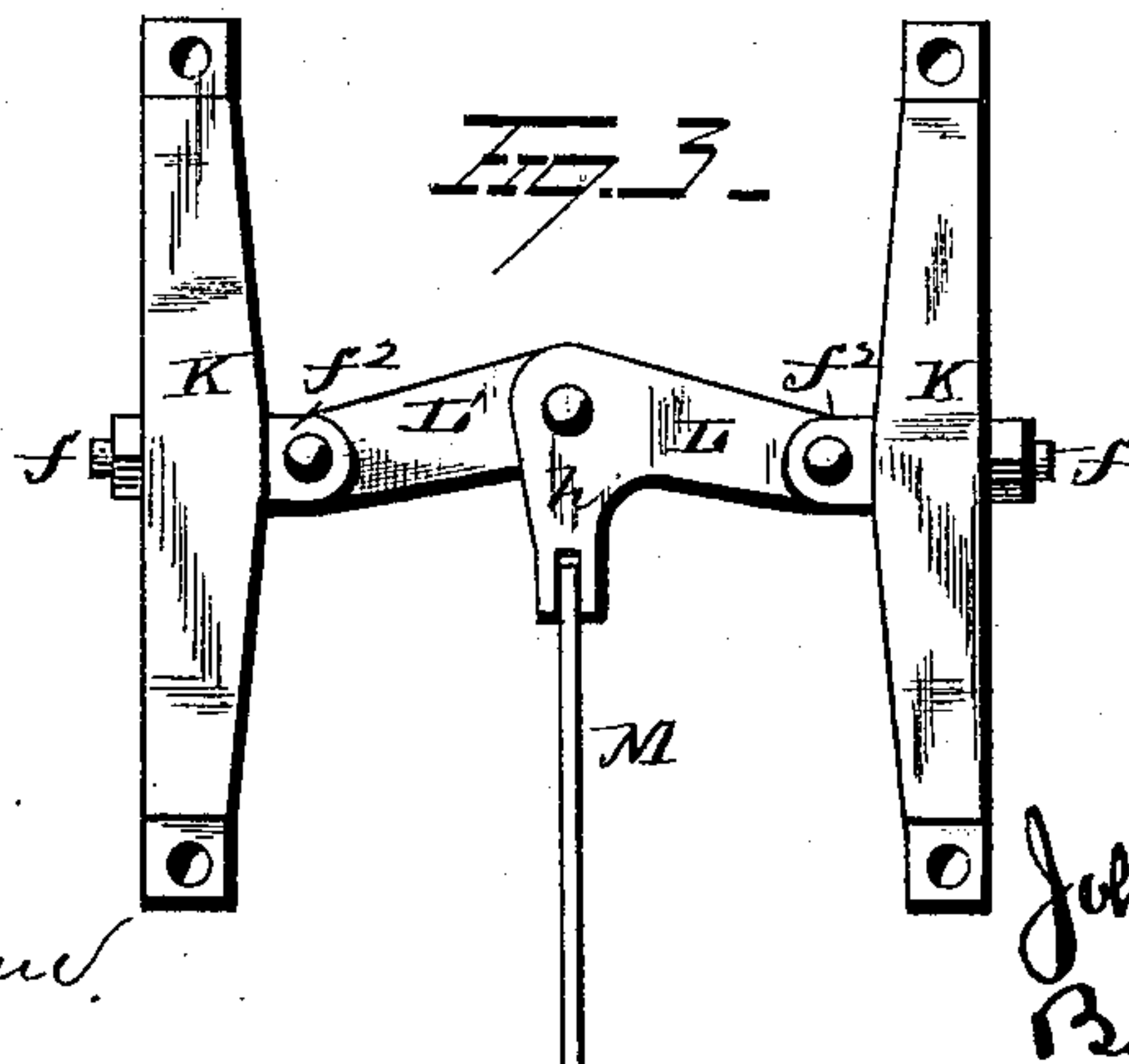
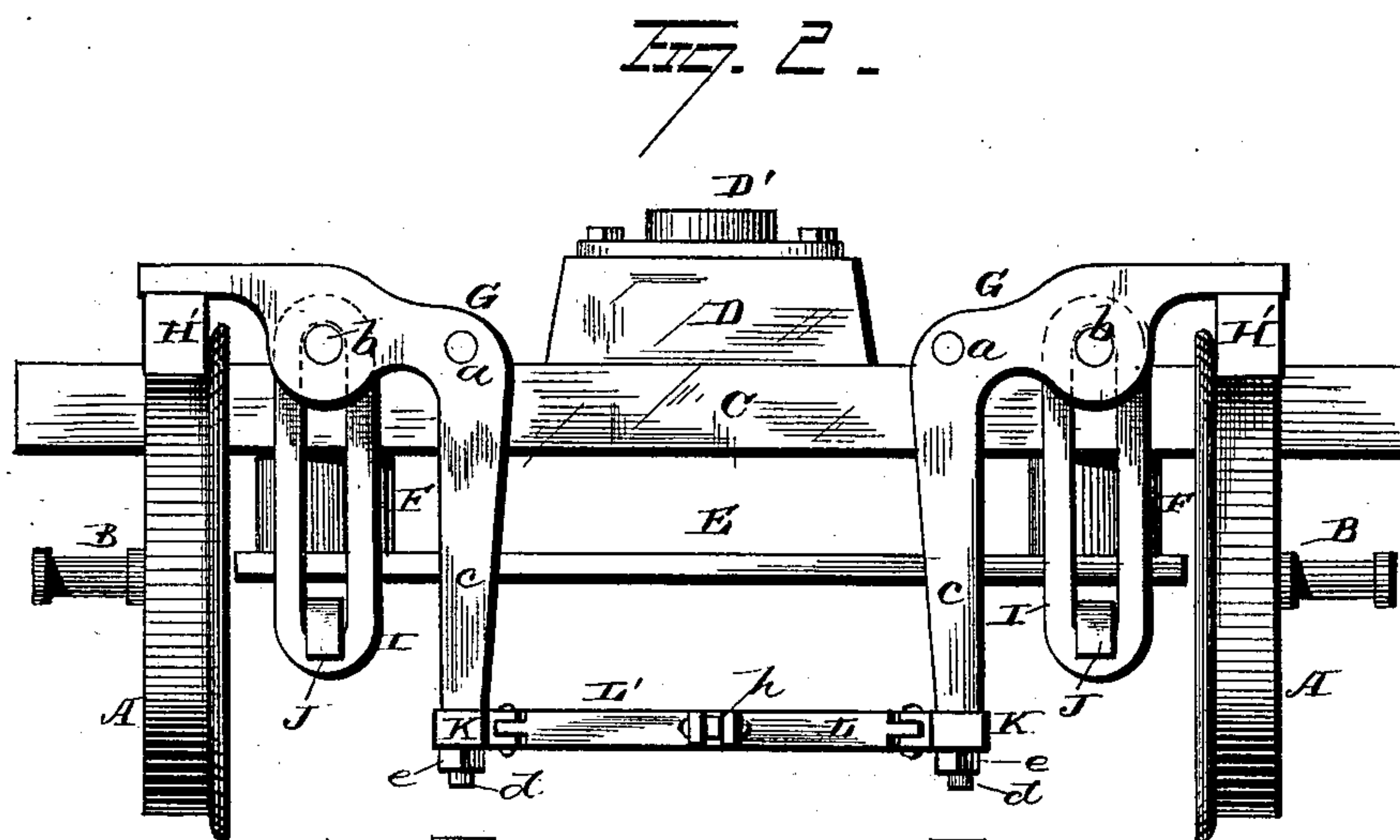
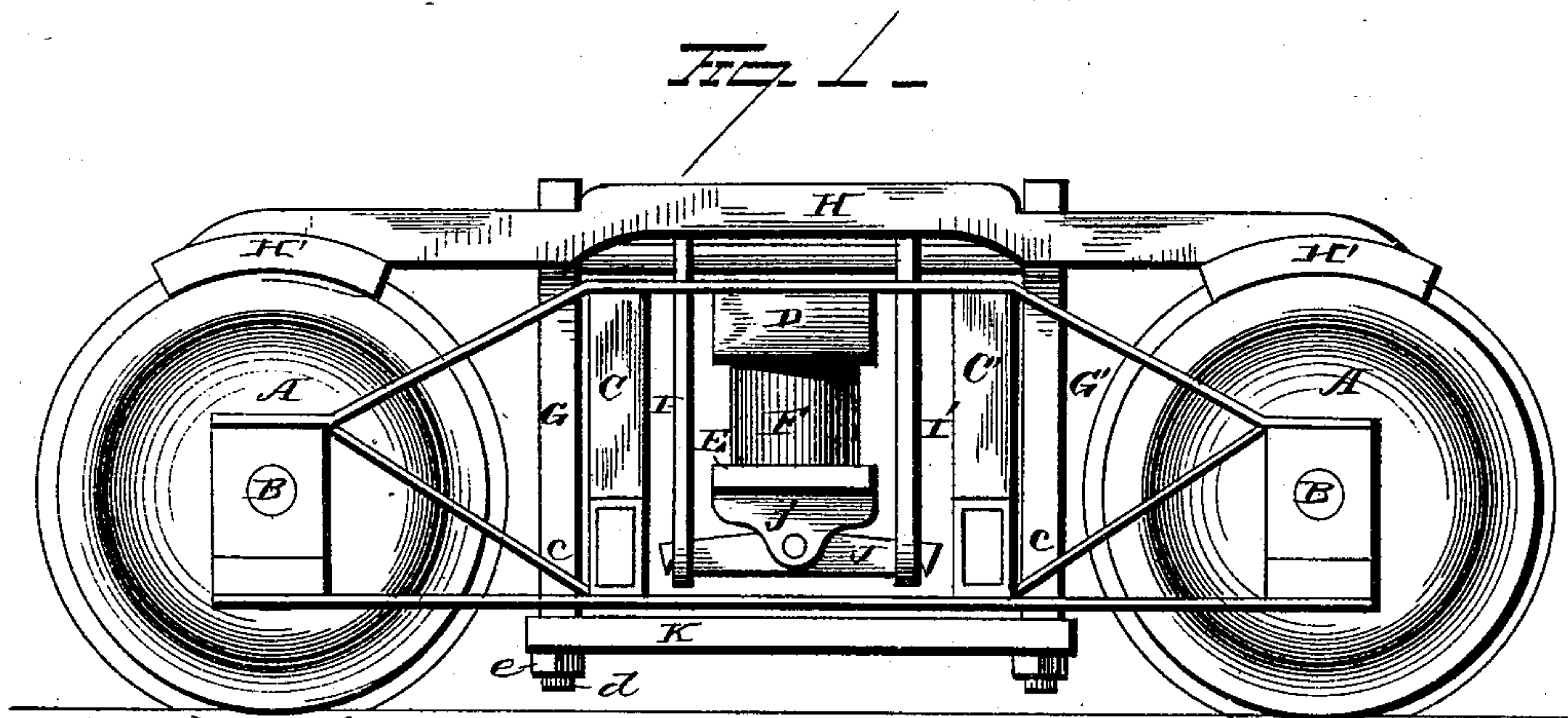
2 Sheets—Sheet 1.

J. F. MALLINCKRODT.

CAR BRAKE.

No. 256,018.

Patented Apr. 4, 1882.



WITNESSES

Ed. Nottingham.

Herman Moran.

INVENTOR.

INVENTOR
John D. Mallinckrodt.

By H. A. Symons.

ATTORNEY

(Model.)

2 Sheets—Sheet 2.

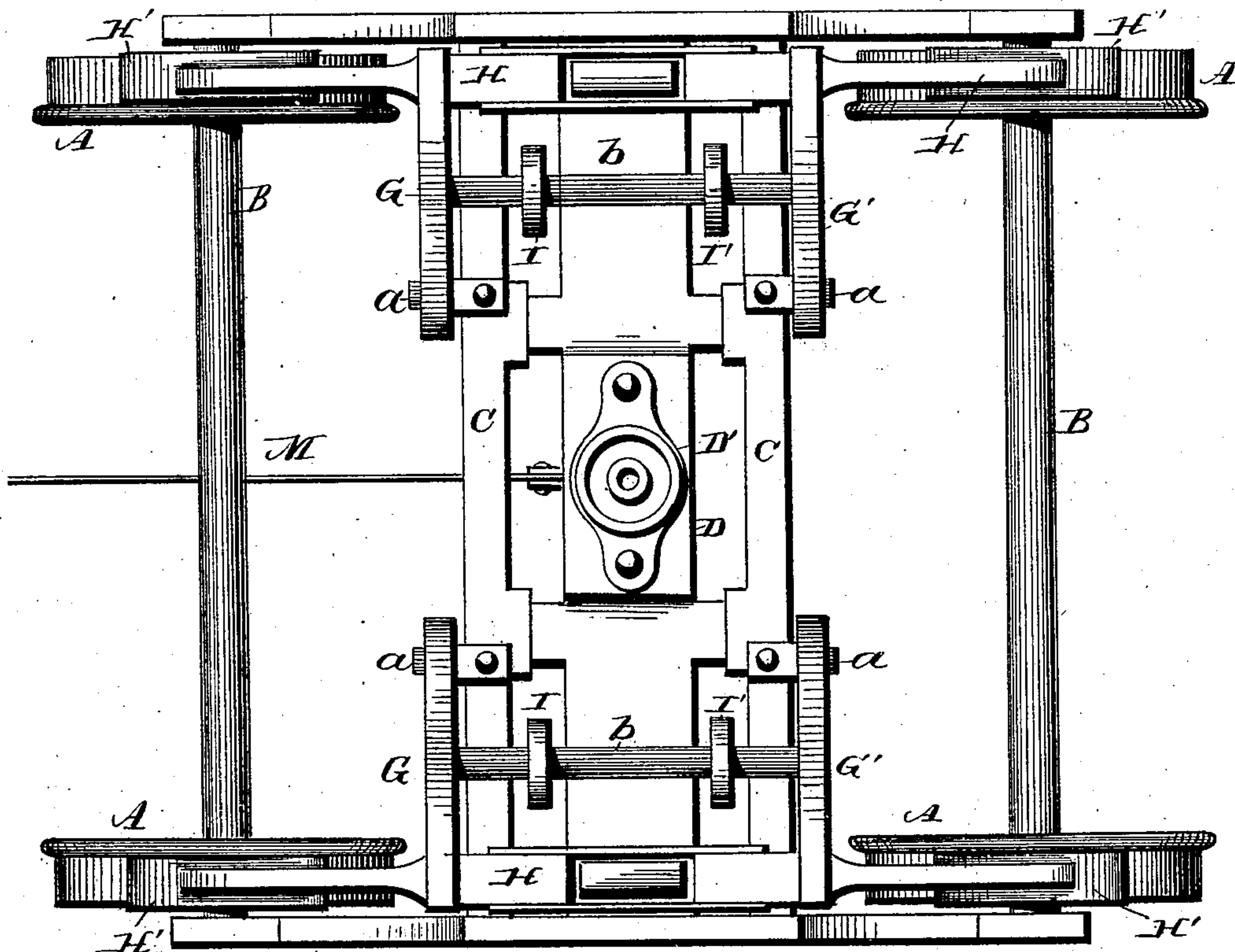
J. F. MALLINCKRODT.

CAR BRAKE.

No. 256,018.

Patented Apr. 4, 1882.

Fig. 4.



WITNESSES

E. J. Nottingham
Frank S. Brown

INVENTOR

John F. Mallinckrodt
By H. A. Symmon
ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN F. MALLINCKRODT, OF DENVER, COLORADO, ASSIGNOR OF ONE FIFTY-
SECOND TO P. H. VAN DIEST, OF SAME PLACE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 256,018, dated April 4, 1882.

Application filed September 13, 1881. (Model)

To all whom it may concern:

Be it known that I, JOHN F. MALLINCKRODT, of Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Railway - 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.

My invention relates to an improvement in car-brakes, the object being to provide a car-brake of such construction and relative arrangement of parts that the weight of the car may be employed for setting the brakes and hand or power brake mechanism be used for releasing the brakes.

With these ends in view my invention consists, first, in the combination, with a swinging and vertically-movable bolster having a spring-board connected therewith, of two pairs of brake-levers, each pair having a brake-bar attached to their long arms, stirrups connected with the brake-levers and spring-board, and toggle-levers for actuating the brake-bars simultaneously.

My invention further consists in certain other features of construction and combinations of parts, as will hereinafter be explained, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my improvement in car-brakes, the side beams of the truck being removed. Fig. 2 is an end view, and Fig. 3 is a detached view, of the actuating mechanism. Fig. 4 is a plan view of the brake.

A represents the wheels; B, the axle-boxes; C C', the cross-beams, and D the bolster; D', the center casting; E, the spring-board, suitably connected to the under side of the bolster; and F, rubber or metal springs interposed between the bolster and spring-board.

G G' are brake-levers, of bell-crank form, and pivoted at *a* to blocks secured upon the top of the beams C C'. To the outer ends of each pair of brake-levers is secured a brake-bar, H, having brake-shoes H' connected with its opposite ends in any suitable manner to bear upon the upper sides of the wheels A.

Between the brake-bar H and pivot *a* of the

brake-levers are located the stirrups I I', which are arranged between cross-beams C C' and the bolster and spring-board. The upper ends of the stirrups are suspended on studs *b*, attached to the brake-levers, while their lower ends are connected with the opposite ends of equalizing-bars J, pivoted between lugs *j*, secured to the under side of the spring-board. The depending arms *c* of the brake-levers are constructed with studs *d*, to which are secured the opposite ends of the brake-beam K, the latter being retained in place by means of nuts *e*, screwed on the screw-threaded ends of the studs *d*.

Brake-beams K may be of the truss type, as shown and described in my other application for patent filed of even date herewith, or they may be of any other preferred form of construction. Bolts *f f'* extend through the central portions of the beams, and to their adjacent and bifurcated ends *f²* are pivoted the outer ends of the toggle-arms L L', the inner ends of which are pivoted to each other at *g*. Toggle-arm L is constructed with a short arm, *h*, to which is pivoted a brake-rod, M, which connects by suitable rods and chain with the hand-brake, and with a power-brake—steam, air, or electrical brake—if a power-brake is used.

Having described the construction and relative arrangement of parts of my improved brake, I will now give a brief description of its operation.

The weight of the car rests upon the center casting and end supports of the bolster, and is transmitted to the car-wheels through the medium of the springs F, spring-board E, equalizing-bars J, stirrups I I', outer arms of the brake-levers, brake-bars H, and brake-shoes H'. Thus it will be observed that the cars have a yielding motion on springs supported on the suspended spring-board; and, further, that the weight of the cars is evenly distributed on all the wheels of the truck by the equalizing-bars J. When it is desired to set the brakes the brake-rod M is wholly or partially released, thereby allowing the weight of the car to be wholly or partially transmitted to the wheels and arrest the motion of the car. To release the brake the brake-rod M is tightened either by a hand or power brake and the

car-bodies raised, causing the brake-shoes to be lifted from the wheels. Should a car become detached from the train, the parting of the brake-coupling will allow of the release of the brake-rod M and the automatic setting of the brake.

It is evident that many slight changes in the construction and relative arrangement of parts might be resorted to without departing from my invention, and hence I would have it understood that I do not restrict myself to the exact construction and arrangement of parts shown and described; but,

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

1. The combination, with a vertically-movable bolster and spring-board connected therewith, of brake-levers and stirrups connecting the brake-levers and spring-board, and toggle-arms for actuating the brake-levers, substantially as set forth.

2. The combination, with a vertically-movable bolster, spring-board connected therewith, and springs interposed between the bolster and spring-board, of two pairs of brake-levers, each

pair having their outer ends connected by a brake-bar and their inner or lower ends connected by a brake-beam, and stirrups connected with the brake-levers and spring-board, substantially as set forth.

3. The combination, with a vertically-movable bolster having a spring-board connected therewith, and cross-beams located on opposite sides of the bolster, of brake-levers and stirrups connecting the brake-levers and spring-board, said stirrups being located between the bolster and cross-beams, substantially as set forth.

4. The combination, with two pairs of brake-levers and a vertically-movable bolster suspended therefrom by stirrups, of brake-beams connecting the lower ends of the brake-levers, and toggle-arms and brake-rod for releasing the brakes, substantially as set forth.

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

JOHN F. MALLINCKRODT.

Witnesses:

HERMAN MORAN,
GEO. D. SEYMOUR.