

(No Model.)

E. KATZENMAYER.

CAR BRAKE.

No. 287,295.

Patented Oct. 23, 1883.

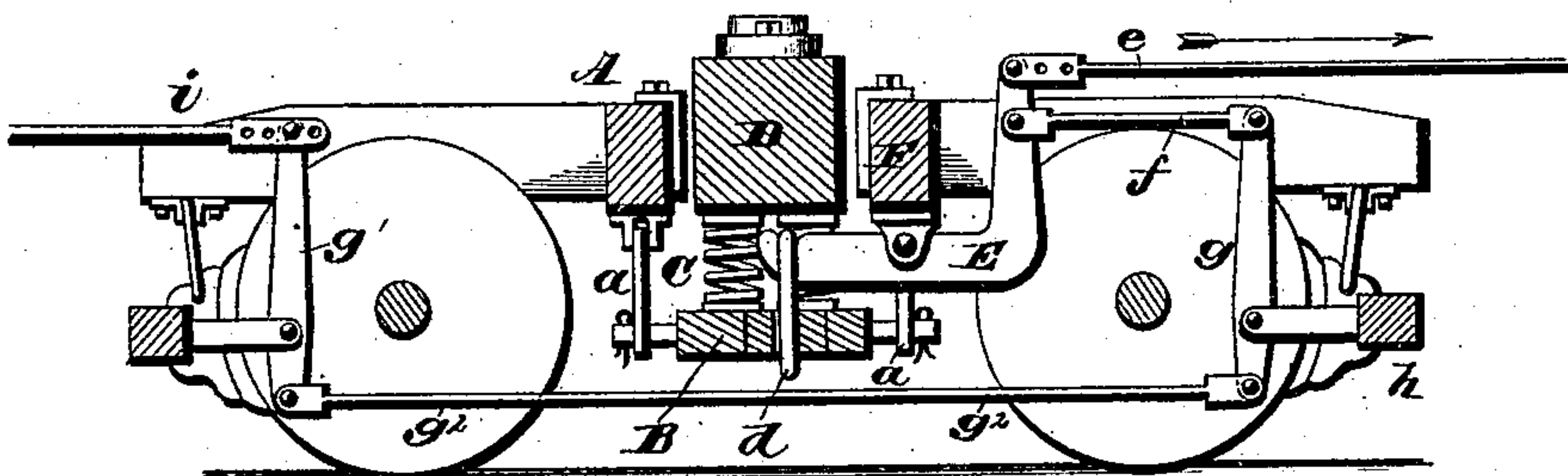


FIG. 1.

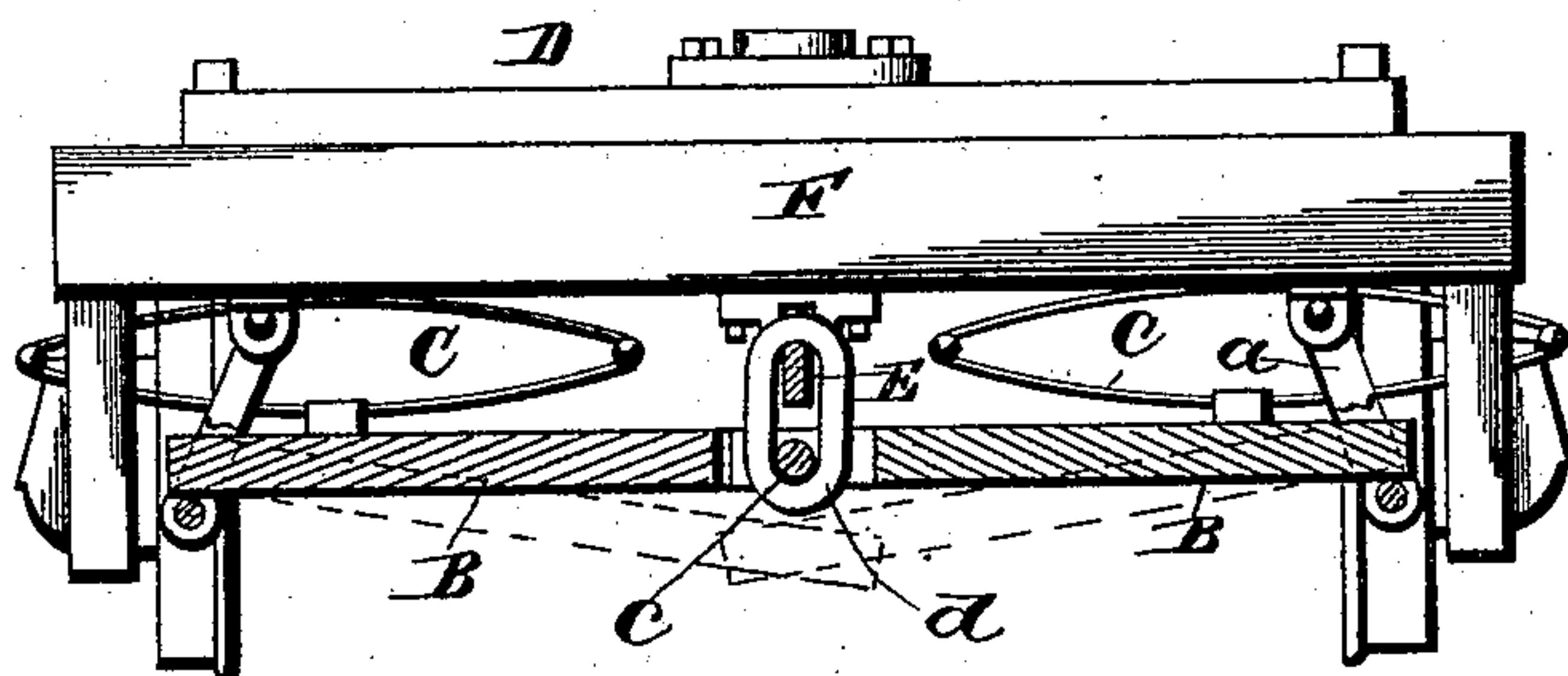


FIG. 2.

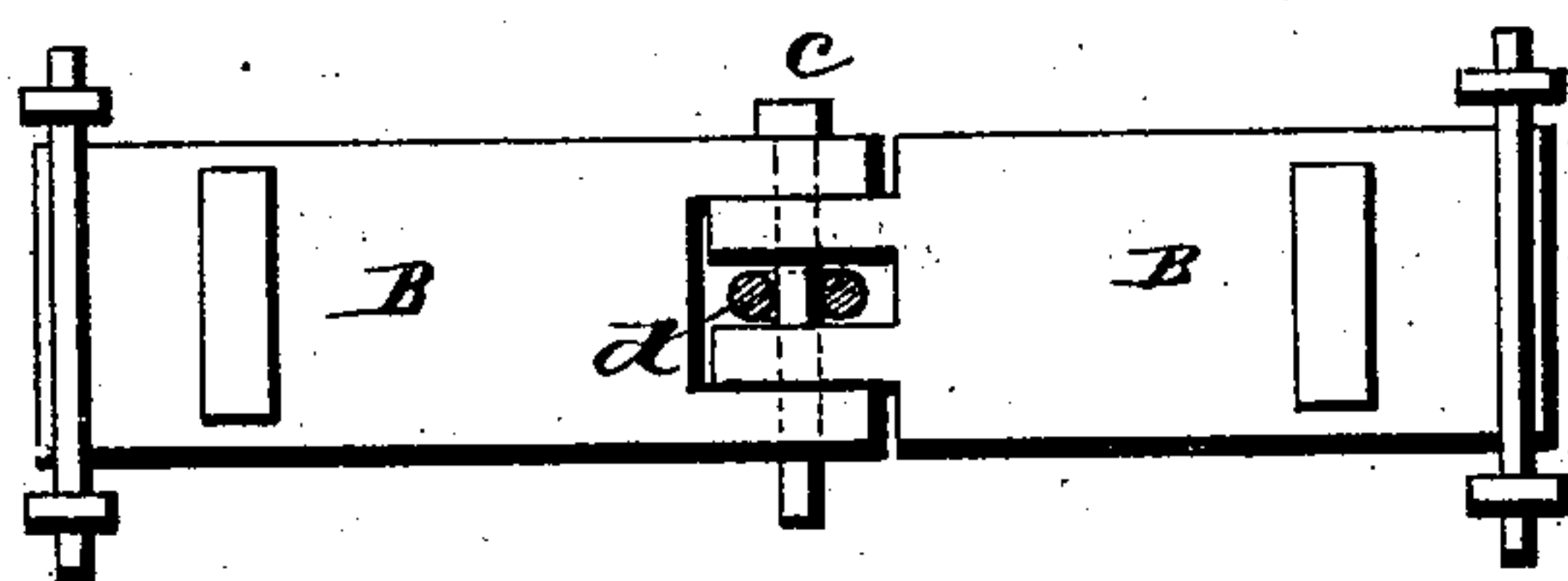


FIG. 3.

WITNESSES

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CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 287,295, dated October 23, 1883.

Application filed April 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, ERNEST KATZENMAYER, of Chillicothe, in the county of Ross and State of Ohio, have invented certain new and useful 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 appertains to make and use the same.

My invention relates to an improvement in railroad-car brakes, the object of the same being to provide devices adapted to be employed in connection with the ordinary truck and braking mechanism, whereby a portion of the weight of the car and its contained load is utilized in setting the brakes; and with these ends in view my invention consists in the parts and combination of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in longitudinal section of an ordinary truck embodying my invention. Fig. 2 is a transverse sectional view of the same on the line *x x* of Fig. 1, and Fig. 3 is a detached plan view of the spring-board.

A represents a car-truck of ordinary construction, and B the spring-board suspended therefrom by the links *a*. This spring-board B forms a solid base for the springs C, on the upper ends of which the movable bolster D rests. These springs can be elliptic, spiral, box, or any other desired kind, and rest on the spring-board B, preferably near the opposite ends thereof, but inside of the links *a*. The spring-board B can be made of wood or metal in any desired shape, and is divided centrally, the adjacent ends of the two portions thereof being pivotally secured together by the bolt *c*. The opposite ends of the spring-board B are supported by the depending links *a*, while the central portion thereof, at the juncture of the two sections, is supported by the link *d*, the lower end of which is secured to the pivot-bolt *c*, while the upper end thereof is connected to the horizontal arm of the bell-crank lever E. This lever E is pivotally secured to the under side of the transverse beam F, and the horizontal arm thereof projects inwardly between the bolster and spring-board and terminates over the center of the spring-board B,

while the vertical arm thereof projects upwardly on the outside of the beam F and terminates slightly above the truck.

From the foregoing it will be seen that the entire weight of the car rests directly on the spring-board, and the greater portion thereof is transferred from thence to the single bell-crank lever. When the brakes are set, or, that is to say, when the bell-crank is released, the weight of the car and its load depresses the adjacent ends of the two sections of the spring-board, as shown in dotted lines in Fig. 2, and consequently tilts the bell-crank correspondingly. As soon, however, as sufficient power is exerted on the upper end of the vertical arm of the single bell-crank, the spring-board is righted, where it remains while the car is in motion.

The upper end of the vertical arm of the bell-crank is connected to a rod, *e*, which latter projects toward the center of the car and is secured to the piston-rod of an air or steam brake cylinder; or it can be continued to the end of the car and be connected by a suitable chain to the hand-wheel. This upright arm of the bell-crank is also connected to the old braking mechanism ordinarily employed on railroad-trucks by the rod *f*. Thus it will be seen that when the holding-power on the rod *e* is released the weight of the car-body and load depresses the spring-board and throws a portion of the weight on the rod *f*. This rod is connected on its outer end to the upper end of the lever *g*, while the lower end of the said lever *g* is connected to the lower end of the lever *g'* by the rod *g''*. These levers *g* and *g'* rest in the center between the wheels, and are each connected to their respective brake-beams *h* in the usual manner. The upper end of the lever *g'* is adjustably secured to the forked bar *i*, which latter is provided with a series of holes, in any one of which the upper end of the lever *g'* is secured by a suitable pin. This enables the upper end of the lever *g'* to be moved toward or away from the adjacent end of the truck, for the purpose of taking up the parts to compensate for wear. When the rod *e* is moved in the direction of the arrow, the spring-board B is brought to a horizontal position, and the greater portion of the weight of the load is borne by the rod *e*. As soon as

the holding-pressure on the rod *e* is released, whether intentionally or by accident, the power is transferred to the rod *f* through the bell-crank, and from thence to the levers *g* and *g'*, which force their respective brake-shoes against the wheels and check the progress of the car.

This improvement can be employed in connection with the car-trucks and braking mechanism now used by simply substituting the sectional spring-board for the solid one and introducing the single bell-crank lever, thereby enabling my improvement to be employed without the necessity of building trucks adapted especially for the purpose, and also enabling me to utilize the braking mechanism universally employed on cars.

It is evident that slight changes in the construction and relative arrangement of parts might be resorted to without departing from the spirit of my invention, and therefore I would have it understood that I do not limit myself to the exact construction and arrangement of parts shown and described, but consider myself at liberty to make such slight 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. The combination, with a movable bolster, sectional spring-board, and interposed springs, of a bell-crank lever, one end of which is connected to the sectional spring-board at the point of juncture of the sections thereof, while the opposite end thereof is connected to the braking mechanism, substantially as described.

2. The combination, with a car-truck, a sectional spring-board suspended therefrom, and a bolster supported on the spring-board by interposed springs, of a bell-crank lever, one end of which is connected to the spring-board at the point of juncture of the sections thereof, while the opposite end is connected to the braking mechanism, substantially as described.

3. The combination, with a car-truck, sectional spring-boards suspended therefrom, the springs, and bolster, of a bell-crank lever, the horizontal arm of which terminates between the spring-board and bolster, a link connecting the spring-board and bell-crank lever, braking mechanism connected to the vertical arm of the bell-crank lever, and devices for controlling the movement of the bell-crank lever, substantially as set forth.

4. The combination, with a truck, the two-part spring-board suspended therefrom, and a bolster supported on the spring-board by interposed springs, of the bell-crank lever pivotally secured to the truck, the links connecting the spring-board and truck, devices for controlling the movement of the bell-crank, and the braking mechanism connected to the vertical arm of the said bell-crank, all of the above parts being combined and adapted to operate as described.

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

ERNEST KATZENMAYER.

Witnesses:

THOS. W. WALSH,
Z. L. GARDNER.