(No Model.)

E. KATZENMAYER.

CAR BRAKE.

No. 287,293. Patented Oct. 23, 1883.

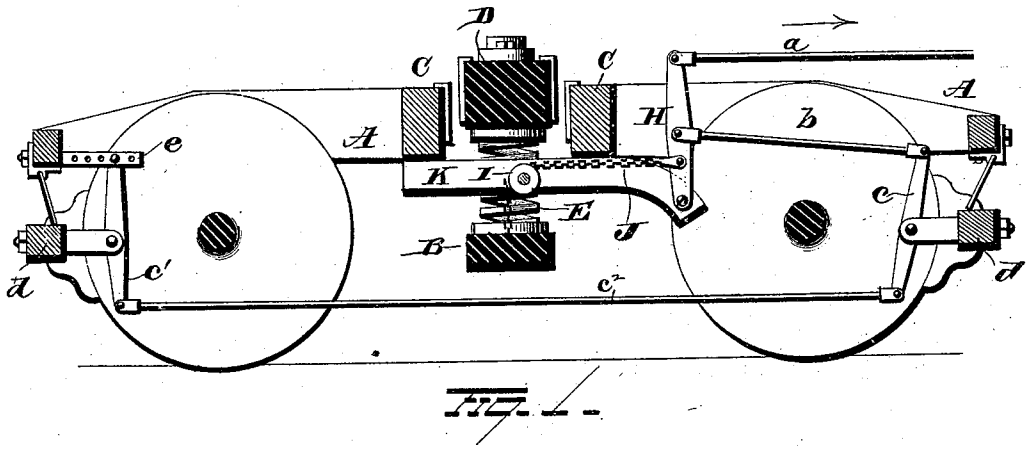

Fig. 1.

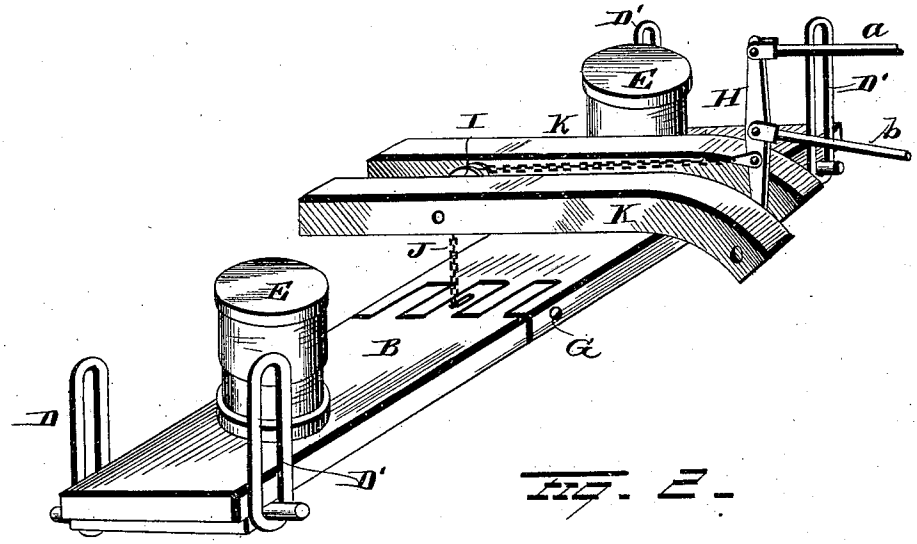

Fig. 2.

WITNESSES

S. G. Nottingham.

George Cook

INVENTOR

Ernest Katzenmayer

By F. A. Lehmann.

Attorney

UNITED STATES PATENT OFFICE.

ERNEST KATZENMAYER, OF CHILLICOTHE, OHIO, ASSIGNOR TO THE MALLINCKRODT BRAKE COMPANY, OF EAST ST. LOUIS, ILLINOIS.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 287,293, dated October 23, 1883.

Application filed May 10, 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 simple attachments to the trucks universally employed for the purpose of utilizing the weight of the car and its contained load in setting the brakes; and with these ends in 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 is a longitudinal vertical sectional view taken through the truck, and Fig. 2 is a perspective view of the spring-board and brake-operating mechanism.

A represents a car-truck of ordinary construction, and B the spring-board suspended from the transverse beams C of the said frame by the links D'. This spring-board B forms a substantial bearing for the springs E, on the upper ends of which the vertically-movable bolster D rests. The springs E can be elliptical, spiral, or any other desired kind, and rest on the spring-board B, near the opposite ends thereof, but inside of the links D', so that the entire weight of the car-body and its load will be supported on the spring-boards between the links. The spring-board, which can be made of any suitable material, braced or not, as desired, is divided centrally into two separate parts, the adjacent ends of the two parts being connected together by the hinge G, which latter enables the spring-board to sink in the center when unsupported. When the car is in motion, it is necessary that the spring-board be held in a horizontal position, and this is accomplished by a chain, one end of which is connected to the spring-board, preferably to the hinge-bolt thereof, while the opposite end is secured to the brake-lever H, which latter is in turn connected to the air or steam brake cylinder, or to the hand-wheel. Between the spring-board and bolster, and over the central division of the former, the parallel angle-iron supports K are situated. These supports are firmly bolted to the transverse beams C, and project inwardly slightly beyond the inner beam C, toward the center of the car, for the purpose of supporting the lower end of the brake-lever H, which latter can be pivotally supported between the two, or to one of the said irons or supports, as desired. Between the two irons, directly over the center of the spring-board, the pulley I is journaled, over which the chain J winds. This chain is connected at one end to the spring-board, or to the hinge-bolt connecting the two sections, and then passes vertically upward until the pulley or roller I is reached. It then winds or passes over the roller, and then proceeds horizontally inward, and is connected at its other end to the brake-lever H, just above its pivotal connection with the support K. Thus it will be seen that the entire weight of the car rests on the spring-boards, and a portion thereof is transmitted from thence to the chain J. When the holding-power or the upper end of the brake-lever H is released, the weight of the car depresses the adjacent ends of the sectional spring-board, and consequently draws the chain J down with them, setting the brakes. As soon, however, as sufficient power is exerted on the upper end of the brake-lever H the chain is drawn up, which releases the brakes and rights the spring-board and retains it in its horizontal position as long as the necessary power is applied to the lever H. The upper end of the lever H is connected to a rod, *a*, which latter projects toward the center of the car and is secured directly or indirectly to the piston-rod of an air or steam cylinder; or it can be continued to the end of the car and be connected by a suitable chain to the hand-wheel. The brake-lever H is also connected between the chain and rod *a* to the old braking mechanism ordinarily employed on car-trucks by the rod *b*. Thus it will be seen that when the holding-power on the rod *a* is released the weight of the car depresses the spring-board and throws a portion of the weight on the rod *b*. This rod is connected at its outer end to the upper end of the lever *c*, while the lower end of the lever *c* is con-

nected to the lever c' by the rod c^2. These levers c and c' are situated in the vertical center of the truck, and are each connected to their respective brake-beams d in the usual manner. The brake-beams d are suspended from the car-truck, and each is provided at opposite ends with shoes adapted to bear against the tread of the wheels. The upper end of the lever c' is adjustably secured to the forked bar e, which latter is provided with a series of holes, to any one of which the upper end of the lever is secured by a suitable pin. This enables the upper end of the lever c' 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 a is moved in the direction of the arrow, the spring-board B is brought to a horizontal position, and a portion of the weight of the load is borne by the said rod. As soon as the holding-power on the rod is released, whether intentionally or by accident, the power is transferred through the chain and lever H to the levers c and c', which force their respective brake-shoes against the wheels.

This improved mechanism can be employed in connection with the car-trucks universally employed without materially altering the structure thereof, and without materially increasing their cost.

It is evident that slight changes in 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 confine myself to the exact construction shown and described, 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. The combination, with a vertically-movable bolster, sectional spring-board, and interposed springs, of brake mechanism and a chain for transmitting the motion of the sectional spring-board to the braking mechanism, substantially as set forth.

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 chain, one end of which is connected to the sectional spring-board, while the opposite end thereof is connected to the braking mechanism, substantially as set forth.

3. The combination, with a truck, the two-part spring-board suspended therefrom, a bolster supported on the spring-board, supports secured to the truck above the spring, and provided with a pulley, and a brake-lever pivoted to one or both of said supports, of a chain passing over said pulley and connected at opposite ends, respectively, to the spring-board and brake-lever, and suitable braking mechanism connected to the said brake-lever, substantially as set forth.

4. The combination, with the car-truck, the hinged spring-board suspended therefrom, bolster, interposed springs, supports secured to the truck between the bolster and spring-board, the roller journaled to the supports, and the brake-lever, of the chain connecting the hinged spring-board and brake-lever, and suitable braking mechanism connected to the brake-lever, substantially as set forth.

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

ERNEST KATZENMAYER.

Witnesses:
W. L. JACK,
SAML. A. GRETTYS.