(No Model.)

E. M. BUCKLEY & A. JACKSON.

CAR BRAKE.

No. 273,345. Patented Mar. 6, 1883.

Fig. 1.

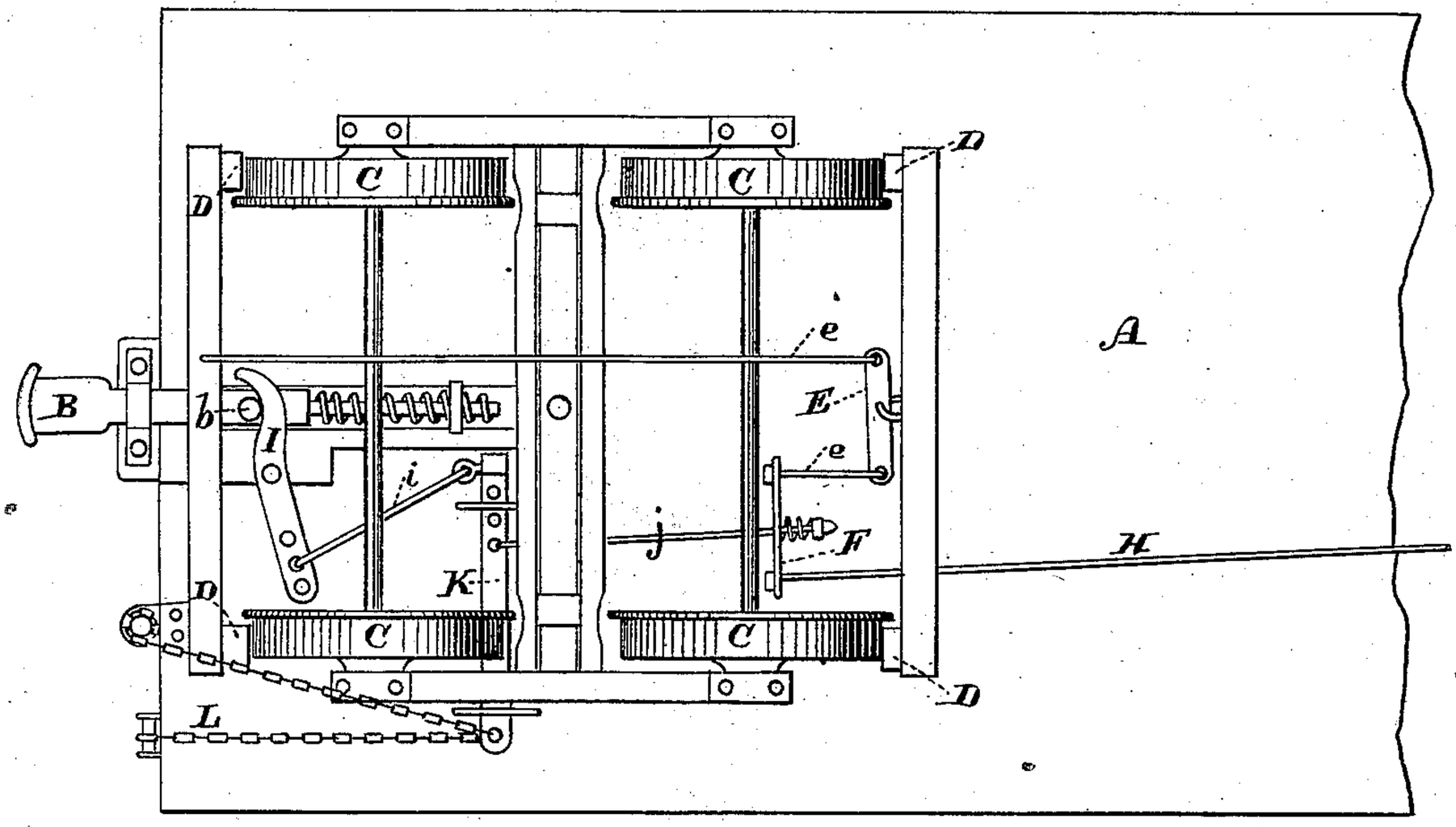


Fig. 2.

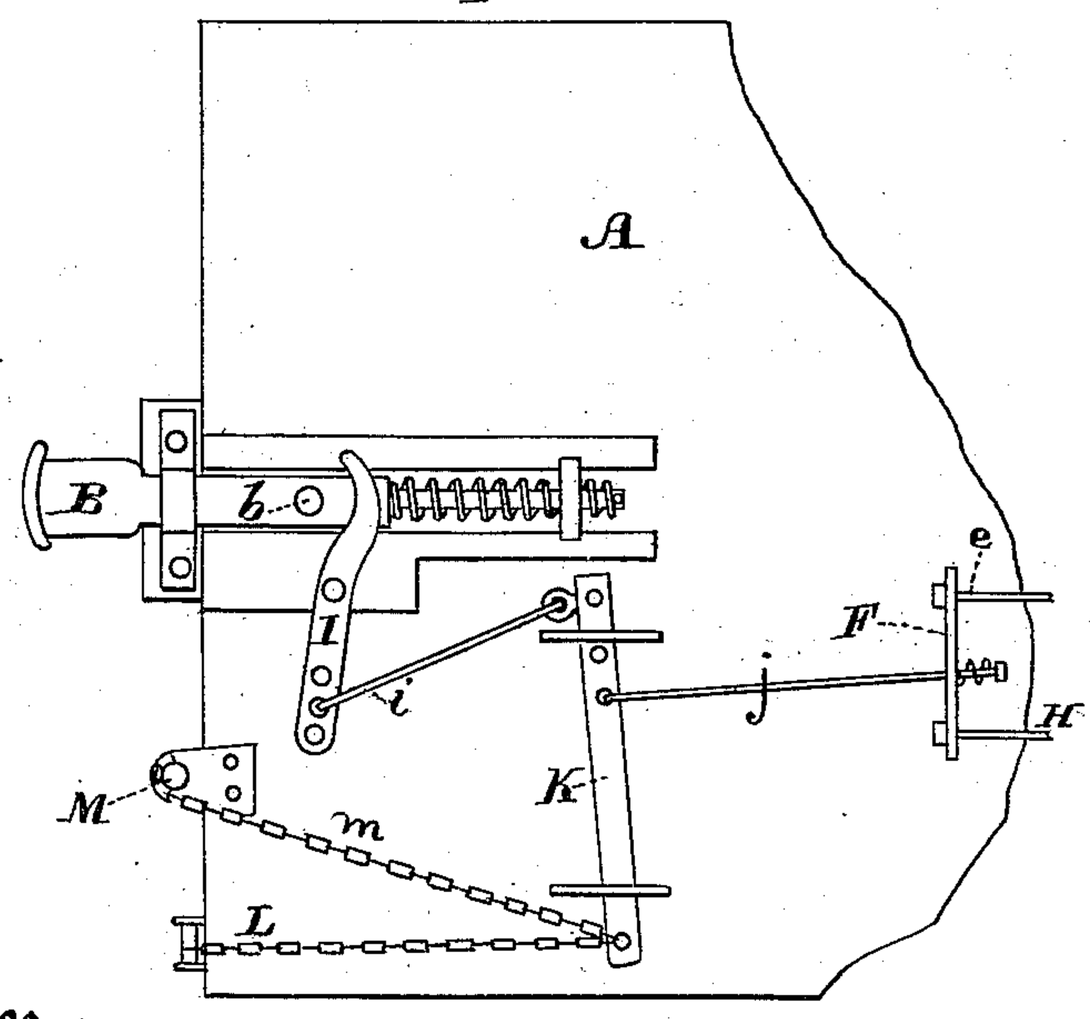
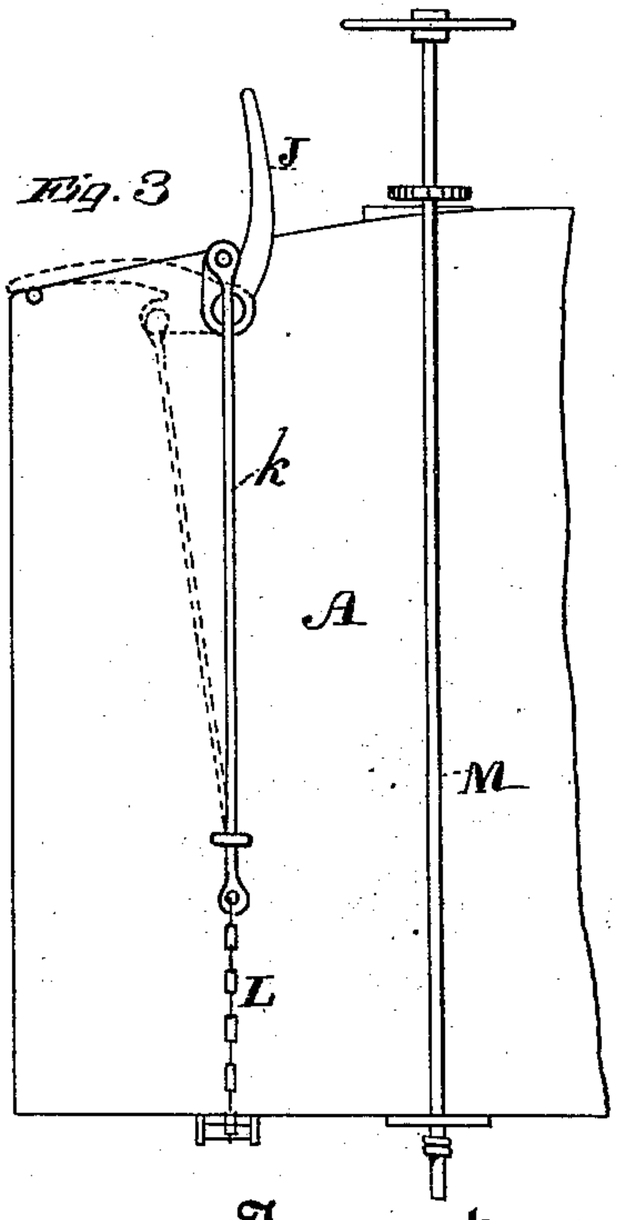


Fig. 3



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UNITED STATES PATENT OFFICE.

EDWARD M. BUCKLEY AND ANDREW JACKSON, OF SAN FRANCISCO, CAL.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 273,345, dated March 6, 1883.

Application filed November 10, 1882. (No model.)

To all whom it may concern:

Be it known that we, EDWARD M. BUCKLEY and ANDREW JACKSON, of the city and county of San Francisco, State of California, have invented an Improved Automatic Car-Brake; and we hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to certain new and useful improvements in automatic car-brakes, and particularly to an improvement in that certain device which we have heretofore shown and for which we have made application for a patent, October 2, 1882.

Our invention consists in an intermediate lever or bar through which power is transmitted from the longitudinally-moving draw-head, acting through a certain pivoted lever, to the braking apparatus.

It also consists in a novel means for throwing these parts in and out of engagement when desired, all of which will hereinafter fully appear.

The general object of our invention is to make the entire train brake itself through the draw-heads of each car; but the particular object of the construction here shown is to simplify the mechanism, whereby it may be furnished at small cost and produce as effective results, being less liable to become disarranged, and in every particular being more suitable for the purpose.

Referring to the accompanying drawings, Figure 1 is a bottom view of the car, showing the automatic mechanism in engagement, the lever I being held against the lug *b*. Fig. 2 is a bottom view of the car, showing the same out of engagement, the lever I being thrown away from lug *b*. Fig. 3 is a view of the end of the car, showing the lever J, by which the mechanism underneath is thrown in and out of engagement.

Let A represent an ordinary freight-car, having the draw-head B, which is adapted, as usual, to have a longitudinal and reciprocating play in suitable guides.

C represents the wheels.

D D are the brakes, adapted to be forced against the wheels by means of the lever E, connecting-rods *e*, and main bar F, with which the operating-chain is usually connected. This mechanism is the common form of brake now used on freight-cars, and its operation to apply all the brakes at once is well known.

The rod H is connected with the main bar F, and is supposed to extend to the brake mechanism upon the truck at the other end of the car, so that both trucks may have the brakes applied through main bar F.

Under the car is pivoted a lever, I, the point of which lies under the shank of the draw-head B, and is adapted to be engaged by a pin or lug, *b*, extending from under the shank of the draw-head.

K is a bar supported under the car in suitable bearings.

The outer end of the lever I is connected through a rod, *i*, with the inner end of the bar K, which is itself connected with the main bar F of the braking mechanism by a rod, *j*.

Upon top of the car is a lever, J, with which a rod, *k*, is connected, Fig. 3. This rod extends down the end of the car, and a chain, L, is connected with its lower end. The chain passes under the car and is connected with the outer end of bar K.

M is the usual brake-spindle, adapted to wind up a chain, *m*, connected with its lower end and with the outer end of bar K. It will be seen that through this spindle M, chain *m*, bar K, rod *j*, and main bar F the brakes may be applied in the usual manner, so that this operation, when desirable, will not in any manner be interfered with by our invention.

The operation of our automatic mechanism is as follows: The rod K is connected with the lever J in such manner that when the latter is raised the point of attachment of the rod is thrown in line with the pivot-point of the lever, so that the latter, when thus raised, locks itself in position. In this raised position the chain L is drawn tight, thus drawing on the outer end of the bar K, which, by being connected with the rod *j*, is, in fact, pivoted at its point of connection with said road. It thus throws back its inner end, drawing on rod *i* and pulling back the outer end of lever I, so that the inner end is held in engagement with the pin *b* under the draw-head, Fig. 1. Now, when a car begins to acquire momentum it presses against the car in front, and thus its own draw-head is pushed back. This movement pushes back the inner end of lever I and

draws on the bar K, which, being held tight by the chain L, draws on rod *j* and main bar F to apply the brakes. Thus the car can check itself, and each acting likewise, the entire train will brake and check itself to such extent as may be determined by the engineer. This automatic device may not be necessary at all times; but when it is it may be thrown into engagement by the lever J, as we have described. In order to throw it out of engagement, we turn the lever J down, thus slacking the chain L and relieving the bar K of its tension. Thus relieved, it no longer holds the lever I against the pin *b*, so that the draw-head may move back and forth without affecting it, Fig. 2.

Our device does not interfere with the ordinary mechanism of the brake, and may be thrown on or off at pleasure.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The longitudinally-reciprocating draw-head of a car and a braking apparatus in relation with its wheels, in combination with the pivoted lever I, engaging with a pin or lug, *b*, under the draw-head, the bar K, the main bar F of the braking apparatus, and the rods *i j*, connecting the bar K with the pivoted lever I and with the main bar F, all arranged and operating substantially as and for the purpose herein described.

2. The longitudinally-reciprocating draw-head of a car and a braking apparatus in relation with its wheels, in combination with the pivoted lever I, engaging with a pin or lug, *b*, under the draw-head, the bar K, the rod *i*, connecting its inner end with the outer end of lever I, the rod *j*, connecting it with main bar F of the braking apparatus, the lever J on the top of the car, and a connection between said lever and the outer end of the bar K, whereby the lever I may be thrown in or out of engagement with the pin or lug *b* under the draw-head, all substantially as and for the purpose herein described.

In witness whereof we hereunto set our hands.

EDWARD M. BUCKLEY.
ANDREW JACKSON.

Witnesses:
C. D. COLE,
J. H. BLOOD.