

(No Model.)

H. GOODWIN.
CAR BRAKE.

No. 496,086.

Patented Apr. 25, 1893.

Fig. 1.

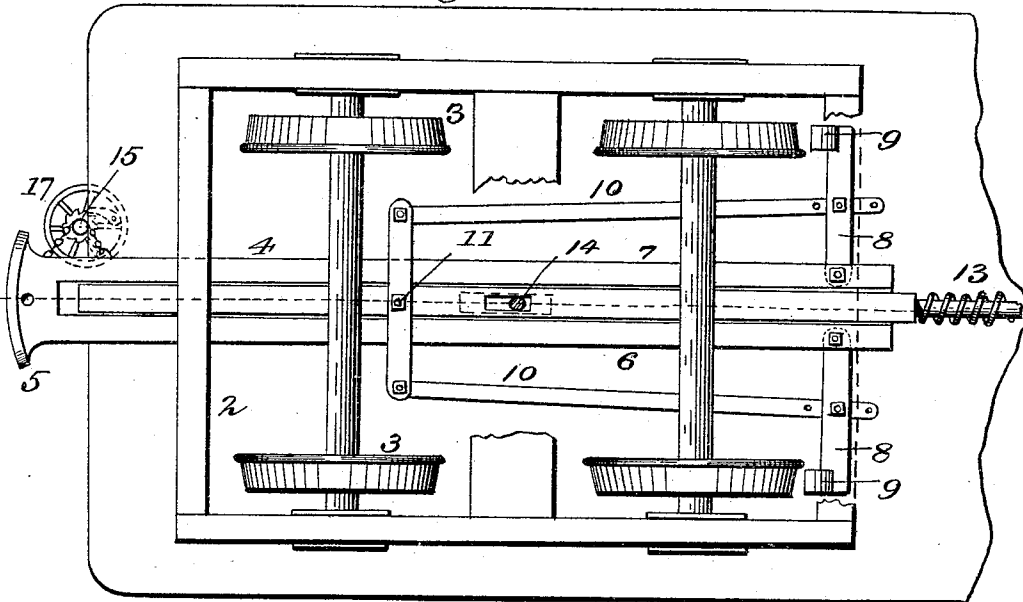


Fig. 2.

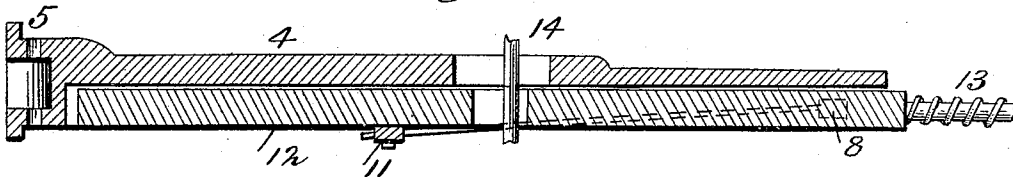


Fig. 3.

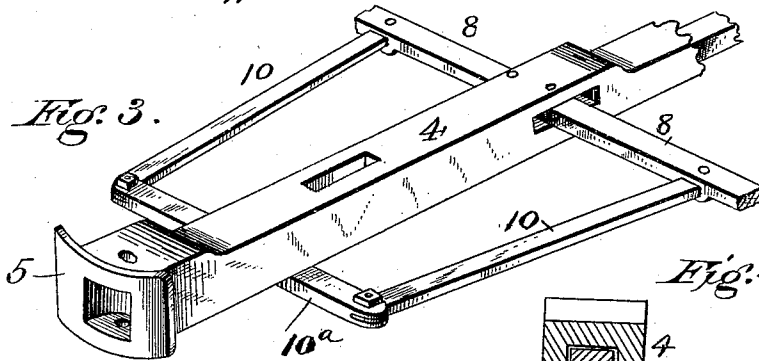
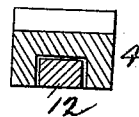


Fig. 4.



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UNITED STATES PATENT OFFICE.

HIRAM GOODWIN, OF KANKAKEE, ILLINOIS.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 496,086, dated April 25, 1893.

Application filed February 20, 1893. Serial No. 462,999. (No model.)

To all whom it may concern:

Be it known that I, HIRAM GOODWIN, a citizen of the United States, residing at Kankakee, in the county of Kankakee and State of Illinois, have invented certain new and useful Improvements in Car-Brakes; and I do 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; reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

15 This invention relates to certain improvements in car brakes.

The invention has for its object to utilize the power developed by the momentum of a train in motion, when suddenly stopped or checked in its movement to automatically apply the brakes.

It has long been a desideratum to secure some means, other than the hand power, applied by the brakemen of a train, to regulate its motion or stop it entirely, and various plans have been tried for the purpose. As the brakes, in trains traveling at high speeds have to be quickly, almost, instantaneously operated, to be effective, it is absolutely necessary to employ some, other than mere human work to accomplish the purpose. For this reason compressed air, and electrical energy have been employed, but in such systems, the expense attendant upon the construction and operation of the mechanism necessary to effect the desired result has been a controlling factor which tends to the prevention of the general use of said systems.

By my invention I employ the force of the momentum of the cars, when running at high speeds, to check or arrest the movement of the same, and thus utilize the energy, which is wasted in brakes as ordinarily applied either by hand power, compressed air or electrical energy.

The above mentioned objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 illustrates a bottom plan view of a portion of a car showing my invention. Fig. 2 represents a longitudinal sectional view, of a portion of the car and brake mechanism

taken on the line *xx* of Fig. 1. Fig. 3 represents a perspective view of the brake mechanism and Fig. 4 a transverse vertical sectional view taken on the line *yy* of Fig. 2.

Referring to the drawings in which the same reference numerals, indicate like parts in the respective figures, the reference numeral 1 indicates the body of a car of the usual construction.

The numeral 2 indicates the truck thereof, mounted upon the axles of the wheels 3, as usual.

The numeral 4 indicates the draw bar, which is provided with the usual coupling or draw head 5 at its outer end. The said draw bar is bifurcated and its members, indicated by the numerals 6, and 7, have pivoted to them the inner ends of the brake-shoe bars 8, which, carry at their outer ends the brake shoes 9, which set opposite the treads of the wheels, of the cars so as to bear against them, in the usual manner when the brakes are applied. The said bars are pivoted about midway between their ends, to the rear ends, of the side bars 10, which are rigidly secured at their forward ends, to the ends of a cross bar, 10^a which is fastened at 11 to the buffer bar 12 of the car. This is movably mounted in the truck, and at the rear is provided with an extension 13, surrounded by a spiral spring to take up the shock, or buff the cars, when suddenly coming together, to apply the brakes.

The draw bar and buffer bar are slotted longitudinally, as most clearly shown in Fig. 2 of the drawings about midway between their ends, and through the slots extends downwardly, a pin 14 secured to the bottom or frame work of the car. The slot in the draw bar is longer than that in the buffer bars, so as to permit the draw bar to act and apply the brakes, before the buffer bar is brought into action.

In order to return the draw bar into normal position after the brakes have been applied, an upright shaft 15 journaled in bearings in the platform of the car, and provided with a chain 16 at its lower end is employed, the chain being connected to the draw bar, so as to draw the said bar forward, when the shaft is turned which, is accomplished by means of a wheel 17 similar to the wheel, on the ordinary hand brakes.

The operation of my invention will be readily understood in connection with the above description and is as follows: When two cars, come, together, by reason of the check in their speed, or a full stoppage, and the coupling heads abut and are forced inwardly, the brake rods are operated, setting the brake shoes against the wheels with a force corresponding to the momentum of the train, thus utilizing such force to check or reduce the speed of the train, without the use of hand or any extraneous power, thus utilizing a force heretofore wasted, and providing for precisely the proper power to check the train.

15 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination in a car brake, of the movable bifurcated draw head, the brake bars 20 pivoted to the rear ends thereof and to the rear ends of a fixed frame, attached to the frame work of the car, and the buffer bar, the draw bar and buffer head having slots of unequal length through which projects a pin extending downwardly from the bottom of the car 25 or its frame, whereby the brakes are set when the draw heads meet substantially as specified.

2. The combination with the movable draw

bar and buffer bar slotted as described, and having a pin extending from the car or frame 30 thereof through the slots, of the brake bars pivoted to the draw head, and to a fixed frame, the brake shoes carried by said bars, and the shaft and chain, whereby the draw head is returned to normal position substantially as 35 specified.

3. The combination in a car brake of the movable draw bar and movable buffer bar having slots of unequal length, and an engaging pin entering the said slots, whereby the 40 draw bar is permitted to act to set the brakes before the buffer bar is actuated, substantially as specified.

4. The combination in a car brake of the movable draw bar, the brake levers pivoted 45 thereto, and adapted to operate to set the brakes when the draw heads come together, and to release the said brakes when the cars pull apart, substantially as specified.

In testimony whereof I affix my signature in 50 presence of two witnesses.

HIRAM GOODWIN.

Witnesses:

JOSEPH GREGORY,
EDGAR H. MONROE.