

No. 641,249.

Patented Jan. 9, 1900.

H. N. WOOD.
AUTOMATIC BRAKE BLOCK OR SHOE.

(Application filed Apr. 22, 1899.)

(No Model.)

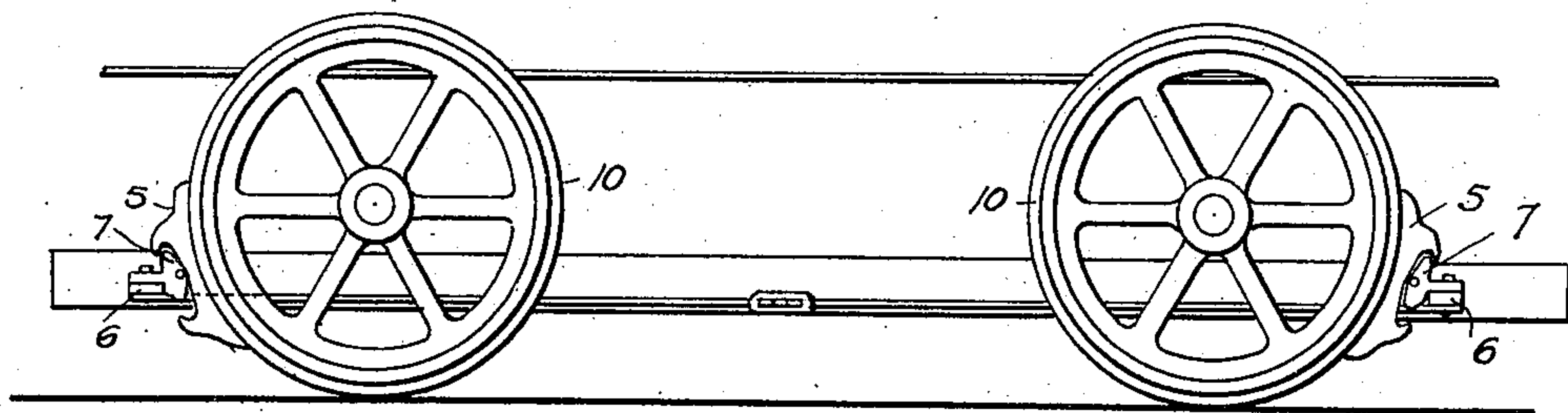


FIG. 2.

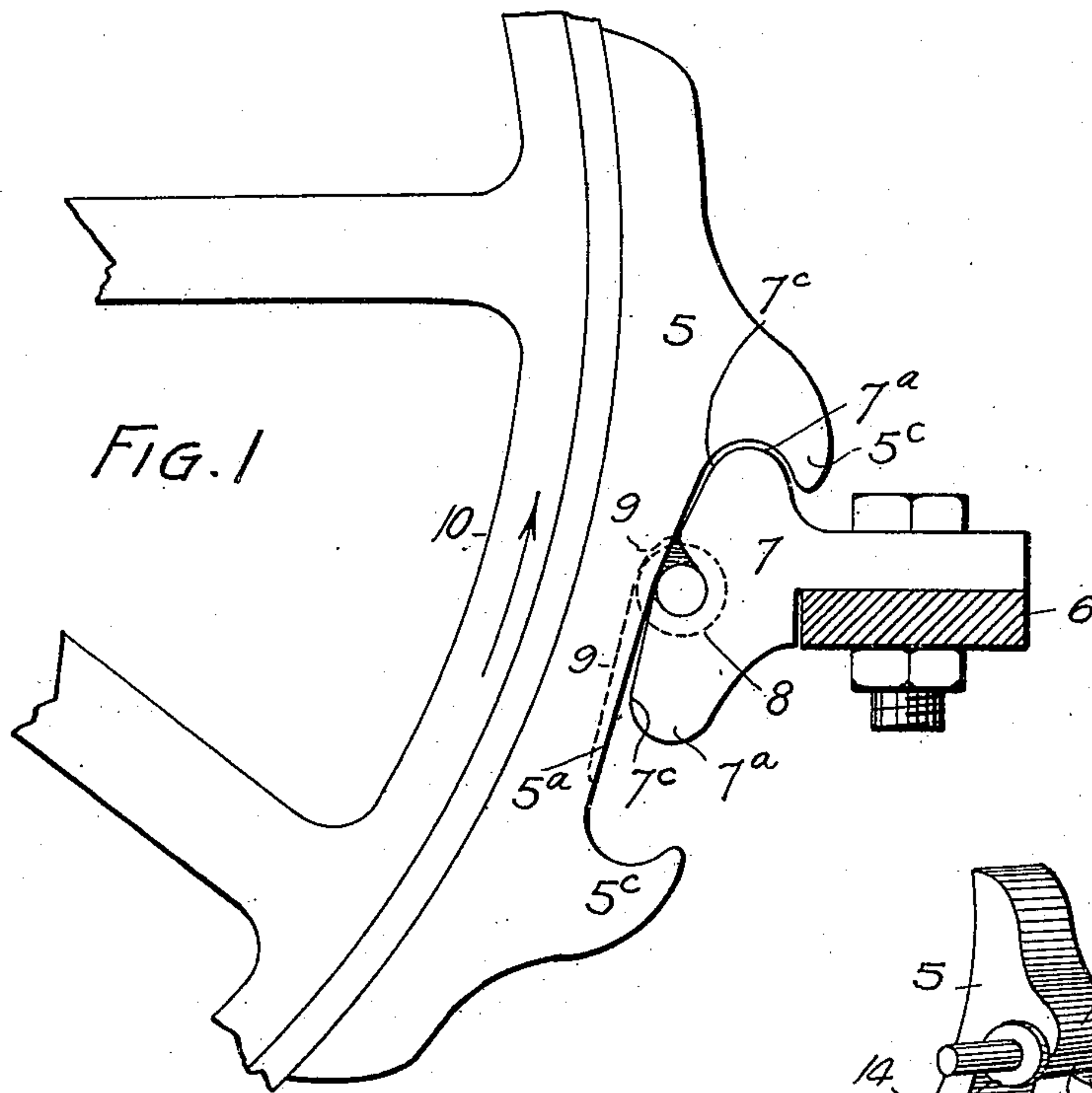
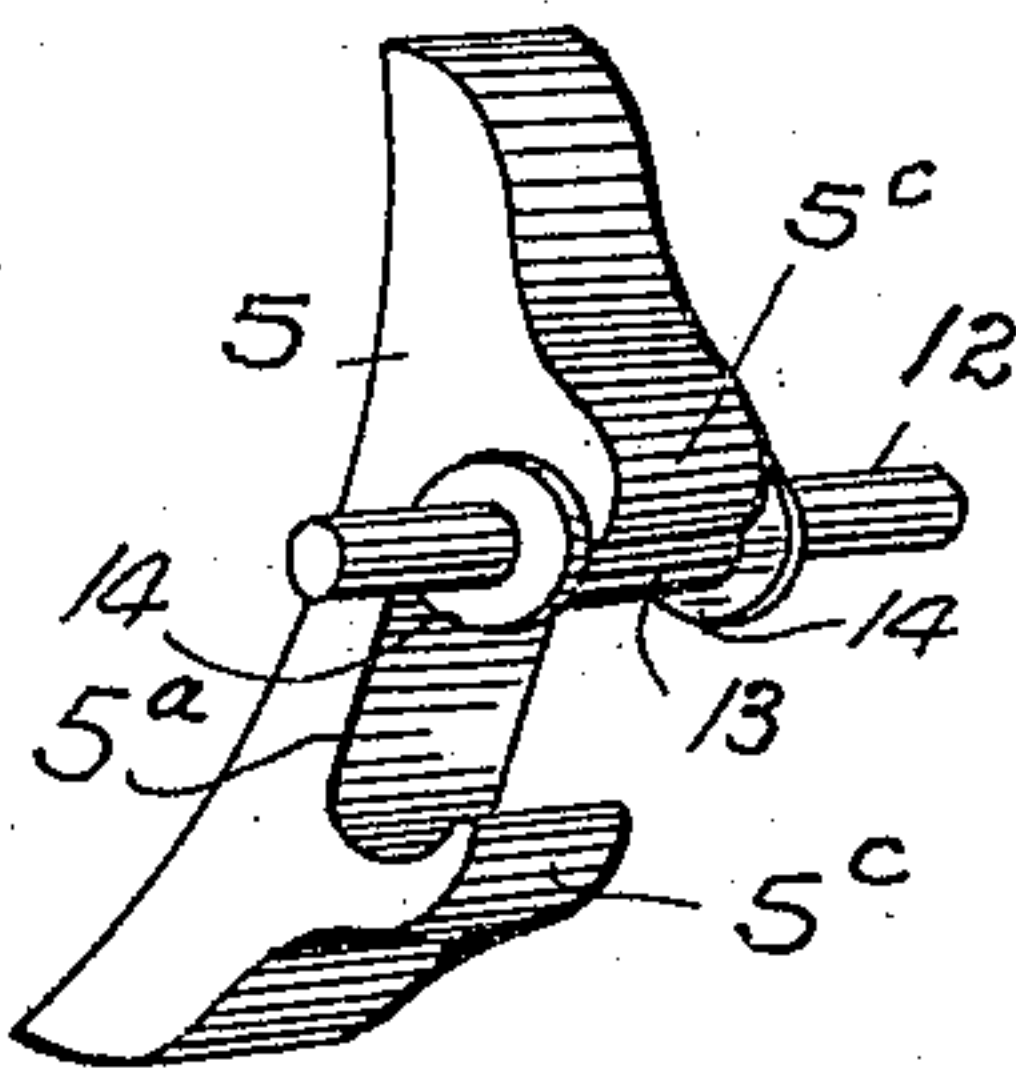


FIG. 3.



Witnesses
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[Signature]

UNITED STATES PATENT OFFICE.

HENRY NEWTON WOOD, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF
TO WILLIAM HENRY SAUVAGE AND CHARLES C. WELCH, OF SAME PLACE.

AUTOMATIC BRAKE BLOCK OR SHOE.

SPECIFICATION forming part of Letters Patent No. 641,249, dated January 9, 1900.

Application filed April 22, 1899. Serial No. 714,037. (No model.)

To all whom it may concern:

Be it known that I, HENRY NEWTON WOOD, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Automatic Brake Blocks or Shoes; 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.

My invention relates to improvements in automatic brake blocks or shoes, my object being to provide a device of this class in which the same general principle is employed as in my two previous applications, Serial Nos. 692,039 and 702,080, respectively, but which will be more simple and more economical in construction.

To these ends the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of my improved construction. Fig. 2 shows the device applied to a car-truck and on a smaller scale. Fig. 3 is a perspective view in detail illustrating a modified form of construction.

Similar reference characters indicating corresponding parts in these views, let the numeral 5 designate the brake-shoe, having a rearwardly-inclined face 5^a. To the brake beam or support 6 is attached a head 7, provided with a roller 8, engaging a groove 9, formed in the face 5^a of the brake-shoe. The head 7 is provided with projections 7^a, which limit the movement of the shoe in both directions. This head is also provided with faces 7^b, rearwardly inclined from the roller 8. The brake-block 5 is provided with hook-shaped projections 5^b, one of which is adapted to catch on the upper projection 7^a of the head 7, upon which the shoe is supported when not in use.

It will be observed that in my improved

construction no spring is required to support the brake-shoe, since the latter when not in use assumes by gravity the position illustrated in Fig. 1, its hook 5^b catching on the upper projection 7^a of the brake-head 7, which supports the shoe in position for use.

To apply the brake, the beam 6 is shifted toward the wheel 10 of the car by the use of ordinary appliances. (Not shown.) Assuming that the wheel is rotating in the direction indicated by the arrow in Fig. 1, as soon as the shoe comes in contact with the face of the wheel the resulting friction moves the shoe in the direction of the wheel's rotation and sets the brake automatically by a wedging action. The lower projection 7^a of the brake-head will limit the upward movement of the brake-shoe if there is a tendency of the shoe to move upward too far during the brake-setting operation.

It is evident that in my improved construction a single brake-shoe will only operate automatically when the wheel is moving in one direction—namely, that indicated by the arrow in Fig. 1—since the automatic brake-setting operation requires a movement in the direction of the wheel's rotation, and the shoe when in the position shown in Fig. 1 cannot move farther downward, assuming that the wheel were moving in the direction opposite that indicated by the arrow. In use, however, the brake-shoes are located on opposite sides of the two pairs of wheels comprising the truck (see Fig. 2)—that is to say, the one shoe or pair of shoes engaging one wheel or pair of wheels in the rear, while the other shoe or pair of shoes engages the other wheel or pair of wheels in front. In this event when the brake-beams are shifted toward the wheels the brake shoe or shoes on the one brake-beam will operate automatically, while the others will only act directly, their brake-setting function being limited to the power employed in forcing them against the wheels, no matter in which direction the wheels are turning. In other words, the one shoe or pair of shoes on the same brake-beam would operate automatically when the car is moving in a given direction, while the shoe or shoes on the other brake-beam will operate automatically when

the car is moving in the reverse direction, the two shoes or sets of shoes alternating in automatic action.

5 Instead of the brake-head 7 (shown in Fig. 1) the brake-shoe may be mounted on a roller 13, supported by a bar 12, which forms the brake-beam. As shown in the drawings, the roller is located between two collars 14, fast on the bar.

10 It must be understood that I do not limit the invention to the details of construction herein shown, as I am aware that many modifications may be employed without departing from the spirit of the invention.

15 Having thus described my invention, what I claim is—

1. In an automatic brake the combination of a brake-head mounted on a suitable support, and a shoe whose front face is curved
20 to engage the tread of the wheel, and whose opposite surface is recessed to receive the brake-head which forms the support for the shoe, the wall of the recess in the shoe being rearwardly inclined from the point of normal
25 engagement with the head when the shoe is inactive, whereby the rotation of the wheel in one direction when the brake-shoe is in contact therewith, automatically raises the shoe and applies the brake by wedging the

shoe between the wheel and the brake-head, 30 the upper portion of the shoe being provided with a rearwardly-projecting hook which engages the brake-head from above when the shoe is at rest.

2. In an automatic brake the combination 35 with a truck provided with two pairs of wheels and brake-beams respectively located in front and rear of said wheels, and means for shifting the beams toward the tread of the wheels, of brake-heads mounted on said beams, and 40 shoes supported by the heads and adapted to engage the tread of the wheels as the beams are shifted, each shoe having its rear surface recessed to receive the brake-head, and rearwardly inclined downward from the point of 45 normal engagement with the head, whereby one set of shoes acts automatically by moving upwardly when the car is moving in one direction, and the other set of shoes acts in the same manner when the car is moving in 50 the opposite direction.

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

HENRY NEWTON WOOD.

Witnesses:

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