No. 676,516. Patented June 18, 1901.

C. V. ROTE.

WHEEL CAR BRAKE.

(Application filed Oct. 2, 1900.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

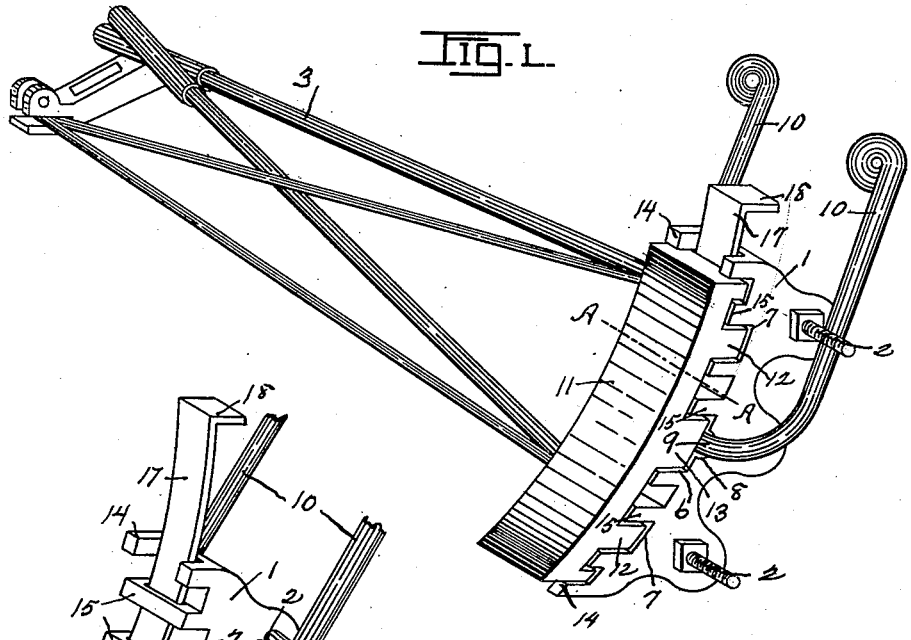
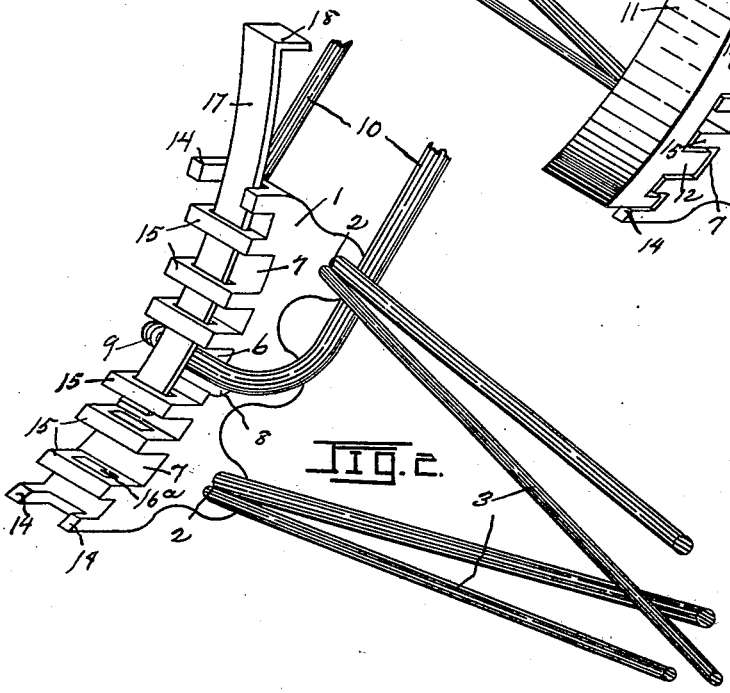


Fig. 2.



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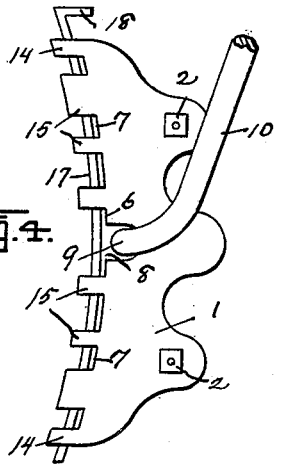

Fig. 4.

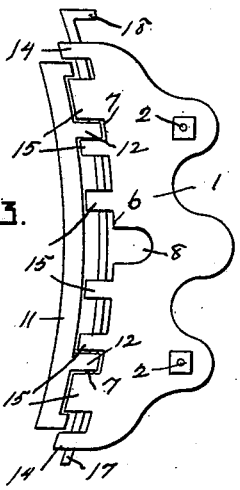

Fig. 3.

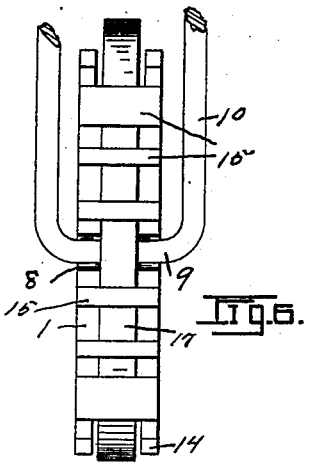

Fig. 6.

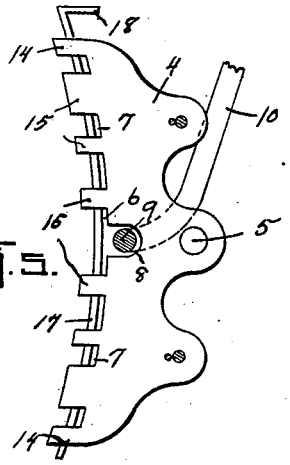

Fig. 5.

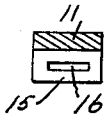

Fig. 7.

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(Application filed Oct. 2, 1900.)

(No Model.) 3 Sheets—Sheet 3.

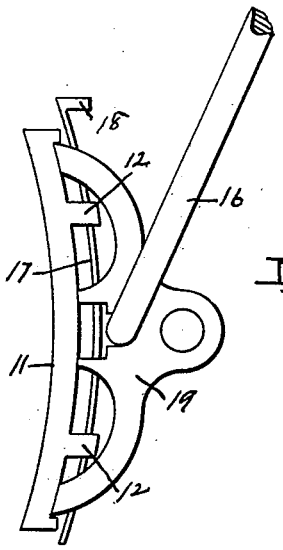

FIG. 9.

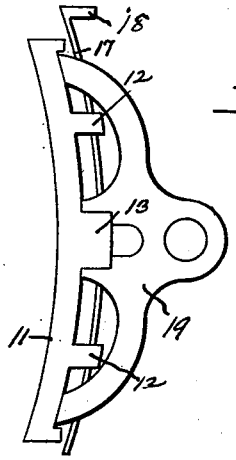

FIG. 8.

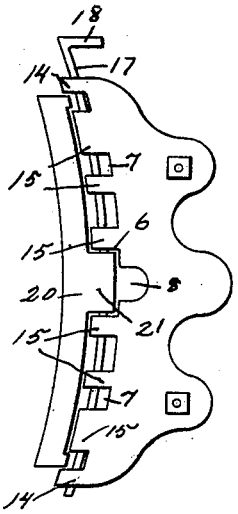

FIG. 10.

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UNITED STATES PATENT OFFICE.

CHARLES V. ROTE, OF LANCASTER, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN W. HOLMAN, OF SAME PLACE.

WHEEL CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 676,516, dated June 18, 1901.

Application filed October 2, 1900. Serial No. 31,742. (No model.)

To all whom it may concern:

Be it known that I, CHARLES V. ROTE, a citizen of the United States, and a resident of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Wheel Car-Brakes, of which the following is a specification.

This invention relates to improvements in that class of car-brakes wherein brake-shoes are applied only to the wheel.

With the brake-blocks and brake-shoes now most generally employed the shoes must often be removed before they are entirely worn out for fear of their breaking between stops, when the end pieces fly off and are dangerous to persons along the track and often to the train itself. By thus removing brake-shoes before they are entirely worn out much metal is lost, and when not removed in time the detached pieces become a source of danger.

The objects of my improvements are, first, to use the brake-shoes until they are entirely worn out, and, second, to prevent the pieces of broken shoes from becoming detached from the brake-blocks.

The invention consists in the construction and combination of the various parts, as hereinafter fully described and then pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a front outer side perspective view of a brake-block and a brake-shoe embodying my invention, the brake-block being supported by a brake-beam of special construction; and Fig. 2 is a front inner side perspective view of a similar brake-block and brake-beam, the brake-shoe being removed and showing the key partially withdrawn. Fig. 3 is a side elevation of a similar brake-block, but showing a shoe having only two keepers; Fig. 4, a similar view of the brake-block, the brake-shoe being removed and the hanger shown in place; Fig. 5, a side elevation of a brake-block adapted to be used either with the brake-beam illustrated in Fig. 1 or with any ordinary brake-beam, and Fig. 6 a front face view of the brake-block shown in Fig. 4. Fig. 7 is a transverse section of one of my brake-shoes. Fig. 8 is a side elevation of one of my brake-shoes having three keepers and attached to the ordinary brake-block; Fig. 9, a similar view showing one of my brake-shoes having two keepers and attached to an ordinary brake-block, and Fig. 10 a side view of one of my brake-blocks having attached thereto one of the brake-shoes in common use.

Similar figures indicate like parts throughout the several views.

Referring to the details of the drawings, 1 indicates a brake-block embodying my improvements, Figs. 1, 2, 3, 4, and 6, and adapted to be connected both at top and bottom with a brake-beam, as shown at 2, and 3 is a brake-beam constructed to have connection with the brake-blocks both at top and bottom.

4 designates a brake-block similar to brake-block 1, but also constructed to have but a single connection with a brake-beam, as shown at 5, Fig. 5, which arrangement for a single connection is the usual construction when the brake-block is attached to the ordinary brake-beam. In all the figures before mentioned the brake-blocks have a plurality of grooves in their front faces to receive a plurality of keepers on the brake-shoes, to be described. The center groove 6 is somewhat broader than the others, 7, above and below it. In the back of the center groove 6 is a recess 8, adapted to receive the loop 9 of the hanger 10, whereby the brake-block is supported. It is not necessary that a hanger constructed as shown be used, as the brake-block may be supported by any of the devices in ordinary use.

11 designates a brake-shoe embodying my invention and having on the back thereof, above and below the center, keepers 12, as shown in Figs. 3 and 9, adapted to engage grooves 7 above and below the center of the brake-block. In Figs. 1 and 8 is shown a brake-shoe having in addition to the upper and lower keepers 12 a centrally-located keeper 13, adapted to engage the center groove 6 of the brake-block. Each of said keepers and the lips 14 on the ends of the front faces of the brake-blocks and the jaws 15, forming the grooves 6 and 7, have therethrough openings 16, and when the keepers engage the grooves 6 and 7, respectively, the openings 16 in the keepers range with the corresponding openings in the lips 14 and 15.

The brake-shoes are then secured to the brake-blocks by keys 17, inserted through said openings, both in the keepers and in the lips 14 and 15, which key is prevented from dropping out by a lip 18 on the upper end thereof.

19 indicates a brake-block of the ordinary construction, which has but one groove for the reception of a keeper, that being located in the center, and in Fig. 8 is shown one of my improved brake-shoes having three keepers and engaged with brake-block 19. In Fig. 9 is shown an ordinarily-constructed brake-block 19 and one of my brake-shoes secured thereto and having but two keepers. In these figures, as in the others, the brake-shoes are secured to the brake-blocks by keys 17.

The brake-shoe 20 in ordinary use has but one keeper 21, and in Fig. 10 is shown one of said ordinary brake-shoes secured to one of my improved brake-blocks.

When the brakes are applied, one or the other end of the brake-shoe is apt to strike the wheel first, and when the brake-shoe is much worn down the force of the impact is liable to break the brake-shoe. These breaks are transversely of the shoe and occur above or below the center thereof, the piece detached in the ordinary shoe flying from the brake-block. With my construction these pieces are held in place, and not only is danger from flying pieces of the brake-shoe avoided when said shoe is broken, but those pieces continue to do service when the brakes are afterward applied. My invention also effects a great saving, as brake-shoes still having sufficient metal in them for service in a long run are, when they are reduced to a certain thickness, removed for fear of breakage and the danger resulting therefrom.

I do not restrict myself to the details of construction herein shown and described, as it is obvious that many alterations may be made therein without departing from the principle and scope of my invention.

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

1. The combination, in a car-brake, of a brake-shoe having a plurality of keepers, projections on the face of the brake-block, and a key passing through openings in the projections on the face of the brake-block and through openings in the keepers of the brake-shoe.

2. The combination, in a car-brake, of a brake-shoe having a plurality of keepers, a brake-block having grooves in the front face thereof and adapted to receive the keepers on the brake-shoe, and a key passing through the jaws forming the grooves in the front face of the brake-block and through the keepers of the brake-shoe.

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