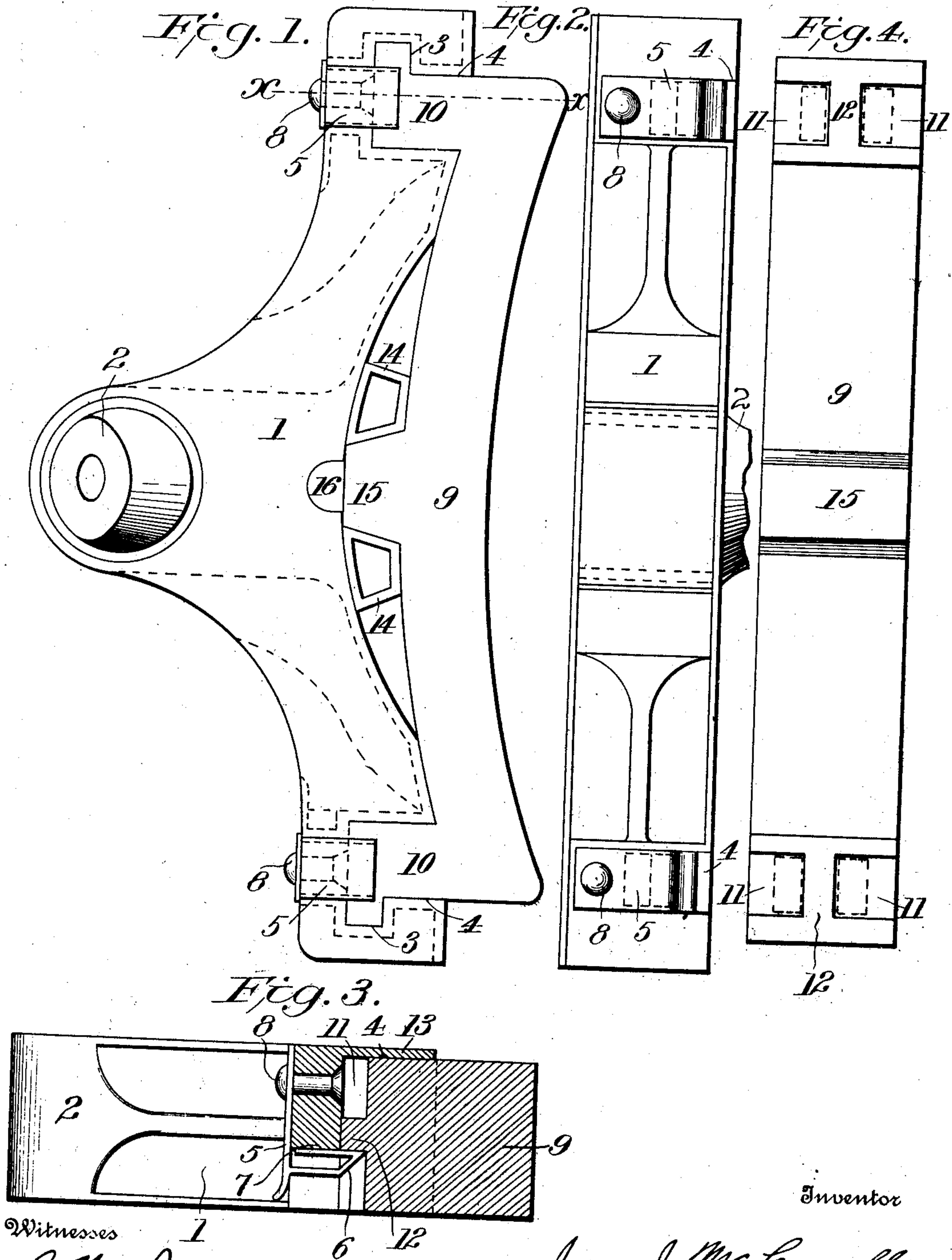


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 SELF LOCKING BRAKE SHOE AND HEAD.  
 APPLICATION FILED MAR 22, 1910.

978,772.

Patented Dec. 13, 1910.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JAMES J. McCONNELL, OF WILMINGTON, DELAWARE.

SELF-LOCKING BRAKE SHOE AND HEAD.

978,772.

Specification of Letters Patent.

Patented Dec. 13, 1910.

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*To all whom it may concern:*

Be it known that I, JAMES J. McCONNELL, a citizen of the United States, residing at Wilmington, in the county of Newcastle and State of Delaware, have invented certain new and useful Improvements in Self-Locking Brake Shoes and Heads; 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 brake-shoes and heads designed for passenger and freight railway cars.

The principal object is to dispense with all separate fastenings, such as the tapered pins often used for securing the shoes to the head, and which are liable to work loose allowing the shoe, and in some cases the beam, to fall upon the track frequently causing trouble, even a wreck.

Another object is to prevent the shoe from dropping off, if by any chance it should be broken across the middle.

A further object is to provide a shoe which is reversible end for end, and may be fastened in either position with equal ease and security.

Still another object is to provide automatic fasteners whereby the shoe may be secured to the head very quickly and without difficulty but which retains the shoe on the head permanently until said fasteners are released by hand.

Further objects will become apparent from the following description.

The invention consists in the features of construction and combinations of parts hereinafter described and specified in the claims.

In the accompanying drawing: Figure 1 is a side view of a head and shoe constructed in accordance with my invention. Fig. 2 is a rear view. Fig. 3 is a section on the line  $x-x$  of Fig. 1, and Fig. 4 is a rear view of the shoe alone.

Referring more particularly to the drawing, 1 designates the brake head having the attaching lug 2. The ends of said head are provided with pockets or chambers 3 entering from one side, that is, opening on one side of the head but closed on the other side thereof. Each of these pockets has an outward extension 4. Spring catches 5 extend through from the upper face of the head into each of said pockets. The portion or end of each catch which protrudes into the

pocket is beveled, as at 6, facing the open side of said pocket but straight on the opposite side, as illustrated at 7. Said catch is preferably made of a single piece of spring metal bent into the form shown in Fig. 3. The extremity of the spring is riveted to the head, as at 8. An upwardly turned lip or thumb piece is provided at the free end of the upper portion of the spring for engagement by the thumb for raising the catch to release the shoe. Said shoe 9 has tongues or tenons 10 shaped to fit the pockets in the head. The inner faces of said tenons which are presented to the spring catches have transverse grooves 11 therein with a cross rib 12 midway of each for engagement by said spring catches. The position of these cross ribs and their width is such that they may be engaged by the catches on either side so that the shoe may be reversed or turned end for end, if desired. Either way the shoe is inserted into the head, the closure or flange 13 at one side of each pocket arrests said shoe at a point where the catches have just snapped over the ribs 12. These flanges 13, therefore, prevent the lateral displacement of the shoe in one direction while the catches lock it against movement toward the other side. At the same time, the shoe can be very easily and quickly removed by merely lifting the catches to release them from the ribs 12.

I preferably provide a pair of spaced apart lugs 14 near the center of the inner face of the head, and a single lug 15 at the center of the inner face of the shoe. The latter lug fits between the other two and holds the loop hanger 16 in place. These lugs give a bearing to the shoe at the center when strain is placed upon it.

It will be noted that by reason of the tenons on the ends of the shoe being securely fastened in the pockets of the head if the shoe should be broken entirely across intermediate of its ends (which, however, will not occur with a steel back shoe) both portions will be retained on the head. When my invention is employed, the shoe can be used until it wears down to the head, where as the old style shoe could not wear off more than three-quarters of an inch.

While I have herein shown and described the preferred embodiment of my invention, I do not limit myself to the exact form disclosed but reserve the right to make such changes as fairly fall within the scope of



my invention. For instance, while I have shown the head made in skeleton form, said head may be made solid or in any other manner which is suitable for the purpose.

5 I claim:

1. The combination, with a brake head having two transverse pockets, one near each of its ends, each pocket being provided with an internal extension, of a shoe having ten-  
10 ons adapted to fit said pockets and the extensions thereof, whereby each end of said shoe is secured to the head independently of the other, and means to lock said tenons in said pockets.
- 15 2. The combination, with a brake head having two transverse pockets, one near each of its ends, each pocket being closed at one side and open at the other and having an internal extension, of a shoe provided with  
20 tenons adapted to fit said pockets and the extensions whereby each end of said shoe is secured to the head independently of the other, and means to lock said tenons in said  
25 open sides.
3. The combination, with a brake-head having transverse pockets near its ends, said pockets being provided with internal extensions, of a shoe having tenons adapted to  
30 fit said pockets and the extensions thereof, and means to automatically lock said tenons in said pockets.
- 35 4. The combination, with a brake-head having transverse pockets near its ends, said pockets being provided with internal extensions, of a shoe having tenons adapted to fit said pockets and the extensions thereof, and means to automatically lock said tenons in  
40 said pockets comprising spring catches mounted on said head and projecting into said pockets, and grooves in said shoe to receive said catches.
- 45 5. The combination, with a brake-head having transverse pockets near its ends, said pockets being provided with internal extensions, of a shoe having tenons adapted to fit said pockets and the extensions thereof, ten-

ons having grooves therein, ribs arranged across said grooves, and spring catches mounted on the head and adapted to auto- 50 matically engage said ribs for the purpose specified.

6. The combination, with a brake-head having transverse pockets near its ends closed at one side and open at the other, said 55 pockets having internal extensions, of a shoe provided with tenons adapted to fit said pockets and extensions thereof, and means to automatically lock said tenons in said pockets against being withdrawn from their 60 open sides.

7. The combination, with a brake-head having transverse pockets near its ends, closed at one side and open at the other, said pockets having internal extensions, of a shoe 65 provided with tenons adapted to fit said pockets and extensions thereof, and means to automatically lock said tenons in said pockets against being withdrawn from their open sides comprising spring catches 70 mounted on said head and engaging depressions in said shoe.

8. The combination, with a brake-head having pockets therein, of a shoe provided with tenons adapted to fit said pockets, and 75 automatic catches for retaining said tenons in said pockets, each catch being made of a single piece of spring metal bent to form a resilient shank and a locking lug, each catch also having a thumb-piece at its free end for 80 the purpose specified.

9. The combination, with a brake-head having pockets near its end and two spaced apart lugs near its center, of a shoe provided with tenons adapted to engage said pockets, 85 and a lug adapted to fit between the two central lugs on the head, and means to retain said tenons in said pockets.

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

JAMES J. McCONNELL.

Witnesses:

JOSEPH A. DUGAN,  
JOHN A. KANE.