

I H. CONGDON.
CAR BRAKE SHOES.

No. 174,898.

Patented March 21, 1876.

Fig. 1.

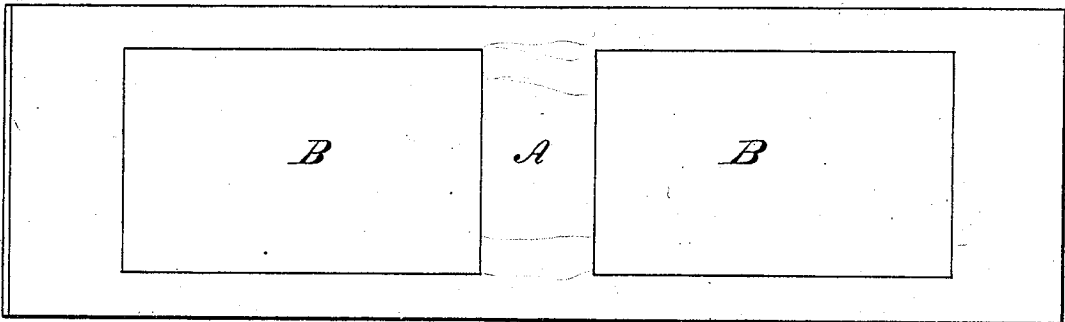
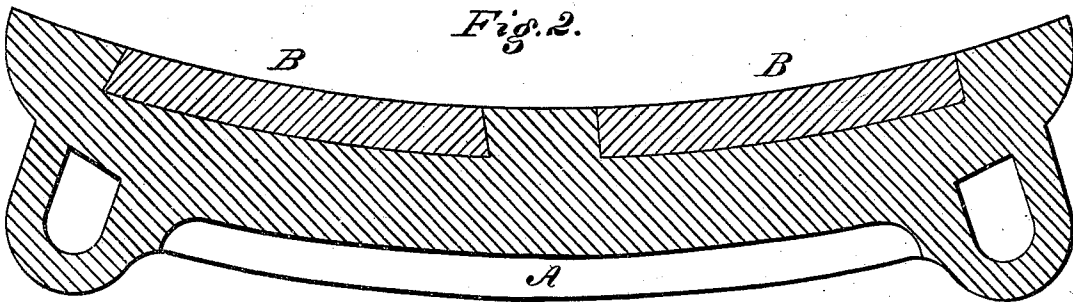


Fig. 2.



Witnesses:

John Twitchell.
Will H. Dodge.

Inventor:

I. H. Congdon,
by Dodge & Son,
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UNITED STATES PATENT OFFICE.

ISAAC H. CONGDON, OF OMAHA, NEBRASKA, ASSIGNOR OF THREE-FOURTHS
HIS RIGHT TO GEORGE M. SARGENT, OF DES MOINES, IOWA.

IMPROVEMENT IN CAR-BRAKE SHOES.

Specification forming part of Letters Patent No. **174,898**, dated March 21, 1876; application filed
January 4, 1876.

To all whom it may concern:

Be it known that I, ISAAC H. CONGDON, of Omaha, in the county of Douglas and State of Nebraska, have invented certain Improvements in Shoes for Car-Brakes, of which the following is a specification:

My invention consists of a shoe for car-brakes, having its body made of cast-iron, with pieces or sections on its face of a different kind of metal, said sections being composed of malleable cast-iron, steel, or wrought-iron, as hereinafter more fully set forth.

Fig. 1 is a front face view of a shoe made on my plan, and Fig. 2 is a longitudinal central section of the same.

It has generally been the custom to make the shoes for car-brakes by casting them solid, although sometimes made in parts, so that when the part which bears on the wheel becomes worn it can be detached and another substituted. So, too, efforts have been made to construct these shoes with sections of wood or rubber, to give them greater adhesion, but such have not been successful. The amount of iron used, and the rapid wearing away of their surfaces, render the ordinary cast-iron shoes expensive; and it is the object of my invention to lessen the expense, and at the same time make the shoe much more durable.

In constructing a shoe on my plan, I first provide pieces of wrought-iron, steel, or malleable cast-iron, as indicated by the letter B in the drawings. These pieces B may be of any size, so that two or more of them may be arranged in the face of the shoe, as shown. The mold having been prepared by using a pattern of the size and shape that the shoe is to be when completed, then the pieces B are laid therein, face downward, after which the molten cast-iron is poured in, so as to fill the mold and inclose the pieces B, as represented in the drawings, A indicating the cast-iron portion.

By having the surfaces of the pieces B clean and free from rust or any foreign substance, the molten iron will so heat them as to cause a perfect adhesion of the parts, when cool. If desired, however, the ends of the

pieces B may be cut beveling, as represented in the left-hand side of Fig. 2, so that the cast metal will lock and firmly hold them in place, the parts being, as it were, dovetailed together.

In or about all railroad-shops there is always an accumulation of broken springs and pieces of iron of various kinds, and these can be used to form the pieces B by simply cutting them into pieces of the proper size; and thus all this waste material may be utilized, thereby greatly lessening the expense of supplying the cars with shoes.

The pieces B, as will be seen, are arranged to bear on the wheel, thus receiving the most of the friction and wear; and as these metals are much more durable than cast-iron, it follows that shoes thus made will last much longer. When worn so as to be unfit for use, they can be remelted and used to form new shoes. Another advantage of this shoe is that it has greater adhesion on the wheel, and is, therefore, more effective.

By this method of constructing the shoes they are not only rendered more durable and effective, but there is also great saving in the cost, as the waste material which would otherwise be sold as old scrap is fully utilized.

It is obvious that the pieces B may be round instead of rectangular, and that they may have projections on their edges or back, for the cast-iron to engage with, but these I find unnecessary; and as the wrought-iron or steel is generally in the form of bars or strips, I find it most convenient to make them as represented.

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

A shoe for car-brakes, composed of the cast-iron body A, having the bearing pieces B, of wrought-iron, steel, or malleable cast-iron, embedded in its face, substantially as shown and described.

ISAAC H. CONGDON.

Witnesses:

BYRON REED,
P. H. REED.