S. D. DANFIELD.

Car-Brake Shoe.

No. 50,656. Patented Oct. 24, 1865.

Fig. 1.

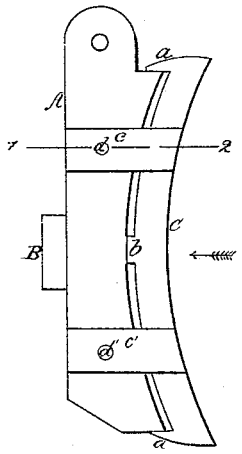
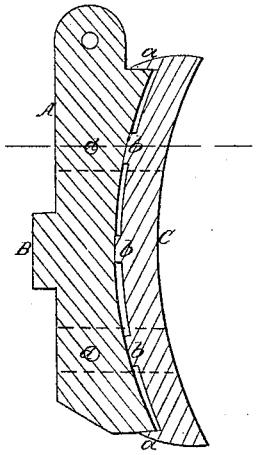


Fig. 4.



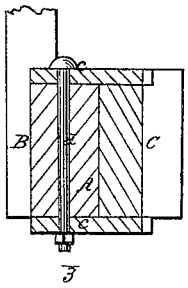


Fig. 3.

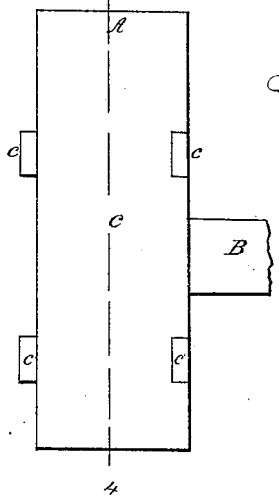


Fig. 2.

UNITED STATES PATENT OFFICE.

SAML. D. DANFIELD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND HENRY WOOD, OF SAME PLACE.

IMPROVEMENT IN CAR-BRAKE SHOES.

Specification forming part of Letters Patent No. **50,656**, dated October 24, 1865.

To all whom it may concern:

Be it known that I, SAMUEL D. DANFIELD, of Philadelphia, Pennsylvania, have invented an Improvement in Brake-Shoes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to that class of brake-shoes in which a metal sole is secured to a wooden block and my invention consists in a metal sole with projecting arms arranged to embrace a wooden shoe, and having holes to receive pins which pass through the said wooden shoe and fasten the sole to the same.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a side view of my improved brake-shoe; Fig. 2, a view looking in the direction of the arrow, Fig. 1; Fig. 3, a transverse section on the line 1 2, Fig. 1, and Fig. 4, a section on the line 3 4, Fig. 2.

Similar letters refer to similar parts throughout the several views.

A is the ordinary wooden shoe or block, which is attached to the brake-beam B, and hung in the usual manner to the truck.

C is a metal sole, at the rear of which are two projections, *a a*, and three ribs, *b b b*, the concave face of the block fitting snugly between the said projections *a*, and bearing against the ribs *b*, so that there shall be a space between the face of the block and the back of the sole.

From each side of the sole project two arms, *c* and *c'*, and in that side of the block which is next the flange of the wheel are two recesses adapted for the reception of the arms *c c'*, so that the outer edges of the latter and the side of the brake-shoe shall be flush with each other. The arms on the opposite side of the sole bear directly against the side of the block, and through both the upper arms, *c*, and through the block passes a pin or bolt, *d*, a similar bolt or pin, *d'*, passing through both the lower arms and through the block near the lower end of the latter.

Metal soles have been heretofore secured to wooden brake-blocks by bolts passed through both the block and sole, so that the heads of the bolts are brought against the wheel on the application of the brake. In this case, the bolt-heads soon wearing away, the brakes require constant inspection in order to replace defective bolts, and considerable time and labor is needed to secure the sole to, or detach it from, the block. As the sole has to be replaced as soon as it becomes too much worn to receive the heads of the bolts, and as the latter have to be renewed whenever the heads wear away, it will be apparent that brake-blocks of this character are very expensive.

In my improved shoe the sole is held firmly in its position by the projections *a a* and arms *c* and *c'*, which embrace the block and are attached to the same by the pins or bolts *d*, the latter being in no way affected by the wearing away of the sole.

It will be apparent that the sole may be readily detached by removing the bolts *d*, and that it may be used until entirely worn away.

In order to prevent the block from being charred or burned by the heating of the sole, the greater portion of the latter is maintained free from contact with the block by the ribs *b*, the spaces thus formed between the block and the sole admitting the passage of currents of air, which prevent the sole from becoming unduly heated.

Should one side of the sole wear away more quickly than the other it may be removed, reversed, and applied to the block on the opposite end of the brake-beam.

I claim as my invention and desire to secure by Letters Patent—

The metal sole C, with its arms, *c c'*, arranged to embrace the wooden shoe A, and having holes to receive pins or bolts which pass through the said block, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAML. D. DANFIELD.

Witnesses:
JOHN WHITE,
CHARLES E. FOSTER.