No. 695,248. Patented Mar. 11, 1902.

A. L. STREETER.

BRAKE SHOE.

(Application filed June 25, 1901.)

(No Model.)

Fig. 1.

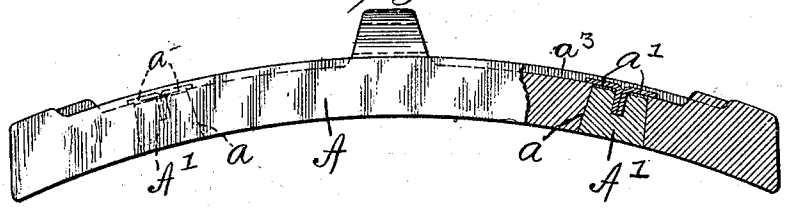


Fig. 2

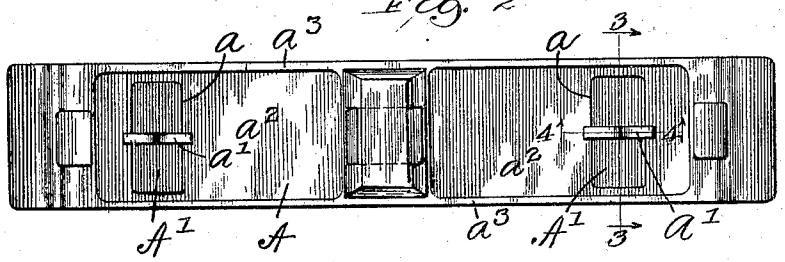


Fig. 3

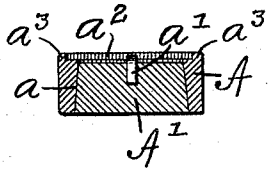


Fig. 4

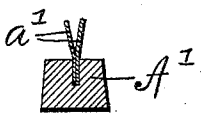


Fig. 5.

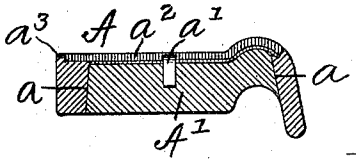


Fig. 6.

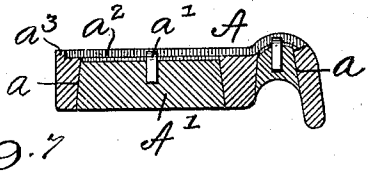
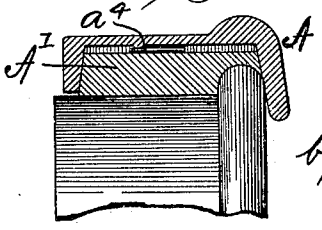


Fig. 7



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALFRED L. STREETER, OF CHICAGO, ILLINOIS.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 695,248, dated March 11, 1902.

Application filed June 25, 1901. Serial No. 65,949. (No model.)

To all whom it may concern:

Be it known that I, ALFRED L. STREETER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented an Improved Brake-Shoe, of which the following is a specification.

This invention relates to brake-shoes.

From locking of the wheels in stopping cars and from other causes flat spots are frequently formed on car and engine wheels, causing the same to pound, producing a jolting motion and a disagreeable sound and also subjecting the tracks and the car to increased wear. Also by wearing of the treads of engine-drivers the flanges thereof become long and sharp and are liable to cut off bolts, &c., used for securing rails together and to strike the bottoms of the grooves of frogs and railroad-crossings. To remedy this, all wheels are taken off and trued up at intervals, and during their periods of use may be subjected to the action of grinding or dressing shoes provided for the purpose, whereby their periods of use are materially increased. An objection to the continuous use of such dressing brake-shoes is that they wear the wheels too fast. To obviate these defects, I have conceived the idea of producing a brake-shoe which is adapted for ordinary braking purposes and which may quickly and conveniently be converted into a combined braking and dressing shoe—that is, a brake-shoe which in braking will dress or trim the wheel and remove therefrom flat spots, high flanges, and other irregularities which may have been formed thereon.

The invention consists of the various features, combinations of features, and details of construction hereinafter described and claimed.

Figure 1 is a side view, partly in section, of a brake-shoe embodying my invention. Fig. 2 is a plan view of the back thereof. Fig. 3 is a sectional view on the line 3 3 of Fig. 2. Fig. 4 is a view of a dressing-block removed from the shoe. Figs. 5 and 6 show different ways of applying my invention to flanged brake-shoes, and Fig. 7 shows a spring applied to the back of the dressing-block.

Referring now to the drawings, A designates the body of a brake-shoe, formed in the face or friction-surface of which are one or more recesses or openings *a*. Said recesses or openings *a* preferably extend entirely through the shoe; but my invention contemplates having them closed at the back of the shoe, if desired. Preferably, also, the holes or openings *a* are smaller at the back than at the front, the sides thereof tapering from front to back. This feature I do not consider essential, as said holes may be of any desired shape and size.

The body portion A of the shoe will preferably be made of steel, malleable iron, or other strong tough metal; but my invention contemplates making it of any desired or suitable material.

Fitted to and adapted to be secured in the openings or recesses *a* are dressing-blocks A′, of suitable abrading or cutting material, as emery, corundum, hard steel, or the like. As preferably applied to brake-shoes for flanged wheels separate openings or recesses *a* are formed on the flange and on the flat portion thereof, as shown in Fig. 6; but I contemplate using openings or recesses which are continuous over the flange and flat portion of the shoe, as shown in Fig. 5.

When used for ordinary braking purposes, the brake-shoes will be used without the dressing-blocks. If, however, the wheels become flat or develop high flanges, blocks A′ are placed in the openings *a* of the shoes applied to said wheels, and these in the course of time will dress the wheel in the desired manner.

When recesses or openings *a* becoming smaller toward the back are used, it is obvious that after the blocks A′ have been placed therein said blocks will be held therein by the surfaces of the wheels, which will, in effect, close said openings. In practice, however, I prefer to secure said blocks A′ in said recesses or openings so that they may be conveniently removed therefrom after the wheel has been dressed sufficiently. The means I prefer to employ for this purpose consist of clips *a*′, of suitable flexible material, secured in the blocks A′, which are adapted to be bent or clamped over the back of the shoe. In order to bring the clips *a*′ below the back of the shoe, so that they will not interfere with the brake-head, depressions a^2 are formed in the back of the shoe adapted to receive said clips.

The depressions a^2 may be of any desired depth, not less than the thickness of the clips a'—say three-sixteenths ($\frac{3}{16}$) of an inch In. the preferable construction shown said depressions extend over substantially the entire area of the back of the shoe, between the attaching and guide lugs, leaving only a narrow margin a^3 extending up to the line of the back of the shoe. In addition to providing space to receive the clips a' said depressions have another advantage, which is that they very materially lessen the amount of scrap in the worn-out shoes. The edges a^3 of the shoes extending up to the line of the back of the shoes, said shoes thus have the appearance of being considerably thicker than they are in fact, the result being that the metal removed to form the depressions a^2 will be saved. This is a very important item, as shoes cost much more per pound than can be realized for them as scrap when worn out. Further than this, the stock removed to form said depressions does not detract from the life of the shoe, as the margins a^3 provide necessary and adequate strength.

As shown in Fig. 7 of the drawings, my invention contemplates inserting springs a^4 behind the blocks A', which will operate to force said blocks outwardly and maintain them in continuous engagement with the wheels, thus securing a continuous dressing action. When the brakes are applied, the blocks A' will be forced into the recesses a and become seated therein. This construction will find its principal application in driver-shoes, which are always closely adjacent to the drive-wheels.

I claim—

1. A brake-shoe comprising a body portion provided with an opening or openings in its face or friction-surface and a dressing block or blocks adapted to be removably secured in said opening or openings, substantially as described.

2. A brake-shoe comprising a body portion provided with a transverse opening or openings in its face or friction-surface and a dressing block or blocks adapted to be removably secured in said opening or openings, substantially as described.

3. A brake-shoe comprising a body portion provided with an opening or openings in its face or friction-surface which taper toward the back of the shoe and a dressing block or blocks adapted to be removably secured in said opening or openings, substantially as described.

4. A brake-shoe comprising a body portion provided with an opening or openings in its face or friction-surface, a dressing block or blocks adapted to be removably secured in said opening or openings and a spring applied to the back of said block or blocks and adapted to force said block or blocks outwardly into contact with the car-wheel, substantially as described.

5. A brake-shoe comprising a body portion provided with an opening or openings in its face or friction-surface, a dressing block or blocks adapted to be removably secured in said opening or openings and means to secure said block or blocks in said opening or openings, said means comprising clips secured in said block or blocks adapted to be bent or clamped over the back of the shoe, substantially as described.

6. A brake-shoe comprising a body portion provided with an opening or openings in its face or friction-surface, a dressing block or blocks adapted to be removably secured in said opening or openings and means which project at the back of the shoe to secure said block or blocks in said opening or openings, the back of the shoe being provided with depressions to receive said securing means, substantially as described.

7. A brake-shoe comprising a body portion provided with an opening or openings in its face or friction-surface, a dressing block or blocks adapted to be removably secured in said opening or openings and means which project at the back of the shoe to secure said block or blocks in said opening or openings, the back of the shoe being provided with depressions to receive said securing means, said depressions extending over practically the entire area of the back of the shoe except at the margins thereof which extend up to the line of the back of the shoe, substantially as described.

8. A brake-shoe comprising an attaching-lug, the wedge-opening in which is located above the back of the shoe, the body of said shoe being provided with depressions in its back which extend over practically the entire area thereof except at the margins, which extend up to the line of the back of the shoe, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two subscribing witnesses, this 21st day of June, A. D. 1901.

ALFRED L. STREETER.

Witnesses:
M. S. SOMERVILLE,
J. A. MCKEOWN.