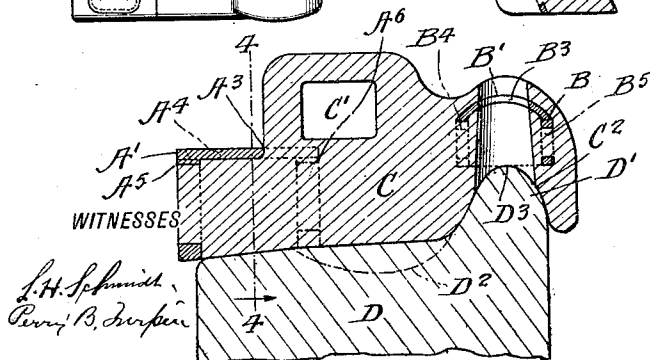
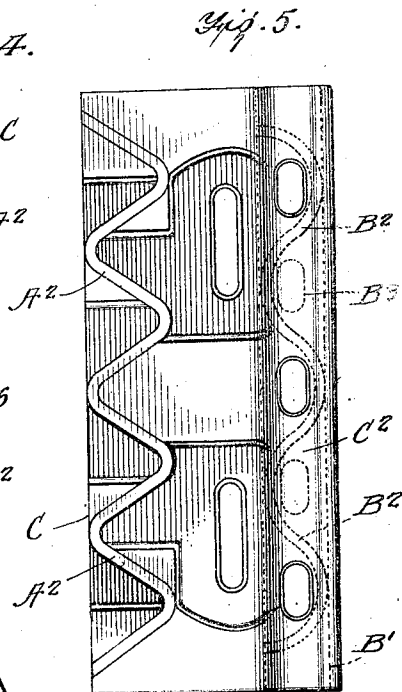
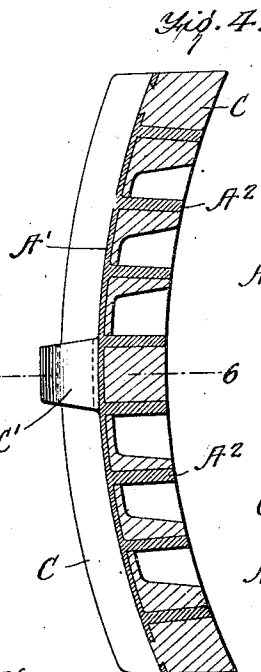
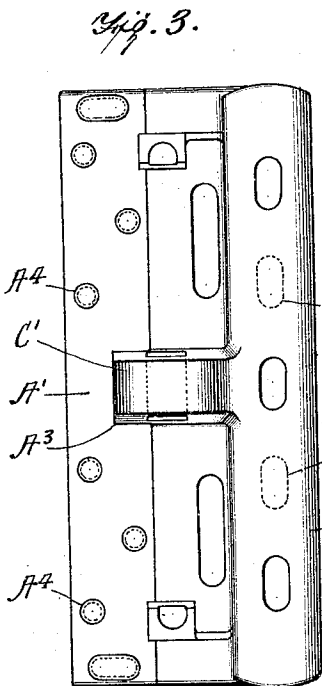
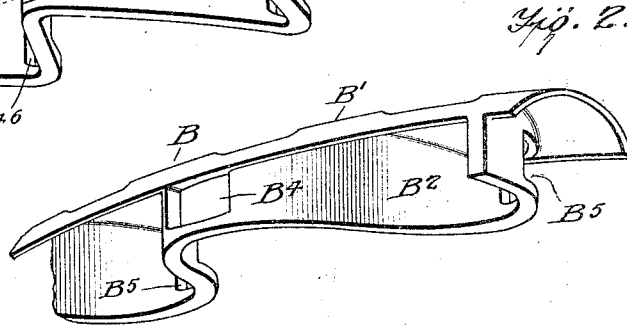
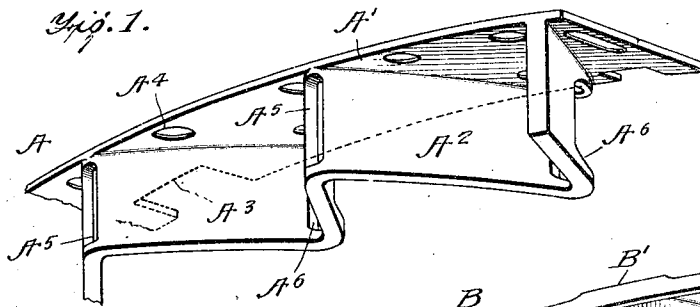


J. E. WORSWICK.
BRAKE SHOE.
APPLICATION FILED MAR. 14, 1911.

1,046,360.

Patented Dec. 3, 1912.



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JAMES E. WORSWICK, OF MONTGOMERY, ALABAMA.

BRAKE-SHOE.

1,046,360.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed March 14, 1911. Serial No. 614,305.

To all whom it may concern:

Be it known that I, JAMES E. WORSWICK, a citizen of the United States, and a resident of Montgomery, in the county of Montgomery and State of Alabama, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

This invention is an improvement in car wheel brake shoes and dressers, especially in that class of such devices wherein an insert of comparatively hard metal is combined with a body portion of softer metal and affords a wearing surface to operate upon the car wheel. The present invention relates to certain improvements in the insert construction and consists in certain novel constructions and combinations of parts as will be hereinafter described and claimed.

In the drawing Figure 1 is a detail perspective view of the insert for operating upon the main tread surface of the wheel. Fig. 2 is a detail perspective view of the insert for operating upon the flange of the wheel. Fig. 3 is an elevation of the rear side of the brake shoe. Fig. 4 is a vertical longitudinal section through the brake shoe on about line 4—4 of Fig. 6. Fig. 5 is a face view of the brake shoe. Fig. 6 is a cross section on about line 6—6 of Fig. 4.

In carrying out the invention, the insert A shown in Fig. 1 and the insert B shown in Fig. 2 are incorporated with the body portion C of the brake shoe, which latter is cast in connection with the inserts in such manner that the base plates A' and B' of the inserts A and B form back plates and reinforcements at such point for the body portion C of the shoe, while the sinuous webs A² and B² of the inserts A and B project forwardly within the body portion C and have their free edges arranged to act with a braking and a dressing action upon the wheel as more fully described herein-
after.

Referring particularly to the insert A as shown in Fig. 1 and applied in Figs. 3 to 6, it will be noticed that the back plate A' lies against the rear face of the body portion C and is notched out at A³ to fit along-side the lug or eye C' which facilitates connection with the brake head in a manner well understood in the art. The back plate A' is also provided with openings A⁴ which gradually enlarge toward the back face of the plate A', see Figs. 4 and 6, so that the

cast metal of the body portion C interlocks with the back plate in a manner best shown in Figs. 4 and 6 of the drawing. This back plate, it will be noticed operates to reinforce the body portion C and to tie the same firmly in connection with the sinuous web A² and this sinuous web A² is provided at its outer bends with openings A⁵ and at its inner bends with openings A⁶ which afford passages for the cast metal of the body portion C so that the web will not operate to entirely divide such body portion, but the latter will operate through the passages or openings A⁵ and A⁶, thus forming bridge connections between portions of the body C on opposite sides of the sinuous web A². These openings also serve an additional function in that they reduce the wearing surface of the web at the inner and outer sides thereof so that after the initial cutting away of the sinuous web, these openings A⁵ and A⁶ will reduce the wearing portions of the sinuous web at the inner and outer edges thereof and so limit the wearing action of the sinuous web upon the wheel tread adjacent to the side thereof opposite the flange D' and also at the inner side of the bends of the sinuous web lying opposite the portion of the wheel D usually worn out at D², see Fig. 6, by the wearing of the wheel tread against the tread of the rail. I thus find it advantageous to make the insert A with its sinuous web provided with openings in its bends at the inner and outer sides of the said web for the reasons before described, as thereby I reduce the wearing action of the sinuous web upon the wheel tread at the points where such wearing action is not desired and I also afford passage for bridge connections between the separated parts of the body portion C. This, it will be noticed, is especially important in a construction such as shown, wherein the sinuous web extends entirely through from front to back of the body portion and is integral at its rear edge with a base plate, which lies back of and reinforces the body portion of the shoe as before described.

The purpose of the insert B is to properly act upon the flange D' of the wheel D and to this end, this insert is applied to the grooved flange bearing portion C² of the body portion C with its sinuous web B² crossing the face of the groove C³ and with its base plate B' curved transversely in correspondence to the curvature of the adja-

cent part of the body portion C, as shown in Figs. 2, 5 and 6 of the drawing.

The base plate B has openings B³ for the passage of the metal of the body portion C and the web B² has at its inner and outer bends openings B⁴ and B⁵ which, subsequent to the initial wearing of the insert web, reduce the wearing surface of the sinuous web at the inner and outer sides thereof, thus operating to reduce any excessive wear on both the inner and outer sides of the flange D' and bringing the major portion of the wear or dressing action of this insert B upon the crown of the flange D' at D³, as will be understood from Fig. 6 of the drawing.

By the described construction, it will be noticed I provide a novel form of insert and apply the same to the body portion of the brake shoe in such manner as to secure a reinforcement of the brake shoe, a more effective operation and an action by the insert upon those portions of the car wheel upon which the braking and dressing action is desired.

It will be noticed that the openings B⁴ and B⁵ of the sinuous web are at the side bends of said web and on opposite sides of a central longitudinal line drawn through the sinuous web with the said openings of a length approximating the length of the arcs of their respective bends so that the said openings, after the initial wearing away of the insert, will avoid the cutting away of the side faces of the wheel flange as more fully described hereinbefore.

As shown in Fig. 4, the body of the brake shoe is provided with openings immediately adjacent to and exposing the cutting or dressing faces of the insert, thus improving the cutting action of the insert portions and also forming openings for the reception of the material ground or cut off by the braking action both from the wheel and from the brake shoe. By this construction, I avoid such material being retained between the car wheel and brake shoe where it is apt to roll up and form practically a roller bearing between the wheel and the shoe, thus destroying the braking action of the latter as will be readily understood.

I claim:

1. A car wheel brake shoe and dresser formed of a body portion of a soft metal and an integral continuous portion formed of harder metal and composed of a web portion having transverse cutting or dressing

faces and a base plate in a plane at approximately a right angle to that of the web portion, the body portion being provided with openings adjacent to and exposing the cutting or dressing faces and forming discharge openings for the material removed by the braking action, and preventing such material from rolling up between the wheel and brake shoe, substantially as set forth.

2. A car wheel brake shoe comprising a main or body portion and a sinuous web having its bends on opposite sides of a central longitudinal line formed with openings which extend nearly to the outer bearing edges of the web whereby the wearing portion of the web at such points will be lessened after the initial braking action in such manner as to avoid cutting away the sides of a wheel flange, substantially as set forth.

3. A car wheel brake shoe having a sinuous web and provided at the bends thereof with openings extending nearly to the outer wearing edge of the web whereby the wearing surfaces of the web will be reduced at such point after the initial wearing of the web, the openings in the bends occurring at the sides of the sinuous web in such manner as to avoid cutting the sides of a wheel flange, substantially as set forth.

4. A car wheel brake shoe having a longitudinally grooved flange bearing portion and provided with a sinuous web extending along the said bearing portion and having its bends at the side of the brake shoe groove corresponding to the outer side of a wheel flange provided with openings of lengths approximating that of their respective arcs whereby to reduce the wearing surface of the web at such side of the bearing groove, substantially as set forth.

5. In a brake shoe, the combination of a body portion having in its inner face a longitudinally grooved flange receiving portion and having its corresponding rear face curved in cross-section and an insert having a sinuous web crossing the grooved bearing portion and a back plate integral with said web and curved in cross section in correspondence to the curved rear face of the body portion of the brake shoe, substantially as set forth.

JAMES E. WORSWICK.

Witnesses:

GEO. P. HAASETT,
HERBERT EIGENBRUN.