(No Model.)

G. M. SARGENT.

BRAKE SHOE.

No. 370,090. Patented Sept. 20, 1887.

Fig 1.

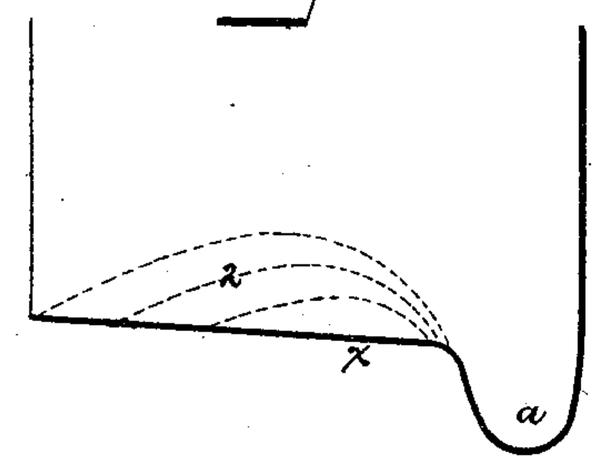


Fig. 2.

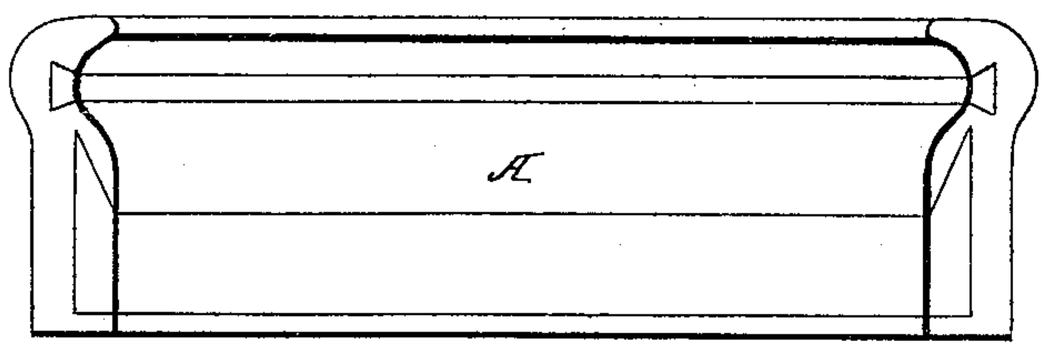
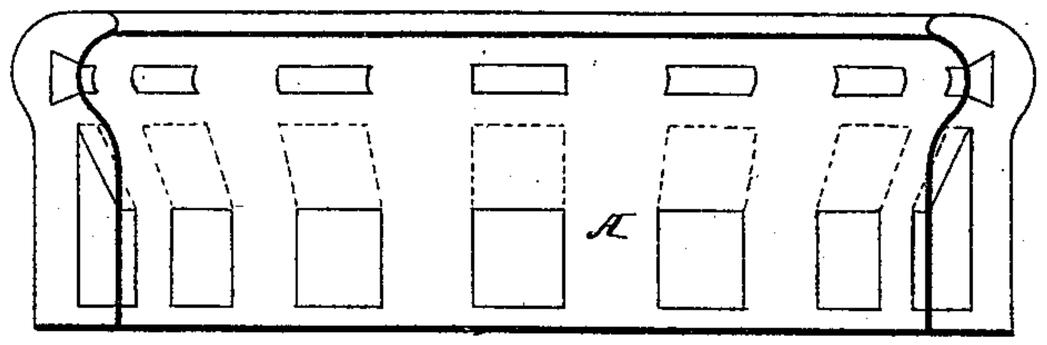


Fig 3.



Witnesses
Jno. G. Hinkel. Jr.
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UNITED STATES PATENT OFFICE.

GEORGE M. SARGENT, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CONGDON BRAKE SHOE COMPANY, OF SAME PLACE.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 370,090, dated September 20, 1887.

Application filed March 7, 1887. Serial No. 230,028. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. SARGENT, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

My invention relates to that class of brake-shoes in which blocks or plates of hard substances—as steel or corundum—are held by the cast-metal body, and serve to dress down or wear away the wheel at certain points, so as to preserve the general shape or outline of the tread and prevent it from grooving or rubbing under the combined wear of the rails and shoe; and my invention consists of a shoe having a body and inserted wearing-strip of a peculiar form, hereinafter fully set forth, whereby to widen the wearing-surface in proportion as the shoe wears away.

In the drawings, Figure 1 is a sectional diagram illustrating the construction of my improved shoe and the effect of wear upon a car-wheel. Fig. 2 is a face view of my improved shoe. Fig. 3 is a face view of a shoe showing the cutter divided into small sections.

It is well known that the peripheries of car-wheels in time are worn away upon parts only of the treads, so as to form peripheral annular depressions or grooves and edge ribs, which seriously impair the efficiency of the wheels and renders it necessary to discard them much sooner than would be necessary if the general outline of the periphery were preserved. To preserve this outline and obviate the defects referred to, brake-shoes have been provided with inserted cutting blocks or plates, which it is intended to so dispose as to wear away those parts of the periphery of the wheel that would not be reduced by the ordinary wearing action of the brake-shoes and rails.

If all wheels and brake-shoes were of equal hardness, the wearing or cutting faces would be readily proportioned, so as to secure a uniform action and maintain the forms of the wheels; but it has proved difficult, on account of the varying characters of the wheels, brake-shoes, and of the uneven wear of the rails, to so proportion and dispose the cutting-blades as to secure this result.

In order to secure the desired effect, I so construct and arrange the parts as to insure an increased width of wearing-surface in exact proportion as the wheel is worn away, so as to maintain at all times a level tread. This construction and its effect is best illustrated in Fig. 1, in which the dotted lines illustrate the progressive wear of a wheel in connection with the rails and ordinary brake-shoe, forming a groove expanding in width toward the outer portion, and a side rib near the outer face of the wheel.

As the effect of the rails is to wear the tread most rapidly at the point *x*, it is at first only necessary to cut away to any great extent the part of the wheel outside of said part; but as the rails further wear the wheel, the groove gradually tends to assume the form shown by dotted line 2, leaving the flange *a* so wide that it will wedge in between the adjacent rail-sections of frogs, &c., and I therefore provide the shoe A with a cutting-strip or series of blocks, each expanding in width from the outer face, so that the cutter will act first mainly on that part outside of the point *x*, but as the wheel and shoe wear away the cutter will widen toward the flange of the wheel and afford a cutting-surface of gradually-increasing width, thereby preventing the widening or thickening of the flange, and also preventing the forming of any projection on the wheel between the outer part worn by the shoe and the inner part worn by the rail.

The cutter-piece may consist of a plate or block of steel, corundum, chilled, wrought, or malleable iron, or other material, extending the entire length of the shoe, as shown in Fig. 2, or it may consist of a series of blocks or pieces, as shown in Fig. 3; but in either case the sectional form of the cutter strips or blocks is that illustrated in Fig. 1; and as the face of the shoe wears down the width of the cutting-face increases, so as to maintain the uniformity of the wheel-tread.

Without limiting myself to the precise construction and arrangement of parts shown and described, I claim—

1. A brake-shoe provided with one or more cutter strips or blocks, each inserted in the

shoe and increasing in width from the outer exposed surface, substantially as and for the purpose set forth.

2. The combination, in a brake-shoe, of a body and one or more cutting strips or blocks, each inserted in the body and increasing in width to present a wider wearing-face in proportion as the shoe is worn, substantially as and for the purpose set forth.

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

GEORGE M. SARGENT.

Witnesses:
J. C. DAVIS,
ARGESS M. EVANS.