(No Model.)

J. F. CURTICE.

BRAKE SHOE.

No. 263,769. Patented Sept. 5, 1882.

Fig. 1

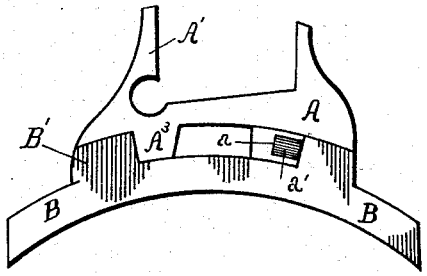


Fig. 2.

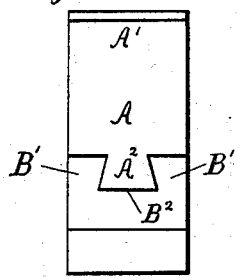


Fig. 3.

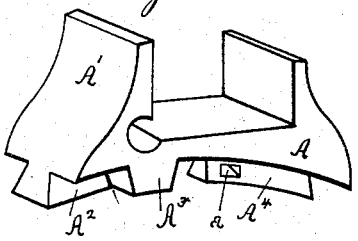
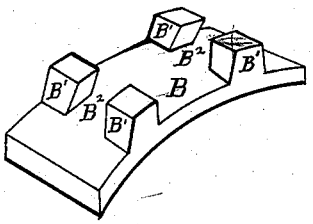


Fig. 4.



WITNESSES

Samuel E. Thomas.

J. Edward Warren

INVENTOR

John F. Curtice

By W. W. Seggel

Attorney

UNITED STATES PATENT OFFICE.

JOHN F. CURTICE, OF FORT WAYNE, INDIANA, ASSIGNOR TO THE STANDARD BRAKE SHOE COMPANY, OF SAME PLACE.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 263,769, dated September 5, 1882.

Application filed January 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. CURTICE, of Fort Wayne, county of Allen, State of Indiana, have invented a new and useful Improvement in Brake-Shoes; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists in the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation. Fig. 2 is an end elevation, representing either end of a device embodying my invention. Fig. 3 is a separate view of the shoe-support. Fig. 4 is a separate view of the shoe.

It is the object of my invention to produce a brake-shoe and its support so constructed relatively to each other that while the requisite strength is insured a large saving in weight is effected as compared with those commonly in use, and the shoe is rendered easily reversible upon its support, and more even and thorough wear and greater durability secured, in which the parts are capable of being quickly and strongly united or quickly disengaged, as desired, economizing labor in either case by the ease and rapidity of adjustment or removal, and affording, when united, a very solid and secure abutment of the shoe against the support in the direction of the forward travel of the wheel and ample security against displacement by the reverse motion of the wheel, or vice versa, if changed to the opposite side of the wheel.

To this end A is a brake-shoe support, having the usual facilities, A′, for readily securing it to a brake-frame.

A^2 represents a dovetail tenon, of any suitable form, projecting from the shoe-support; and A^3, an abutment extending partly or entirely across the support at the inner end of the tenon.

A^4 is another and similar dovetail tenon, elongated in the direction of the length of the support, preferably tapered at the inner end, and provided with a key-seat, *a*, for the insertion of a key or its equivalent, *a′*.

B is the shoe, made alike at both ends, so as to be reversed, when desired, by reason of uneven wear upon the face. At a suitable distance from each end are lugs B′, projecting from the shoe, and of such form as to leave suitable dovetailed mortises, B^2, at their middle points, as shown.

The shoe is placed upon its support by engaging the dovetail mortises with the corresponding tenons on the support and the key *a′* inserted.

An examination of the drawings will show that this device is exceedingly simple and effective. The four lugs B′ upon the shoe render it practically impossible to break the shoe from its support. Moreover, the end faces of the lugs B′ so engage the shoe-support A that little or no strain is thrown upon the tenons.

The cross-piece or abutment A^3 is made sufficiently heavy to withstand any thrust which may be imparted to it by the shoe as the brake is applied to the wheel. It prevents the shoe from sliding any farther along the tenons, and the removable key *a′* prevents the shoe from disengaging when the wheel is reversed.

This device is capable of being made much lighter while still fully as strong as, or even stronger than, those commonly used, and needs only to be properly cast in order to be ready for use without any drilling or dressing of the parts, and is therefore cheaper to construct. When it is necessary at any time to renew a shoe it can be done in a few moments by simply removing the key *a′*. So, also, it is but a few minutes' work to reverse the shoe upon the same support or change the shoe to any other wheel on the same side or upon the opposite side of the car, if desired, in order to wear it down uniformly throughout.

It is obvious that my device may also be so constructed that the angles at which the parts of the shoe and its support fit together, instead of being exactly similar to those shown in the drawings, may vary therefrom more or less, if desired, or even curved or other suitable lines be substituted therefor.

I am aware that brake-shoes have been provided with a support having dovetailed grooves formed by lugs projecting from its body, and the shoe proper provided with dovetails ar-

ranged in the same line upon the upper side of the shoe; but this device differs from mine in that the strain is concentrated upon the neck of the dovetail, which is not braced by a piece formed integral therewith and extending crosswise to form a seat for the lugs upon the support, and to reduce or obviate the strain upon the dovetail.

I am also aware that brake-shoes have been made with the liner or shoe provided with dovetailed sockets in which lugs upon the head or support are placed. This device embodies practically the same defects as the above-noted device. I, however, overcome all defects by providing the shoe with two lugs upon each end, and having a dovetail groove between each pair, which fit over a dovetail and are seated against a transverse projection formed integral with the dovetail, so that the strain will be scattered over a greater area. Therefore

What I claim as new is—

1. A shoe having lugs arranged in pairs, with a dovetail socket between each pair, in combination with a support having dovetails extending lengthwise of the support, and a transverse projection formed integral with the forward dovetail, for the purpose set forth.

2. A shoe, B, having projections B′ arranged in pairs, with dovetail socket B^2 between each pair, in combination with a support, A, having dovetail A^2, provided with projection A^3, placed transversely to and formed integral with dovetail A^2, and a dovetail, A^4, having a key-seat and key for holding the shoe in place.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN F. CURTICE.

Witnesses:
W. S. BUCK,
ISAAC D'IRAY.