J. A. PANTON.

REINFORCED BRAKE SHOE.

APPLICATION FILED DEC. 16, 1909.

974,589. Patented Nov. 1, 1910.

2 SHEETS—SHEET 1.

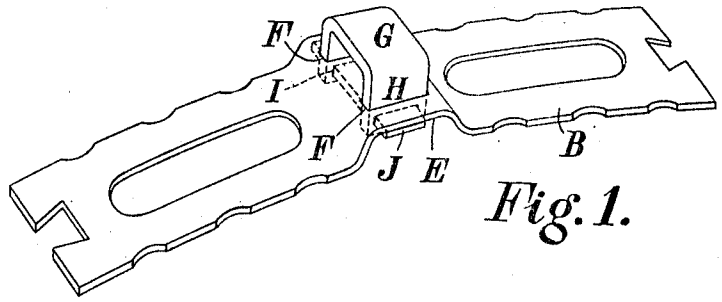

Fig. 1.

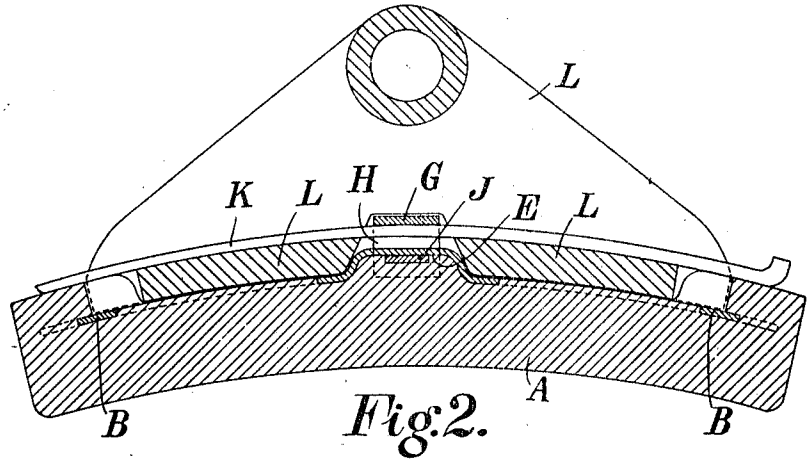

Fig. 2.

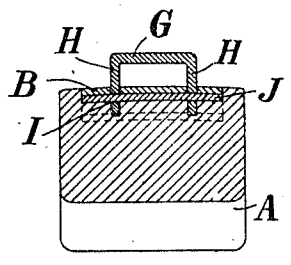

Fig. 3.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

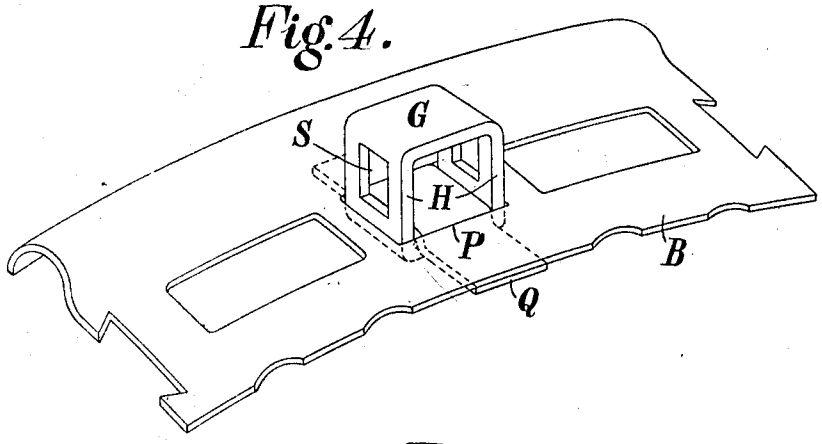
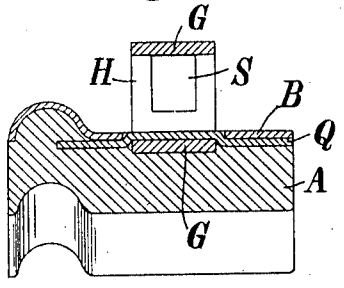


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH ALEXANDER PANTON, OF WATERLOO, NEAR LIVERPOOL, ENGLAND.

REINFORCED BRAKE-SHOE.

974,589. Specification of Letters Patent. Patented Nov. 1, 1910.

Application filed December 16, 1909. Serial No. 533,406.

To all whom it may concern:

Be it known that I, JOSEPH ALEXANDER PANTON, a subject of the King of Great Britain, residing in Waterloo, near Liverpool, in the county of Lancaster, in the Kingdom of England, have invented certain new and useful Improvements in Reinforced Brake-Shoes, of which the following is a specification.

This invention relates to reinforced brake shoes of that type wherein the separable wearing sole or shoe proper is provided with a reinforcing strip or back of tough malleable metal, and with a lug for the reception of the key for attaching the brake-shoe in its place upon the brake-head.

The object of the invention is to provide superior means for anchoring the attaching lug to the malleable back, said means having a bearing across substantially the full width of the back.

A further object of the invention is to form a lug separately from the back so that it may be produced from heavier or thicker material than the back, thereby producing a stronger structure than where the lug is formed out of the same material as the back. When the lug has been anchored or secured to the back, cast metal is run around the back and the base of the lug so as to virtually make the lug an integral part of the backing. I do not, however, depend primarily upon the lug becoming an integral part of the shoe, but I rely upon the keying and anchoring of the lug in the back. Hence, the block may be worn down to the backing and yet the lug will not come off.

The invention is illustrated in the annexed drawings, wherein:

Figure 1 is a perspective view of a steel back and lug in their final form or shape; Fig. 2 a longitudinal vertical sectional view of a separable head and shoe designed according to my invention; Fig. 3 a transverse central sectional view of the shoe, the backing and the attaching lug; Fig. 4 a perspective view showing a modified form of the back, the lug and the means for attaching the lug in position; and Fig. 5 a transverse sectional view of the modified form taken through the lug, the back and the block.

By the present invention I provide a brake-shoe which as hitherto consists of a cast body A reinforced by a plate B of wrought iron or steel, Figs. 1, 2 and 3. This plate or backing B, as shown in these figures, is made of equal width throughout. At midlength it is stamped to form an upward projection or hump E, in the upper face of which are two longitudinally-extending slots F.

G is the attaching lug, made from a blank or flat strip of metal bent into an inverted U shape, the parallel arms H of which are spaced apart a distance equal to the distance between the slots F. This lug is of thicker or stronger material than the back B. The lower ends of the arms H are provided with slots I for the reception of a cotter or locking bar J. The arms H will be passed down through the slots F, after which the cotter or locking bar is passed through the openings or slots I, the bar being of sufficient length to project to each side of the arms of the lug, as will be clearly seen upon reference to Figs. 2 and 3. The cotter or locking bar lies in the recesses formed in the hump or projection E. The lug, as will be readily appreciated, is of sufficient height to form a passage-way or opening for the key K by which the shoe is secured to the brake-head L, see Fig. 2. When the lug and locking bar J are positioned with reference to the back, the cast metal of the shoe is run through and around the steel back and around the ends of the arms H, and the attaching cotter or locking bar J, thus firmly fixing the back upon the body of the shoe. The lug G thus in effect becomes an integral part of the backing and of the body of the shoe and it is absolutely impossible to separate it from the other parts by reason of the fact that the arms thereof actually become interlocked with the steel back. The great advantage of forming the lug G separate from the steel back lies in the fact that it can be made of thicker metal than said back.

In Figs. 4 and 5 a slightly modified form of the device is shown. In these figures the backing B is provided with a central opening, as P, preferably rectangular and of a size to receive the lower portion of the lug G which in this instance has the form of a hollow rectangular members the upright walls H of which will be provided with oppositely-disposed openings S through which the fastening key may be passed. To secure the lug in place a cross-bar or cotter Q is employed, the central portion of which is preferably struck up slightly to cause it to

seat in the opening P formed in the back, see Fig. 5. As in the other figures, the metal of the body A will be cast upon the back and around the lower portion of the lug G and around the cotter pin or plate Q, thus securely holding the parts in position. As in the other instance, the lug will preferably be made of a metal heavier than the back.

Under both modifications the cast metal of the shoe is preferably run through and around the steel back and around the flanges or cross-pieces of the lug so as to make the lug in effect an integral part of the backing and of the body of the shoe.

Having thus described my invention, what I claim is:

1. In a brake-shoe, the combination of a back; a key-lug extending through the back; and a locking plate extending through the downwardly-projecting portion of the lug and underlying the back.

2. In a brake-shoe, the combination of a back provided with an upwardly-projecting portion; a key-lug extending through said upwardly-projecting portion; and a locking bar or pin passing through the downwardly-extending portion of the lug and underlying the upwardly-projecting portion of the back.

3. In a brake-shoe, the combination of a back provided with two longitudinally-disposed slots; a key-lug formed of a separate piece bent into inverted U form, each arm thereof, adjacent to its lower end, being provided with a slot, said arms being adapted to be passed down through the slots in the back; and a locking plate or key passing through the slots in the arms and underlying the back.

4. In a brake-shoe, the combination of a back having an upwardly-extending portion or section extending across the same, said portion having two parallel slots formed therein; a key-lug formed of a separate piece, bent into an inverted U-form, each arm thereof having a slot formed in its lower portion, said arms being adapted to be passed through the slots in the back; and a locking plate or key passing through the slots in the arms and underlying the back.

In witness whereof, I have hereunto signed my name this 4th day of December 1909, in the presence of two subscribing witnesses.

JOSEPH ALEXANDER PANTON.

Witnesses:
G. C. DYMOND,
RICHARD W. WILLIAMS.