

No. 887,243.

PATENTED MAY 12, 1908.

J. D. GALLAGHER.

BRAKE SHOE.

APPLICATION FILED OCT. 19, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

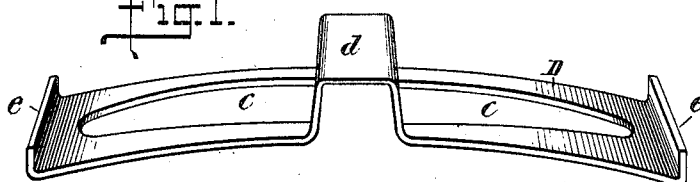


Fig. 2.

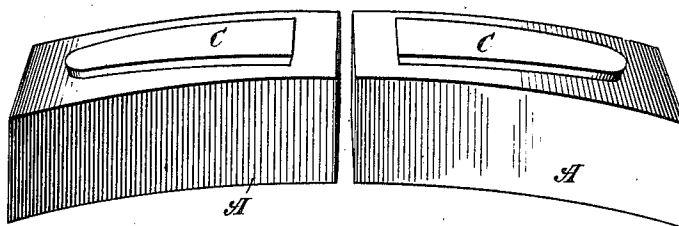


Fig. 3.

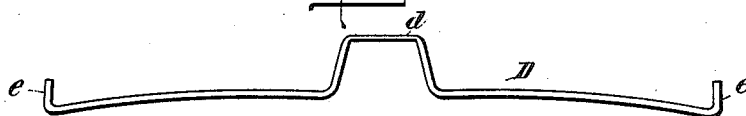


Fig. 4.

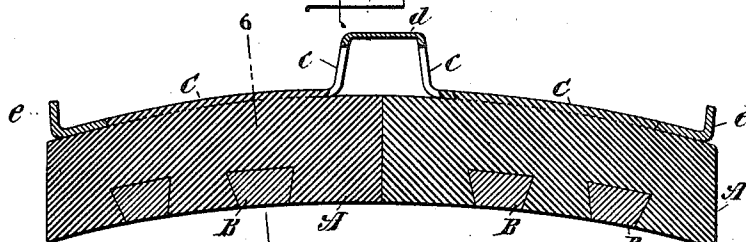


Fig. 5.

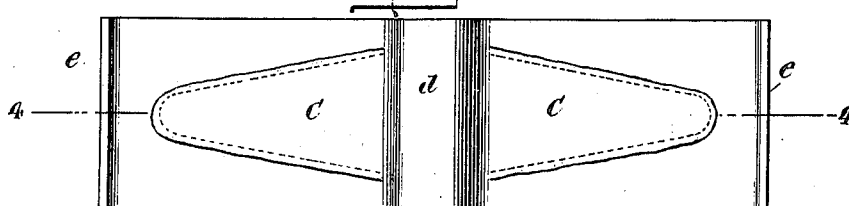
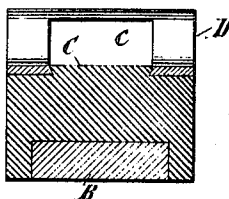


Fig. 6.



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2 SHEETS—SHEET 2.

Fig. 7.

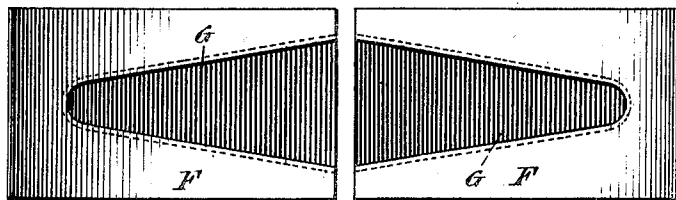


Fig. 8.

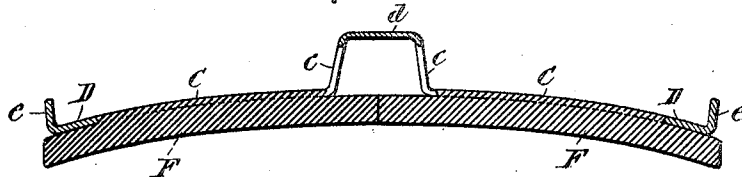


Fig. 9.

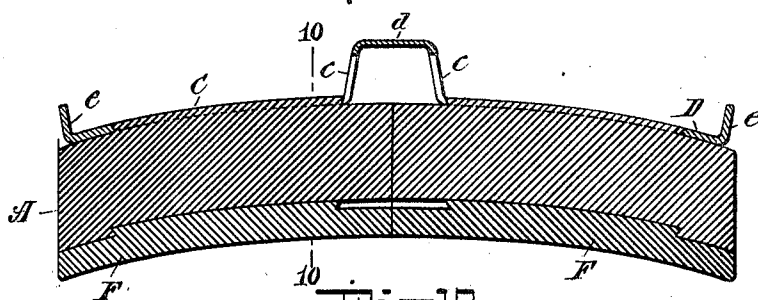
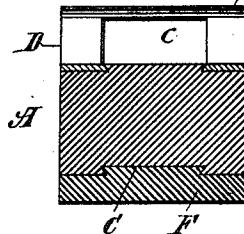


Fig. 10.



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BRAKE-SHOE.

No. 887,243.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed October 19, 1907. Serial No. 398,148.

To all whom it may concern:

Be it known that I, JOSEPH D. GALLAGHER, a citizen of the United States, and a resident of Glenridge, in the county of Essex and State of New Jersey, have made and invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

My invention relates to an improvement in brake shoes, and more particularly to that kind or style thereof comprising a cast iron body and a steel back, the object being to provide a shoe wherein the cast iron body shall consist of two parts or sections, and the steel back adapted to be easily and readily attached thereto before being subjected to service, and detached therefrom after being worn down.

With these and other ends in view, the invention consists in certain novel features of construction and combinations of parts, as will be hereinafter fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a detached steel back. Fig. 2 is a similar view of the cast iron body. Fig. 3 is a view in side elevation of the back showing the same prior to its attachment to the cast iron body. Fig. 4 is a longitudinal sectional view taken on the line 4—4 of Fig. 5, after the parts have been assembled. Fig. 5 is a top plan view of the same. Fig. 6 is a view in cross section taken on the line 6—6 of Fig. 4. Fig. 7 is a bottom plan view of the two halves or sections of a modified form of the body of the shoe. Fig. 8 is a sectional view of the same attached to the removable back, and after being worn down in service. Fig. 9 is a sectional view of a modified form of the shoe wherein the worn down sections are secured to a new body. Fig. 10 is a sectional view taken on the line 10—10 of Fig. 9.

Referring to the drawings, A—A represent the two halves of the body divided transversely at the center, said body being preferably made of cast iron, or if desired, the same may be composite in character, that is, made of relatively hard and soft metals, to secure wearing and frictional qualities, and as shown in Figs. 4 and 5, may be provided with the inserts B in the wearing face thereof.

On the back of each half A of the cast iron body, is formed a lug or boss C, preferably triangular in shape, the edges of which are undercut, in order to afford a locking means for the plate D. This plate D is made of comparatively heavy steel plate, say from one-eighth to one-quarter of an inch in thickness throughout its length, with the exception of the central portion *d* which metal constituting the central portion of the plate, is designed to form the key-lug for attachment of the shoe to the brake head, as hereinafter described, this portion of the plate, by elongation or otherwise, being preferably made about one-eighth of an inch in thickness.

In the plate or back D are formed the openings *c*, conforming in outline to the lugs or bosses C formed on the back of the shoe, the edges of said openings *c* being dove-tailed in order to securely lock with the undercut edges of said lugs when the parts are assembled. The ends *e* of the plate D are preferably turned upwardly, in order to form stops against which the ends of the brake head rest, and to receive the end thrust thereof. These openings *c* in the plate D are separated by the thin portion of the metal *d* which openings in the completed back, as illustrated in Fig. 4, form a passage-way through the key-lug for the entrance of the key (not shown) for locking the shoe to the brake head.

In assembling the parts, the back D which is curved in its length to conform to the curvature of the shoe, has its ends sprung apart, as illustrated in Fig. 3, the bend occurring at the center of the back where the metal is comparatively thin. The two halves A of the shoe are then assembled with the back, that is, the bosses C are projected through the openings *c* and forced toward the outer ends of the back until the undercut edges of said bosses tightly lock with the beveled edges of said openings. The back or plate is then allowed to spring back to its normal shape, causing the inner ends of the sections A of the body to come together and closely abut, as illustrated in Fig. 4 of the drawings. After the shoe has been placed in position in the brake head and locked thereto by means of the key in the ordinary way, the back is thereby prevented from bending, and all danger of the sectional body becoming detached therefrom, obviated. After the shoe

has been worn down in service, it may be detached from the brake head and the two halves or sections of the body easily and readily detached, and the steel back again fitted on or assembled with a new body.

While I have illustrated the key-lug D as being formed of comparatively thin metal, it will be understood that it may be made of the same thickness as the other portions of the back, in which instance it may be necessary or advisable to apply pressure to certain parts or portions of the back, in order to cause the plate to assume its normal shape after being assembled with the sectional body, rather than to rely upon the inherent spring in the metal to accomplish this end. Furthermore, if desired, the upwardly turned ends e of the back may be omitted, the end stops being formed by the cast metal of the shoe, as is ordinarily done, and as will be understood without further illustration or description.

As illustrated in Figs. 7, 8, 9, and 10 of the drawings, instead of forming the body of the shoe with inserts as illustrated in Figs. 4 and 6, I may provide the wearing surface of each half or section F of the body, with the undercut recesses G, of an outline and size to receive and retain the bosses C formed on the back of the sections, as before described, so that after the body of the shoe has been worn down in service, as illustrated in Fig. 8, the back D may be removed therefrom, as before described, and the two worn sections F secured in the wearing surface of a new body A, as illustrated in Fig. 9, the parts being held together by reason of the undercut bosses C fitting in the undercut recesses G. To this body, comprising the new and old sections, is attached the removable back D in the manner before described, and when this shoe in turn has been worn down in service, as illustrated in Fig. 8, the worn down sections are removed from the back and again utilized in the manner above described.

It will be understood from the foregoing that in this way the entire body of the shoe is utilized in service, there being no waste or scrap as is now the case with many shoes wherein the back and body are permanently united.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A brake shoe consisting of a sectional body, and a back made of a single piece of metal and removably secured thereto, substantially as described.

2. A brake shoe comprising a cast iron body divided transversely at the center, and a one-piece back removably secured thereto, substantially as described.

3. A brake shoe comprising a body and a back removably secured thereto, said back

being provided with a key-lug of comparatively thin metal, substantially as described.

4. A brake shoe comprising a body divided transversely at the center, and a one-piece back removably secured thereto and provided with a key-lug of comparatively thin metal, substantially as described.

5. A brake shoe comprising a sectional body, each section being provided with locking means, and a one-piece back engaging said locking means, substantially as described.

6. A brake shoe comprising a body formed with an undercut boss on the back thereof, and a back removably secured to said boss and formed with a key-lug of comparatively thin metal, substantially as described.

7. A brake shoe comprising a cast iron body divided transversely at the center, each half being provided with an undercut boss thereon, and a one-piece back provided with openings in which said bosses fit, substantially as described.

8. A brake shoe comprising a cast iron body divided transversely at the center, and each half provided with a triangular boss, and a one-piece back provided with openings in which said bosses fit and formed with a key-lug of comparatively thin metal, substantially as described.

9. A brake shoe comprising a sectional cast iron body and a one-piece back removably secured thereto, the ends of said back being upwardly turned, substantially as described.

10. A brake shoe comprising a body divided transversely at the center and a back removably secured to said body and provided with upturned ends forming end stops, substantially as described.

11. A brake shoe comprising a body divided transversely at the center, each half being provided with a boss, and a one-piece back removably locked to said bosses, said back being provided with a key-lug of comparatively thin metal, and with upwardly turned ends, substantially as described.

12. A brake shoe consisting of a sectional body, said sections thereof being provided with bosses on the backs thereof, and recesses in the wearing surfaces thereof, and a back made of a single piece of metal removably secured to said sections, substantially as described.

13. A brake shoe comprising a body divided transversely at the center, the sections being provided with bosses on the backs and recesses on the wearing surfaces thereof, and a one piece back removably secured to said sections, substantially as described.

14. A brake shoe comprising a sectional body, each section thereof being provided with locking means on its back and wearing face, and a one piece back removably secured to said sections, substantially as described.

15. A brake shoe comprising a body divided transversely at the center, each section being provided with locking means on its back and wearing face, whereby to lock the back of one section to the face of another, and a one piece back adapted to engage with the locking means on the backs of said sections, substantially as described.

Signed at New York, borough of Manhattan, in the county of New York, and State of New York, this 18th day of October, A. D. 1907.

JOSEPH D. GALLAGHER.

Witnesses:

M. VAN NORTWICK,
JOHN B. WHITE.