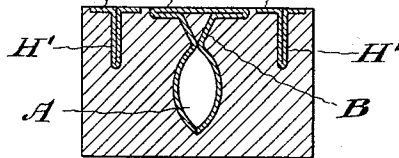
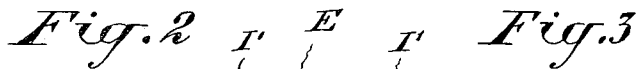
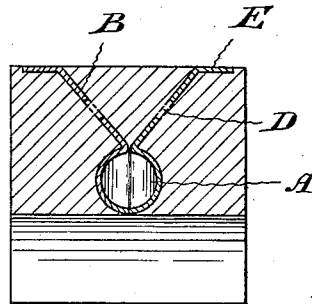
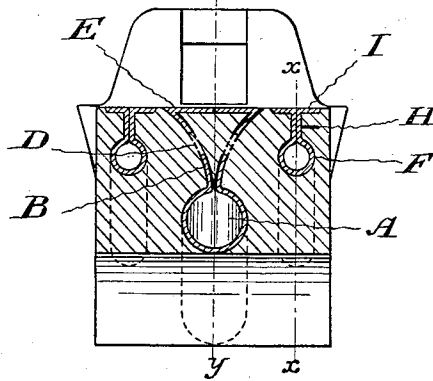
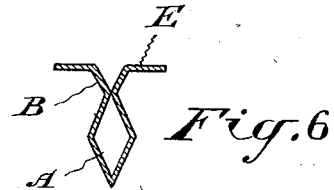
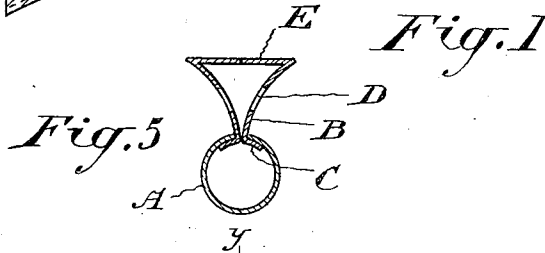
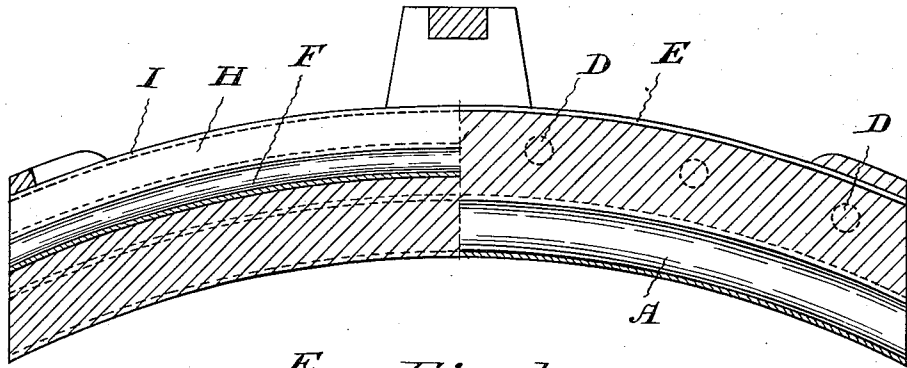


A. H. REID.
 BRAKE SHOE.
 APPLICATION FILED MAR. 14, 1911.

1,018,209.

Patented Feb. 20, 1912.



WITNESSES:

W. G. McMillan
E. P. Hall

Fig. 4

INVENTOR.
A. H. Reid
 BY *J. Edward Mayhew*
 ATTORNEY.

UNITED STATES PATENT OFFICE.

ANDREW H. REID, OF TORONTO, ONTARIO, CANADA.

BRAKE-SHOE.

1,018,209.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed March 14, 1911. Serial No. 614,374.

To all whom it may concern:

Be it known that I, ANDREW H. REID, of the city of Toronto, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

This invention relates to improvements in brake shoes provided with a tubular reinforcement such as described and claimed in my prior United States Patent No. 943,995, dated December 21st, 1909, and Canadian Patent No. 122,502, dated December 14th, 1909.

In my prior construction the tubes embedded in the cast metal body of the shoe were employed as a reinforcement only; I have since discovered that a tube, or tubes, may be employed as an insert in the face of a shoe to enhance the braking effect. I have also devised a special construction of tube which not only enables me to securely anchor a tube when it is employed as an insert, but also enables me to secure either with a tubular reinforcement, a tubular insert, or both, the advantages of the ordinary steel backed shoe.

The invention is clearly illustrated in the accompanying drawings in which—

Figure 1 is a longitudinal section of a brake shoe constructed in accordance with my invention. Fig. 2 is a central cross-section of the brake shoe. Figs. 3 and 4 are cross-sections showing modifications. Figs. 5 and 6 are cross-sections of the reinforcement only showing various modifications.

In the drawings like letters of reference indicate corresponding parts in the different figures.

According to this present invention I employ a metal tube or tubes as a frictional insert as well as a reinforcement. I therefore show a tube A adjacent the face of the shoe and extending substantially from end to end thereof. This tube, while it may be of any ordinary form, is preferably formed of sheet metal bent into tubular form. For the purpose of holding it in place, when the shoe is partly worn down an anchor plate or plates B are provided extending toward the back of the shoe and embedded in the cast metal thereof. The anchor plates may be separate, as shown in Fig. 5, or integral with the tubes, as shown in Figs. 2, 3, 4 and 6. If the anchor plates are separate they preferably pass through a slot in the upper side of the

tube and are bent to form the flanges C which fit closely against the inner side of the tube. The integral construction is, however, preferred.

The anchor plates preferably flare as shown and are preferably provided with openings D through which the cast metal of the shoe may flow. The anchor plates B preferably extend to the back of the shoe and are then turned parallel to the surface of the shoe to form the back plates E. These back plates may be formed either by turning the anchor plates inwardly toward one another, as shown in Fig. 5 and in the center tube of Fig. 2, or they may be separated outwardly, as shown in Fig. 3 or in the lateral reinforcement in Fig. 2. I thus secure the advantage of the tough metal backs now frequently employed with brake shoes.

The tubes in cross-section may be of any suitable form. For instance round, as shown in Figs. 2, 3 and 5, diamond shaped, as shown in Fig. 6, or elliptical as shown in Fig. 4. In the forms shown in Figs. 3 and 4 the division between the edges of the sheet of metal from which the reinforcement is formed may be at the lower edge of the tube.

The reinforcing tubes A are employed particularly as inserts in the face of the shoe combining also, as described, the feature of the back plates. I prefer also to employ other tubes F as a reinforcement close to the back of the shoe. These tubes may have combined therewith anchor plates and back plates and in general arrangement may resemble the tubes A with their plates B and back plates E.

In Fig. 2 I show the tubes F with integral anchor plates H lying close together, the back plates I being turned outwardly.

In Fig. 4 the tubular form is dispensed with, the reinforcement being formed by bending a sheet of metal to form the plates H' and the backs I'.

I find that by the use of a tube as an insert in the face of the shoe that a good braking is obtained with excellent wearing qualities. At the same time, owing to the connection of the tube with the anchor plates and back plates, a tube has no tendency to fall out when worn to less than half its diameter. The cooling effect of this tubular insert is also marked and this tends also to increase the life of the shoe.

I find that a brake shoe constructed along

the lines described will satisfactorily fulfil the objects of my invention as set out in the preamble to this specification.

What I claim as my invention is:—

- 5 1. A brake shoe having a tubular metal insert adjacent its face and an anchor connected with the tubular insert extending toward the back of the shoe.
- 10 2. A brake shoe having a tubular metal insert adjacent its face and anchor plates connected with the tubular insert, extending toward the back of the shoe and spreading from the insert toward the sides.
- 15 3. A brake shoe having a tubular metal insert adjacent its face and an anchor plate connected with the tubular insert extending to the back of the shoe and having a back plate formed thereon lying at the back of the shoe.
- 20 4. A brake shoe having a tubular reinforcement formed of sheet metal bent to

form a tubular portion and an anchor plate extending toward the back of the shoe.

5. A brake shoe having a tubular reinforcement formed of sheet metal bent to form a tubular portion and two anchor plates extending toward the back of the shoe. 25

6. A brake shoe having a tubular reinforcement formed of sheet metal bent to form a tubular portion and two anchor plates 30 extending toward the back of the shoe, holes being formed in the plates through which cast metal may flow.

7. A brake shoe having a tubular reinforcement and an anchor plate connected 35 therewith extending toward the back of the shoe.

Toronto this 9th day of March 1911.

ANDREW H. REID.

Signed in the presence of—

J. EDW. MAYBEE,

A. CAMPBELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
