No. 642,318. Patented Jan. 30, 1900.

J. D. GALLAGHER.

BRAKE SHOE.

(Application filed Oct. 19, 1899.)

(No Model.)

Fig 1

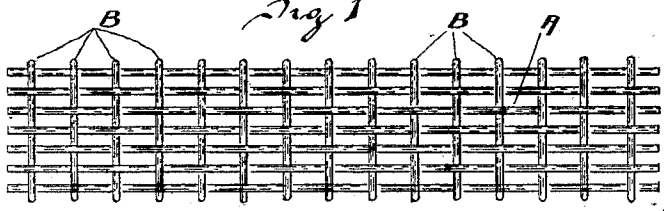


Fig 2

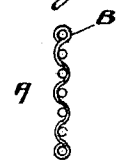


Fig 3

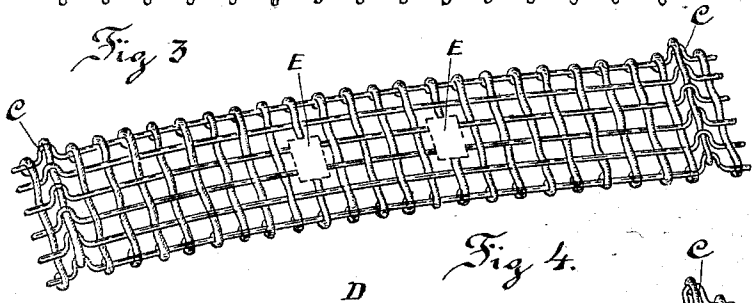


Fig 4.

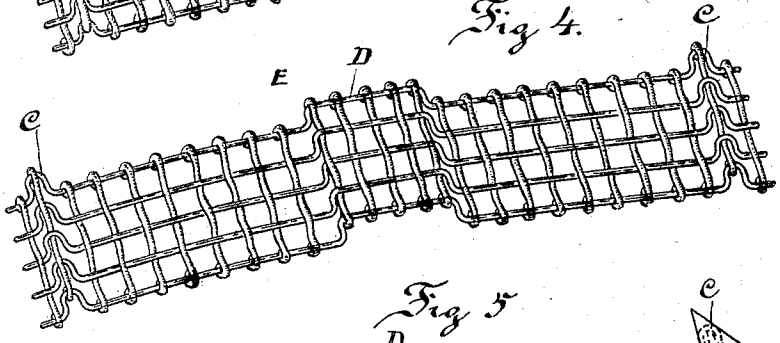
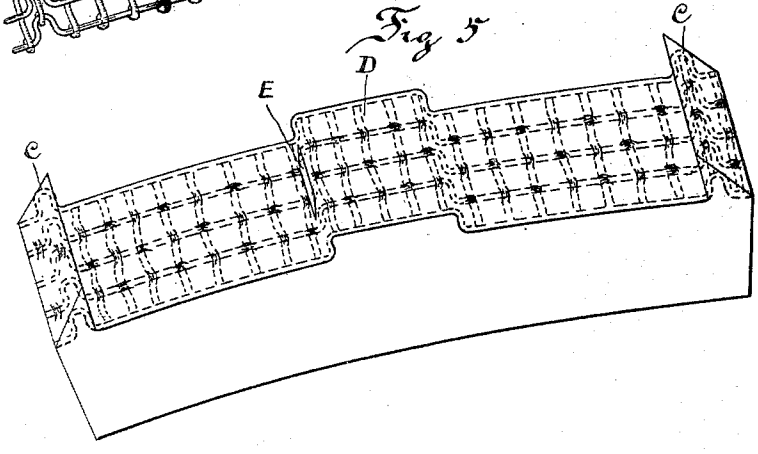


Fig 5



Witnesses
Frank B. Smith
Charles W. Brower

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH D. GALLAGHER, OF GLEN RIDGE, NEW JERSEY.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 642,318, dated January 30, 1900.

Application filed October 19, 1899. Serial No. 734,064. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH D. GALLAGHER, a citizen of the United States, residing at Glen Ridge, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Brake-Shoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to brake-shoes used on locomotives and cars propelled by power of any description, and more particularly to brake-shoes having fastening devices and lugs of a malleable metal reinforced by a rigid metal, such as are generally described and claimed in my application for a patent bearing even date herewith, and this invention is of a specific form of such shoes.

In the application to which reference has been made I have described a ductile-metal back having lugs and fastening devices integral therewith reinforced by a more rigid metal, preferably the cast-iron of which the wearing part of the shoe is made, and the whole firmly attached to and made practically an integral part of the shoe by allowing the molten metal to flow through apertures cut in a ductile-metal back.

Instead of taking imperforate metal and cutting apertures or perforations in it, according to this invention I take a wire mesh made of wire of suitable size and of suitable openings. (I prefer a mesh having strands three-sixteenths of an inch in thickness and with openings one-half to three-quarters of an inch in diameter.) This wire mesh or netting I prefer to have made of a width a little less than the width of the shoe, as by doing this I insure the turning in or fastening of the strands which go across the shoe, though it may be cut out of a sheet of wire-net and the ends of the short strands be left unfastened. This wire mesh or netting I then shape to the proper form and attach to the shoe, as hereinafter stated.

I will now describe the figures.

Figure 1 shows a strip of wire netting or mesh of the proper width and having the ends of the short strands turned over the outside long strands. Fig. 2 is an end view of the strip of wire mesh shown in Fig. 1, showing the turning over of the ends of the short strands. Fig. 3 shows the strip of wire mesh after it has gone through the first operation of forming or shaping. Fig. 4 shows this strip of netting completely shaped, with the fastening devices and lugs formed on it ready for application to the shoe. Fig. 5 shows the shoe with the cast-iron wearing-face cast onto the wire-mesh back.

Like letters of reference indicate like parts.

In the figures, A represents the whole back.

B B represent the short strands, with their ends locked around the outer long strands.

C C represent the ends lugs, against which the brake-head rests.

D represents the central lug, by which the shoe is attached to the head.

E E represent the hole through which the fastening-key passes.

In forming this back I take the strip of wire mesh above described and preferably introduce it into a press which cuts the key-holes E E and binds up the mesh at C C to form the end lugs and cuts off a piece of the long strip of a length somewhat greater than the length of the finished shoe, the length depending on the amount of metal to be consumed in making the lug D. I then take these blanks and introduce them into a forming-press, which strikes up the lug D and shapes the back to the proper radius. When this has been done, the back is complete, ready to be attached to the wearing-face of the shoe. This I do in the following manner: I first form the mold in exactly the same way that I would do to form a cast-iron shoe without any back. I then place this back in the mold adjacent to the back or top of the shoe and anchor it there in any of the well-known ways, having first inserted in the keyhole E a core of suitable size. I then close the mold and pour in the molten iron, which forms the body of the shoe. This iron, as will readily be perceived, flows into the mold around the strands of the wire mesh and around the core in the keyhole E and firmly anchors the back onto the wearing-face or body of the shoe, and at the same time the wire mesh forms an integral part of the lugs and fastening devices and insures them against breakage.

The rounded form of the strands materi-

ally aids in anchoring the back firmly to the body of the shoe.

The advantages which this form of back has over perforated metal backs are, first, it requires less weight of metal; second, the form of the strands makes it easier to attach, and, third, it can, by reason of the frequent apertures, be more firmly attached and it becomes more thoroughly an integral part of the shoe.

What I claim is—

1. A brake-shoe having a back of wire mesh in combination with a cast-iron body or wearing-face substantially as described.

2. A brake-shoe having a back of wire mesh with lugs and fastening devices integral therewith in combination with a wearing-face or body of cast-iron, substantially as described.

3. A brake-shoe having a back of wire mesh with lugs and fastening devices integral therewith and reinforced by the cast-iron of the shoe and embedded in the body of cast-iron immediately adjacent to the back thereof, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH D. GALLAGHER.

Witnesses:
FRANK B. SMITH,
CHARLES W. BROWER.