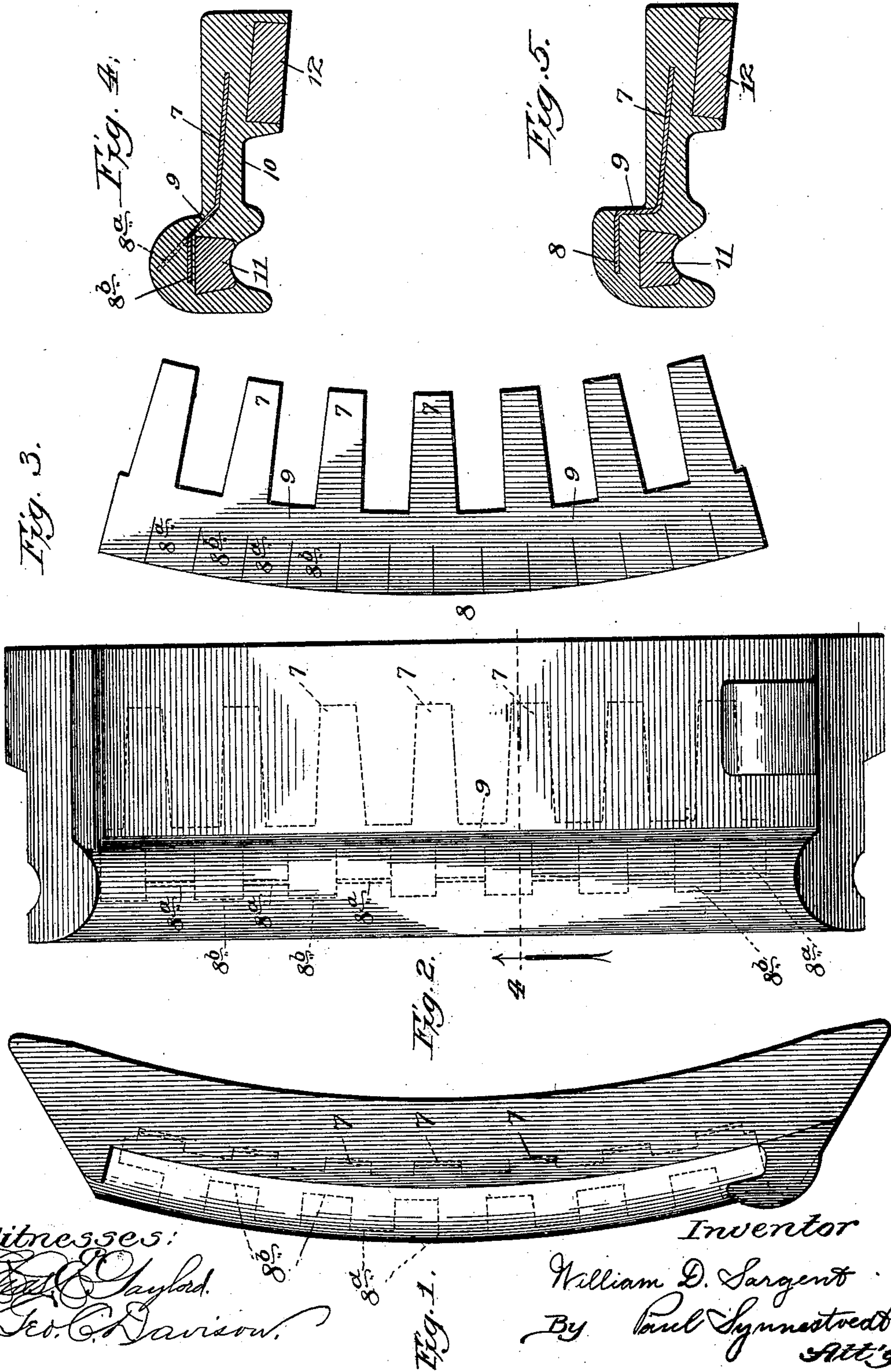


No. 711,740.

Patented Oct. 21, 1902.

W. D. SARGENT.  
FLANGE BRAKE SHOE.  
(Application filed Feb. 28, 1902.)

(No Model.)





# UNITED STATES PATENT OFFICE.

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## FLANGE BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 711,740, dated October 21, 1902.

Application filed February 28, 1902. Serial No. 96,104. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM DARHAM SARGENT, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Flange Brake-Shoes, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention has reference to the provision of a shoe the body whereof is of cast metal and which is provided in the rear portion of the same with a stiffening-piece or insert formed with projections constructed to be embedded in that portion of the shoe which is adapted to engage the flange of the wheel and other projections adapted to be embedded in the remaining portion of the shoe, said two sets of projections being united by means of an intervening part of the insert, which is, in the preferable construction, bent so as to stand approximately in the plane of the wheel—that is, in a plane extending longitudinally of the shoe and at a right angle relative to the face of the shoe—whereby to impart to the shoe the maximum degree of stiffness which can be obtained from the weight of metal employed in the insert, and whereby also to make it possible to use an insert of lighter weight for a given strength of shoe than would be possible with other constructions.

Another object of my invention is to provide a flange brake-shoe with a strengthening-piece embedded therein in such manner as to aid in binding together the flange portion and the remaining portion of the body of the shoe and to strengthen the shoe at the point where the flange portion joins the balance of the body of the shoe, which in shoes which are cut out (like what is known as the "Ross" shoe) are apt to be weak at this place.

The above as well as such other objects as may hereinafter appear I attain by means of a construction which I have illustrated in preferred form in the accompanying drawings, in which—

Figure 1 is a side elevation showing a shoe embodying my improvement. Fig. 2 is a rear view thereof, showing the arrangement of the insert within the shoe in dotted lines.

Fig. 3 is a view of the strengthening-piece or insert as it is first stamped out of a sheet of metal. Fig. 4 is a section taken on the line 4 of Fig. 2; and Fig. 5 is a sectional view similar to Fig. 4, but showing a slightly-different arrangement of the insert or strengthening-piece.

In carrying out my invention I first provide a strengthening-piece or insert marked 6, which has a plurality of projections at one side thereof marked 7, and another plurality of projections at the opposite side thereof marked 8, between which said projections 7 and 8 there is a portion marked 9, which is plain—that is, without projections or slots. The piece having been stamped out of a sheet of metal is next bent to the form in which it is designed to be placed in the mold, which may be as shown in Fig. 4 or in Fig. 5, as preferred, it being observed that in both of said figures the projections are bent at an angle to the middle portion 9, so as to cause the middle portion to stand in a plane at an angle with the face of the shoe, so as to get the maximum stiffening effect of the same in supporting the shoe against the pressure of the brake upon it. The projections 8 are bent in alternation in opposite directions, or as shown at 8<sup>a</sup> and 8<sup>b</sup> in Fig. 4, so as to better secure the firm connection between the insert and the casting which surrounds the same.

The projections 7 are embedded in the body of the shoe at the side of the same which comes opposite the tread portion of the wheel, and in the type of shoe shown extend over the cut-away part 10, which is directly opposite the wearing portion of the tread of the wheel, and thus strengthen the shoe in this place, which is one of its weakest parts.

When the insert is embedded in the shoe as shown in Fig. 5, the plain portion thereof 9 stands nearly at a right angle to the face of the shoe and longitudinally of the body of the shoe, thereby imparting a maximum amount of stiffness possible with a given weight of metal. The arrangement of the insert as shown in the said Fig. 5 also leaves a maximum amount of space for the introduction of such hard pieces as may be necessary, as indicated at 11 and 12, while at



the same time it permits the shoe to be worn down practically to the minimum thickness without interfering at all with the insert or the stiffening effect thereof.

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

10 1. A brake-shoe having a body portion of cast metal, with a tread and flange part there- to, in combination with a stiffening-piece em- bedded in said flange part and in said tread part, with the portion thereof between said flange part and tread part disposed in a plane at an angle to the face of the shoe, substan- 15 tially as described.

20 2. A brake-shoe comprising in combination a body having a tread part and a flange part, and an insert-piece for stiffening said shoe, constructed with projections embedded in said tread part, and another set of projections embedded in said flange part, substantially as described.

3. A brake-shoe comprising in combination a body having a tread part and a flange part, and an insert-piece for stiffening said shoe, 25 constructed with projections embedded in said tread part, and another set of projec- tions embedded in said flange part, said in- sert having a plain portion between said pro- jections, said plain portion standing in a plane 30 at an angle to the face of the shoe, substan- tially as described.

4. A brake-shoe having a body portion of cast metal, with a tread and flange part there- to, in combination with a stiffening-piece em- 35 bedded in said flange part, and in said tread part, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM DARHAM SARGENT.

In presence of—

PAUL SYNNESTVEDT,  
PAUL CARPENTER.