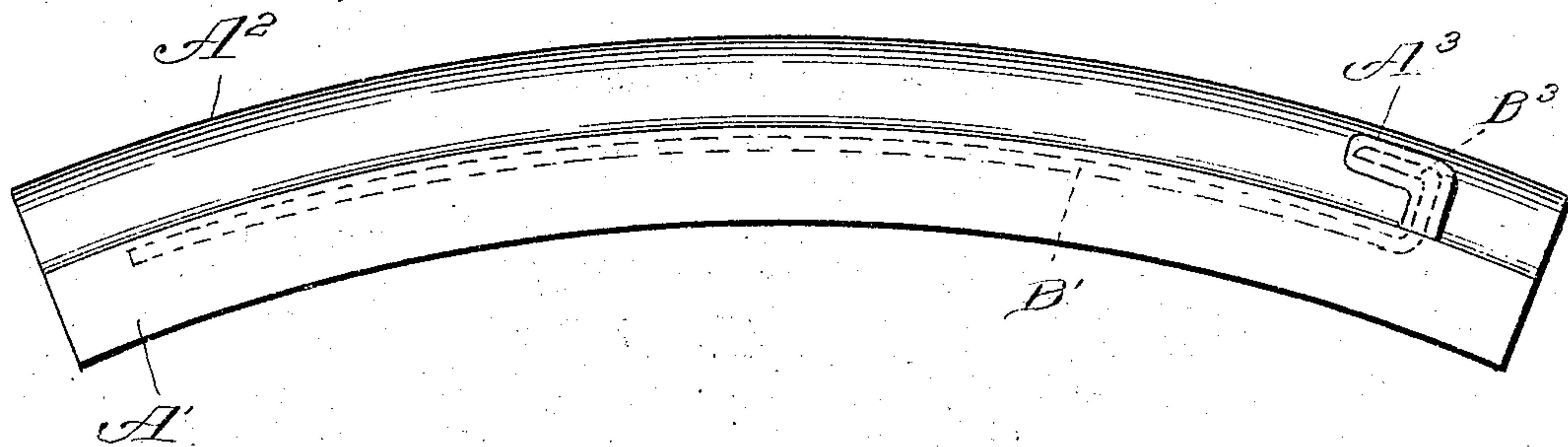


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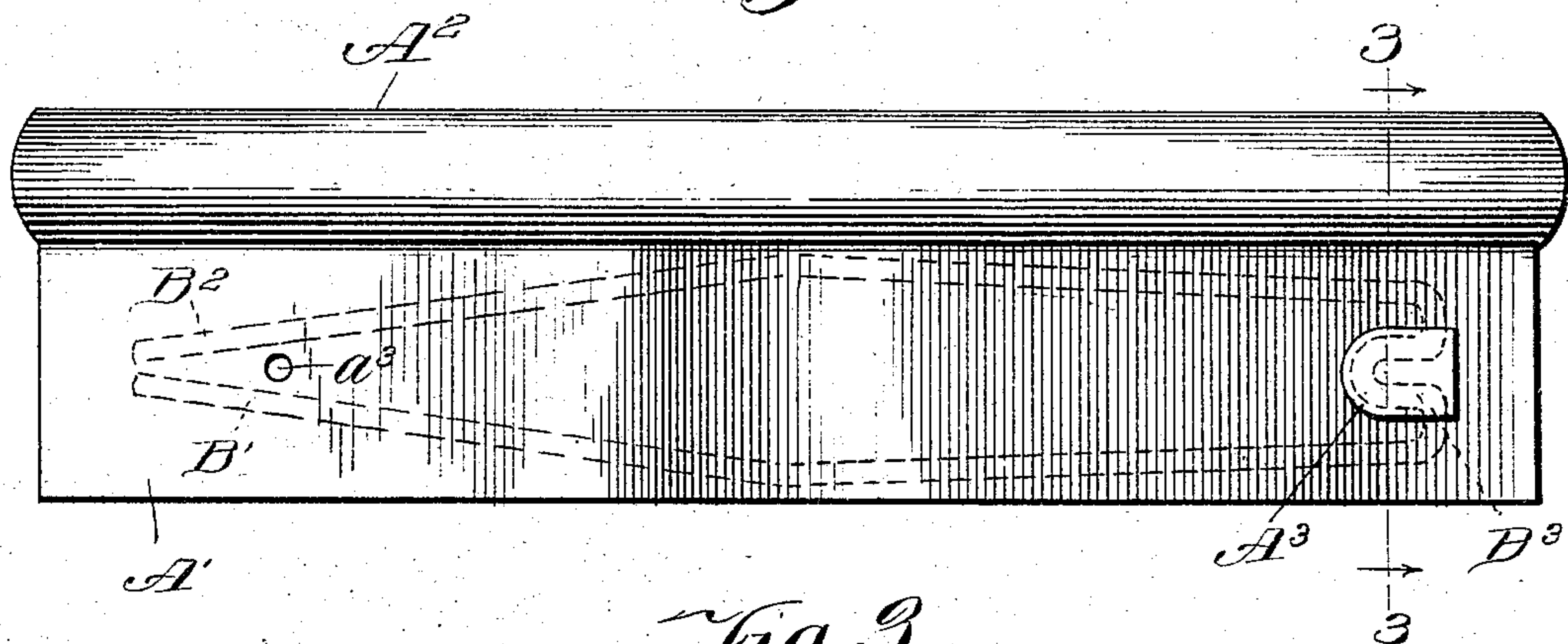
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H. L. WINSLOW.  
LOCOMOTIVE BRAKE SHOE.  
APPLICATION FILED NOV. 19, 1904.

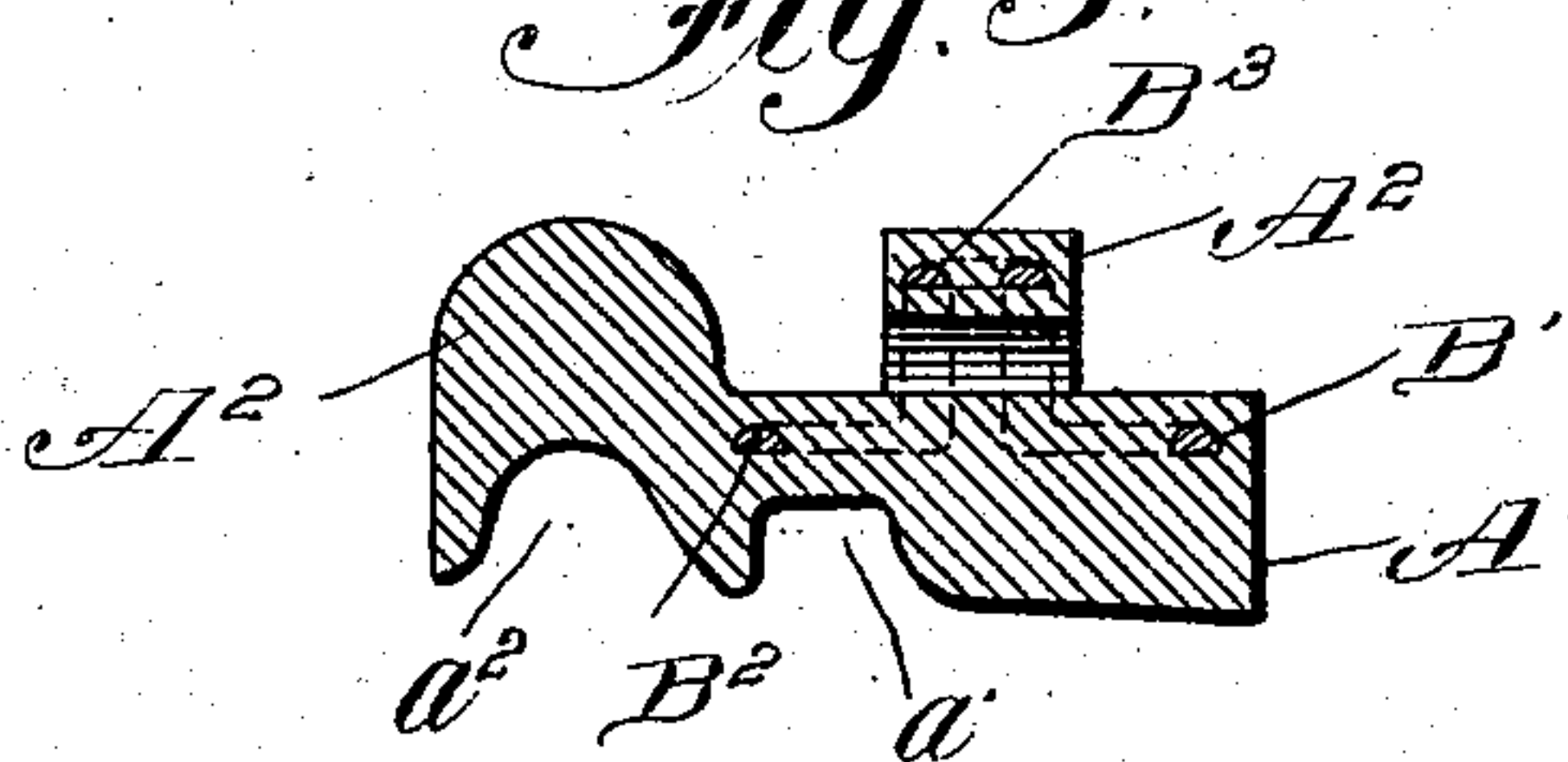
*Fig. 1.*



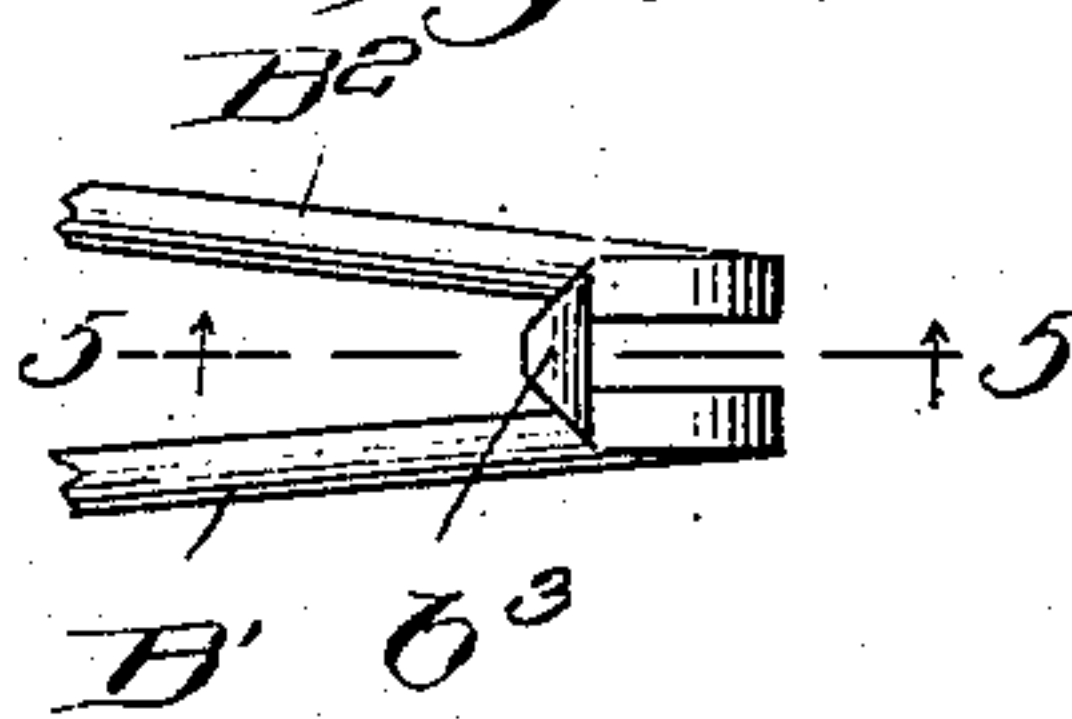
*Fig. 2.*



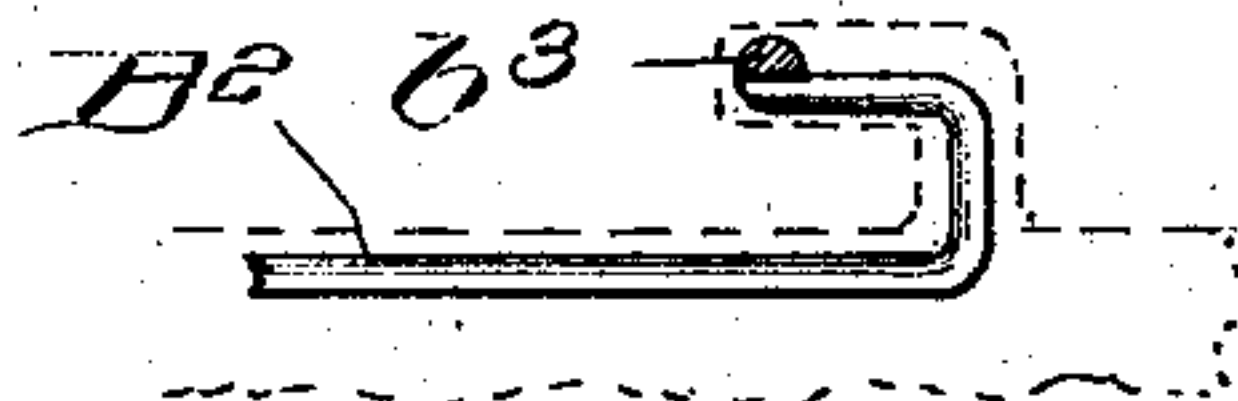
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



Witnesses:

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# UNITED STATES PATENT OFFICE.

HORACE L. WINSLOW, OF CHICAGO, ILLINOIS.

## LOCOMOTIVE BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 782,533, dated February 14, 1905.

Application filed November 19, 1904. Serial No. 233,422.

*To all whom it may concern:*

Be it known that I, HORACE L. WINSLOW, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have  
 5 invented a certain new and useful Improvement in Locomotive Brake-Shoes; and I 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 per-  
 10 tains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates in general to brake-shoes, and more particularly to that type of  
 15 brake-shoe which is provided with a hook-lug at one end thereof for attaching the shoe to the brake-head, such type being primarily designed for use in connection with locomotive driving-wheels.

20 In the type of locomotive brake-shoe in which a cast-metal hook-lug is provided near one end of the back thereof for attaching the shoe to the brake-head the lug is frequently broken off either in shipping or in use, there-  
 25 by destroying the shoe. In order that the life of brake-shoes may be prolonged until almost entirely worn away, it has heretofore been proposed to embody in the cast metal of the shoe near the back thereof strengthening  
 30 strips or plates made of tough and ductile material, thereby permitting the shoe to continue in use even when worn very thin without danger of the shoe breaking and falling from the brake-head.

35 The primary object of my invention is to provide a locomotive brake-shoe the durability of which is increased both by embedding rods in the cast metal of the shoe near the back thereof to tie the shoe together should it be-  
 40 come broken and by continuing such tie-rods into the cast-metal attaching-lug, thereby strengthening the lug and preventing the detachment of the shoe from the brake-head even though the cast metal of the lug should  
 45 become broken.

A further object of my invention is to provide a locomotive brake-shoe which will be simple in construction, inexpensive in manu-  
 50 facture, and durable in use.

My invention, generally described, consists

in a locomotive brake-shoe having embedded in the cast metal, near the back thereof, strengthening-rods, such rods being continued into the cast-metal attaching-lug of the shoe, so that  
 55 the portions of the rods around which the shoe is cast not only prevent the shoe from falling from the brake-head when broken, but also securely anchoring the portion thereof around which the attaching-lug is cast.

My invention will be more fully described  
 60 hereinafter with reference to the accompanying drawings, in which the same is illustrated as embodied in a convenient and practical form, and in which—

Figure 1 is a side elevation; Fig. 2, a plan  
 65 view; Fig. 3, a sectional view on line 3 3, Fig. 2; and Figs. 4 and 5, detail views.

The same reference characters are used to designate the same parts in the several figures  
 70 of the drawings.

Reference-letter A' indicates a brake-shoe made of cast-iron and provided with a portion  
 75 A<sup>2</sup>, adapted to overlie the flange of the car-wheel.

a<sup>2</sup> indicates the groove in the portion A<sup>2</sup> to  
 80 receive the wheel-flange, while a' designates a longitudinal channel formed in the portion of the body of the shoe which overlies the tread of the wheel adjacent to the flange.

A<sup>3</sup> designates a hook-shaped lug projecting  
 85 from the back of the shoe near one end thereof and adapted to support the shoe upon the brake-head.

a<sup>3</sup> indicates a bolt-hole by means of which  
 90 the lower part of the shoe is securely fixed to the brake-head.

B' and B<sup>2</sup> designate tie-rods extending longitudinally through the shoe and located adjacent to the back thereof. These tie-rods are composed of tough ductile metal and are  
 95 preferably semicircular in cross-section, as indicated in Fig. 3, in order that they may be located near the back of the shoe and at the same time be securely retained therein owing to the cast metal surrounding the upper  
 100 curved surfaces of the rods. The rods B' and B<sup>2</sup> are preferably united by an integral hook portion B<sup>3</sup>, which projects outwardly from the back of the shoe and is embedded in the cast-metal attaching-lug A<sup>3</sup>.



The tie-rods B' and B<sup>2</sup> may, if desired, be arranged as indicated in Fig. 2, or, in fact, in any positions within a plane parallel and adjacent to the back of the shoe. By arranging the tie-rods in irregular positions, such as shown in Fig. 2, there is less liability of their being stripped out of the body of the shoe in case the cast metal of the attaching-lug breaks and the strain of supporting the shoe is imposed upon the portions of the rods embedded in the lug.

In Figs. 4 and 5 I have illustrated a modified way of bending the portion of the rods which forms the reinforcement for the cast-metal attaching-lug. In lieu of uniting the rods within the cast-metal lug A<sup>3</sup> by an integral part in the same horizontal plane such integral uniting part may be folded over, as shown in Figs. 4 and 5.

From the foregoing description it will be observed that I have invented an improved locomotive brake-shoe the longevity of which is increased by embedding reinforcing-rods extending in irregular paths through the cast-metal body of the shoe adjacent to the back thereof, thereby permitting the shoe to be almost entirely worn away without danger of its becoming broken in two and falling from the brake-head. It will also be observed that by extending portions of the tie-rods into the cast hook-shaped lug the latter is strengthened and the shoe is prevented from disengagement from the brake-head even though the cast-metal lug should become broken. The tie-rods thereby perform the double function of preventing the body of the shoe from breaking when worn thin and also of anchoring the reinforced attaching-lug securely to the shoe.

While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto, as I contemplate changes in form, the proportion of parts, and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit of my invention.

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

1. A locomotive brake-shoe comprising a cast-metal body portion and an attaching-lug cast integrally therewith, said lug projecting from the back of the shoe adjacent to one end thereof, a rod of tough, ductile material in-

serted in the body of the shoe near the back thereof, a portion of said rod being embedded in said attaching-lug.

2. A locomotive brake-shoe comprising a cast-metal body portion and an attaching-lug cast integrally therewith, said lug projecting from the back of the shoe near one end thereof, a semicircular rod of tough ductile metal inserted in the body of the shoe with its curved surface near the back thereof, a portion of said rod being extended into and embedded in said lug.

3. A locomotive brake-shoe comprising a cast-metal body portion and a hook-shaped lug cast integrally therewith, a reinforcing-rod inserted in the body of the shoe near the back thereof, a portion of said rod being bent in the form of a hook and embedded in said lug.

4. A locomotive brake-shoe comprising a cast-metal body portion and a hook-shaped lug cast integrally therewith, a bent rod semicircular in cross-section inserted in the body of the shoe with its curved surface adjacent to the back thereof, a portion of said rod being formed into a hook and embedded in said lug.

5. A locomotive brake-shoe comprising a cast-metal body portion and an attaching-lug cast integrally therewith, a pair of reinforcing-rods inserted in the body of the shoe near the back thereof, said rods having formed integral therewith a portion embedded in said cast-metal lug.

6. A locomotive brake-shoe comprising a cast-metal body portion and a hook-shaped lug cast integrally therewith, a pair of reinforcing-rods inserted in the body of the shoe near the back thereof, said rods being united by an integral hook extending into and embedded in said lug.

7. A locomotive brake-shoe comprising a cast-metal body portion and a hook-shaped lug cast integrally therewith and projecting from the back thereof near one end of the shoe, a pair of bent rods semicircular in cross-section embedded in the body of the shoe near the back thereof, said rods being united by a portion thereof bent into the form of a hook and embedded in said lug.

In testimony whereof I sign this specification in the presence of two witnesses.

HORACE L. WINSLOW.

Witnesses:

GEO. L. WILKINSON,  
C. A. MULLEN.