C. S. SHALLENBERGER.

BRAKE SHOE.

APPLICATION FILED JUNE 24, 1908.

915,119.

Patented Mar. 16, 1909.

2 SHEETS—SHEET 1.

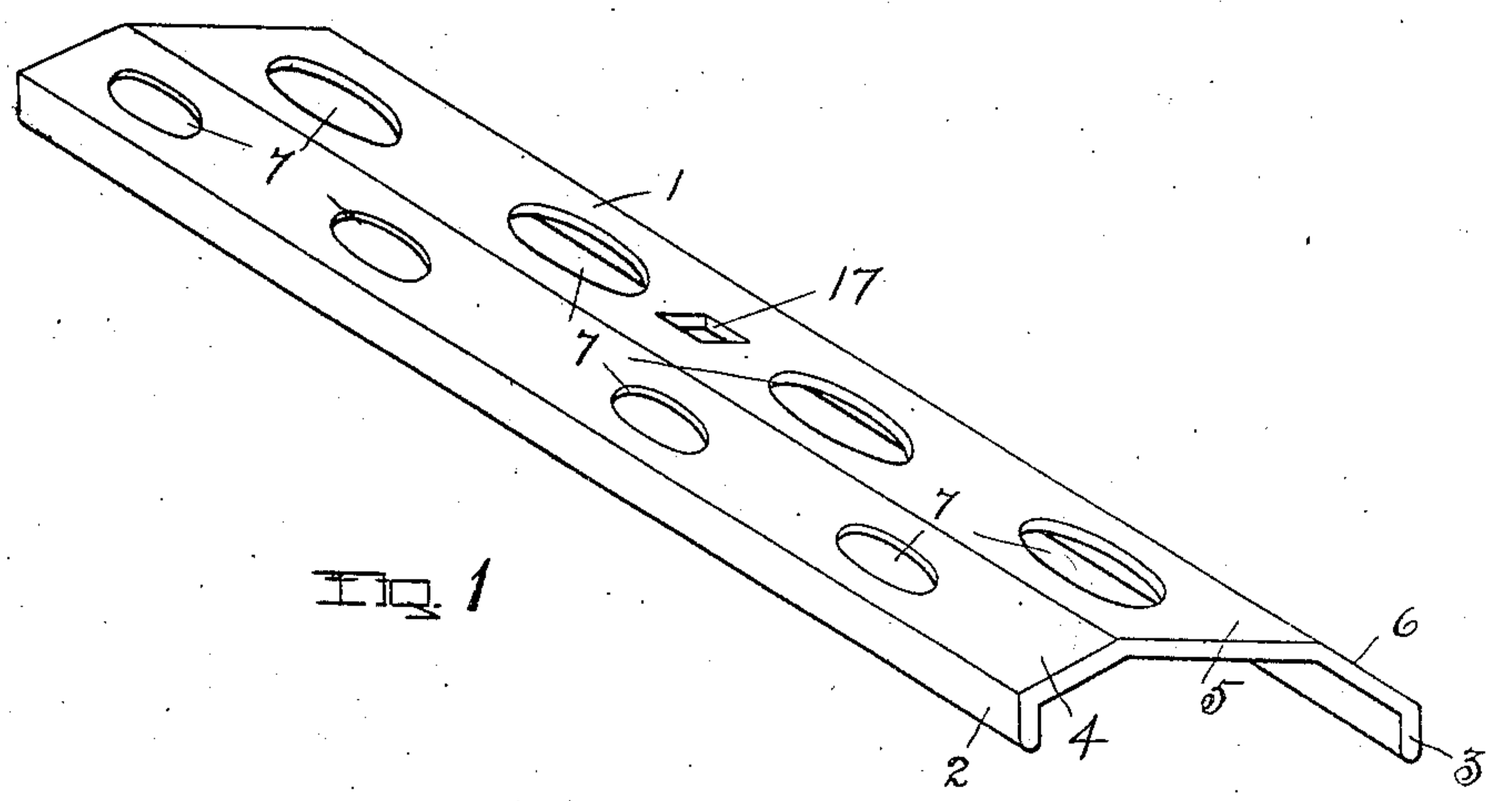

Fig. 1

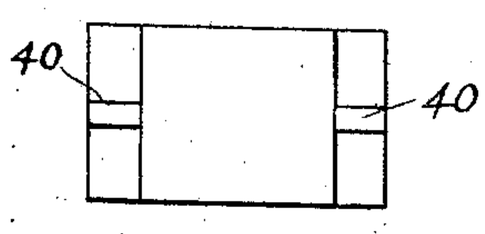

Fig. 2

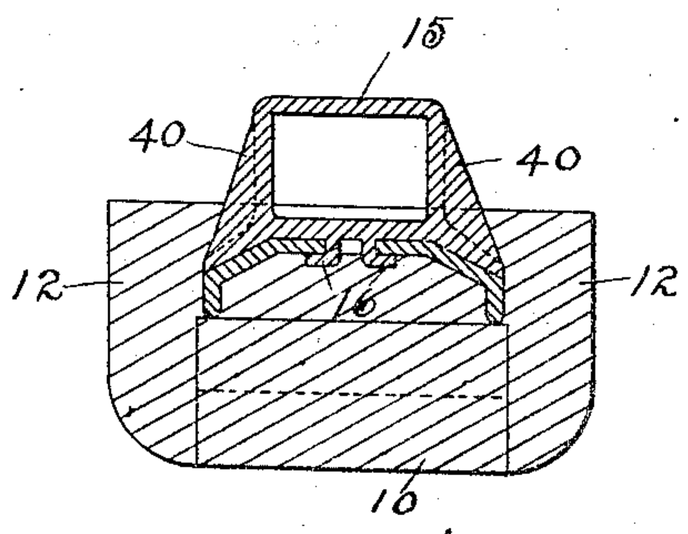

Fig. 4

WITNESSES

L. C. Kennedy

G. V. Manning

INVENTOR

Charles S. Shallenberger

by Mosher & Curtis

attys.

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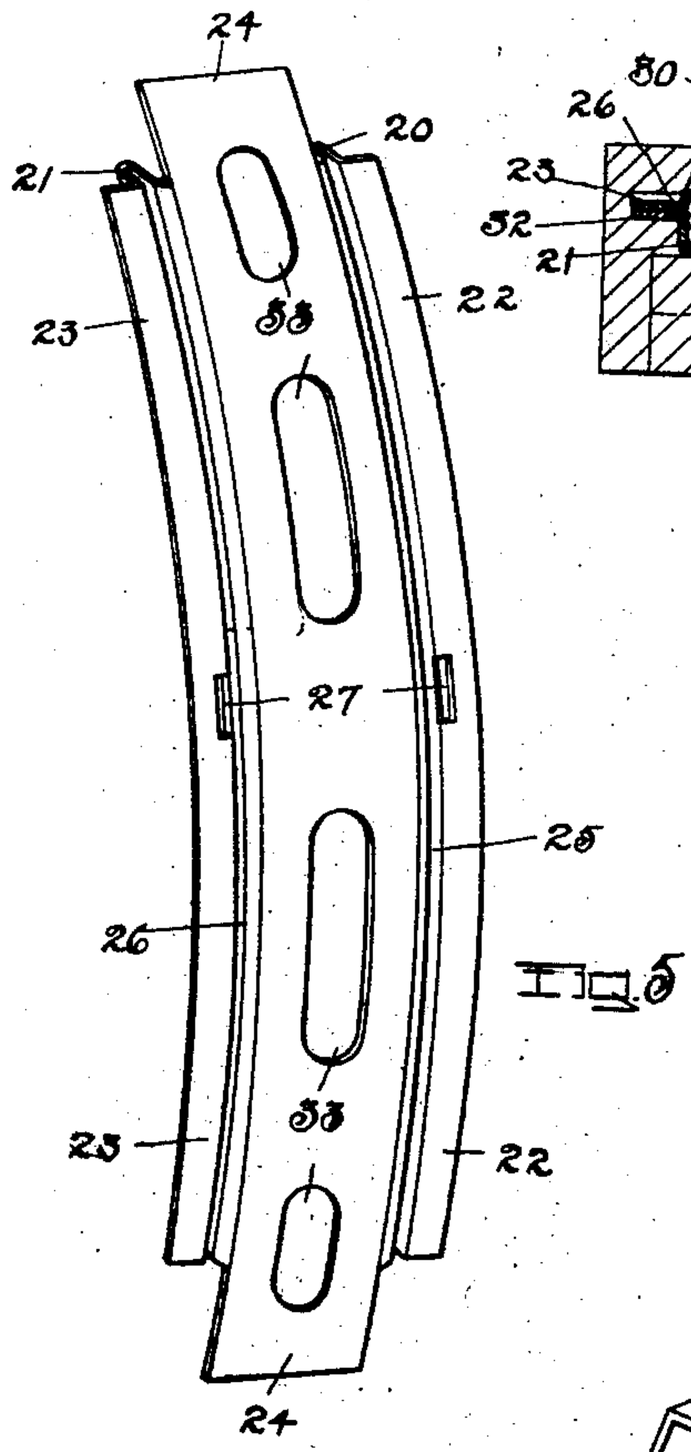

Fig. 5

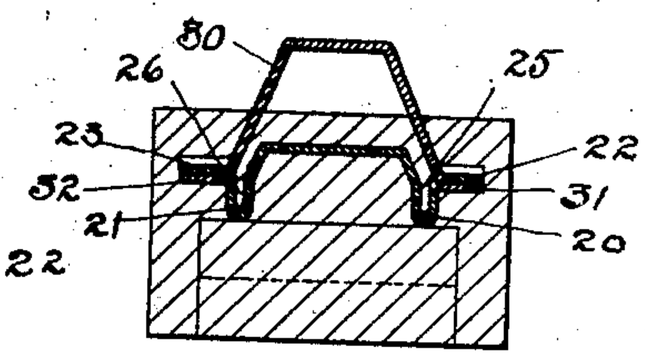

Fig. 7

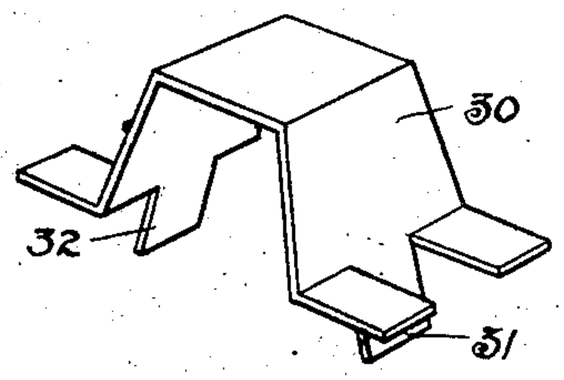

Fig. 6

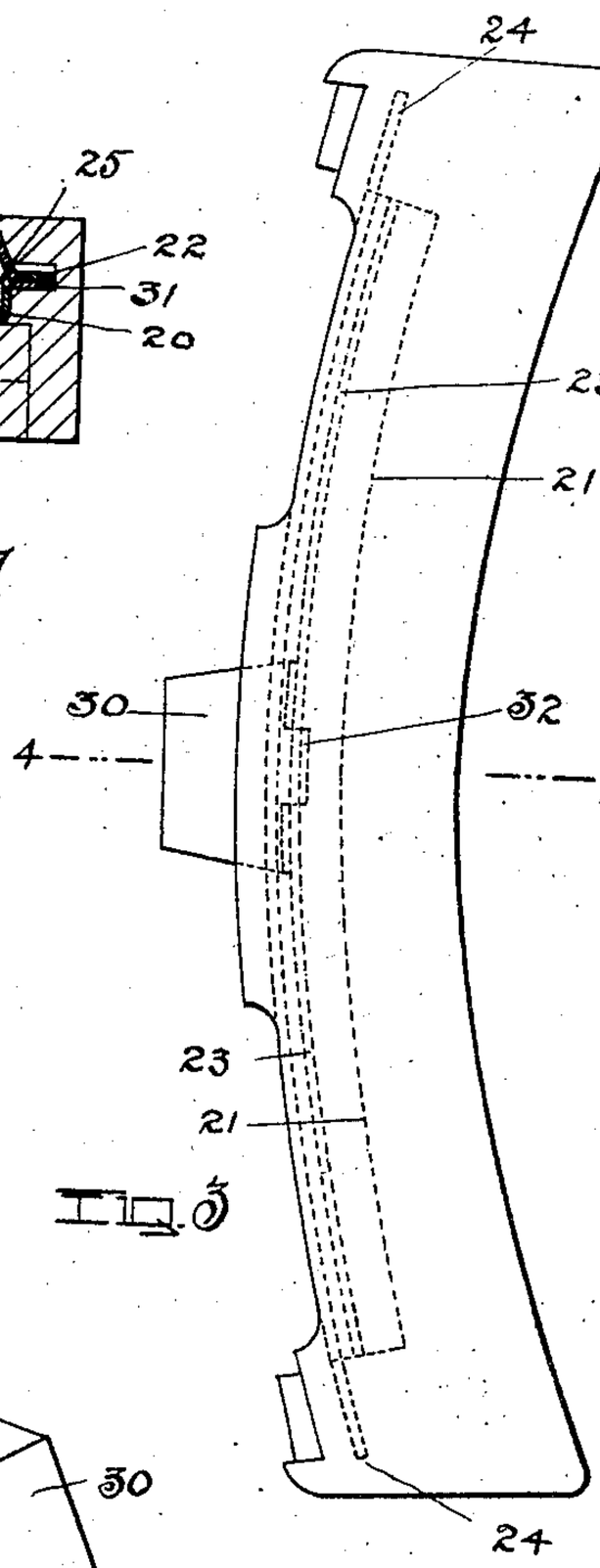

Fig. 4

WITNESSES

L. C. Kennedy

W. Manning.

INVENTOR

Charles S. Shallenberger

by Mosher Burdett

Atty

UNITED STATES PATENT OFFICE.

CHARLES S. SHALLENBERGER, OF ST. LOUIS, MISSOURI.

BRAKE-SHOE.

No. 915,119. Specification of Letters Patent. Patented March 16, 1909.

Application filed June 24, 1908. Serial No. 440,088.

To all whom it may concern:

Be it known that I, CHARLES S. SHALLENBERGER, a citizen of the United States, residing at the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification. Similar characters refer to similar parts in the several figures therein.

This invention relates to brake-shoes suitable for use on railway cars, and consists of a face-insert of comparatively-hard metal, a back-insert comprising a ductile metal plate provided with strengthening angle-flanges, an attaching loop or key-way secured to the middle portion of the back-insert, and a metal body cast upon such inserts, with the key-way projecting therefrom, and the inserts in contact with each other.

The object of the invention is to reinforce and strengthen the casting to permit the wearing away of a considerable portion of the casting without danger of breaking or otherwise injuring the shoe, all of which will be hereinafter more fully described and subsequently pointed out in the claims.

Figure 1 of the drawings is a view in perspective of the back-insert detached. Fig. 2 is a top plan view of the key-way attachment detached. Fig. 3 is an edge view of a completed brake-shoe. Fig. 4 is a cross-section taken on the broken line 4—4 in Fig. 3. Fig. 5 is a view in perspective of a modified form of back-insert detached. Fig. 6 is a view in perspective of a modified form of key-way attachment. Fig. 7 is a transverse section taken at the middle of a completed brake-shoe, showing a modified form of back-insert and key-way attachment.

The back-insert, 1, is a ductile metal plate bent to form the oppositely disposed angle-flanges 2 and 3. The body part of the plate which connects the two flanges may be given any desired cross-sectional form, and the same is shown with three plane surfaces, 4, 5 and 6, angularly disposed relatively to each other and to the angle-flanges as shown. The plane surfaces, 4, 5 and 6, may be provided with any desired number of apertures, 7, to permit the ready flow of molten metal therethrough, when the casting is formed about the inserts.

A face-insert, 10, is shown in cross-section in Fig. 4. This insert may be of any known form. The back-insert is made a little narrower than the face-insert, and the two inserts are so disposed relatively to each other that the angle-flanges, 2 and 3, rest upon the back of the face-insert, as shown in Fig. 4. The face-insert affords the functional support for the back-insert, while the cast-metal body, 12, is being cast around the inserts in a mold, that a chaplet affords in connection with core-prints. Such support prevents the disturbance of the relative positions of the inserts, both to each other and to the mold in which the casting is formed. The loop or key-way, 15, is secured to the metal part of the back-insert by means of the lugs, 16, projecting from its inner side, and adapted to enter the middle aperture, 17, in the back-insert, and be bent over thereon, as shown in Fig. 4.

In Fig. 5 is shown a modified form of ductile metal plate forming the back-insert, wherein the plate is so bent as to form oppositely disposed angle-flanges, 20 and 21, bent back upon themselves, and agian bent to form edge flanges, 22 and 23, forming, practically, side extensions of the body, 24, but separated therefrom by the grooves, 25 and 26, formed by the flanges, 20 and 21. The edge flanges, 22 and 23, are provided with the apertures 27, adapted to receive the attaching lugs of the keyway.

A suitable key-way attachment, 30, is shown in Fig. 6. This key-way consists of a plate of sheet-metal, slitted at the ends to form lugs, 31 and 32, and bent to substantially the form shown in Fig. 6. The lugs 31 and 32 are then respectively inserted in the apertures 27 and bent over against the lower sides of the edge flanges 22 and 23, as shown in Fig. 7, thereby firmly securing the key-way to the insert.

The insert-plate may be provided with any desired number of apertures, 33, to permit the flow of molten metal therethrough when the casting is formed about the inserts.

When desired, the key-way attachment may be reinforced by strengthening ribs, 40, as shown in Figs. 2 and 4.

What I claim as new and desire to secure by Letters Patent is—

1. In a brake-shoe, a back-insert compris-

ing a ductile metal plate having its side edges bent to form oppositely disposed grooved angle-flanges extending longitudinally of the shoe; an attaching loop or key-way; and means for securing the key-way to the middle portion of the angle-plate; in combination with a cast-metal body.

2. In a brake-shoe, the combination with a back-insert comprising a ductile metal plate having its side edges bent to form oppositely disposed angle-flanges, and apertured at its middle portion to receive the attaching lugs of a key-way attachment; a key-way attachment provided with attaching lugs adapted to enter a plate aperture and be secured therein; and a cast-metal body.

3. In a brake-shoe, the combination with a metal face-insert; of a back-insert comprising a ductile metal plate having its side edges bent to form oppositely disposed angle-flanges, with the face edges of the flanges in engagement with the back of the face-insert; a key-way; means for securing the same to the back-insert; and a metal body cast upon such inserts.

4. In a brake-shoe, the combination with a face-insert; of a back-insert comprising a ductile metal plate having oppositely disposed side supports in engagement with the back of the face-insert; and a metal body cast upon such inserts.

In testimony whereof, I have hereunto set my hand this 12th day of June, 1908.

CHARLES S. SHALLENBERGER.

Witnesses:

FRANCES B. WILKINSON,

LANCY PRICE.