

C. W. KUCHER.

BRAKE SHOE.

APPLICATION FILED JUNE 13, 1911.

1,051,125.

Patented Jan. 21, 1913.

Fig. 5

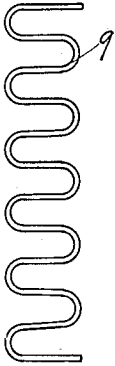


Fig. 1.

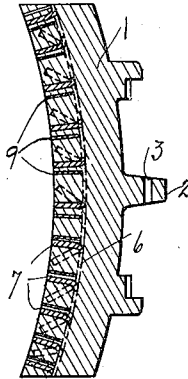


Fig. 2.

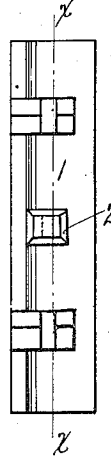


Fig. 6.

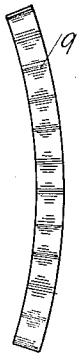
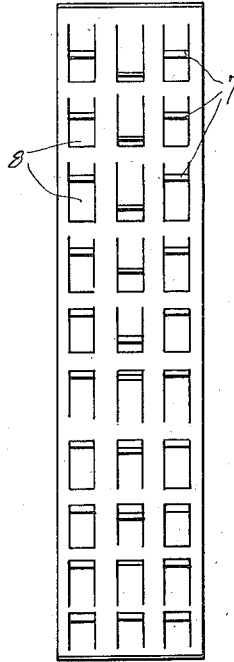


Fig. 4.



Fig. 3.



WITNESSES:
Frank H. Fowler
J. J. Gorin

Inventor
Charles W. Kucher
by Fred O. Gorin
Attorney

UNITED STATES PATENT OFFICE.

CHARLES W. KUCHER, OF SEATTLE, WASHINGTON.

BRAKE-SHOE.

1,051,125.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES W. KUCHER, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a full, true, and exact specification, which will enable others skilled in the art to construct the same.

The principal object of this invention is to provide a brake shoe of substantially the general contour of an ordinary brake shoe, but due to the improved construction of which, the life of the shoe is greatly prolonged and a greater braking efficiency secured.

Other objects will appear as the invention is more fully hereinafter described and shown in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of the device upon the line $x-x$ of Fig. 2. Fig. 2 a rear view; Fig. 3 an enlarged detailed front view of the face plate before the metal is poured around it. Fig. 4 is a side view of the same. Fig. 5 an edge-wise view of the spiral spring member; Fig. 6 a side view of the same.

Referring now more particularly to the drawings, the numeral 1 designates the main body of the shoe, 2 a projection through which is the perforation 3 which receives a key which secures the shoe to the brake head in the usual and wellknown manner. All of the parts so far described may be of the usual construction.

6 is a sheet of relatively soft steel which is bent to conform to the curve of the main body 1. From the sheet 6 are upwardly bent the fingers 7, leaving the open slots 8 through the sheet 6, some of the fingers 7 being bent only slightly upwardly and others at approximately right angles to the sheet (Fig. 4.)

9 is a sinuous member formed from a sheet of slightly spring material and between the convolutions of which are adapted to enter the fingers 7. The formation of the device is such that the fingers 7 are introduced between the convolutions of the sinuous member 9 (Fig. 1) and the molten metal poured so that the main body 1 is cast allowing the molten metal to flow around and envelop

the fingers 7 and convolutions of the member 9 whereby the members 6 and 9 with their fingers and convolutions and the main body 1 becomes substantially an integral piece as is clearly shown in Fig. 1.

From the foregoing it is believed that the construction and operation of my device will be fully understood by those skilled in the art.

It is clear that the brake face of the shoe is yielding in its nature due to the fact that the braking face of the cast iron is divided into the relatively thin portions which lie between the fingers 7 and the convolutions of the sinuous member 9, and for that reason will readily conform to the periphery of the wheel and grip the same firmly. It is also clear that if these pieces of the cast iron between the fingers 7 should be broken from the main body anywhere along the braking face of the same they would be held approximately in position by the fingers 7. The material of which the spring fingers 7 is formed is much softer than the casting which surrounds them and for that reason wears more rapidly than the cast iron. The ends of some of the fingers 7 project entirely through the cast iron braking face and contact directly with the periphery of the wheel and grit, sand, or other particles which happen to be caught between the brake face of the shoe and the periphery of the wheel is rolled along by the movement of the wheel until the grit, sand, or other particles contacts with the end of one of the fingers 7 when it is ground into and against the same thus slightly reducing the length of the fingers so that the same is below the surface of the cast iron face. Thus it will be seen that in practice the ends of the fingers 7 are kept worn slightly below the braking face of the cast iron and thereby create somewhat of a suction action.

I am fully aware that many changes and details of construction will readily suggest themselves to those skilled in the art without departing from the spirit and scope of the invention and I do not therefore desire to be limited to the exact construction shown.

What I claim as new and desire to protect by Letters Patent of the United States is—
In a brake shoe a main body adapted to

be cast around a sheet metal portion of relatively soft resilient material having upstanding fingers integral with said sheet and extending through the braking face, a second set of fingers at angles to said first mentioned fingers and a sinuous member of resilient material fitted edgewise between

said fingers so that the whole forms a substantially integral piece when cast.

CHARLES W. KUCHER.

Witnesses:

F. P. GORIN,
H. RUPERT.