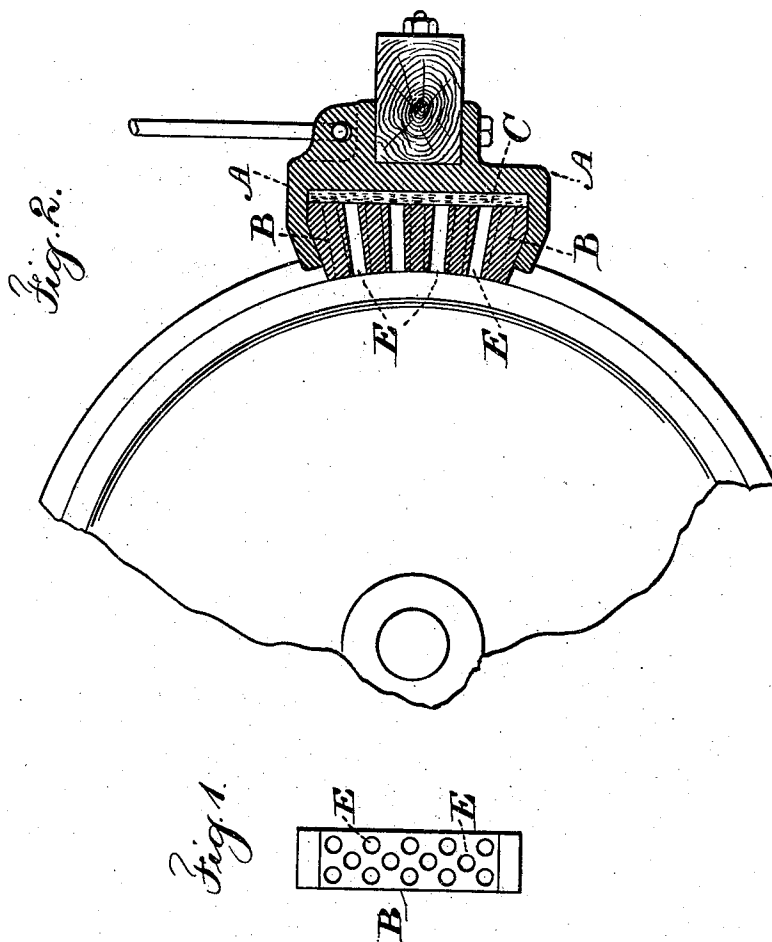


(No Model.)

E. HOFFSTAETTER, Jr. & H. STILLGEBAUER.
BRAKE SHOE.

No. 503,138.

Patented Aug. 15, 1893.



Witnesses

Chas. H. Smith
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Inventors

Ernest Hoffstaetter Jr.
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UNITED STATES PATENT OFFICE.

ERNEST HOFFSTAETTER, JR., AND HENRY STILLGEBAUER, OF NEW YORK, N. Y.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 503,138, dated August 15, 1893.

Application filed November 30, 1892, Serial No. 453,630. (No model.)

To all whom it may concern:

Be it known that we, ERNEST HOFFSTAETTER, Jr., and HENRY STILLGEBAUER, citizens of the United States, residing in the city and State of New York, have invented an Improvement in Shoes for Car-Brakes, of which the following is a specification.

Various materials have been made use of in the construction of car brake shoes. Cast iron however is most generally employed, and these shoes are pressed firmly against the peripheries of the wheels and in consequence of the movement of the wheels in contact with the shoes considerable noise and vibration result which are highly objectionable, especially with elevated railways in cities.

The object of the present invention is to lessen the noise and at the same time to render the brake shoe much lighter and more efficient in its action upon the wheels so that the efficiency of the brake is not lessened and the wheels are kept in a better condition.

With these objects in view we construct the brake shoe with numerous perforations in the same that extend through the shoe from the operative surface and we introduce a yielding material such as leather, india rubber or paper between the brake shoe and the holder to cover the outer ends of these holes. In practice we find that the perforations in the brake shoe tend to lessen the vibrations of the brake shoe upon the wheel, and the leather or other yielding material deadens the vibration of such shoe and closes the outer ends of the holes so that the brakes become substantially noiseless.

In the drawings, Figure 1 represents the surface of the brake shoe, and Fig. 2 is a section of the same and of the stock or holder into which the shoe is received.

The holder A for the brake shoe B is of any desired shape and it is connected to the cross bar of the brake as usual, and between the back of the brake shoe B and the bottom of the recess in the holder A we introduce leather or other suitable elastic material as at C, in order that such material may close the rear ends of the holes in the shoe and act as a dampener to check the vibrations of the shoe under the action of the wheels. The holes or perforations as at E are in the cast iron of the shoe and extend outwardly from the op-

erative face of said shoe. We dispose these perforations in such a manner as to leave the surface of the brake shoe that is in contact with the wheel uniform or nearly so in its action upon the wheel, that is to say, the perforations upon one line or range are intermediate to the perforations on another line, as represented in Fig. 1, and we prefer to make the brake shoe of iron with the perforations cast in the same.

It is well known that the surface of cast iron is usually much harder than the metal at a little distance from the surface. Hence the surface of the iron at the perforations will not wear away as rapidly as the rest of the surface that is in contact with the wheel, and the metal at these perforations will act to grind the surface of the wheel and maintain the said surface true and concentric and neutralize any tendency for the wheels to wear flat at places that may slip along upon the track, and preferably the iron is cast around pins so as to have a chilled surface in the holes, the pins being driven out before the iron becomes cold around them.

We are aware that brake shoes have been made with holes and filling material, such as wood and iron plugs, therein, but these holes have been in line with each other and hence the shoe does not act with uniformity on the surface of the wheel.

We claim as our invention—

1. The brake shoe having holes in the surface that is in contact with the wheel, such holes being in ranges, with the holes in one range in line with the spaces between the holes in another range so as to act with uniformity on the tread of the wheel substantially as specified.

2. The brake shoe of cast iron having holes extending outwardly from the operative surface of such shoe and their outer ends closed by leather or other suitable material intervening between the shoe and the holder substantially as specified.

Signed by us this 7th day of November, 1892.

ERNEST HOFFSTAETTER, JR.
HENRY STILLGEBAUER.

Witnesses:

WILLIAM G. MOTT,
HAROLD SERRELL.