J. BING.

Car-Brake Shoe.

No. 58,207. Patented Sept. 25, 1866.

Fig:1.

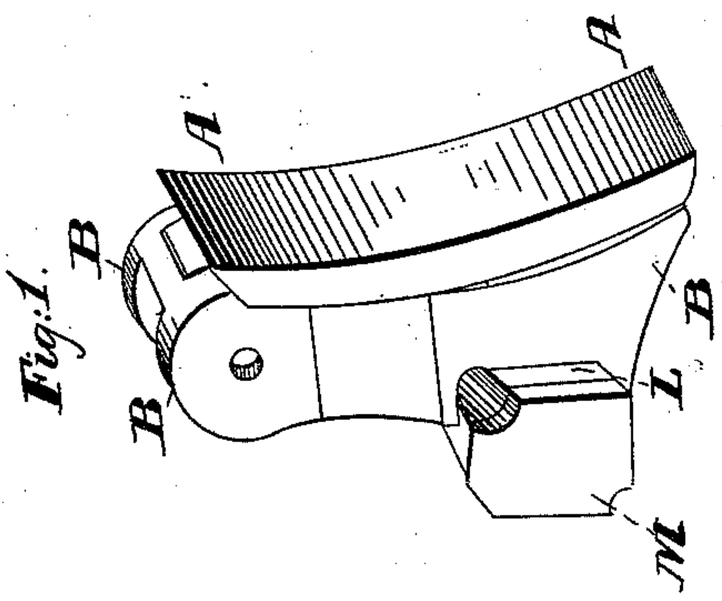


Fig:2.

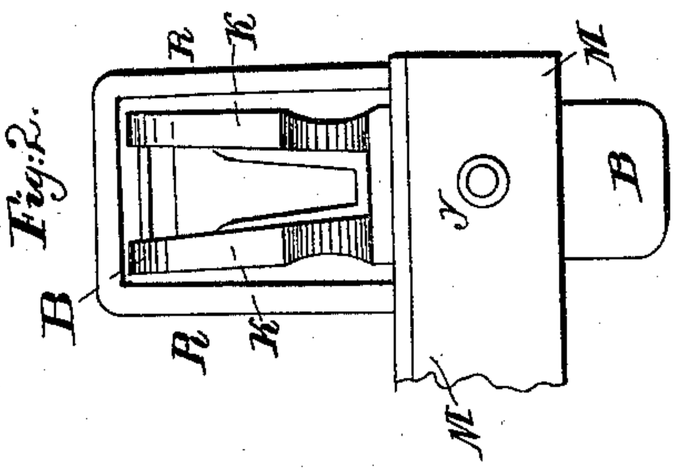


Fig:3.

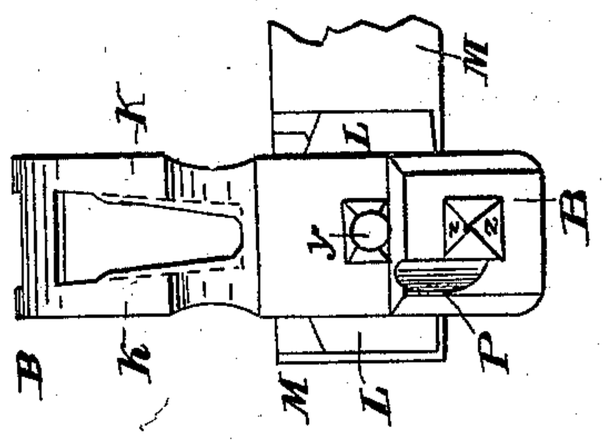


Fig:4.

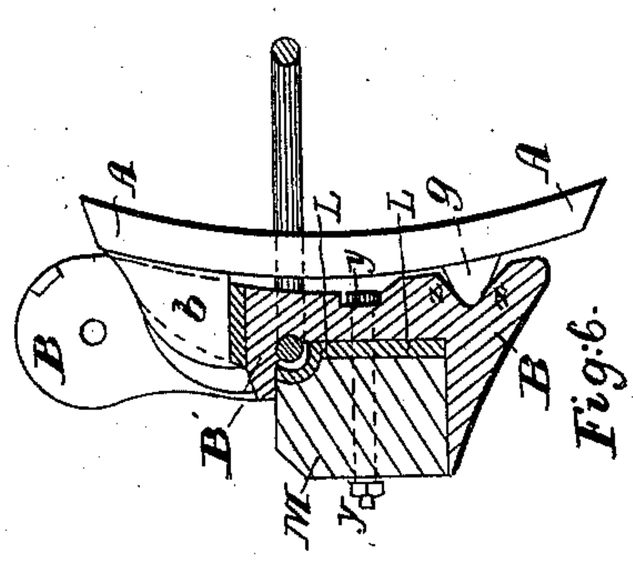


Fig:5.

Fig:6.

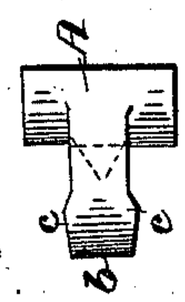
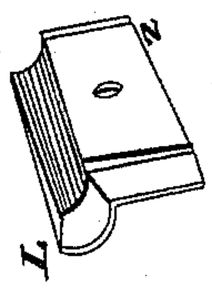


Fig:7.



Witnesses

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H M Hawley

Inventor

Jas Bing per

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attys

UNITED STATES PATENT OFFICE.

JAMES BING, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED SHOE FOR CAR-BRAKES.

Specification forming part of Letters Patent No. **58,207**, dated September 25, 1866.

To all whom it may concern:

Be it known that I, JAMES BING, of the city of Philadelphia, in the county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Shoes for Car-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my car-brake. Fig. 2 is a back view of the shoe as set on the beam. Fig. 3 is a front view of the same. Fig. 4 is a sectional elevation of the shoe, beam, and sole. Fig. 5 is a lower end view of the sole. Fig. 6 is an upper end view of the same. Fig. 7 is a perspective view of the metallic lining placed between beam and shoe.

The nature of my invention may be specified as follows: My car-brake being composed of two main and distinct parts, the shoe and its sole, I connect the sole with its shoe by means of a hook-shaped male lug embraced in a female aperture of suitable form on the shoe. Resting in proper place on the shoe by means of ears on the hook male lug, corresponding with and fitting on projections, *ad hoc*, on the shoe, the sole hangs to and is firmly connected with it without the aid of keys or bolts.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Similar letters refer to similar parts throughout the several views in the accompanying drawings.

B is the shoe, and A the sole, shaped to fit the car-wheel, and is provided (the sole) with a hook-shape lug, C, which fits between the lugs K K on the shoe, and rests there by means of its shoulders or ears *o o* fitting on projections *x x* on lugs *k k* of the shoe.

z z is a piece of india-rubber, gutta-percha, or any suitable material placed between lug C on sole and lugs *k k* on shoe, so as to obviate the noise of the friction of the sole on the shoe, the peculiar shape of lug C forming, with lugs *k k*, a recess, where said packing finds its place, and is held without any possibility left of its being displaced.

Q is a spur-like lug on sole A, fitting in fosse *z z* of the shoe, fosse *z z* being provided with a deviating canal, *p*, Fig. 3, giving spur-lug *q* a free and easy upward movement when the sole has to be lifted up.

It must be borne in mind that the fittings hereinabove described are loose enough to allow a sidewise vibration, which will adapt the fitting of sole A to all positions of the car-wheel at any time or in any peculiar position, as on curves, &c.

R R, Fig. 2, is a clevis, the upper end of which is suspended to the truck of the railroad-car, the lower end of which passes through the shoe at B′, Fig. 4, and is held in proper place (though loose enough to occupy any desired position) by means of beam M and metallic lining L L.

L L is the metallic lining I refer to, and which is placed between beam M and shoe, so as to obviate the effect of the friction of clevis R R on the wood of the beam.

M M is the usual beam, on each end of which is fixed one of my brakes, by means of one single bolt, *y y*, which goes clear through the shoe, the metallic lining, and the beam, connecting them firmly together.

The above-described construction is presented as a decided improvement on a car-brake which I invented and for which a patent was granted me under date of the 6th day of October, 1863, said improvement to be divided into three main points:

First. When the sole is connected by means of its hook-shaped lug to the shoe it hangs perfectly plumb to said shoe, and the shoulders *o o*, resting on the projections *x x*, cause the sole to be firmly united with the shoe without the help of any key or bolt. The peculiar shape of lug C gives an off-center tendency to the sole, and as a consequence of its position, resting, as it does, on projections *x x*, it brings the sole in close contact with the shoe; and if, as above mentioned, a piece of rubber or any suitable packing has been placed, as in *z z*, Fig. 4, between lug C and the shoulder on shoe, all friction is prevented without in the least interfering with the needed compact connection of the sole to the shoe.

Second. In railway cars the fore wheels will tend the sole of the brake downward, whereas the hind wheels will force it upward, and with

ordinary brakes this reverse action is a great obstacle to their successful working. That difficulty is avoided by my invention. The lug C resists and will overcome any force tending to drag the sole downward, whereas the spur-like lug, resting firm into its socket or fosse, will resist any force tending to lift the sole upward.

Third. By placing the metallic lining L L between the beam and the shoe the same can be united with the truck by a close clevis, which if acting on the wooden beam would wear it out soon, whereas it rests and works on the metallic lining, which resists wear.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The shoe B and sole A, united together without the help of any key or bolt, and so that the sole, by this off-center tendency resulting from the peculiar shape of lug C, can remain constantly in close contact with its shoe.

2. The combination of packing *z z* with lug C and shoe B, for the purpose above described.

3. The combination of shoe B, sole A, close clevis R, metallic lining L, and packing *z z*, the whole combined, constructed, and arranged substantially as above specified.

JAMES BING.

Witnesses:
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