SOLLERS & RHOADS.

Car-Brake Shoe.

No. 51,093. Patented Nov. 21, 1865.

Fig. 1.

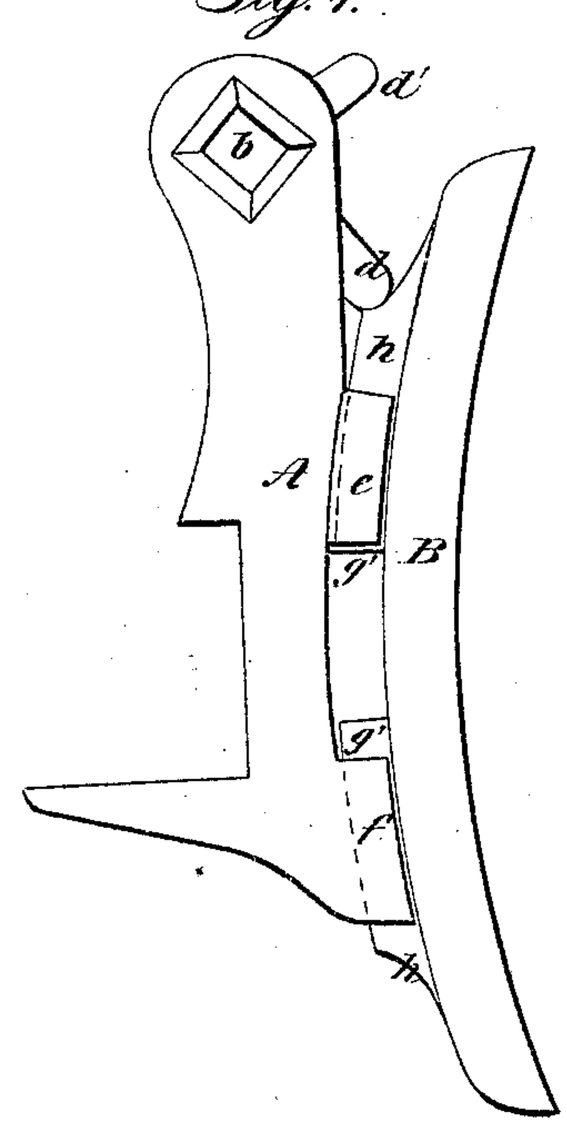


Fig. 3.

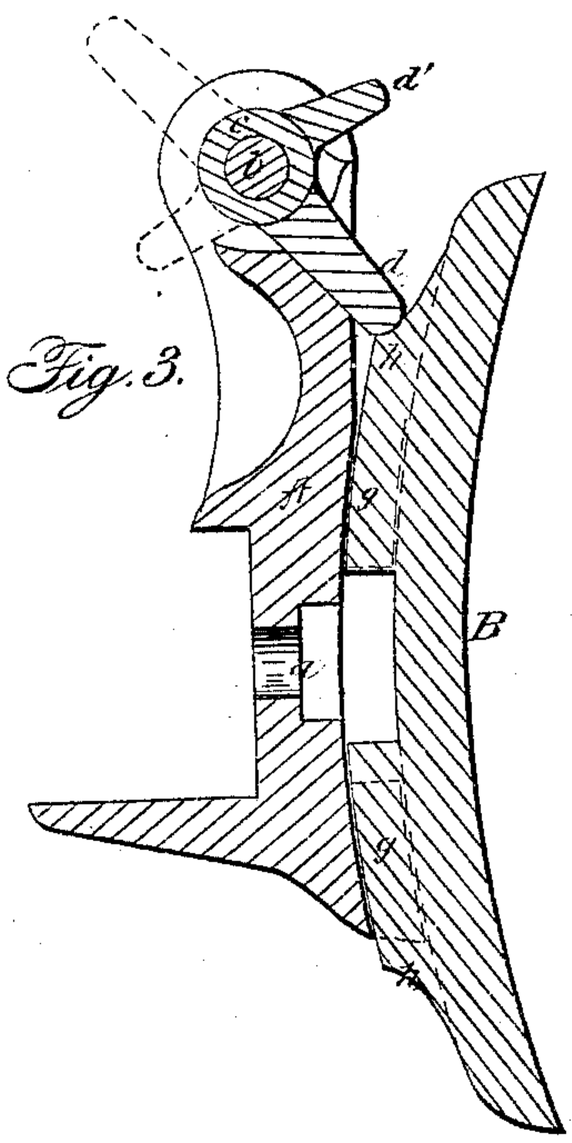


Fig. 2.

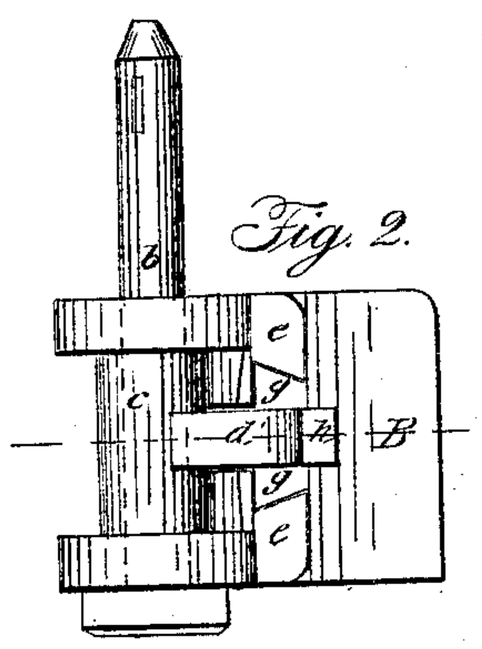


Fig. 4.

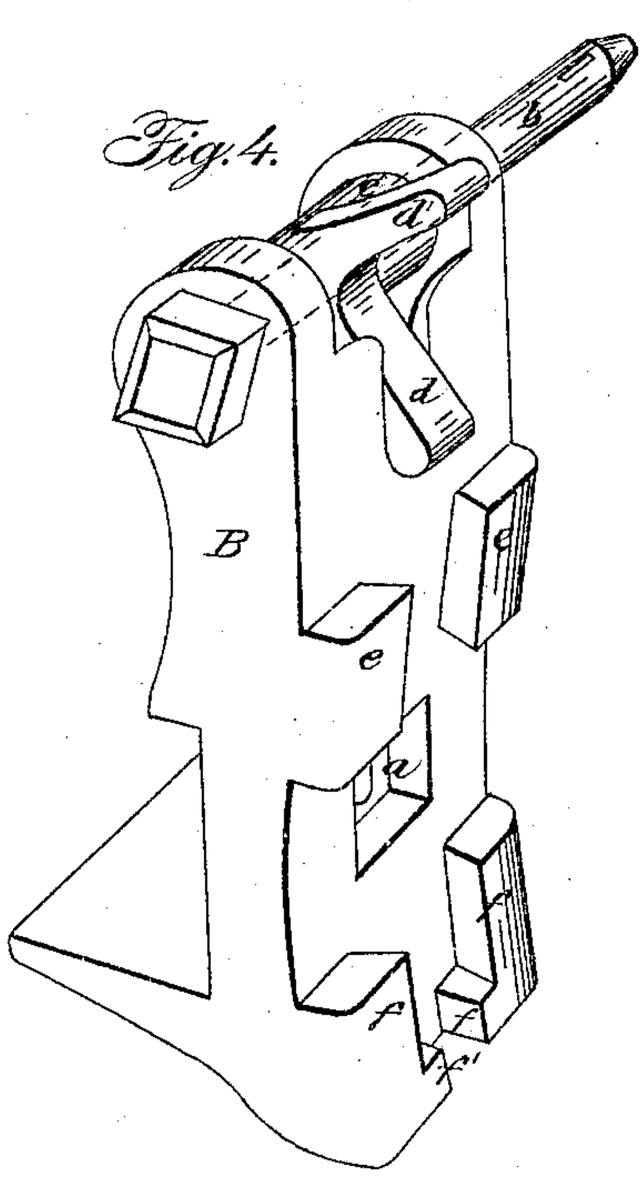
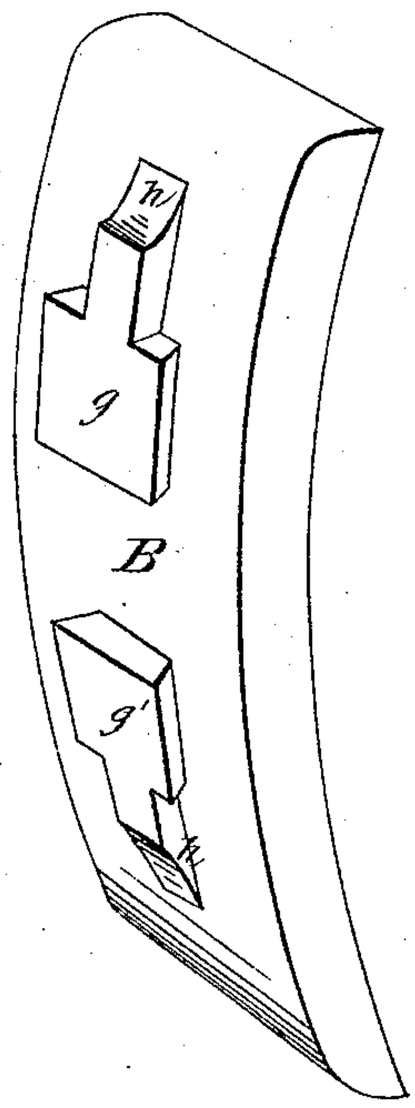


Fig. 5.



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per

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UNITED STATES PATENT OFFICE.

CHARLES H. SOLLERS AND JOHN RHOADS, OF HARRISBURG, PA.

IMPROVED SHOE FOR CAR-BRAKES.

Specification forming part of Letters Patent No. **51,093**, dated November 21, 1865.

To all whom it may concern:

Be it known that we, CHARLES H. SOLLERS and JOHN RHOADS, of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented a new and Improved Brake-Shoe for Car-Brakes; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of our improvement. Fig. 2 is a top view. Fig. 3 is a vertical central section through the shoe and its holder. Fig. 4 is a perspective view, exhibiting the inside face of the holder. Fig. 5 is a perspective view of the shoe.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a novel mode of attaching and locking in place the removable shoes which are applied to the ends of the brake-bars of railroad-car trucks.

The invention consists in so constructing brake-shoes and their holders that the shoes are reversible, and may be applied either to the right or the left hand end of the brake-bar, and positively held in place without bolts or other like fastenings, said shoes being so securely connected to their holders that they will not under any circumstances become casually detached therefrom, as will be hereinafter described.

The invention also consists in a novel device for locking the shoes in place in their holders and preventing a casual displacement, whether the friction or pressure upon the shoes, when applied to the wheels, tends to move them upward or downward, which device is so constructed that it forms a self-lock and may be readily released when it is desired to remove a shoe, as will be hereinafter described.

To enable others skilled in the art to understand our invention, we will describe its construction and operation.

In the accompanying drawings, A represents a shoe-holder, which is cast with a recess in its back to receive the brake-bar, to which this holder is secured by means of a bolt that passes through the bolt-hole *a* shown in Figs. 3 and 4, and through the brake-bar, and receives a nut on its outer end. The upper end of the holder has two lugs formed on it, through which is passed a bolt, *b*, that forms a pivot-bearing for a rocking-bar, *c*, that has two radial arms, *d d'*, projecting from it, as shown in Figs. 3 and 4. The lower front portion of the face of the holder A is concave, while the upper portion of this face is flat and may incline slightly backward. From the concave face four lugs, *e e* and *f f*, project, (shown in Fig. 4,) the inner edges of which are beveled and adapted for receiving dovetail lugs *g g'*, which are formed on the brake-shoe B, as shown in Fig. 5. The bottom lugs, *f f*, of the holder A have right-angular projections *f' f'*, which form shoulders for preventing the shoe B from being forced downward out of its place. The shoe B rests upon these shoulders, and is held upon them by the locking-arm *d*, as shown in Figs. 1 and 3.

The dovetail lugs or tenons *g g'* on the convex face of the shoe B are constructed just alike and at equal distances from the middle of the length of this shoe, so that they will fit into their respective recesses between the lugs *e e f f*, whichever end of the shoe is downward. The shoe is therefore reversible, and any shoe will fit any holder whether the latter be on the right or the left hand side or end of the brake-bar.

The arm *d* or the rocking bar *c* is intended for locking the shoe B down in its place, so that under no circumstances can the shoe rise from its shoulders *f' f'* unless the arm be thrown back to the position indicated in Fig. 3 in dotted lines. The outer end of this arm *d*, when it is moved below a horizontal plane intersecting its axis of motion, impinges upon the curved surface of a central tongue, *h*, on the shoe B, and locks this shoe in its place, and while it is very easy to lift the arm *d* out of its place and move it back to the position indicated in dotted lines in Fig. 3, it will be seen that it would be impossible to thus move this arm by lifting the shoe, for the greater the upward pressure put upon the shoe the more firmly will it be held by said arm.

The short arm *d'* is intended as a handle or projection by which the arm *d* can be moved. It serves as a weight, when the arm *d* is in a position for locking the shoe B, for preventing the latter arm from jarring out of place.

If from any cause the shoe B break across the middle of its length, it will be seen from the above description that the broken parts will still be confined in their places by the holder, so that no accident from this cause can take place by falling on the road.

When a shoe becomes broken or wears out it can be readily removed from its holder A by simply knocking up the locking-arm *d*, removing the old shoe, and dropping a new one in its place, after which the locking-arm is returned as before.

It is very important to prevent the holder for the removable shoe B from becoming hot in consequence of the friction of the wheels upon the shoe. This we effectually prevent by providing an air-space back of the shoe or between it and the holder, as shown in Figs. 1 and 3. We do this without detracting from the strength of the fastenings.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. So constructing a brake-shoe and its holder that the shoe can be reversed at pleasure and secured in its place without the use of bolt-fastenings, substantially as described.

2. The locking-arm *d*, applied to the upper end of the holder A, for holding the shoe B in place, substantially as described.

3. Securing a shoe to its holder by means of dovetail fastenings and a holding-down lock, *d*, or its equivalent, substantially as described.

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