

(No Model.)

C. T. SCHOEN.
METHOD OF MAKING BRAKE SHOES.

No. 513,655.

Patented Jan. 30, 1894.

Fig. 1

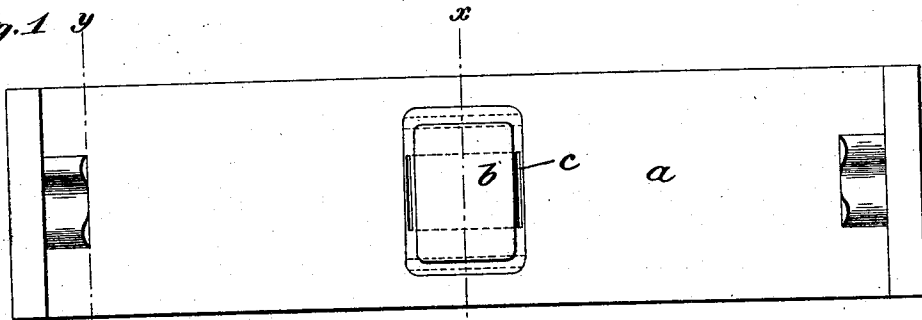


Fig. 2

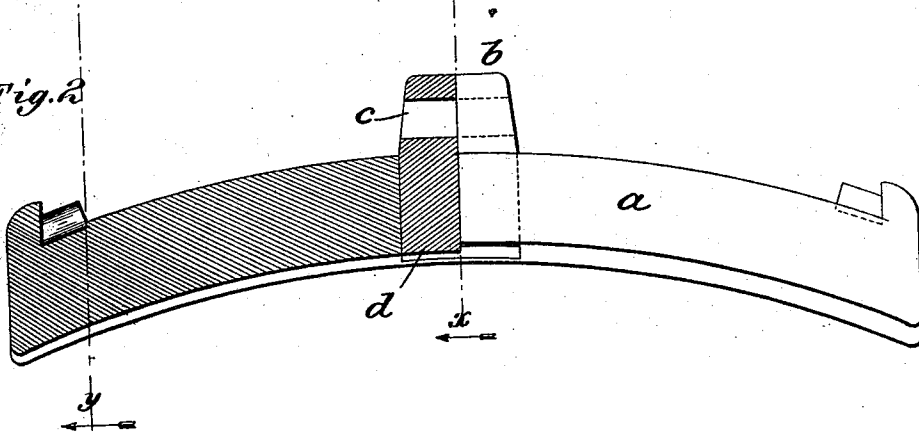


Fig. 3

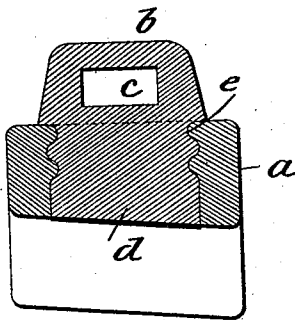
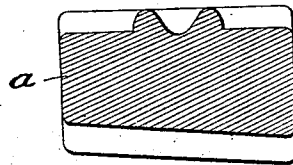


Fig. 4



Witnesses:

J. F. Coleman
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Charles T. Schoen.
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att'y.

UNITED STATES PATENT OFFICE.

CHARLES T. SCHOEN, OF ALLEGHENY, PENNSYLVANIA.

METHOD OF MAKING BRAKE-SHOES.

SPECIFICATION forming part of Letters Patent No. 513,655, dated January 30, 1894.

Application filed July 31, 1893. Serial No. 481,979. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. SCHOEN, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Methods of Making Brake-Shoes, of which the following is a full, clear, and exact description.

The object of this invention is to provide an expeditious and effective connection of the clip with the body of the brake-shoe of railway car brakes. Ordinarily, the metallic brake-shoe used on railway car brakes is provided on its back with a loop or clip which is fitted to the brake-shoe head and secured therein by a key or wedge passed longitudinally through an opening in said clip. This clip obviously has imposed upon it considerable strain, and, therefore, requires to be secured to the shoe quite firmly.

The manner of effecting the connection of the clip with the shoe in accordance with my invention is as follows: A clip of suitable construction is prepared and placed in a suitable movable holding device, such as a die-press, and the shoe is heated, and the clip is then forced into and through the shoe and the metal of the shoe allowed to shrink and set about the clip and thereby form an intimate union. This union may be further secured by pressing the shoe about the said clip; and such union, also, may be further perfected by notching, corrugating or grooving the clip to afford anchorages for the metal of the shoe.

In the accompanying drawings illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a top plan view. Fig. 2 is a half section and side elevation. Fig. 3 is a transverse section taken in the plane of line $x-x$; and Fig. 4 is a transverse section taken in the plane of line $y-y$.

a is the shoe, which may be of any approved construction and produced in any approved manner.

b is the clip, which is cast or otherwise produced, and is provided with the transverse hole c for the passage of the key or wedge for

securing the shoe in the brake-shoe head, and also is provided with the shank d by which the said clip and shoe are united, as will now appear. The shank d is of substantially the length of the thickness of the shoe.

To unite the clip to the shoe, the clip in a cold state is placed in any suitable support, as, for example, a die-press, and the shoe is heated and placed in position beneath the clip, and the clip is then caused to descend and its shank is forced through the hot metal of the shoe, making an opening therein for itself, after the manner of a punch, or an opening may be made in the shoe prior to the application of the clip to receive such shank, and in either case the shoe, with the applied clip, is allowed to shrink about the said clip to perfect the union of the two. To further perfect such union the shoe may be pressed or compressed about the clip, and the shank of the clip may be provided with notches, corrugations, or grooves e , as shown in Fig. 3, which form anchorages for the metal of the shoe, as such shoe subsides, shrinks, or is pressed about the clip.

My present experience is that the preferred way of inserting the clip is to use a cold cast metal clip as a punch to make a hole for itself in the hot shoe simultaneously with its insertion therein and union therewith, thereby avoiding spreading of the metal of the shoe and providing for the perfecting of the union of the clip and shoe by the shrinking of the shoe about the clip as the shoe cools.

Other methods of effecting the union of the clip and shoe are set forth in my two cases filed October 28, 1893, one being entitled "brake shoes" and being a division out of this case, and the other entitled "brake shoes and method of making same."

In the manner above described a very firm and expeditious union of the shoe and its clip is effected.

In addition to my invention providing a very expeditious and firm union of the shoe and clip, it is to be noted that the metal of the shank of the clip extends into and forms part of the wearing surface of the shoe and hence my invention provides also a brake-

shoe of the composite variety now largely in favorable use, the shoe itself being of wrought metal and the clip of cast steel.

What I claim is—

- 5 The method of applying clips to brake-shoes, which consists in heating the brake-shoe and forcibly driving the shank of said clip into and through the said shoe, using the clip's shank as a punch to make an opening

in the shoe for itself as it passes into the shoe, 10 and thereafter permitting the shoe to shrink about said shank, substantially as described.

In testimony whereof I have hereunto set my hand this 29th day of July, A. D. 1893.

CHARLES T. SCHOEN.

Witnesses:

HOWARD J. LUKENS,

BERNARD J. O'CONNELL.