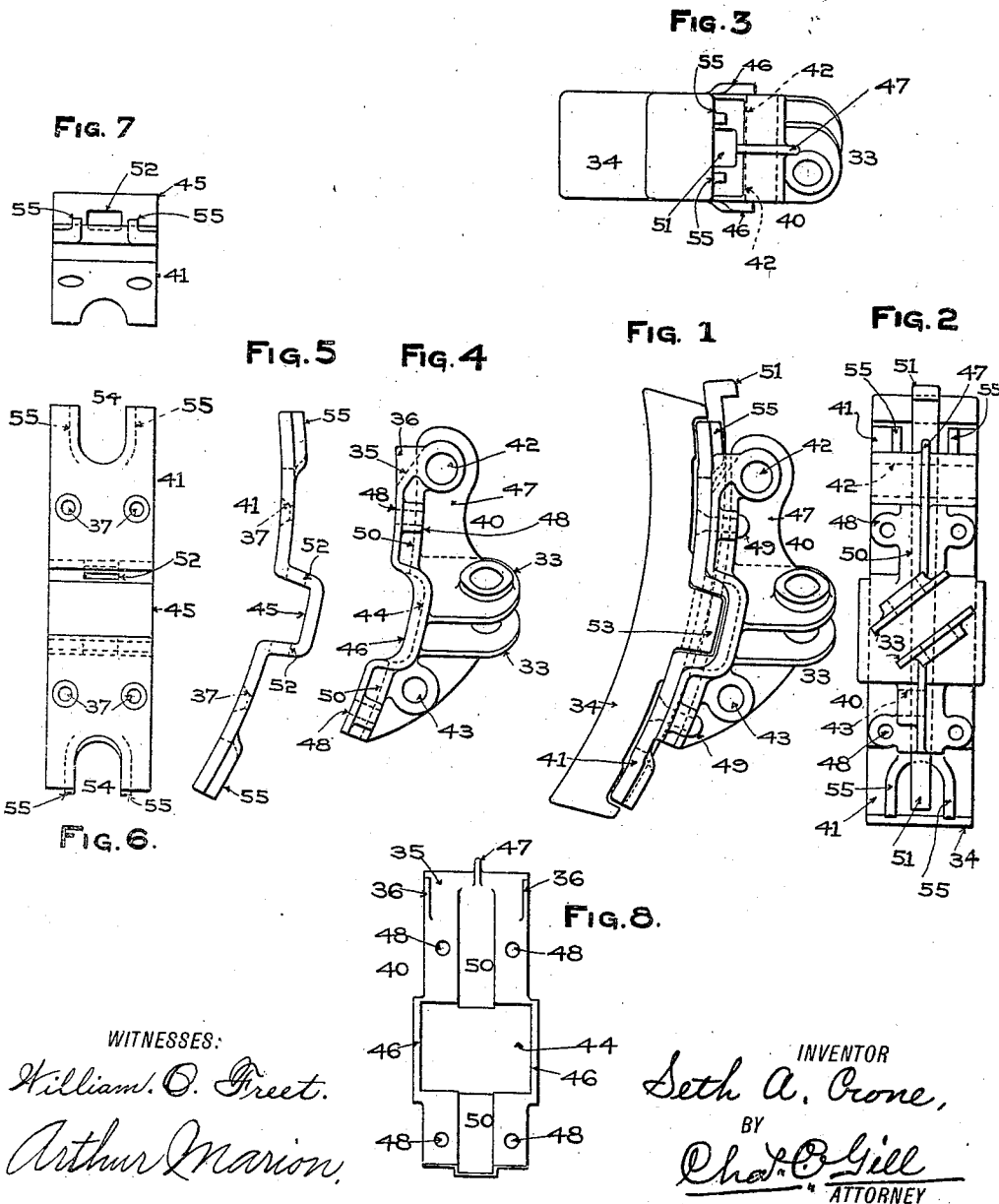


No. 838,774.

PATENTED DEC. 18, 1906.

S. A. CRONE.
RAILWAY CAR BRAKE.

APPLICATION FILED AUG. 9, 1905. RENEWED AUG. 27, 1906.



UNITED STATES PATENT OFFICE.

SETH A. CRONE, OF NEW YORK, N. Y.

RAILWAY-CAR BRAKE.

No. 838,774.

Specification of Letters Patent.

Patented Dec. 18, 1906.

Application filed August 9, 1905. Renewed August 27, 1906. Serial No. 332,204.

To all whom it may concern:

Be it known that I, SETH A. CRONE, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Railway-Car Brakes, of which the following is a specification.

The invention relates to improvements in railway-car brakes; and it consists in the novel brake-shoe head hereinafter described, and particularly pointed out in the claims.

The object of the invention is to provide a highly-efficient, durable, and safe brake-shoe head capable of economical manufacture, and to this end in the preferred construction I construct the head with a malleable cast back and a forged-metal face, the two parts being secured together and forming between them a guideway for the key by which the shoe may be connected with said head. In all embodiments of my invention the face of the head will be formed of forged metal and secured to the back, and between said face and back will be provided the guideway for the key by which the shoe will be fastened in place against said face.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a brake-shoe head constructed in accordance with and embodying my invention, the brake-shoe being shown in position thereon. Fig. 2 is an edge view of same looking at the right-hand side of Fig. 1. Fig. 3 is a top view of same. Fig. 4 is a detached side view of the malleable back of the brake-shoe head. Fig. 5 is a corresponding view of the forged-metal face-plate of said head. Fig. 6 is a face view of same. Fig. 7 is a top view of same, and Fig. 8 is a detached inner face view of the malleable back of the head.

The brake-shoe head shown comprises a malleable-iron back 40 and a forged-metal face-plate 41, said back 40 in the special form shown having the diagonally-disposed jaws 33 for the brake-lever, (not shown,) an eye 42 to receive the usual hanger, (not shown,) and an eye 43 to receive the end of a transverse stay-rod in instances in which such rod may be used for connecting the heads at opposite sides of a truck, as in

beamless car-brake systems. The face of the malleable back 40 receives the forged-metal face-plate 41, and said back 40 is formed in its face with a recess 44, into which the central box-loop 45 of said face-plate 41 seats, the side edges of the recess 44 being walled in by flanges 46, which aid in resisting any strains that may be exerted against the face-plate 41, tending to move it laterally from the back 40.

At each side of a vertical web 47, formed on the back 40, the latter is provided with apertures 48, through which rivets or bolts 49 may pass for securing the plate 41 to said back, said apertures 48 being above and below the securing-jaws 33, so that upon any break through the back about said jaws no part of the back may fall to the track, the plate 41 holding the then fractured parts of the back together. Those portions of the back 40 at the sides of the web 47 and through which the rivet-apertures 48 pass are thickened, as shown in Figs. 1 and 2, for the purpose of securing additional strength at said points. The upper end of the back 40 is of considerable thickness, so as to provide for strength about the eye 42, which extends transversely through the entire width of said back. The eye 43 need only extend through a lug formed on the back 40, as indicated in Fig. 2.

In the inner face of the back 40 is formed the box-recess 44, hereinbefore described, and also a vertical recess or keyway 50 to receive the key 51, by which the brake-shoe 34 may be secured to the head. The keyway 50 is not as deep as the box-recess 44, and hence when the loop 45 of the plate 41 is in said recess the key 51 may pass through the slots 52, formed in the upper and lower sides of said loop. The flanges 46, closing the opposite sides of the recess 44, set outwardly from the main side surfaces of the back 40, as shown in Fig. 8, so that the plate 41 may have a uniform width from end to end corresponding with the general width of the back 40 and its loop 45 be received within said recess. At its upper end the inner face of the back 40 is inclined outwardly, as denoted at 35, and at the opposite sides of this inclined portion said face is formed with the flanges 36, against which the upper portion of the plate 41 seats and between which the upper flanges 55 on said plate pass.

The form and details of the forged-metal plate 41 are shown in Figs. 5, 6, and 7, in which it will be seen that the plate is formed with apertures 37 in line with the apertures 48 in the back 40 for the rivets 49. At its upper and lower ends the plate 41 is formed with the vertical recesses 54, at the sides of which are the flanges 55, these flanges forming integral angle-sections and being formed from metal displaced in making the recesses 54. The flanges 55 not only strengthen the ends of the plate 41, but receive between them the end portions of the key 51.

The brake-shoe 34 is of standard type and is recessed to receive the plate 41 and also provided with the vertically-apertured lug 53, through which the key 51 passes, as usual.

The brake-shoe head, therefore, comprises the back 40 and forged-metal face-plate 41, secured thereto, said plate 41 forming the face of said head and engaging the brake-shoe, and the head thus composed is comparatively simple and inexpensive of manufacture and durable and highly efficient.

In the head constructed as above described the key 51 extends along the forged-metal face-plate 41 and at its middle portion passes into locking engagement with said plate and the shoe 34. The key 51 is securely held by the plate 41 and back 40, and said plate not only effectively holds the shoe 34, but increases the strength of the back 40 and reduces the element of danger due to any fracture of said back, said plate being secured to said back at different points and adapted to hold together the parts of said back in case the same should become broken.

The diagonally-disposed jaws 33 are not essential features of the head, since said jaws will only be arranged diagonally when the heads are used in a beamless-car-brake system of the character disclosed in an application filed by me herewith for Letters Patent for the same. The jaws 33 will therefore be arranged to suit the particular system in which the heads may be employed and the character of levers or beams to which they are to be connected.

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

1. A brake-shoe head comprising a back having in its face a recess, a forged-metal face-plate having a box-loop within said recess, and means permanently securing said face-plate to said back both above and below said recess, a keyway being formed between said back and plate and said loop being slotted in line with said keyway; substantially as set forth.

2. A brake-shoe head comprising a back having in its face a recess and above and below said recess a vertical groove constituting a keyway, a forged-metal face-plate adapted to close the face of said groove and having a box-loop within said recess, and means per-

manently securing said face-plate to said back both above and below said recess, said box-loop being slotted in line with said groove to form a part of the keyway; substantially as set forth.

3. A brake-shoe head comprising a cast back having a recess in its face, a forged-metal plate adapted to said face and having a box-loop within said recess and provided with slots to receive the shoe-securing key, and means permanently securing said plate to said back both above and below said recess, a keyway being formed between said back and plate in line with the slots in said box-loop and having for its outer wall said plate and its inner wall said back, whereby the force exerted by the key at the center of the head and in a direction toward the shoe is wholly against the forged-metal plate; substantially as set forth.

4. A brake-shoe head comprising a back having in its face the recess walled in at opposite side edges by flanges and also having the keyway above and below said recess, and a forged-metal face-plate secured to said face and having the box-loop to enter said recess and slotted at its upper and lower sides in line with said keyway; substantially as set forth.

5. A brake-shoe head comprising a back having in its face a recess and above and below said recess the keyway, and a forged-metal face-plate secured thereto and having the box-loop to enter said recess and slotted at its upper and lower sides in line with said keyway, said plate also having at its end portions the integral vertical flanges; substantially as set forth.

6. A brake-shoe head comprising a back having in its face a recess, a forged-metal face-plate having a box-loop within said recess, and means permanently securing said face-plate to said back both above and below said recess and at each side of the vertical center of said back, a keyway being formed between said back and plate and said loop being slotted in line with said keyway; substantially as set forth.

7. A brake-shoe head comprising a back wherein is formed a keyway, and a separate forged-metal face-plate secured thereto and having a box-loop entered in between the end portions of said back and slotted in line with said keyway, said plate also having at its end portions the integral vertical flanges; substantially as set forth.

8. A brake-shoe head comprising a cast-metal back having in its face a recess and above and below said recess a vertical groove constituting a keyway, a forged-metal face-plate closing the face of said groove and having a box-loop within said recess, and means permanently securing said face-plate to said back both above and below said recess and at each side of the vertical center of said back,

said box-loop being slotted in line with said groove to form a part of the keyway; substantially as set forth.

5 9. A brake-shoe head comprising the back having in its face a recess and above and below said recess a keyway, the upper end of said back being inclined upwardly and outwardly from its face and provided at opposite sides of said portion with edge flanges,
10 and a forged-metal face-plate secured to said back and having the box-loop to enter said recess and slotted at its upper and lower sides in line with said keyway, said plate also having at its upper end the integral vertical
15 flanges entering in between said edge flanges; substantially as set forth.

10. A brake-shoe head comprising a cast-metal back having in its face a recess, a forged-metal face-plate having a box-loop within said recess, and means permanently
20 securing said face-plate to said back both above and below said recess, said box-loop being slotted in line with the keyway to receive the usual shoe-securing key; substantially
25 as set forth.

Signed at New York city, in the county of New York and State of New York, this 7th day of August, A. D. 1905.

SETH A. CRONE.

Witnesses:

CHAS. C. GILL,
ARTHUR MARION.