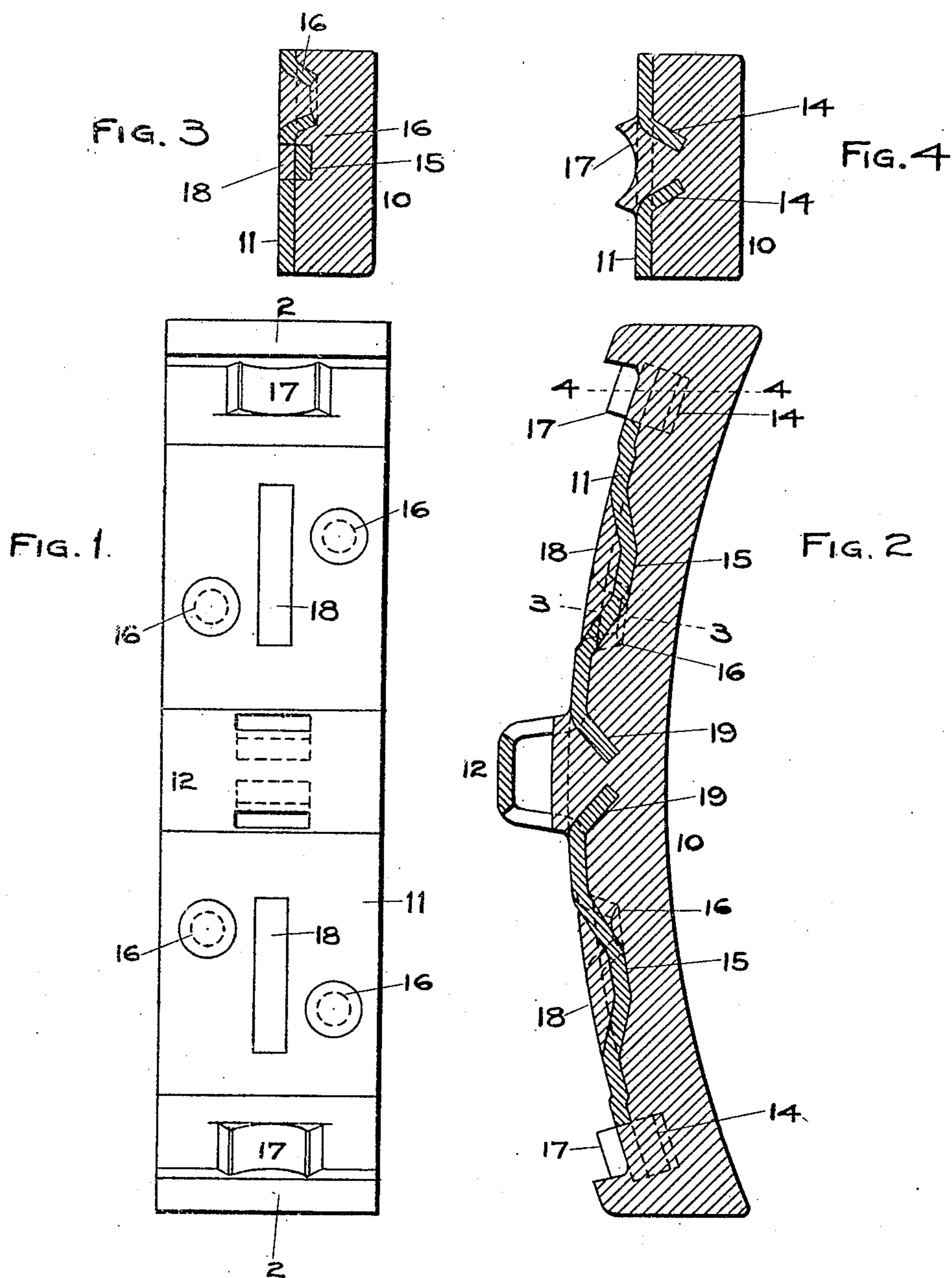


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PATENTED OCT. 29, 1907.

S. A. CRONE.
RAILWAY CAR BRAKE.
APPLICATION FILED JULY 24, 1907.



WITNESSES:

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RAILWAY-CAR BRAKE.

No. 869,425.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed July 24, 1907. Serial No. 385,347.

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 brake-shoes; and it consists in the novel features hereinafter described, and particularly pointed out in the claims.

The brake-shoe of my invention comprises a cast metal body and a steel or forged metal back-plate, the two parts being permanently connected together by the casting of the metal of the body upon portions of the metal of the back. Brake-shoes consisting of a cast metal body and a steel or forged metal back are well known, and my invention pertains more particularly to a novel construction of the back-plate and a novel union of the cast metal body thereto, whereby an improved and more durable, safe and efficient structure is produced.

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

Figure 1 is an outer or back elevation of a brake-shoe constructed in accordance with and embodying the invention; Fig. 2 is a central vertical section of same on the dotted line 2—2 of Fig. 1; Fig. 3 is a transverse section of same on the dotted line 3—3 of Fig. 2, and Fig. 4 is a transverse section of the same on the dotted line 4—4 of Fig. 2.

In the drawings, 10 designates the body-portion of the shoe and 11 the back-plate, said body being, as usual, of cast metal and the back-plate 11 of steel or forged metal and the two parts being rigidly united by the casting of the cast-metal upon portions of the forged-metal back.

The back 11 is in one integral plate extending nearly the entire length of the body 10 and preferably being of the same width as said body. The back 11 is formed at its transverse central portion with a box-loop 12 and, at its end portions with inwardly converging integral transverse lips 14, while intermediate the box-loop 12 and the lips 14 the plate 11 is formed at convenient points with inwardly extending integral longitudinal loops 15 and inwardly converging cone-shaped flanges 16, said loops and flanges being bent inwardly from the plate and embedded within the body 10.

The novel features of my invention pertain more particularly to the constructions above and below the box-loop 12, the latter being fully shown and described in Letters Patent No. 854,985 granted May 28, 1907 to Seth A. Crone and therefore requiring no special description herein.

The plate 11 is at the middle portion of each end, slit transversely and longitudinally to form the lips 14, which are pressed or bent inwardly on oppositely in-

clined lines, as shown in Fig. 4, whereby a portion of the cast metal may flow in between said lips and form a head of approximately wedge-shape which will securely lock the plate to the body 10. The cast metal is carried outwardly in line with the lips 14 to form the shoe-lugs 17, the outer edge portions of which cover the extreme outer edges of the lips 14 or the lines on which said lips join the main plate and are bent inwardly. The lips 14 are opposite to and directly cooperate with each other in securing the ends of the plate 11, and the heads of cast metal between said lips extend transversely of the shoe and on the proper lines for the lugs 17.

Between the box-loop 12 and pairs of end-lips 14, the plate 11 is equipped with the loops 15 and flanges 16, said loops being formed by longitudinally slitting the plate and depressing the slit portions inwardly beyond the general plane of the body of the plate, thereby forming the loops 15 which, during the casting of the body 10 upon the plate, become covered over by the cast metal, as shown in Fig. 2, the cast metal where it covers the loops 15 being numbered 18. The loops 15 are of comparatively considerable extent, as shown, so that they and the metal 18 covering them may constitute very efficient locking means extending longitudinally of the shoe and preferably centrally thereof.

Between the inner ends of the slits for the loops 15 and the box-loop 12 the surface of the plate 11 is left plain and exposed to receive the ends of the usual middle brake-head lugs which straddle said loop, and beyond the outer ends of said slits an adequate surface of said plate is left exposed to receive the usual end lugs on the brake-head, my purpose being that said slits shall extend continuously substantially throughout all of the available space between the surfaces left as seats for the middle and end brake-head lugs, whereby at each side of the box-loop 12 there is a continuous and considerable length of the metal of the plate 11 depressed inwardly and anchored in the cast metal.

The flanges 16 are circular and extend inwardly on converging lines, and the cast metal which flows within the outlines defined by the said flanges forms truncated cone-shaped heads which very efficiently anchor the plate to the body 10.

It may not be necessary in every instance to employ both the loops 15 and flanges 16 at both sides of the box-loop 12, but when both loops and flanges are employed no doubt will remain as to the security of the shoe. If the loop 15 at one end of the shoe should be omitted, the number of flanges 16 at that end of the shoe may be increased. The integral longitudinal loops 15 afford, however, very strong securing means, and said loops have an opposite curvature to that of the plate and receive at their outer sides a comparatively long extent of the cast metal. The central portion of the plate 11 is secured to the body 10 by the embedded lips 19.

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

1. A brake-shoe having a cast-metal body and plate back, said back having at its end a pair of opposite transverse inwardly inclined lips slit therefrom and embedded in the cast metal; substantially as set forth.
2. A brake-shoe having a cast-metal body and plate back, said back having at its end a pair of opposite transverse inwardly inclined lips slit therefrom and embedded in the cast metal, and the cast metal over said lips forming a projecting lug which covers the lines on which said lips are bent inwardly; substantially as set forth.
3. A brake-shoe having a cast-metal body and plate back, said back having at each end a pair of opposite transverse inwardly inclined lips slit therefrom and embedded in the cast metal, and the cast metal over said lips forming projecting lugs; substantially as set forth.
4. A brake-shoe having a cast-metal body and plate back, said back having a central apertured box-loop and means at its ends anchoring the plate to said body, and said back being slit longitudinally and continuously throughout substantially all the available space between said box-loop and its end securing means and having the metal at the side of said slit depressed inwardly and anchored in the cast metal, said plate at the ends of said slit being left exposed to receive the brake-head lugs; substantially as set forth.
5. A brake-shoe having a cast-metal body and plate back, said back having a central apertured box-loop and means at its ends anchoring the plate to said body, and said back being slit longitudinally and continuously throughout substantially all the available space between the upper and lower sides of said box-loop and the respective end securing means at the ends of said plate and having the metal at the side of said slits depressed inwardly and anchored in the cast metal, said plate at the ends of said slits being left exposed to receive the brake-head lugs; substantially as set forth.
6. A brake-shoe having a cast-metal body and plate back, said back having a central apertured box-loop and means at its ends anchoring the plate to said body, and said back having longitudinal slits substantially parallel with each other above and below said box-loop and ex-

tending continuously throughout substantially all the available space between said box loop and the end securing means for the back, and the metal between said slits being depressed inwardly and anchored in the cast metal, and said plate at the ends of said slits being left exposed to receive the brake-head lugs; substantially as set forth.

7. A brake-shoe having a cast-metal body and plate back, said back having a circular inwardly depressed converging flange embedded within the cast metal, said cast metal also filling the outline defined within said flange; substantially as set forth.

8. A brake-shoe having a cast-metal body and plate back, said back having an inwardly depressed continuous converging flange embedded within the cast metal, said cast metal also filling the outline defined within said flange; substantially as set forth.

9. A brake-shoe having a cast-metal body and plate back, said back having a central key-receiving loop, means at its ends anchoring the plate to said body and between said loop and end securing means inwardly depressed continuous converging flanges embedded within the cast metal, said cast metal also filling the outlines defined within said flanges; substantially as set forth.

10. A brake-shoe having a cast-metal body and plate back, said back having at opposite sides of an opening therein depressed curved converging flanges which are embedded within the cast metal, the said cast metal also filling the outline defined within said flanges; substantially as set forth.

11. A brake-shoe having a cast-metal body and plate back, said back having a central box key-receiving loop and above and below the same openings at whose opposite sides the metal is depressed inwardly to form curved converging flanges which are embedded within the cast metal, the said cast metal also filling the outline defined within said flanges; substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 22nd day of July A. D. 1907.

SETH A. CRONE.

Witnesses:

ARTHUR MARION,
CHAS. C. GILL.