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PATENTED OCT. 22, 1907.

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

3 SHEETS—SHEET 1.

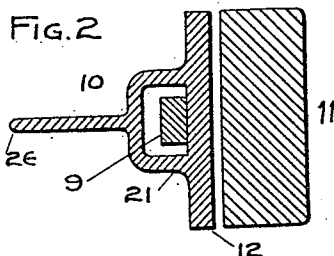
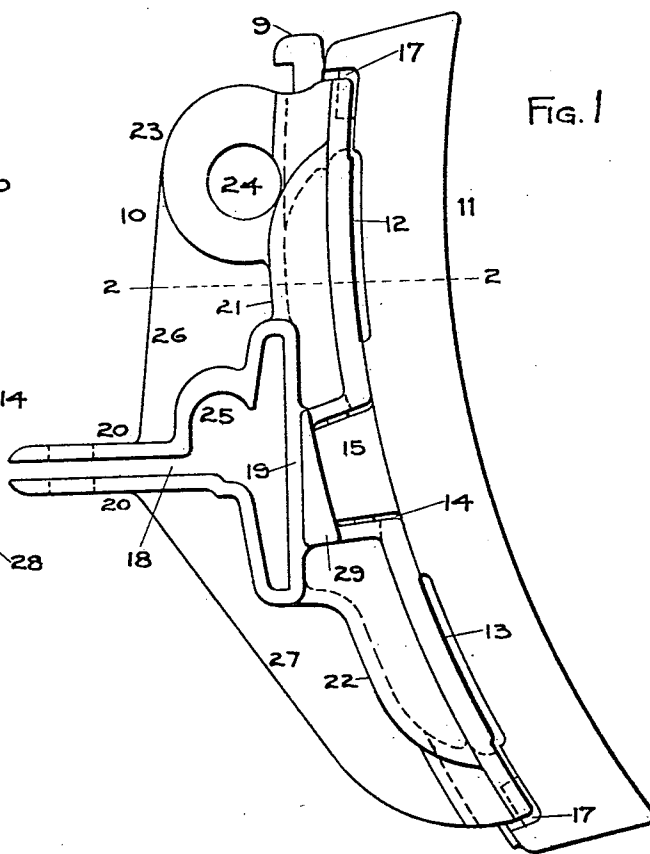
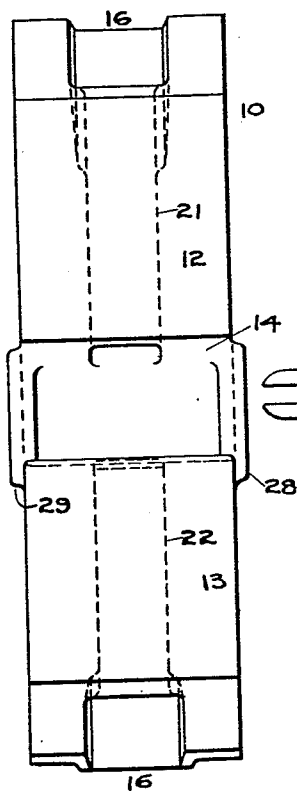


FIG. 3



WITNESSES:

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FIG. 6

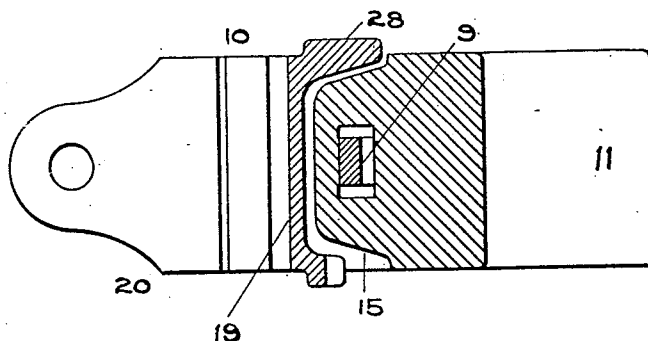


FIG. 4

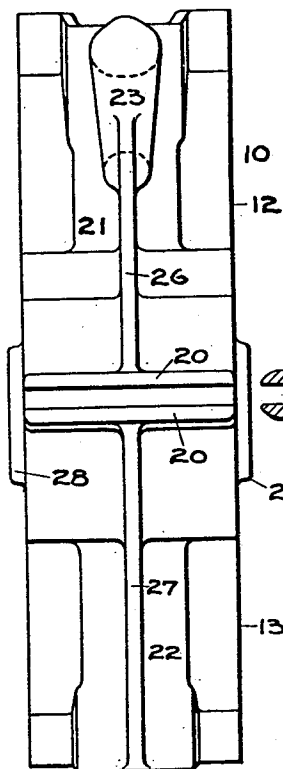
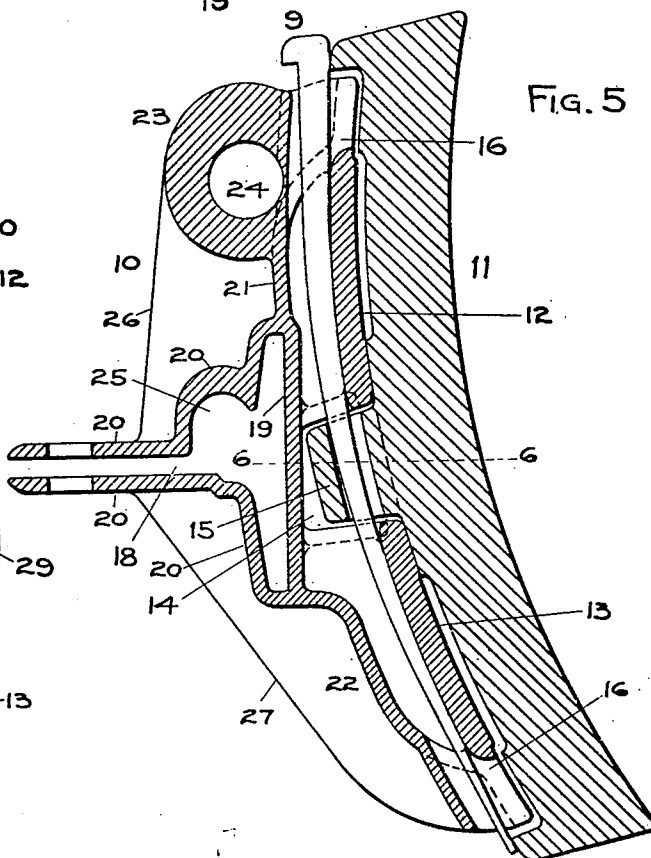


FIG. 5



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INVENTOR

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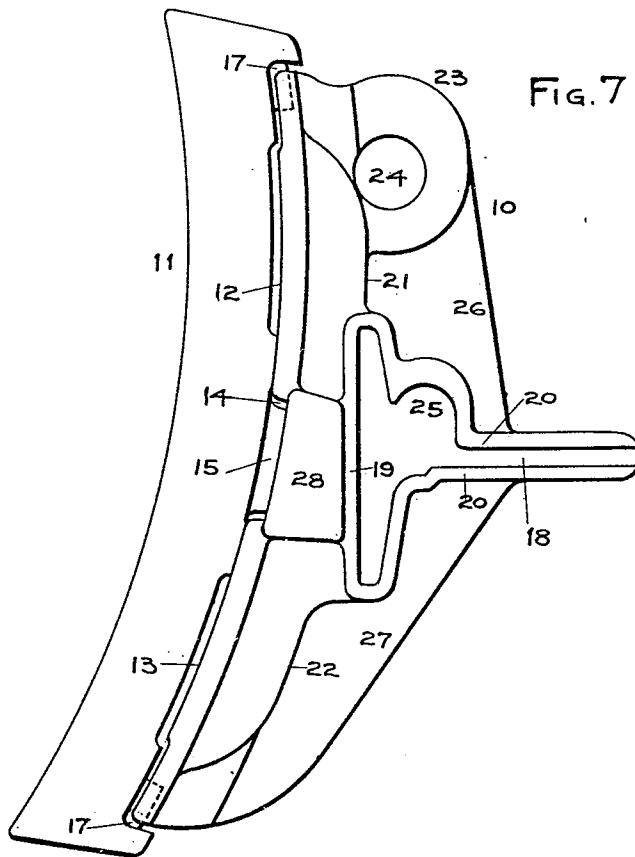
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3 SHEETS—SHEET 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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

RAILWAY-CAR BRAKE.

No. 868,910.

Specification of Letters Patent.

Patented Oct. 22, 1907.

Application filed July 24, 1907. Serial No. 385,346.

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, in one integral casting, a highly efficient, durable, and safe brake-shoe head possessing all of the standard requirements and in addition certain features rendering the head of increased efficiency and safety and enabling the effective application of the head to the car wheel for temporary purposes in the event that the brake-shoe should become lost or worn through.

The usual form of cast brake-shoe head is formed on its inner face with two apertured lugs to straddle the central lug or loop on the shoe and receive the key, and at its ends with lug portions to engage the end portions of the shoe, these end lug portions being bifurcated to permit the locking key to be passed through them and to straddle end lugs formed on the shoe. Between the key-lugs of the head and the lugs at the outer ends of the head, the latter has been left entirely open, the head between said key-lugs and end lugs being set outwardly from the shoe and from the path of the securing key. The commonly used cast metal head is not only liable to fracture through its several weaker portions, but possesses no efficient inner face surfaces for application to the car wheel in the event of the loss or wearing through of the brake-shoe.

In accordance with my invention I not only increase the strength and safety of the brake-shoe head, but by a novel construction of its inner or face portions, stiffen the entire shoe, afford efficient bearing surfaces for application to the car wheel in case of necessity, provide an interior keyway for the securing key and render substantially uniform all of the inner face portions of the head with the exception of the recess necessarily left to receive the central lug formed on the brake-shoe.

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 and its securing key being illustrated as applied to said head; Fig. 2 is a horizontal section of the same on the dotted line 2—2 of Fig. 1; Fig. 3

is an inner face view of the head, the brake-shoe and its securing key being omitted; Fig. 4 is an outer face view of the same; Fig. 5 is a central vertical section through the head and shoe; Fig. 6 is a horizontal section of the same on the dotted line 6—6 of Fig. 5; and Fig. 7 is a side elevation of the head and shoe, Fig. 1 showing the side of the head to be disposed at the outer end of the brake-beam and Fig. 7 the opposite side of the head or that which stands inwardly from the end of the brake-beam and adjacent to the flange on the car wheel.

In the drawings, 10 designates the brake-shoe head of my invention, 11 the brake-shoe of usual or suitable construction, and 9 the securing key of well-known form and operation.

The head 10 is in one integral casting and comprises inner curved face-portions 12, 13 to face the shoe 11 and between the inner ends of which is formed a substantially central recess 14 to receive the lug or loop 15 carried by the brake-shoe. The inner face-portions 12, 13 of the head extend the full width thereof, except at their outer end portions where central vertical openings 16 are formed in said portions 12, 13 to receive the usual end lugs 17 commonly found on brake-shoes. The lugs 17 are indicated in Figs. 1 and 7 but, so as not to confuse the head construction, omitted from Fig. 5. The inner portion of the brake-shoe head is thus formed with integral sections 12, 13 which extend from the customary recess 14 to the ends of said head, and the surfaces of said portions 12, 13 while curved are substantially uniform and of considerable area, whereby they are adapted in case of necessity, such as might arise from the loss of the shoe 11, to be efficiently applied as a temporary brake to the flange of the car wheel. The entire head may be formed integrally of cast steel.

The head 10 is formed at the central portion of its outer side with the recess 18 to receive the flange and web of the body-beam, not shown, said recess being formed between the inner vertical section 19 and outwardly projected flanges 20, and the section 19 extending the full width of the head and forming the inner end wall of the recess 14, above and below which said section 19 extends and is joined to the inner face-portions 12, 13 of the head by means of box-like sections 21, 22 which are on the central vertical plane of the head and integral with the section 19 and also with the sections 12, 13. The box-like portions 21, 22 are open at their outer and inner ends, whereby they form a passage and housing for the key 9, which, when in position, is confined between said portions 21, 22 and sections 12, 13, said key engaging the inner faces of said sections 12, 13 and the outer portion of the lug 15, through an aperture in which said key passes, as usual.

At its upper portion the head 10 is formed with a thickened section 23 which is apertured, as at 24, to constitute means for receiving a usual hanger, not shown. The recess 18 is, at its upper side, formed with a cavity 25, which is also to receive a hanger, when required.

Between the hanger 23 and upper outwardly extending flange 20 is formed an integral connecting web 26, and from the lower flange 20 a corresponding web 27 extends to the lower end of the brake-head, said webs 26, 27, respectively, extending centrally along and being integral with the box-like portions 21, 22, the sides of which close the sides of the passage-way for the key 9 throughout the length of the head above and below the recess 14 and are integral with the inner face-sections 12, 13.

The sides of the head, at the recess 14, are formed integrally with sections 28, 29, the former of which, as shown in Figs. 6 and 7, closes its side of said recess outwardly to the adjacent end portions of the facing-sections 12, 13 (Figs. 6 and 7), and the section 29 being, as shown in Figs. 1 and 6, of a size, preferably for convenience, to close only the inner end portion of its side of said recess. The sections 28, 29 connect the upper and lower walls of the recess 14 with each other and with the section 19 and said walls and the section 28 connect the section 19 with the inner ends of the sections 12, 13, thereby increasing the strength of the head along the line of the recesses 14, 18 which has usually a weak place in integral cast heads. The inner facing-sections 12, 13 being in one piece with the section 19, outwardly extending flanges 20, box-like portions 21, 22 and webs 26, 27, very materially strengthen the head throughout its entire extent. The sides of the head are substantially closed throughout their entire length, as shown in Figs. 1 and 7, this closing of the head at its sides resulting in the creation of a very durable and safe head and the closing in of the passage-way for the key 9. The side sections 28, 29 at the sides of the recess 14 are of unequal extent so that they may not interfere unduly with the application of the lug 15 on the shoe to the recess 14 in the head. The section 28 will be located at the inner side of the head or that side which is adjacent to the flange of the car wheel, and it may therefore entirely close its side of the recess 14, while the section 29 is at the outer side of the head and is of reduced extent so as to facilitate the application of the shoe to the head in instances in which it may be desired to apply a shoe while the brake mechanism is on the car.

One of the main objects of the invention is to provide an extremely durable and safe integral cast brake-head possessing all of the standard requirements and, in addition, those features hereinbefore described which increase the strength and efficiency of the head as a whole and present inner integral sections 12, 13 adapted in case of necessity to afford adequate surfaces for application to a car wheel upon the loss of wearing out of the brake-shoe.

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

1. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections

extending substantially throughout the length and width of the head, a recess to receive the apertured shoe-lug and a passage at the inner side of said face-sections for the securing key, said passage extending the full length of said head and being closed except at the upper and lower ends of the head, whereby said face-sections substantially throughout their length present their inner sides to the key; substantially as set forth.

2. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially throughout the length and width of the head, a recess to receive the shoe-lug and a passage at the inner side of said face-sections for the securing key, said sections at the upper and lower ends of the head having vertical openings 16; substantially as set forth.

3. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially throughout the length and width of the head, a recess to receive the shoe-lug and a passage at the inner side of said face-sections for the securing key, the upper and lower walls of said recess being connected together at the side of the latter by an integral section of the head; substantially as set forth.

4. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially throughout the length and width of the head, a recess to receive the shoe-lug and a passage at the inner side of said face-sections for the securing key, the upper and lower walls of said recess being connected together at both sides of the recess by integral sections of the head; substantially as set forth.

5. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially the length and width of the head, a recess to receive the apertured shoe-lug, and integral box-like portions at the outer side of said face-sections and above and below said recess to receive the securing key; substantially as set forth.

6. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially the length and width of the head, a recess to receive the apertured shoe-lug, integral box-like portions at the outer side of said face-sections and above and below said recess to receive the securing key, and vertical webs extending lengthwise of said box-like portions; substantially as set forth.

7. An integral cast brake-shoe head having means to engage the beam, a recess on its inner side to receive the apertured lug of a brake-shoe, inner face-sections extending substantially uniformly from the outer edges of said recess to the ends of said head, and a passage for the securing key, said passage and the inner portion of the head being closed at the sides of the latter above and below said recess; substantially as set forth.

8. An integral cast brake-shoe head having means to engage the beam, a recess on its inner side to receive the apertured lug of a brake-shoe, inner face-sections extending substantially uniformly from the outer edges of said recess to the ends of said head, and integral box-like portions at the outer side of said face-sections and above and below said recess to receive the securing key, the passage of said key and the inner portion of the head being closed at the sides of the latter above and below said recess; substantially as set forth.

9. An integral cast brake-shoe head having a vertical section 19 and flanges 20 defining a recess to receive a brake-beam, a recess on its inner side to receive the apertured lug of a brake shoe, inner face-sections extending substantially uniformly from the outer edges of said recess to the ends of said head, integral box-like portions at the outer side of said face-sections above and below said recess and forming a passage for a shoe-securing key, and webs connecting said box-like portions with said flanges, said box-like portions being integral with and connecting said section 19 and said face-sections; substantially as set forth.

10. An integral cast brake-shoe head having a vertical

section 19 and flanges 20 defining a recess to receive a
brake-beam and at the upper side thereof a cavity 25 for
a hanger, a recess on its inner side to receive the aper-
tured lug of a brake shoe, inner face-sections extending
5 substantially uniformly from the outer edges of said
recess to the ends of said head, integral box-like portions
at the outer side of said face-sections above and below
said recess and forming a passage for a shoe-securing key,
and webs connecting said box-like portions with said

flanges, said box-like portions being integral with and 10
connecting said section 19 and said face-sections; sub-
stantially 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.