No. 801,433. PATENTED OCT. 10, 1905.

J. McE. AMES.

BRAKE BEAM FOR RAILWAY CARS.

APPLICATION FILED APR. 12, 1905.

3 SHEETS—SHEET 1.

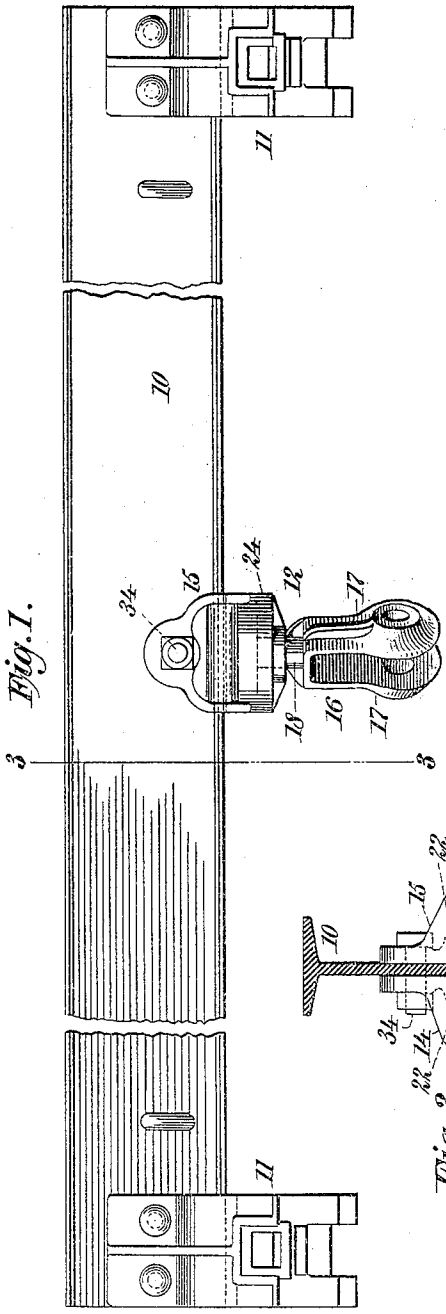

Fig. 1.

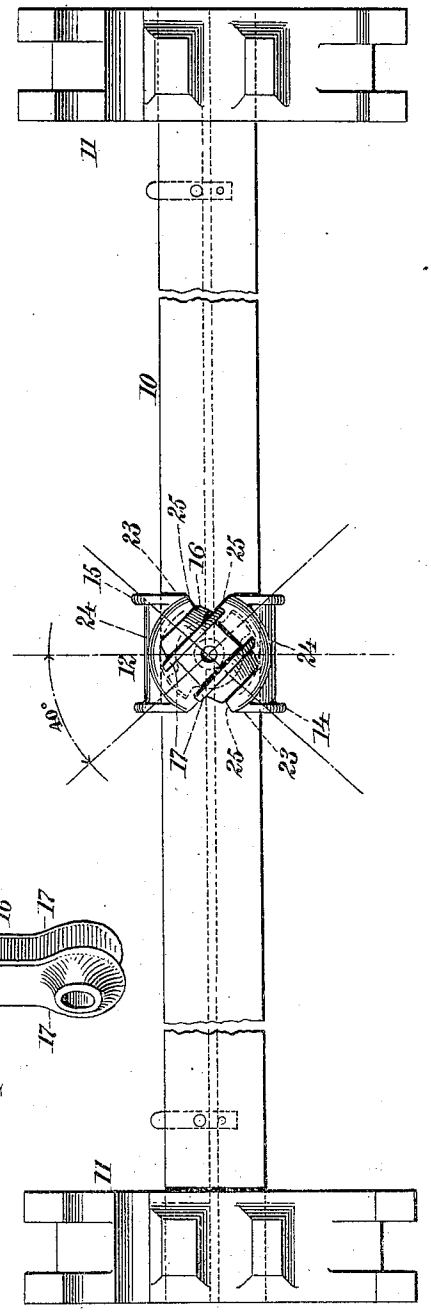

Fig. 2.

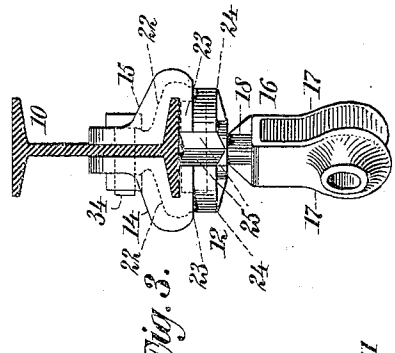

Fig. 3.

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Fig. 4.

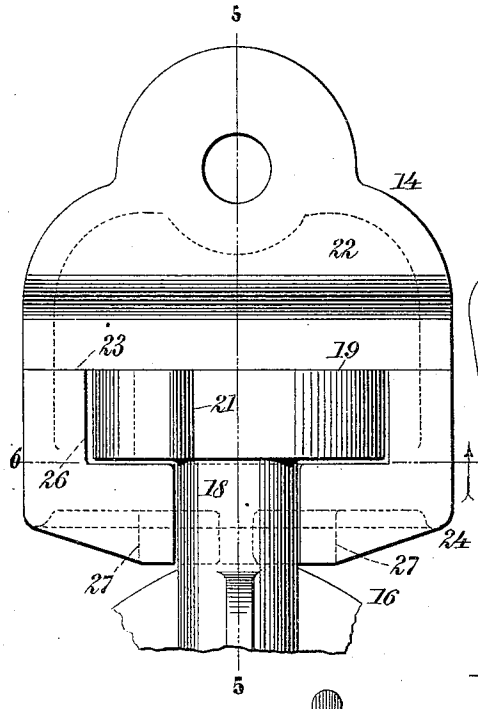


Fig. 5.

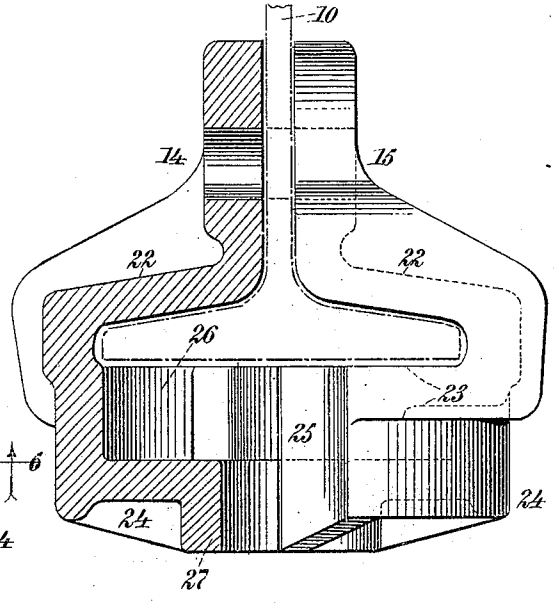
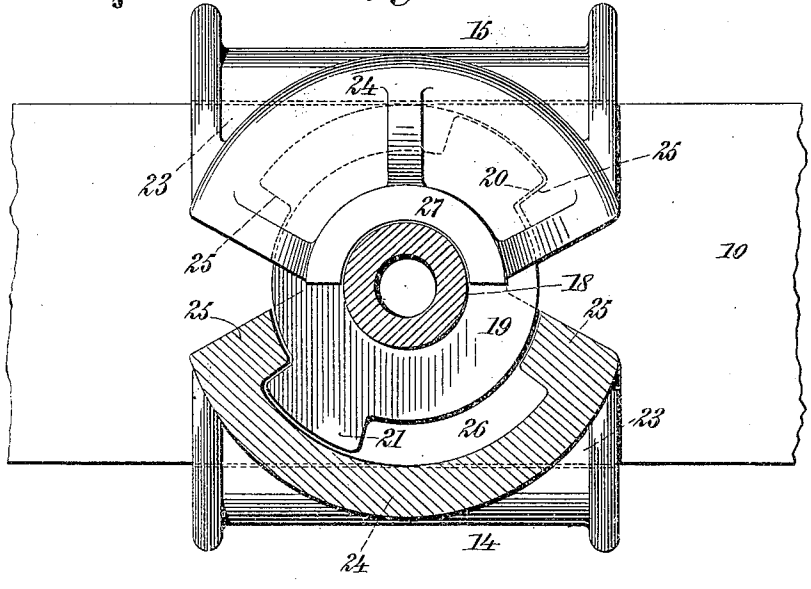


Fig. 6.



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3 SHEETS—SHEET 3.

Fig. 7.

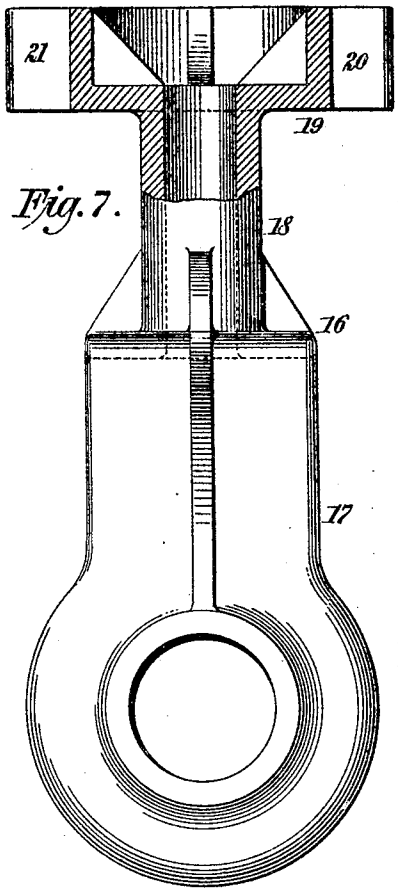


Fig. 8.

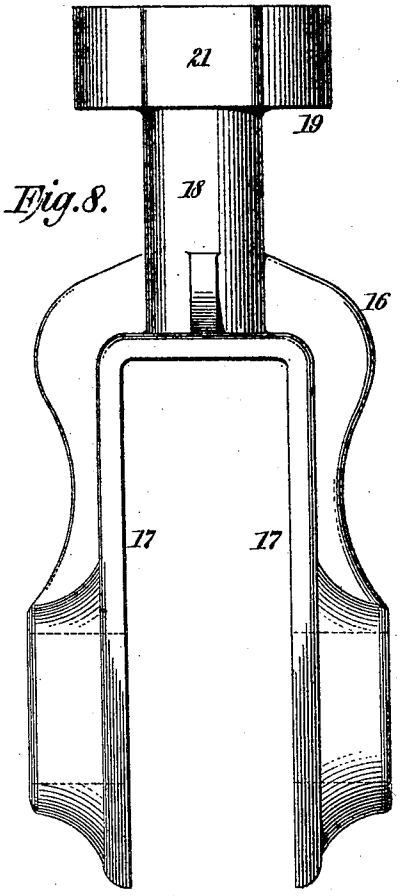


Fig. 9.

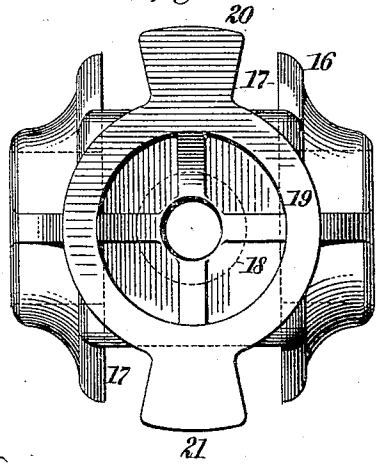
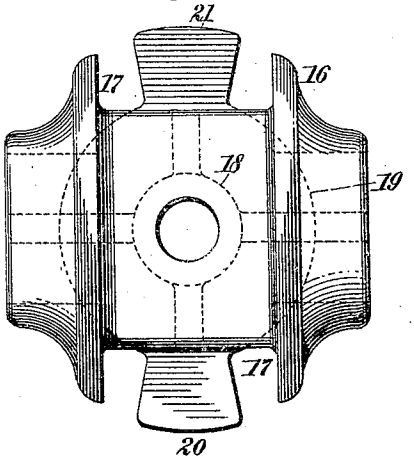


Fig. 10.



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UNITED STATES PATENT OFFICE.

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BRAKE-BEAM FOR RAILWAY-CARS.

No. 801,433. Specification of Letters Patent. Patented Oct. 10, 1905.

Application filed April 12, 1905. Serial No. 255,096.

To all whom it may concern:

Be it known that I, JOHN McE. AMES, a citizen of the United States, and a resident of New Brighton, in the county of Richmond and State of New York, have invented certain new and useful Improvements in Brake-Beams for Railway-Cars, of which the following is a specification.

The invention relates to improvements in brake-beams for railway-cars; and it consists in the novel features and combinations of parts hereinafter described and particularly pointed out in the claims.

Brake-beams of the class to which my invention more particularly pertains comprise a solid rolled body-beam of suitable length, brake-heads of standard construction on the ends thereof, and a fulcrum for the brake-lever; and my invention has for its object to produce a novel fulcrum for use in such beams, said fulcrum being efficient and durable and capable of being firmly and quickly applied to the beam and possessing a jaw which may be turned either to the right or left through an angle of forty degrees from the vertical without in any manner changing the fastenings or members by which said jaw is secured to the body-beam, the said jaw being thus rendered adaptable for a right or a left hand fulcrum.

In carrying out my invention I preferably form the fulcrum of three parts, one being the axially-adjustable jaw and the other two parts being the members which hold the said jaw and permit its axial adjustment and by means of which the jaw may be secured to the solid body-beam.

In addition to the broad features of my invention my fulcrum possesses novel features of form and construction.

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 top view, partly broken away, of a brake-beam equipped with a fulcrum or strut constructed in accordance with and embodying my invention. Fig. 2 is an inner edge view of same. Fig. 3 is a vertical section of same on the dotted line 3 3 of Fig. 1. Fig. 4 is an enlarged detached inner face view of one of the jaw-securing members, the head portion of the jaw being shown in position therein. Fig. 5 is a detached edge view of the fulcrum-securing members, one of said members being shown in central vertical section on the dotted line 5 5 of Fig. 4. Fig. 6 is an inner end view of the fulcrum-securing members applied to the body-beam with one of said members and the inner end of the fulcrum-jaw shown in section on the dotted line 6 6 of Fig. 4. Fig. 7 is a detached side elevation, partly in section, of the fulcrum-jaw. Fig. 8 is an edge view of same. Fig. 9 is an elevation looking at the inner or head end of the fulcrum-jaw, and Fig. 10 is an end view looking at the outer end of the fulcrum-jaw.

In the drawings, 10 designates the usual solid body-beam, preferably of I shape in cross-section, 11 the brake-heads of standard construction applied upon the ends thereof, and 12 the novel fulcrum of my invention which is applied centrally on one edge of the beam 10.

The fulcrum or strut 12 comprises the securing members 14 15 and jaw or axially-adjustable member 16, the latter being bifurcated at its outer portion to receive the brake-lever and apertured to afford bearings for the brake-lever, pin, or bolt. The member or jaw 16 comprises the corresponding sides or bifurcated portion 17, neck 18, and head 19, and the outline of these parts is clearly illustrated in Figs. 7 to 10, inclusive. The head 19 is of special formation in that it is of general circular outline and formed at opposite sides with wings or stop-arms 20 21, which project from the general outline of said head and coöperate at their opposite side edges with the securing members 14 15. The neck 18 adjacent to the head 19 is circular in cross-section and forms a stem in line with the axial center of the jaw. The securing members 14 15 are duplicates of each other, and each of said members is formed with a flange 22 to engage the web and inner side of the flange of the beam 10 and a flange 23 to pass along the outer surface of the flange of the beam 10, the flanges 22 23 serving to engage the body-beam, to which the securing members 14 15 are fastened by means of a bolt or rivet 34. The flanges 23 of the securing members 14 15 are each formed with a box-like section 24, having radial ends 25 and intermediate said ends an arc chamber 26, as shown in Fig. 6. The inner facing central portions of the sections 24 of the securing members 14 15 are each formed with a semicircular hub 27, and when the said mem-

bers 14 15 are brought together at the upper and lower sides of the beam 10 the said semicircular hubs 27 form a complete circular bearing for the stem 18 of the jaw 16.

In assembling the parts of the fulcrum the head 19 of the jaw is disposed within the chambers 26 of the securing members 14 15, with the neck or stem 18 of said jaw within the bearing furnished by the semicircular hubs 27, and when the parts are thus assembled the fulcrum-jaw is rendered axially adjustable and may be turned in one direction or the other to transform the fulcrum into either a right or left hand position with the slot between the sides 17 standing at an angle of forty degrees from the vertical. The inner edges of the ends 25 of the box-like sections 24 define a circular outline and are in near relation to the circular edges of the head 19, as shown in Fig. 6, while the neck or stem 18 is in near relation to the circular bearing-surface furnished by the semicircular hubs 27, and hence said head 19 becomes firmly held and guided at its edges. The wing projections or arms 20 21 on the head 19 are inclosed wholly within the chambers 26 of the box-like sections 24, and the opposing sides of these wings or arms are adapted to contact with the oppositely-disposed ends 25 of said sections, as shown in Fig. 6, in which the right-hand side of the upper stop-arm 20 is in engagement with the inner wall of the right-hand end 25 of the securing member 15, while the left-hand side of the wing or arm 21 is in engagement with the inner right-hand wall of the left-hand end 25 of the securing member 14, and this will be the position of the head 19 when the fulcrum-jaw is in one operative position. When it is desired to adapt the fulcrum for its other operative position, the jaw will simply be turned axially so as to throw the wing or arm 21 against the right-hand end 25 (looking at Fig. 6) of the lower box-section 24 and the wing or arm 20 against the left-hand end 25 of the upper box-section 24, this being accomplished without loosening the securing members 14 15, but simply by turning the fulcrum-jaw axially. The ends 25 of the box-like sections 24 thus not only aid in centering and guiding the head 19 in its axial motions, but afford shoulders or stops to be engaged by the arms or wings 20 21 of said head for arresting the jaw when it shall have reached its proper desired operative position. The outer surfaces of the box-like sections 24 closely encompass the outer vertical surfaces of the head 19, while the inner vertical surfaces of said head are adjacent to the flange of the body-beam 10, and when the parts of the fulcrum are assembled and secured to an I-beam the jaw becomes firmly held though capable of being turned axially in either direction until it is arrested at the desired forty-degree angle. When power is applied on the brake-lever, the head 19 takes the pull or thrust.

The body-beam 10 is a solid beam, and the form thereof illustrated is of I shape; but this beam may be of channel or other outline, as is obvious.

Aside from the novel features of construction hereinbefore described I desire to claim broadly a fulcrum comprising the securing members and jaw, the latter being adapted to be turned axially either to the right or left through an angle of forty degrees from the vertical without in any way disturbing the securing members, the beam provided with the fulcrum of my invention being capable of use without change for brake-levers arranged to be carried by a right-hand fulcrum or a left-hand fulcrum.

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

1. In combination with the body-beam, a fulcrum-jaw, and means for connecting the same with and at one edge of said beam, said jaw being directly and freely axially adjustable within its securing means without disturbing the latter, for adapting the same for either a right or left hand fulcrum; substantially as set forth.

2. In combination with the body-beam, a fulcrum-jaw, and means for connecting the same with and at one edge of said beam, said jaw being directly and freely axially adjustable within its securing means without disturbing the latter, and said parts being provided with shoulders to engage each other and arrest said jaw when it reaches its respective operative positions; substantially as set forth.

3. In a brake-beam, a body-beam and a fulcrum therefor comprising members secured to said beam and forming within them a chamber, and a jaw having on its inner end a head confined and having an easy fit within said chamber and adapted to be directly turned axially therein without disturbing its securing means, for adapting the jaw for a right or a left hand fulcrum; substantially as set forth.

4. In a brake-beam, a body-beam and a fulcrum therefor comprising members secured to said beam and forming within them a chamber, and a jaw having on its inner end a head confined and having an easy fit within said chamber and adapted to be directly turned axially therein without disturbing its securing means, said parts being provided with shoulders to engage each other and arrest said jaw when it reaches its correct position; substantially as set forth.

5. In a brake-beam, a body-beam and a fulcrum therefor comprising members secured to said beam and forming within them a chamber, and a jaw having on its inner end a laterally-extending head confined and having an easy fit within said chamber and adapted to be directly turned axially therein without disturbing its securing means, for adapting the jaw for a right or a left hand fulcrum, said head

having projecting arms and said members at each end of each section of said chamber formed therein having ends to engage said arms for arresting said jaw when the latter on being turned reaches its correct position; substantially as set forth.

6. In a brake-beam, the flanged body-beam and a fulcrum therefor comprising the securing members and axially-adjustable jaw, said members fitting around the flange of said beam and engaging the web thereof and having adjacent to said flange the box-like sections forming a chamber and central hub portion, and said jaw having the neck and head respectively confined and having an easy fit within said hub and chamber and adapted to be directly turned axially therein without disturbing their securing means, for adapting the jaw for a right or a left hand fulcrum; substantially as set forth.

7. In a brake-beam, the flanged body-beam and a fulcrum therefor comprising the securing members and axially-adjustable jaw, said members fitting around the flange of said beam and engaging the web thereof and having adjacent to said flange the box-like sections forming a chamber and central hub portions, and said jaw having the neck within said hub and the head confined within said chamber, said head having laterally-projecting arms, and said members at each end of each section of said chamber formed therein having ends to engage said arms for arresting said jaw when the latter on being turned reaches its correct position; substantially as set forth.

8. As a new article of manufacture a brake-beam fulcrum comprising two corresponding securing members adapted to fit upon and embrace the flange of the beam, and a jaw having a head loosely confined within a chamber formed within said members, whereby said jaw is rendered axially adjustable and adaptable for either a right or a left hand fulcrum; substantially as set forth.

9. As a new article of manufacture, a brake-beam fulcrum comprising two corresponding securing members adapted to fit upon and embrace the flange of the beam, and a jaw having a head loosely confined within a chamber formed within said members, whereby said jaw is rendered axially adjustable and adaptable for either a right or a left hand fulcrum, said members and said jaw having shoulders to engage each other and arrest said jaw at its respective operative positions; substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 10th day of April, A. D. 1905.

JOHN McE. AMES.

Witnesses:
B. A. HEGEMAN, Jr.,
CHAS. C. GILL.