

No. 751,864.

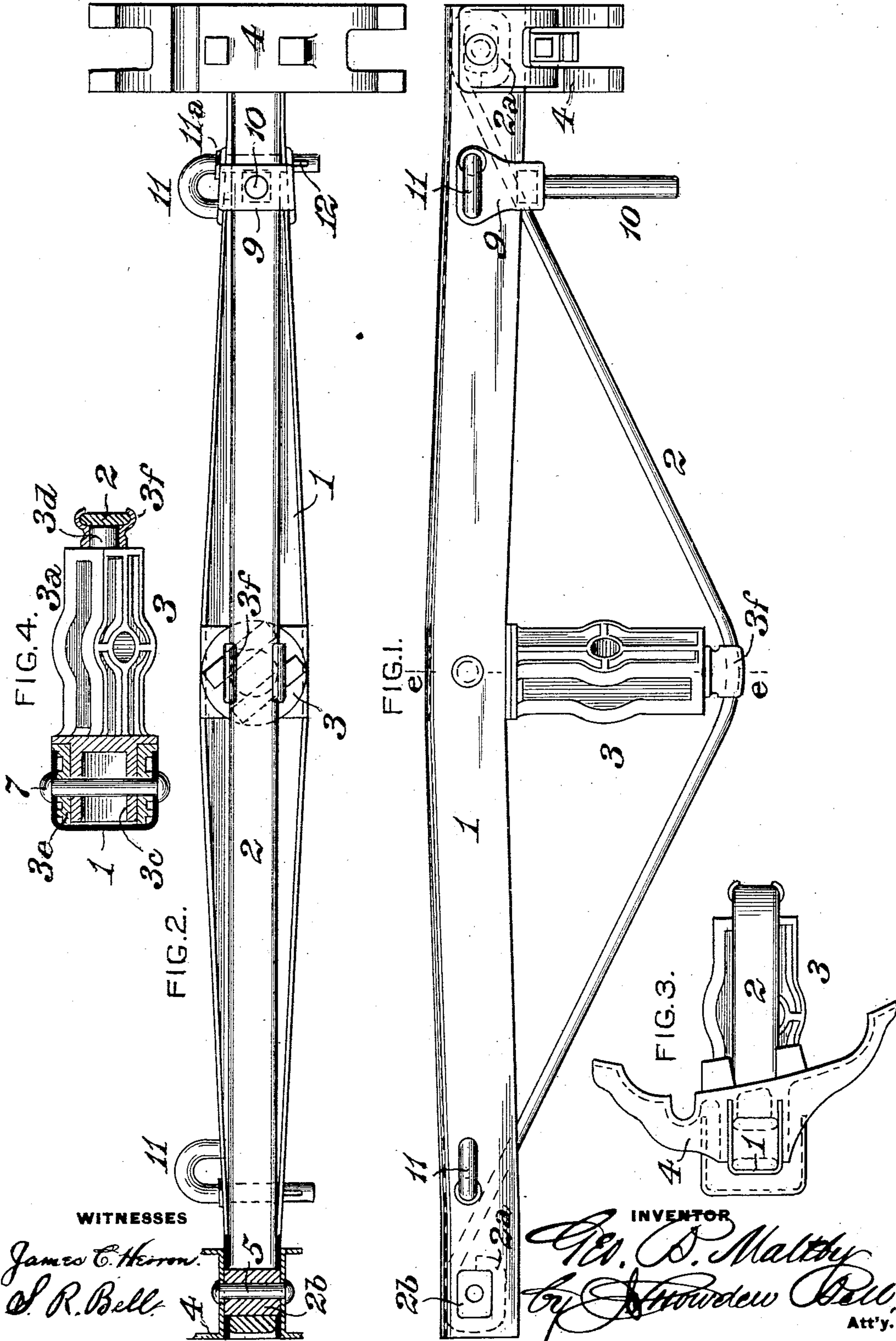
PATENTED FEB. 9, 1904.

G. B. MALTBY.
BRAKE BEAM.

APPLICATION FILED NOV. 11, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES

James C. Heiron.
S. R. Bell.

INVENTOR

G. B. Maltby
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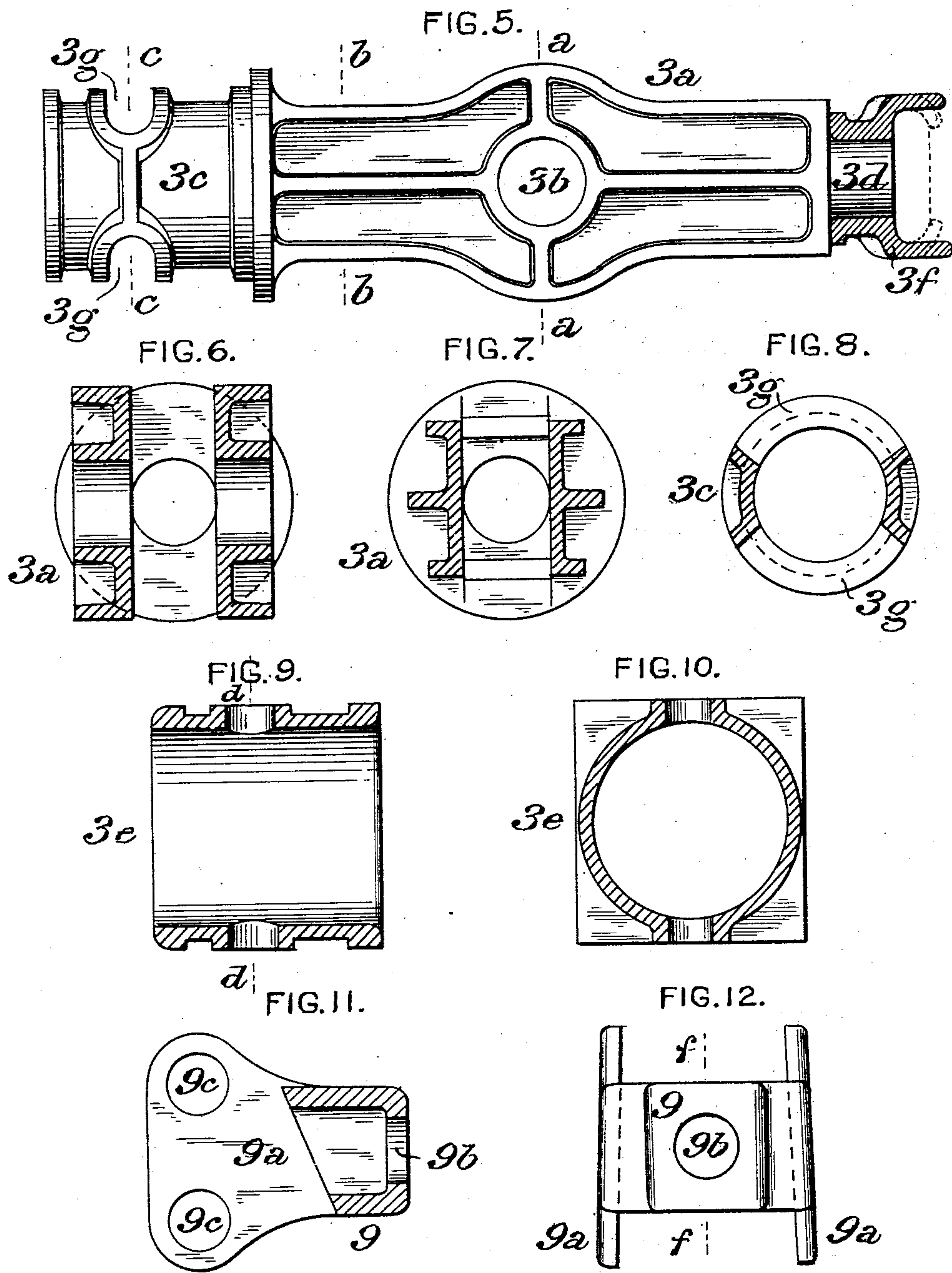
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UNITED STATES PATENT OFFICE.

GEORGE B. MALTBY, OF CLEVELAND, OHIO, ASSIGNOR TO CLEVELAND CAR SPECIALTY COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF WEST VIRGINIA.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 751,864, dated February 9, 1904.

Application filed November 11, 1903. Serial No. 180,662. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. MALTBY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Brake-Beams, of which

improvement the following is a specification. The object of my invention is to provide a brake-beam which shall embody the features of strength, lightness, simplicity, and inexpensiveness of construction, capability of removal and replacement of brake-heads without displacement of the connection of the compression and tension members, and utilization of parts which are reversible—that is to say, suited for either left or right hand connections, as desired.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a plan view of a brake-beam, illustrating an embodiment of my invention; Fig. 2, a side view, partly in section, of the same; Fig. 3, an end view with a brake-head attached; Fig. 4, a view, partly in elevation and partly in section, on the line *ee* of Fig. 1; Fig. 5, a view in elevation and on an enlarged scale of the strut with the compression-member filler detached; Figs. 6, 7, and 8, transverse sections through the same on the lines *aa*, *bb*, and *cc*, respectively, of Fig. 5; Fig. 9, a longitudinal central section through the compression-member filler; Fig. 10, a transverse section through the same on the line *dd* of Fig. 9; Fig. 11, a longitudinal section through one of the safety-chain and finger-guard castings on the line *ff* of Fig. 12, and Fig. 12 an end view in elevation of the same.

In the practice of my invention the compression member or body 1 of the brake-beam is preferably, as shown, formed of stout sheet-steel or other metal pressed or bent into U or channel section and is, as usual, slightly cambered or tapered from its central portion toward each of its ends. In order to impart greater vertical stiffness to the body, it is made substantially wider at its central portion than at its ends—that is to say, the width of the U section gradually increases from each

end of the body to the central portion thereof. Slots or openings of substantially rectangular form are cut in the side walls of the compression member adjacent to its ends for the reception of tension-member connecting-blocks, hereinafter described. The tension or truss member 2 is in this instance shown as formed of a metal bar of substantially rectangular section, having rounded edges to be engaged by turned-over flanges on a strut, for which, if desired, a rod or rods may be substituted, and is bent or cambered from its center to its end portions, which are connected to the compression member, as hereinafter described.

The strut or king-post 3, which is interposed between the compression and tension members at the middle of the beam, comprises three separate castings—*i. e.*, a main body 3^a, having the usual brake-lever eye 3^b near the middle of its length and trunnions or cylindrical projections 3^c 3^d, which are of unequal diameters, on its ends, a compression-member filler 3^e fitting on the larger trunnion, and a tension member, bearing, or shoe 3^f fitting on the smaller trunnion. Elongated slots 3^g are formed in the larger trunnion 3^c for the passage of a rivet 7, by which said trunnion and the surrounding compression-member filler 3^e, which fits within the compression member, are secured to the latter. These flanges of the tension-member bearing 3^f are hammered down on the tension member, as shown in Fig. 4 and indicated in dotted lines in Fig. 5.

The ends of the tension member 2 are turned over into the form of substantially rectangular eyes 2^a, which fit between the side flanges of the compression member at its ends and are connected thereto by being hooked over tension-bar fastening-blocks 2^b, which are of rectangular form and are fitted and held in corresponding slots in the side flanges of the compression member, with the outer sides of which their ends are flush, as shown in Fig. 2.

The brake-heads 4 are fitted over the ends of the tension-bar fastening-blocks 2^b and the adjacent portions of the side flanges of the compression member and are secured in po-

sition by rivets 5, passing through holes in the blocks 2^b and in the brake-heads and headed over on the latter. A strong and simple connection of the parts is thereby effected, and it will be seen that when a brake-head is to be removed, as in the event of breakage or change of brake-heads being required, as from inside to outside hung brakes, or vice versa, this can readily be done by removing the rivet without disconnecting the compression and tension members. It will also be apparent that the strut can be adjusted to vary the angle of the brake-lever when desired by turning its body 3^a to the right or the left, as the conditions may require, within the limit permitted by the length of the slots 3^c in the longer trunnion of the body.

The safety-chain and finger-guard castings 9 are provided with tapering jaws 9^a, which fit over the compression member, and a front opening 9^b for the passage of the finger-guard 10. The safety-chain hooks 11 pass through holes 9^c in the jaws 9^a and through the side flanges of the compression member and are provided with collars 11^a, or, if preferred, shouldered down to form a bearing on one flange and slotted for a key 12 or threaded to receive a nut, the fastening in either case bearing on the other flange and holding the casting and hook in firm connection to the compression member.

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

1. In a brake-beam, the combination of a compression member of channel section, having rectangular openings in its side flanges adjacent to its ends, tension-bar fastening-blocks fitting in said openings, a tension member having rectangular eyes at its ends which engage said fastening-blocks, and a strut interposed between the middle portions of the compression and tension members.

2. In a brake-beam, the combination of a

compression member of channel section, having rectangular openings in its side flanges adjacent to its ends, tension-bar fastening-blocks fitting in said openings, a tension member having rectangular eyes at its ends which engage said fastening-blocks, brake-heads fitting over the ends of said fastening-blocks and the adjacent portions of the compression member, transverse connections passing through the fastening-blocks and the brake-heads, and a strut interposed between the middle portions of the compression and tension members.

3. In a brake-beam, the combination of a compression member, a tension member, a reversible strut interposed between the middle portions of the compression and tension members and having end trunnions fitting bearings thereon, and a transverse connection passing through the compression member and through elongated openings in the trunnion fitting therein.

4. A compression member for a brake-beam, composed of sheet or plate metal bent into channel section which gradually increases in width from each end of the compression member to the central portion thereof, and having rectangular slots in its side flanges adjacent to its ends, for the reception of tension-bar fastening-blocks.

5. A reversible strut for a brake-beam, having end trunnions for connection with a compression member and a tension member, respectively, and elongated transverse slots in the compression-member trunnion for the passage of a connecting-rivet.

6. A safety-chain and finger-guard casting for a brake-beam, having tapering jaws to fit over a compression member and a front opening for the reception of a finger-guard.

GEORGE B. MALTBY.

Witnesses:

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