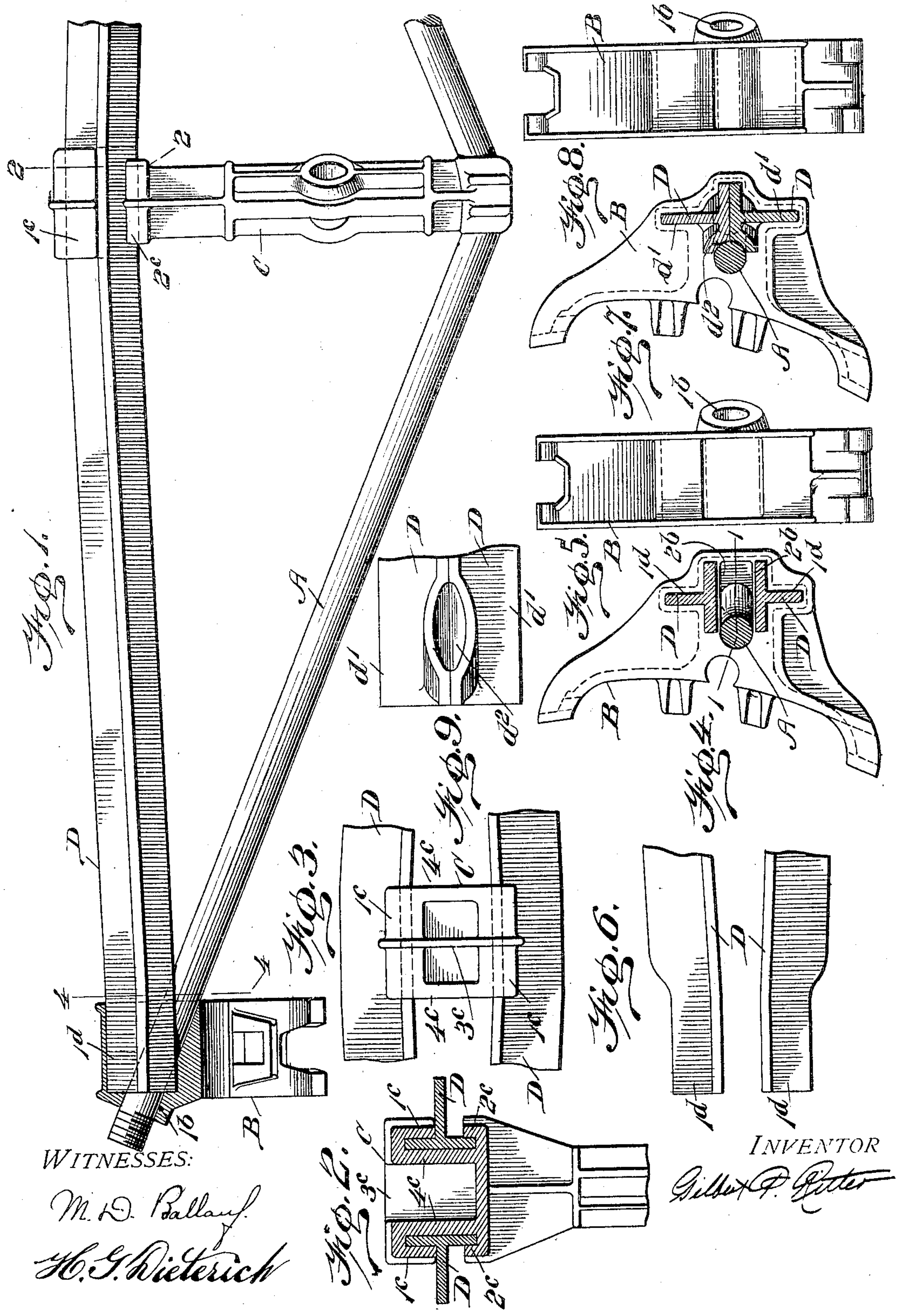


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PATENTED NOV. 14, 1905.

G. P. RITTER.
BRAKE BEAM.

APPLICATION FILED FEB. 24, 1905.



UNITED STATES PATENT OFFICE.

GILBERT P. RITTER, OF CHICAGO, ILLINOIS.

BRAKE-BEAM.

No. 804,267.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed February 24, 1905. Serial No. 247,156.

To all whom it may concern:

Be it known that I, GILBERT P. RITTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brake-Beams; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the construction of brake-beams, and has for its objects to produce a light and simple structure which shall efficiently withstand the horizontal and vertical loads to which it is subjected in service.

To this end my invention, generally stated, may be said to reside in a combination wherein the tension member, strut, and brake-heads of a trussed brake-beam are combined with a compression member consisting of flanged elements which are maintained in spaced or separated relation at a point in juxtaposition to the strut and which more closely approach each other toward the brake-heads.

There are other minor features of invention, all as will hereinafter more fully appear.

In the drawings forming a part of this specification, Figure 1 is a plan view of a portion of a brake-beam embodying my invention, a part of the brake-head being broken away on the line 1 1, Fig. 4, to disclose the relation of the compression and tension members to each other and to the brake-head. Fig. 2 is a sectional view of a portion of the strut or king-post, taken on the line 2 2, Fig. 1, showing the relation of the compression member thereto. Fig. 3 is a rear end elevation of the strut or king-post, portions of the compression member being shown in conjunction therewith. Fig. 4 is a section on the line 4 4, Fig. 1. Fig. 5 is a rear elevation of the brake-head shown in Figs. 1 and 4. Fig. 6 is a detached view showing in elevation the relation of the portions of the compression member which enter the brake-head. Fig. 7 is a view corresponding to Fig. 4, but showing a modification of the construction therein shown. Fig. 8 is a rear elevation of the modified brake-head shown in Fig. 7. Fig. 9 is a view similar to Fig. 6, showing the end portions of the compression member used in conjunction with the modified form of brake-head shown in Figs. 7 and 8.

Like symbols refer to like parts wherever they occur.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A is the tension member; B, the brake-heads; C, the strut, and D D the flanged elements constituting the compression member.

The tension member A is preferably a round rod passing over the end of the strut C and through suitable passages or openings 1^b in the brake-heads B, the ends of said rod being threaded to receive nuts in the usual manner; but, if desired, any other well known form of truss-rod or any other means of securing it to the brake-heads may be employed.

The interior of the brake-heads B are cored to receive the ends 1^a 1^a of the flanged elements D D, which are socketed therein, and to permit the passage of the tension member A. In the form of construction shown in Figs. 1 to 6, inclusive, the ends 1^a 1^a of the flanged elements D D, while being less widely separated than at their junction with the strut C, are spaced sufficiently far apart to permit the passage of the truss-rod A between them, the said brake-heads B being preferably provided with webs 2^b 2^b, which form a passage for the said truss-rod and also support and maintain the flanged elements D D in proper relation in the brake-heads. For the purpose of lessening the vertical dimension of the socket portion of the brake-heads the ends 1^a 1^a of the flanged elements D D, constituting the compression member, are so formed at the ends, as by shearing or forging, that the height thereof is reduced. (See Fig. 6.)

The flanged elements D D, constituting the compression member of the brake-beam, are preferably two vertically-alined T's having the stems thereof in a vertical position and extending away from each other in opposite directions, the ends 1^a 1^a of said T's being socketed in the brake-heads B, as heretofore described, and said T's being maintained in spaced or separated relation by the strut C, which is interposed between them, the latter being provided with flanges or lugs 1^c 1^c and 2^c 2^c, which engage the flanged elements D D. In order to give strength and stability to that portion of the strut C which is interposed between the flanged elements D D, the same is preferably constructed with a centrally-disposed vertical web 3^c and upon either side of the latter with laterally-located vertical webs 4^c 4^c, said interposed portion of the strut caus-

ing the said flanged elements to act in unison under vertically-applied loads and by the separation of the two T's to increase the moment of inertia of the T's about the neutral axis at this point, with the resulting increased stiffness under such loads.

In Figs. 7, 8, and 9 is illustrated a modified construction of brake-head and of the ends of the flanged members D D, which are socketed therein. In this form of construction the ends d' d' of the flanged elements D D are brought into contact (see Fig. 9) and the truss-rod A passes between them through the cylindrical channel or groove d^2 , which is forged or otherwise formed partly in one of said flanged elements and partly in the other, said groove d^2 conforming to the direction of the truss-rod in its passage through the heads B, as seen in Fig. 1, and said truss-rod in effect keying the flanged elements together at their ends. The brake-heads B in such modified construction are cored to correspond with the ends of the flanged elements D D and to permit the passage of the tension member A. In other respects the construction of the brake-beam is the same as heretofore described.

The construction being substantially such as hereinbefore pointed out, the brake-beam may be assembled by passing the flanged elements D D through the channels formed by the lugs 1° 1° and 2° 2° of the strut C, placing the brake-heads B upon the ends of said flanged elements, then passing the truss-rod or tension member A around the end of the strut and inserting its ends in the brake-heads, and, finally, applying the nuts to the ends of said truss-rod.

Obviously modifications in the form and construction of the several elements constituting the brake-beam may be made within the scope of the appended claims.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of flanged elements separated at their junction with said strut and converging toward said brake-heads, substantially as and for the purposes specified.

2. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut, substantially as and for the purposes specified.

3. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and converging toward said brake-heads, substantially as and for the purposes specified.

4. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and hav-

ing their stems extending away from each other in opposite directions, substantially as and for the purposes specified.

5. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and converging toward said brake-heads, said T's having their stems extending away from each other in opposite directions, substantially as and for the purposes specified.

6. In a brake-beam, the combination with a tension member, brake-heads and a strut, of a compression member consisting of flanged elements separated at their junction with said strut, substantially as and for the purposes specified.

7. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of flanged elements separated at their junction with said strut, and a tension member passing between said flanged elements within the brake-heads, substantially as and for the purposes specified.

8. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of flanged elements separated at their junction with said strut and converging toward their ends, and a tension member passing between said flanged elements within the brake-heads, substantially as and for the purposes specified.

9. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut, and a tension member passing between said T's within the brake-heads, substantially as and for the purposes specified.

10. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and converging toward the brake-heads, and a tension member passing between said T's within the brake-heads, substantially as and for the purposes specified.

11. In a brake-beam, the combination with brake-heads and a strut, of a compression member consisting of T's separated at their junction with said strut and converging toward the brake-heads, said T's having their stems extending away from each other in opposite directions, and a tension member passing between said T's within the brake-heads, substantially as and for the purposes specified.

12. In a brake-beam, the combination with a tension member and brake-heads, of a compression member consisting of flanged elements, and a strut interposed between said flanged elements, substantially as and for the purposes specified.

13. In a brake-beam, the combination with a tension member and brake-heads, of a compression member consisting of T's, and a strut

interposed between said T's, substantially as and for the purposes specified.

14. In a brake-beam, the combination with a tension member and brake-heads, of a compression member consisting of T's having their stems extending away from each other in opposite directions, and a strut interposed between said T's, substantially as and for the purposes specified.

15. In a brake-beam, the combination with brake-heads, of a compression member consisting of T's separated at their junction with the strut and converging toward said brake-

heads, said T's having their stems extending away from each other in opposite directions, 15
a strut interposed between said T's, and a tension member passing between said T's within the brake-heads, substantially as for the purposes specified.

In testimony whereof I affix my signature in 20
presence of two subscribing witnesses.

GILBERT P. RITTER.

Witnesses:

M. D. BALLAUF,

J. JEROME LIGHTFOOT.