C. H. WILLIAMS, JR.

BRAKE BEAM.

APPLICATION FILED JULY 24, 1909.

955,239. Patented Apr. 19, 1910.

FIG. 2

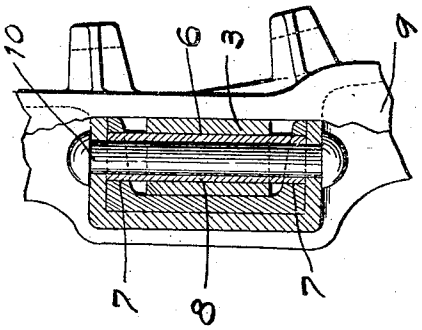


FIG. 4

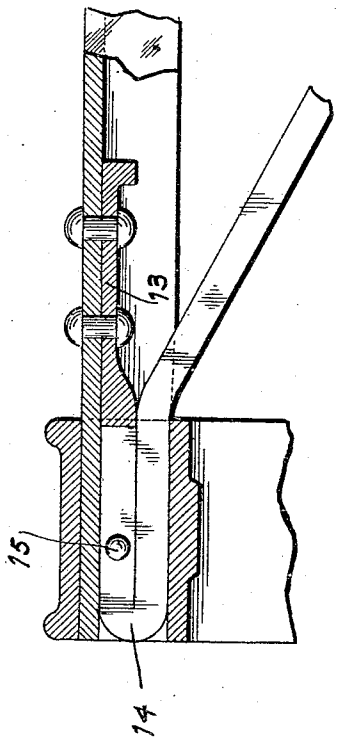


FIG. 1

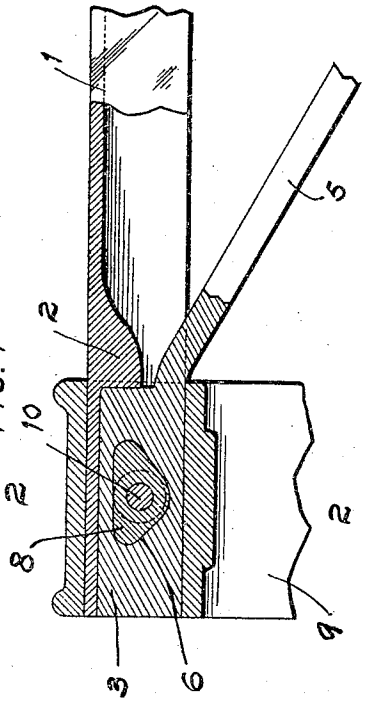
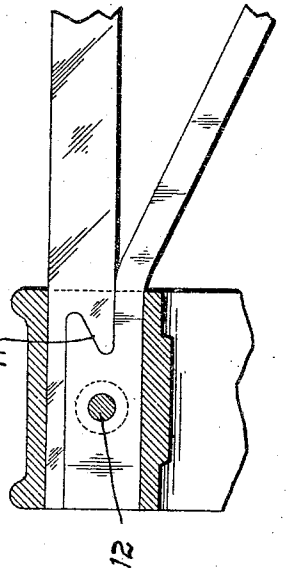


FIG. 3



WITNESSES

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UNITED STATES PATENT OFFICE.

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BRAKE-BEAM.

955,239. Specification of Letters Patent. **Patented Apr. 19, 1910.**

Application filed July 24, 1909. Serial No. 509,326.

To all whom it may concern:

Be it known that I, CHARLES H. WILLIAMS, Jr., a citizen of the United States, residing at Chicago, Illinois, have invented a certain new and useful Improvement in Brake-Beams, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a section taken through the central portion of the end of a brake beam of my improved construction. Fig. 2 is a transverse section taken on the line 2—2 of Fig. 1. Fig. 3 is an elevation of the end portion of a modified form of a beam and showing the brake head in section. Fig. 4 is a section similar to Fig. 1 and showing a further modified form of beam.

My invention relates generally to trussed brake beams, and more particularly to the means for uniting the ends of the compression and tension members of a trussed beam.

The principal objects of my invention are to construct a simple, inexpensive beam which may be readily assembled or taken apart, maintains its rigidity while in action or under load, and cannot be taken apart until the brake heads are removed.

Brake beams of trussed construction are obviously stronger for a given weight of material than are the so-called solid I or deck section beams, but their superiority in strength, weight, durability and economy of repairs, is frequently questioned, for the reason that composite or built-up trussed beams tend to work loose at the different joints and to develop lost motion. The prevailing types of so-called solid beams cannot be repaired satisfactorily with any degree of economy. I propose to provide a beam wherein the defects above referred to are overcome, which beam is easily assembled or taken apart for the purpose of repair, and in which beam a broken tension member or truss rod can be easily replaced, thereby preventing the discarding of the entire beam structure in case the tension member or truss rod is broken or becomes inoperative.

A further object of my invention is to provide simple means whereby the ends of the compression and tension members are united and interlocked without the assistance of the brake heads, this construction combining the most desirable features of the solid truss and the composite or built-up beam.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described and claimed.

In the form of the beam shown in Figs. 1 and 2, 1 designates the compression member which is in the form of a channel, and formed integral with the web thereof, adjacent the ends, are lugs 2, against which bear the inner ends of heads 3 formed integral with the ends of the tension member 5, the latter being in the form of a flat plate or bar. Formed through the central portion of the heads 3 are vertically disposed apertures 6, and formed through the flanges at the top and bottom of the compression member are corresponding apertures 7 which coincide with said apertures 6. When the heads 3 are properly seated in the ends of the compression member against the lugs 2, wedge keys 8 are driven through the coinciding apertures 6 and 7, thus rigidly uniting the ends of the compression and tension members. The brake heads 9, of ordinary construction, are now fitted on to the conjoined ends of the compression and tension members, and each head is fixed in position by means of a rivet or bolt 10 which passes through said head and through the wedge key 8. Thus the various parts of the beam structure are rigidly united at the ends, and a very strong, substantial and rigid construction is produced.

In the modified construction shown in Fig. 3, inclined shoulders 11 are formed on the compression and tension members adjacent their ends, and thus an interlocking joint is formed between the end portions of said members. The brake heads are applied to the interlocking ends, said heads being rigidly fixed to the beams by means of bolts or rivets 12, which pass through the ends of the tension member.

In the modified construction shown in Fig. 4, thrust blocks 13 are rigidly fixed to the inside of the compression member adjacent the ends, and the ends of the tension member are bent double, as designated by 14, the doubled-back portions engaging directly against the ends of the thrust blocks

13. The brake heads in this arrangement are rigidly fixed in position on the ends of the beam by means of bolts or rivets 15 which pass through said heads and through the doubled-back ends of the tension member.

My improved construction provides a beam which cannot be loosened or dismantled until the brake heads are removed, and said beam combines minimum weight with great strength and rigidity. The design of the beam permits the use of very shallow heads, which is quite important in beams utilized on trucks having short wheel bases, and said beam can be easily and quickly taken apart and assembled for the purpose of repair.

It will be readily understood that minor changes in the construction and form of my improved brake beam can be made and substituted for those herein shown and described without departing from the spirit of my invention.

I claim:

1. In a trussed brake beam, a compression member having abrupt shoulders formed near its ends, a tension member having shoulders formed adjacent its ends, which engage the shoulders on the compression member, fastening means passing through the conjoined ends of the compression and tension members, brake heads located upon the ends of said members, and independent fastening means for the brake heads.

2. In a trussed brake beam, a compression member, a tension member, the ends of which are united, wedge keys inserted through the united ends of said members, brake heads located on the ends of said members, and independent fastening devices passing through the wedge keys for rigidly fastening the brake heads on the beam.

3. In a trussed brake beam, a compression member, on the ends of which are formed abrupt shoulders, a tension member, heads integral with the ends thereof, which heads bear against the shoulders on the compression member, fastening devices seated in the heads and in the ends of the compression member, brake heads arranged on the ends of said members, and independent fastening means for the brake heads.

4. In a trussed brake beam, the combination with a compression member and tension member, the ends of which are provided with engaging shoulders, of fastening devices inserted through the conjoined ends of the members, brake heads located on the ends of said members, and independent fastening devices for said brake heads.

5. In a trussed brake beam, a compression member, a tension member, there being engaging shoulders formed on said members adjacent their ends, wedge keys inserted through the ends of said members, brake heads located on the ends of said members, and independent fastening devices seated in the wedge keys for fastening the brake heads on the beam.

6. In a trussed brake beam, a compression member, on the ends of which are formed shoulders, a tension member, heads on the ends thereof, which heads bear against the shoulders on the compression member, wedge keys seated in the united ends of the compression and tension members, brake heads arranged on the ends of said members, and independent fastening devices seated in the wedge keys for rigidly fixing the brake heads on the beam.

7. In a trussed brake beam, a compression member composed of a flanged beam, a tension member, heads on the ends thereof, which heads are seated between the flanges of the compression member at the ends thereof, and wedge keys inserted through the flanges of the compression member and through the ends of the tension member.

8. In a trussed brake beam, a compression member, composed of a flanged beam, a tension member, heads on the ends thereof, which heads are seated between the flanges of the compression member at the ends thereof, wedge keys inserted through the flanges of the compression member and through the ends of the tension member, and brake heads arranged on the conjoined ends of the compression and tension members.

9. In a trussed brake beam, a compression member composed of a flanged beam, a tension member, heads on the ends thereof, which heads are seated between the flanges of the compression member at the ends thereof, wedge keys inserted through the flanges of the compression member and through the ends of the tension member, brake heads arranged on the conjoined ends of the compression and tension members, and independent fastening devices for said brake heads.

10. In a trussed brake beam, a compression member composed of a flanged beam, a tension member, heads on the ends thereof, which heads are seated between the flanges of the compression member at the ends thereof, wedge keys inserted through the flanges of the compression member and through the ends of the tension member, brake heads arranged on the conjoined ends of the compression and tension members, and independent fastening devices seated in the wedge keys for rigidly fixing the brake heads on the beam.

11. In a trussed brake beam, a flat plate tension member, heads integral with the ends thereof, and there being wedge key openings in said heads.

12. In a trussed brake beam a channel shape compression member, and lugs integral with the inner faces of the web of said member adjacent its ends.

13. In a trussed brake beam a channel shaped compression member there being wedge key openings formed through the flanges of said member adjacent its ends.

14. In a trussed brake beam and channel shape compression member, lugs integral with the web of said member adjacent its ends, and wedge key openings formed through the flanges of said member adjacent its ends.

15. In a trussed brake beam and wedge key for uniting the meeting ends of the compression and tension members of the beam, and which wedge key is provided with an aperture adapted to receive the rivet.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 2nd day of July 1909.

CHARLES H. WILLIAMS, JR.

Witnesses:

EDWARD T. WALKER,

JOSEPH W. WEINLAND.