C. H. WILLIAMS, Jr.

BRAKE BEAM.

APPLICATION FILED JULY 24, 1909.

956,616. **Patented May 3, 1910.**

FIG. 1

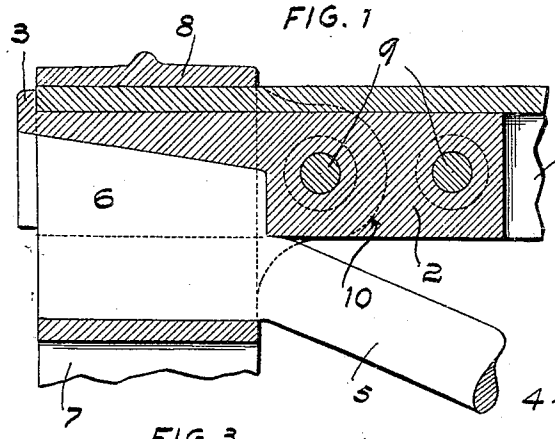


FIG. 2

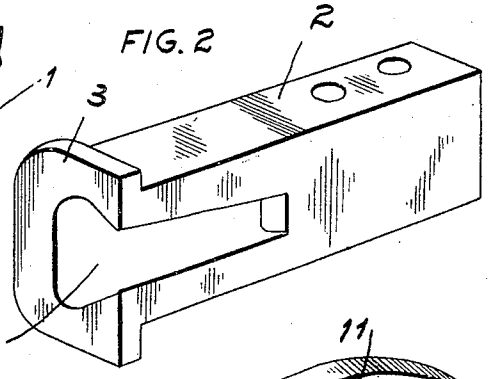


FIG. 3

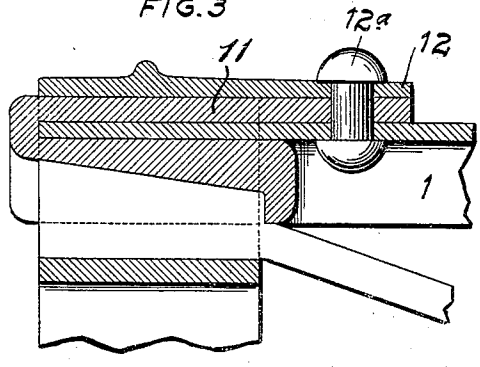


FIG. 4

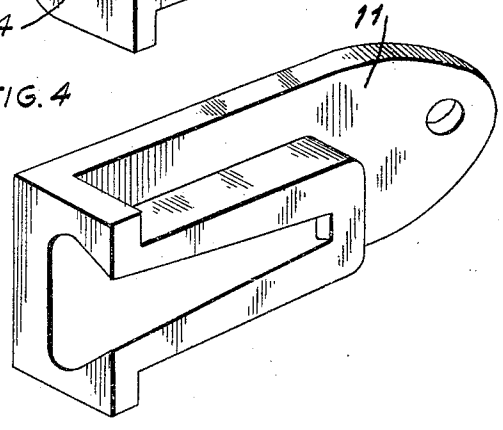


FIG. 5

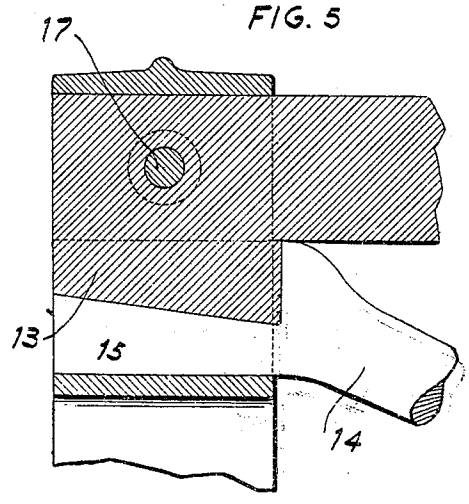
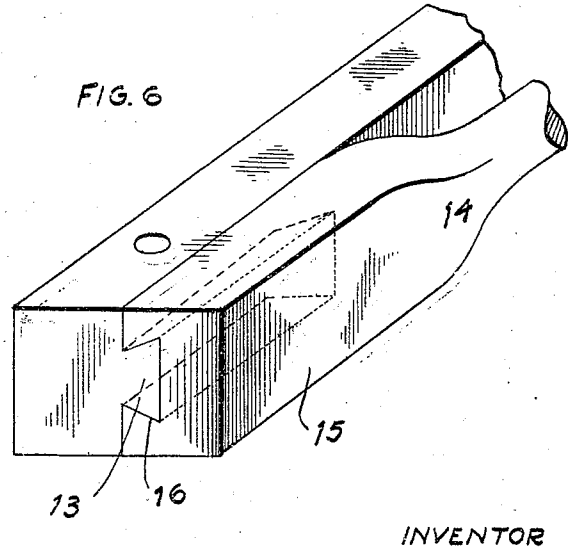


FIG. 6



WITNESSES

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BRAKE-BEAM.

956,616. Specification of Letters Patent. Patented May 3, 1910.

Application filed July 24, 1909. Serial No. 509,325.

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 perspective view of one of the thrust blocks utilized in my improved brake beam. Fig. 3 is a section taken approximately through the central portion of the end of a modified form of the beam. Fig. 4 is a perspective view of the thrust block used in connection with the modified form of beam seen in Fig. 3. Fig. 5 is a section taken approximately through the central portion of the end of a further modified form of the beam. Fig. 6 is a perspective view of the ends of the compression and tension members utilized in the modified form of beam seen in Fig. 5.

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 subject matter of this application is similar to the subject matter shown and described in a companion application filed by me on July 26, 1909, Serial No. 509,476.

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 beams tend to work loose at the different joints and to develop lost motion.

I propose to provide a beam wherein the defects above referred to are overcome, and 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.

Referring by numerals to the accompanying drawings, 1 designates the compression member of the beam, which in the present instance is in the form of a channel, although an I-beam, T or U-shaped beam, may be utilized, and in some instances a solid bar such as is shown in Figs. 5 and 6 may be employed. Located in each end of the compression member 1 is a cast metal thrust block 2, which fits snugly within the opening in the end of the beam, and formed integral with the end of said block 2 is a flange 3 which extends around the top, bottom and rear side of said block, said flange bearing directly against the end of the compression member 1. Formed in the outer portion of the block 2 is a socket or recess 4 which is preferably dovetailed in cross section and tapers gradually from the outer end of the block toward the center thereof.

5 designates the tension member or truss rod of the beam, the same being preferably formed of a solid rod, either round or square, in cross section, and the ends of this tension member are upset or provided with integral heads 6 which fit snugly within the dovetailed tapered recess 4. A suitable strut or brake lever post (not shown) is interposed between the central portions of the compression and tension members, and maintains the proper camber in the compression member, and also tends to draw the heads 6 into the recess 4, thereby maintaining the proper rigidity in the entire beam structure.

Brake heads 7 are provided with suitable sockets 8, which fit snugly upon the outer portions of the compression member 1 and the ends of the tension member 5, and said brake heads being rigidly fixed in position by means of rivets 9, or like fastening devices, which pass through coinciding apertures formed through the compression member 1, thrust blocks 2 and ears 10, which latter are formed integral with the heads 7. A second set of these rivets or fastening devices pass through suitable apertures formed through the flanges of the compression member and through the inner ends of the thrust blocks 2.

In the modified construction seen in Figs. 3 and 4, a plate 11 is formed integral with the rear portion of the flange 3 on the thrust block, and which plate lies directly against the rear side of the compression member 1. An extension 12 is formed integral with the rear portion of the brake head applied to this form of beam, which extension lies immediately against the rear side of the plate 11, and passing through coinciding apertures formed through the plates 11 and 12 and through the web of the compression member is a rivet 12^a, or like fastening device, which rigidly unites the compression member, thrust block and brake head.

In the modified construction seen in Figs. 5 and 6, a solid bar forms the compression member of the beam, or said compression member may be in the form of an I-beam, a T, or a channel having solid ends, and formed integral with the front face of the ends of this compression member are lugs 13, which are dovetailed in cross section and which taper from their inner ends toward their outer ends. In this form of beam, the ends of the tension member 14 are enlarged to form heads 15, and formed in said heads are recesses 16, which, when the beam is assembled, receive lugs 13. The brake heads applied to this form of beam inclose the ends of the compression member and the heads 15 on the ends of the tension member, and said brake heads are rigidly fixed in proper position by means of bolts or rivets 17, which pass vertically through the ends of the compression member.

My improved construction provides a beam which cannot be loosened or dismantled until the brake heads are removed, and while in use the load or strain upon the beam tends to tighten the entire structure rather than loosen the same, as is the case in built-up beams heretofore utilized. My improved beam is very simple, combining as it does only the compression and tension members and the strut. The thrust blocks are entirely independent of the truss structure and are not interposed between the compression and tension members, as is the case in many types of beams heretofore utilized. The design of the beam permits the use of very shallow heads, which is quite important in beams utilized on trucks with short wheel bases, and there are no sharp corners in which fractures may be easily started, and no nuts, end projections, upset heads, or cotters bent around the ends of the compression member. My improved form of beam can be easily repaired, and can be easily and quickly taken apart and assembled.

My improved beam is assembled by moving the compression and tension members longitudinally relative to one another and engaging the rods 6 in the recesses 4, after which the central portions of said members are spread apart to such a degree that the strut may be sprung into position. This action imparts camber to the compression member, thereby providing a very rigid construction. In the companion case above referred to the heads on the ends of the compression member are integral, but in the construction herein described the heads are in the form of blocks which are fixed to the ends of the compression member by means of rivets or the like.

It will be readily understood that minor changes may be made in the form and construction of the various parts of the beam, without departing from the spirit of my invention.

I claim:

1. In a trussed brake beam, a compression member and a tension member, there being a dovetailed joint between the ends of said members.

2. In a trussed brake beam, a compression member and a tension member, there being a dovetailed wedge joint between the ends of said members.

3. In a trussed brake beam, a compression member, there being wedge shaped sockets at the ends thereof, and a tension member, the ends of which are seated in said wedge shaped sockets.

4. In a trussed brake beam, a compression member, there being recesses formed at the ends thereof, which recesses are dovetailed in cross section, and a tension member, the ends of which are seated in the recesses.

5. In a trussed brake beam, a compression member, thrust blocks located in the ends thereof, there being wedge shaped recesses formed in said thrust blocks, and a tension member, the ends of which are seated in said recesses.

6. In a trussed brake beam, a compression member, thrust blocks seated in the ends thereof, there being recesses formed in said thrust blocks, which recesses are dovetailed in cross section, and tension members, the ends of which are seated in said recesses.

7. In a trussed brake beam, a compression member, thrust blocks seated in the ends thereof, there being recesses formed in said thrust blocks, which recesses taper from one end to the other, being dovetailed in cross section, and tension members, the ends of which are seated in said recesses.

8. In a trussed brake beam, a compression member, there being exposed sockets formed at the ends thereof, a tension member, and lugs formed on the ends thereof, which are seated in said sockets.

9. In a trussed brake beam, a compression member, at the ends of which are formed sockets which gradually taper from one end to the other, a tension member, and lugs on the ends thereof, which lugs are wedge shaped and are seated in said sockets.

10. In a trussed brake beam, a compression member, there being sockets formed at the ends thereof, which sockets are dovetailed in cross section.

11. In a trussed brake beam, a compression member, thrust blocks arranged at the ends of the compression member, a flange on each compression block, which flange bears against the end of the compression member, there being tapered dovetailed sockets formed in the thrust blocks, and a tension member, the ends of which are seated in the sockets.

12. In a trussed brake beam, a compression member, thrust blocks arranged at the ends of the compression member, a flange on each compression block, which flange bears against the end of the compression member, there being tapered dovetailed sockets formed in the thrust blocks, a tension member, the ends of which are seated in the sockets, and means whereby the thrust blocks are fixed to the compression member.

13. In a trussed brake beam, a compression member, a tension member, there being a wedge and tapered recess joint between the ends of said members, and brake heads fixed on the ends of said members.

14. In a trussed brake beam, a compression member, a tension member, there being a wedge and tapered recess joint between the ends of said members, and brake heads inclosing and fixed upon the ends of said members.

15. In a trussed brake beam, a compression member, a tension member, there being a dovetailed wedge joint between the ends of said members, and brake heads fixed upon the ends of said members.

16. In a trussed brake beam, a compression member, a tension member, there being a dovetailed wedge joint between the ends of said members, and brake heads fixed upon and inclosing the joints at the ends of said members.

17. A brake beam comprising a compression member, thrust blocks seated in the ends thereof, a tension member, the ends of which tension member are seated in the thrust blocks by a relative longitudinal movement between the compression and tension members.

18. A brake beam comprising a compression member, thrust blocks seated in the ends thereof, a tension member, the ends of which tension member are disengaged from the thrust blocks by a relative longitudinal movement between the compression and tension members.

19. In a trussed brake beam, a detachable thrust block for the compression member, in which block is formed a wedge-shaped recess.

20. In a trussed brake beam, a detachable thrust block for the compression member, in which block is formed a dovetailed recess.

21. In a trussed brake beam, a thrust block provided with an exposed outwardly opening recess adapted to receive the end of the tension member, and a flange on said block adapted to engage the end of the compression member.

22. In a trussed brake beam, a thrust block provided with an exposed outwardly opening recess adapted to receive the end of the tension member and a shoulder on said thrust block adapted to engage the end of the compression member.

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.