

Oct. 25, 1949.

F. SCHAEFER

2,486,066

BRAKE BEAM

Filed May 22, 1947

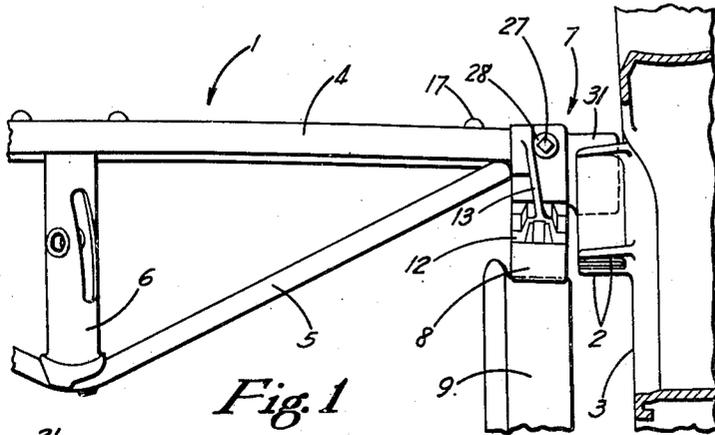


Fig. 1

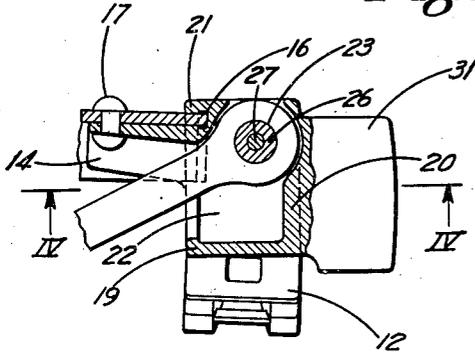


Fig. 2

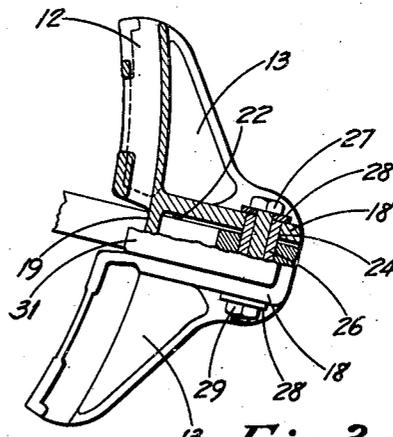


Fig. 3

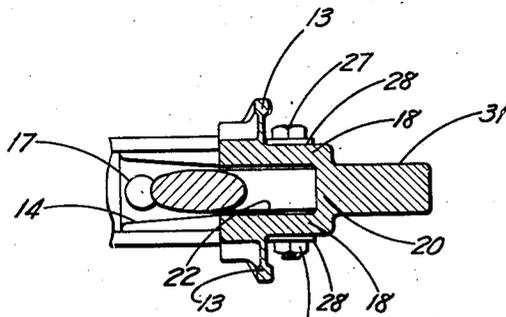


Fig. 4

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# UNITED STATES PATENT OFFICE

2,486,066

## BRAKE BEAM

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Application May 22, 1947, Serial No. 749,682

3 Claims. (Cl. 188—233.3)

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The invention relates to railway car brake beams and, more particularly, to truss type beams which are slidably supported in the side frames of a car truck.

It is among the objects of this invention to provide such a beam with an improved construction.

According to this invention, the brake beam, which is adapted to be slidably supported in pairs of beam-supporting ledges provided on a car truck, includes a compression member on each end of which is mounted a brake head, and a tension member the ends of which are secured to the brake heads. Each head also has a slot extending into it from its inner side, the slot being disposed in the plane of the beam and receiving the ends of the tension rod. Each end of the rod is provided with an opening aligned with openings through the slot walls above and below it to receive a fastening member which secures the rod and brake head together. To support the beam, each of the brake heads is provided with a lug which projects laterally and is slidably received between the adjoining pair of truck ledges. Preferably, each brake head has a central rectangular body from one side of which the lug projects between the ledges, and from the other side of which a tongue projects laterally into the adjoining end of the compression member in tight engagement with it. By extending the upright webs, which connect the back of the shoe-supporting portion of the head with the top and bottom of the head body, from approximately the vertical center line of said portion diagonally across the body toward the compression member, room is provided between the rear ends of the webs and the lug for the fastening member that passes through the tension rod.

The preferred embodiment of the invention is illustrated in the accompanying drawings of which Fig. 1 is a fragmentary plan view of the brake beam supported in a car truck; Fig. 2 is an enlarged horizontal section through one end of the beam; Fig. 3 is an end view of the beam with its upper part shown in section; and Fig. 4 is a section on the line IV—IV of Fig. 2.

Referring to the drawings, a truss type brake beam 1 is shown supported by a pair of ledges or short tracks 2 formed on a car truck side frame 3. The brake beam includes a hollow or channel-like compression member 4 and a tension rod 5 spaced apart at the center in the customary manner by strut 6. Brake heads 7 are disposed at each end of the compression member

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and carry brake shoes 8 which, upon movement of the beam forward, engage the car wheels 9.

Each brake head has a generally rectangular body from the front of which the usual shoe-supporting portion 12 extends upward and downward. This portion is reinforced by upright webs 13 integral with it and with the top and bottom of the body. Projecting laterally from the inner side of the body, near its rear end, is a tongue 14 that extends into the adjoining end of the compression member and engages its inner surface, as shown in Fig. 2. The outer surface of the tongue conforms in general contour to the adjoining inner surface of the compression member, and these two elements are of such size as to require the tongue to be driven into the compression member, whereby a wedge fit is provided. The brake head is provided with a recess 16 at the base of the tongue to receive the end of the compression member, and a rivet 17 may extend through compression member and tongue to lock them together.

The brake head body is formed from upper and lower spaced parallel walls 18 integrally connected by a front wall 19, an outer wall 20 and an inner back corner portion 21. There is thus formed in the body of the head a slot 22, the entrance to which extends along the inner side of the head from the tongue to the front wall. The plane of the slot lies in the plane of the beam which is radial of the wheels. One end of tension rod 5 extends into this slot, and is upset and flattened to provide parallel upper and lower surfaces adjacent the inner surfaces of walls 18, and to provide plenty of metal around the opening 23 through the upset end. Aligned with this opening are openings 24 through the upper and lower walls of the slot, as shown in Fig. 3.

In order to be able to locate these head openings in a position that will permit the upset end of the tension rod to be disposed inside of the head body, webs 13 are not parallel to the sides of the head, as in the usual brake head, but, as shown in Fig. 1, extend diagonally across it from the vertical center line of the shoe-supporting portion 12 towards the inner rear corner of the head. This allows openings 24 to be positioned much farther inward from the outer side of the brake head body than otherwise would be the case.

The fastening member that extends through aligned openings 23 and 24 includes a sleeve 26 that does not project from the body of the head, and a bolt 27 extending through the sleeve and through washers 28 at its ends. A nut 29 is

screwed onto the lower end of the bolt. Due to this arrangement, openings 24 can be large enough for a fastening member of the necessary diameter, and yet can be located close to webs 13, because the relatively small bolt has a head and nut of small enough radius to fit into the spaces between the webs and the centers of the openings. The body of the head can not be made wider in order to provide more room in it for the tension rod and fastening member, because ledges 2 are in the way. The fastening member serves as a pivot around which the rod can turn when the beam is flexed.

This brake beam, instead of being supported by conventional swinging hangers, is supported by ledges 2. For this purpose each brake head has integrally connected to outer wall 20 of its body a lug 31 that projects laterally between the adjacent ledges on the side frame. This lug is flat with parallel upper and lower surfaces and, like slot 22, it lies in the plane of the beam. The lug slides back and forth between the ledges which are inclined so that the inclined beam will slide away from the wheels when the brakes are released.

According to the provisions of the patent statutes, I have explained the principle and mode of operation of my invention, and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. A brake beam for use with a car truck provided with pairs of beam-supporting ledges, said beam comprising a compression member, a brake head disposed at each end of said member, each head being provided at one side with a tongue projecting laterally into the adjoining end of the compression member in tight engagement therewith and at the other side with a laterally projecting solid lug adapted to be slidably supported by the adjoining pair of ledges, each head having a slot extending into it from its tongue side and disposed in the plane of the beam, a tension rod having its ends projecting into the slots in the heads, each end of the rod and the slot walls above and below it being provided with aligned openings between the adjacent lug and end of the compression member, and fastening members in said openings securing the tension rod and brake heads together.

2. A brake beam for use with a car truck provided with pairs of beam-supporting ledges, said beam comprising a compression member, a brake head mounted on each end of said member and having a central rectangular body and a shoe-supporting portion extending above and below the front end of said body, said head being provided with upright strengthening webs integrally connecting the back of said shoe-supporting por-

tion with the top and bottom of said body and extending from approximately the vertical center line of said portion diagonally across the body toward the compression member, said body being provided integrally with an outwardly projecting lug disposed in the plane of the beam and adapted to be slidably supported by the adjoining pair of ledges, each of said bodies having a slot extending into it from its inner side and disposed in the plane of the beam, the top and bottom walls of each slot being provided beyond the compression member with a pair of aligned openings near the rear end of said body and close to said webs between them and said lug, a tension rod having its ends located in the slots in the heads and provided with openings registering with said aligned openings, and fastening members extending through said openings for connecting the tension rod and brake heads together.

3. A brake beam for use with a car truck provided with pairs of beam-supporting ledges, said beam comprising a compression member, a brake head mounted on each end of said member and having a central rectangular body and a shoe-supporting portion extending above and below the front end of said body, said head being provided with upright strengthening webs integrally connecting the back of said shoe-supporting portion with the top and bottom of said body and extending from approximately the vertical center line of said portion diagonally across the body toward the compression member, said body being provided integrally with an outwardly projecting lug disposed in the plane of the beam and adapted to be slidably supported by the adjoining pair of ledges, each of said bodies having a slot extending into it from its inner side and disposed in the plane of the beam, the top and bottom walls of each slot being provided with a pair of aligned openings near the rear end of said body and close to said webs between them and said lug, a tension rod having its ends located in the slots in the heads and provided with openings registering with said aligned openings, a sleeve disposed in each tension rod opening and extending into the adjacent head openings for connecting the head and rod together, a bolt extending through each sleeve to hold it in place, and a nut screwed onto the bolt.

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