Sept. 23, 1947. W. H. BASELT 2,427,893

BRAKE BEAM

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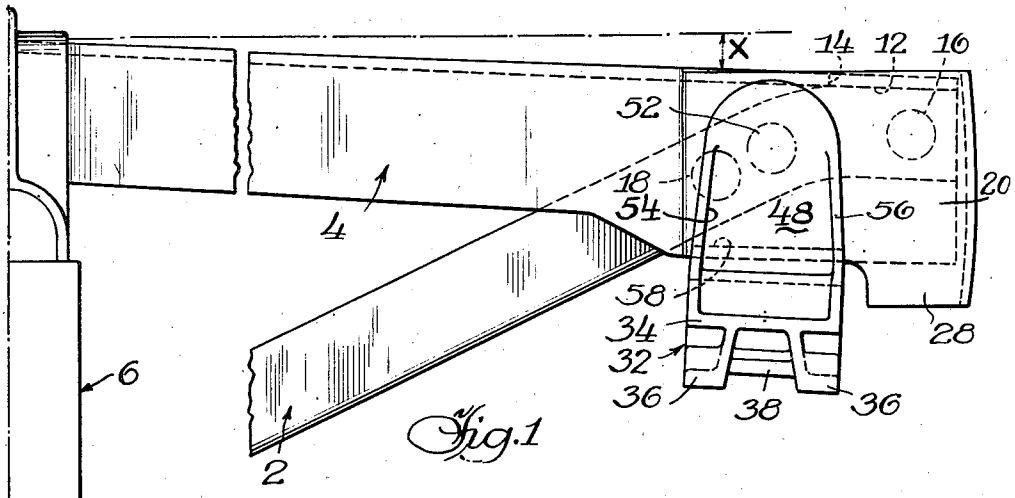



Fig. 1

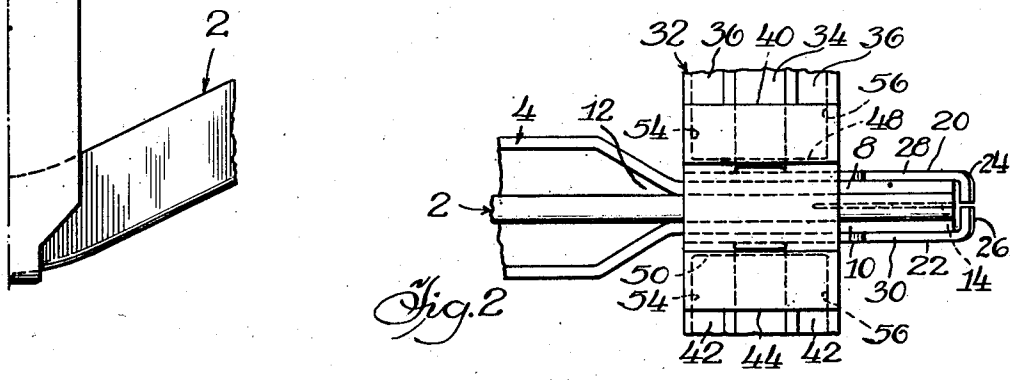



Fig. 2

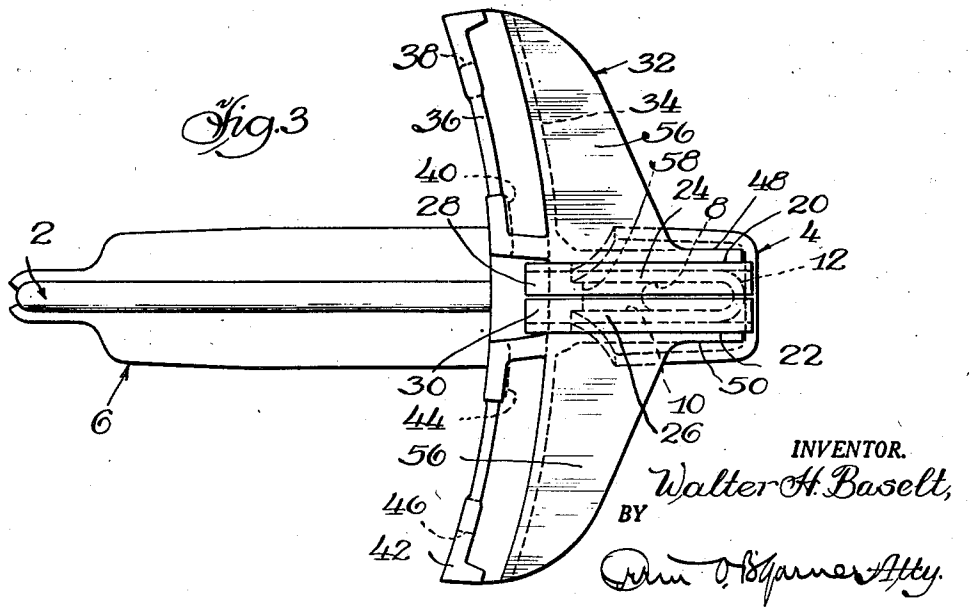



Fig. 3

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## BRAKE BEAM

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3 Claims. (Cl. 188—226)

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My invention relates to a novel brake beam and method of making the same and more particularly to a railway brake beam of so-called "unit" type comprising guide portions extending outwardly of the brake heads for slidable cooperation with support brackets on an associated railway car truck structure.

The general object of my invention is to design a unit beam which may be economically manufactured and which is capable of long life in service under the severe stresses imposed by railway braking conditions.

A specific object of my invention is the provision of lugs on the brake heads snugly fitted between the spaced webs of the U-section compression member to afford the desired rigidity therefor without the necessity of utilizing filler blocks.

Another object of my invention is to design a fabricated beam of the above described type in which all of the elements thereof are spot welded into a particularly rigid structure.

In my novel beam, the tension member is spot welded between the spaced webs of the compression member, and each brake head and associated wear plate means are spot welded at a common point to the external surfaces of said webs.

In the drawings, Figure 1 is a fragmentary top plan view of my novel brake beam, only one end thereof being illustrated inasmuch as it is symmetrical about its transverse center line.

Figure 2 is a fragmentary front elevation, and Figure 3 is an end view of the structure shown in Figure 1.

Describing my invention in detail, the beam comprises tension and compression members generally designated 2 and 4 respectively and a strut 6 connected therebetween at the transverse center line of the beam, said strut being formed and arranged for connection in conventional manner to an associated brake lever (not shown).

The compression member 4 is bent at each extremity thereof into a relatively thin end portion of U-section with top and bottom webs 8 and 10 and an intervening arcuate rear wall 12, said rear wall being formed with a longitudinal slot 14 extending inwardly from the extremity thereof. The tension member 2 is snugly fitted at each end thereof between the associated webs 8 and 10 and is spot welded thereto at 16 and 18 (Figure 1), the slot 14 serving to minimize shunting of the electric current during the welding at 16 adjacent the extremity of the beam.

Top and bottom wear plates 20 and 22 are seated respectively against the top and bottom surfaces of the webs 8 and 10, each of said wear

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plates being of L section with the depending leg 24 of the top plate 20 and the upstanding leg 26 of the bottom plate 22 overlapping the extremity of the beam, and it may be noted that the plates 20 and 22 respectively are provided with the projections 28 and 30 extending forwardly of the compression member to afford maximum bearing areas for slidable engagement with support brackets (not shown) on the associated truck structure. It will be observed in Figures 2 and 3 that the top and bottom plates 20 and 22 are formed and arranged in looking-glass symmetry whereby the same may be mounted on either of the end portions of the compression member.

The brake head generally designated 32 comprises a front wall 34 formed with the spaced top lugs 36, 36 having top and bottom tie ribs 38 and 40 extending therebetween, and said front wall is also formed with spaced bottom lugs 42, 42 with top and bottom tie ribs 44 and 46 extending therebetween, said tie ribs and said wall 34 defining a keyway for the reception of an associated key (not shown) which functions, as will be clearly understood by those skilled in the art, to maintain associated brake shoe means (not shown) in assembled relationship with the brake head lugs.

The front wall 34 of the brake head is integrally formed intermediate its ends with the top and bottom rearwardly extending walls 48 and 50 defining therebetween a brake beam cavity for the reception of the compression member end portion and the wear plates 20 and 22, said walls 48 and 50 and the plates 20 and 22 being afforded a common spot weld as at 52 (Figure 1) to the top and bottom webs 8 and 10 of the compression member. Integrally formed with the front wall 34 and each of the top and bottom walls 48 and 50 are spaced side walls 54 and 56 converging toward the rear extremity of the brake head 32. It may be noted that the wall 34 is seated against the forward edges of the compression member webs 8 and 10, whereby the camber of the compression member indicated at X (Figure 1) positions the forward face of the brake head at a slight angle approximately corresponding to the angle of taper of an associated railway car truck wheel, said angle of taper being one inch in twenty according to A. A. R. standards. It will be apparent that the converging relationship of the side walls 54 and 56 permits this angularity of the head without encroaching on the guide surfaces of the beam outwardly of the head.

The wall 34 is formed with a lug 58 snugly fitted between the top and bottom webs 8 and 10 of the compression member for the purpose of

increasing the rigidity thereof without the necessity of utilizing separate filler blocks.

In fabricating my novel brake beam, the compression member **4** is bent at its ends to form the relatively thin end portions thereof, and thereafter the slot **14** is formed in the rear wall **12** of each end portion as by cutting with a saw or other suitable instrument. Each end of the tension member **2** is then inserted between the top and bottom webs **8** and **10** of the associated compression member end portion and is spot welded to said webs as at **16** and **18**, the slot **14** minimizing shunting of the electric current during formation of the weld at **16** adjacent the extremity of the beam. Thereafter the wear plates **20** and **22** and the brake head **34** are placed in their proper assembled position and are spot welded at **52** to the webs **8** and **10**.

It is to be understood that I do not wish to be limited by the exact embodiment of the device shown which is merely by way of illustration and not limitation as various and other forms of the device will, of course, be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

I claim:

1. In a brake beam of truss type, a compression member having an end portion comprising spaced webs and an intervening rear wall with an elongated slot therein extended inwardly from the extremity thereof, a tension member of uniform cross section throughout its length and having an end snugly fitted between said spaced webs and having a bent portion at its extremity seated against the slotted portion of said wall, said bent portion being spot welded to said webs at a point adjacent the outboard extremities thereof, said tension member at said end being additionally spot welded to said webs at a point substantially on the longitudinal center line of said tension member entirely inboardly of said bent portion thereof, spaced wear plates seated against the external surfaces of respective webs, and a brake head having spaced walls snugly fitted over said plates, said spaced walls and plates being spot welded to said webs at a common point, said common point being located inboardly of the bent portion of said tension member at the intersection of the longitudinal center lines of said brake head and said tension member, said plates and said members projecting outboardly of said head in a direction longitudinally of the beam to afford guide means for slidable connection with associated support means.

2. In a brake beam of truss type, a compression member having an end portion comprising spaced webs and an intervening rear wall, a tension member of uniform cross section throughout its length having an end snugly fitted between said spaced webs and having a bent portion at its extremity seated against said wall, said bent portion being spot welded to said webs



at a point adjacent the outboard extremities thereof, said tension member at said end being additionally spot welded to said webs at a point substantially on the longitudinal center line of said tension member entirely inboardly of said bent portion thereof, spaced wear plates seated against the external surfaces of respective webs, and a brake head having spaced walls snugly fitted over said plates, said spaced walls and plates being spot welded to said webs at a common point, said common point being located intermediate the aforementioned weld points inboardly of the bent portion of said tension member at the intersection of the longitudinal center lines of said brake head and said tension member, said plates and said members projecting outboardly of said head in a direction longitudinally of the beam to afford guide means for slidable connection with associated support means.

3. In a brake beam of truss type, a compression member having an end portion comprising spaced webs and an intervening rear wall, a tension member of substantially uniform cross section throughout its length extending between said spaced webs and having a bent portion at its extremity seated against said wall, said bent portion being spot-welded to said webs at a point adjacent the outboard extremities thereof, said tension member being additionally spot-welded to said webs at a point substantially on the longitudinal center line of said tension member inboardly of said bent portion thereof, spaced wear plates seated against the external surfaces of respective webs, and a brake head having portions snugly fitted over said plates, said brake head portions and said plates being spot-welded to said webs at a common point disposed substantially at the intersection of the longitudinal center lines of said brake head and said tension member, said plates and said members projecting outboardly of said head longitudinally of the beam to afford guide means for connection with associated support means.

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