

H. ZIEMSS, Jr.

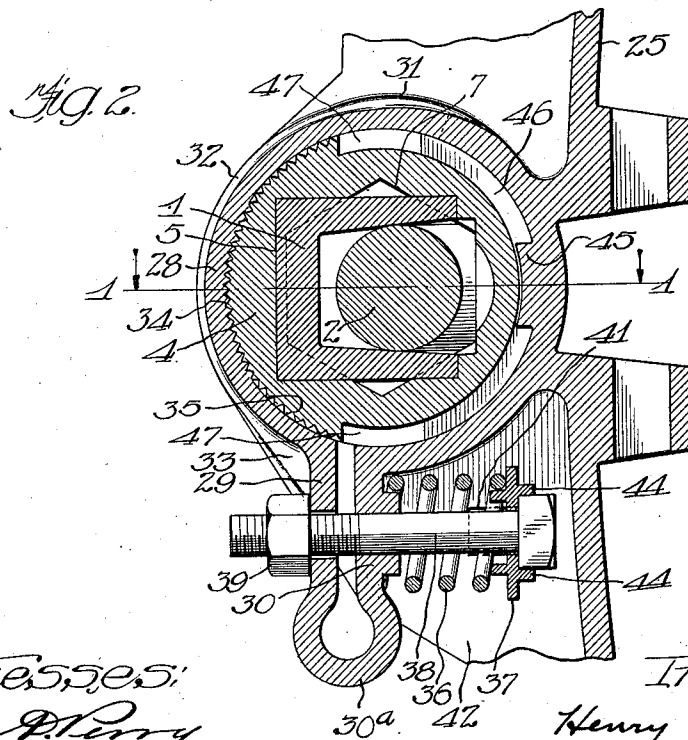
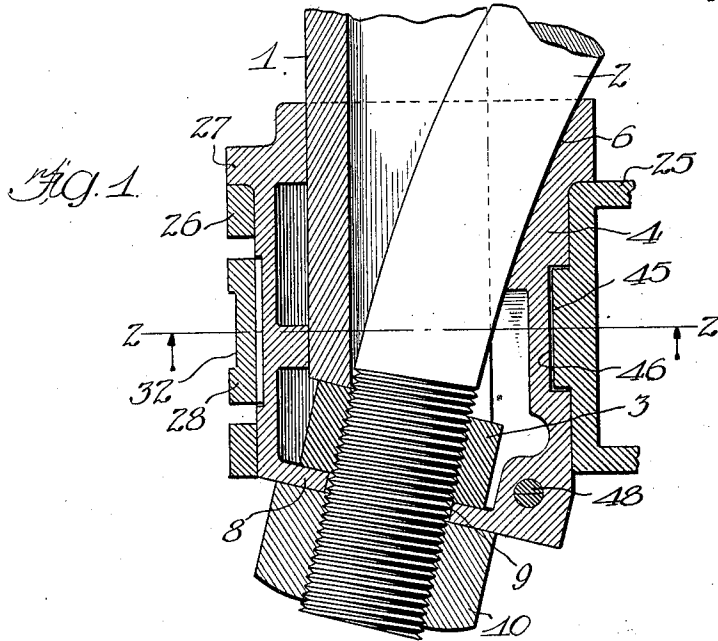
BRAKE BEAM.

APPLICATION FILED OCT. 21, 1908.

1,036,052.

Patented Aug. 20, 1912.

2 SHEETS—SHEET 1.



Witnesses:
Wm. D. Perry
Robert H. Weir

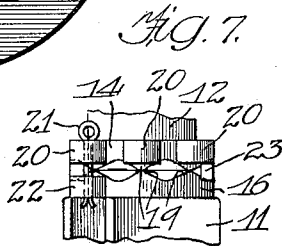
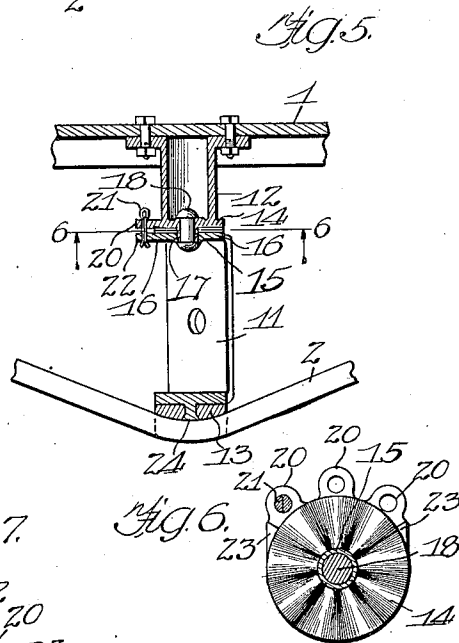
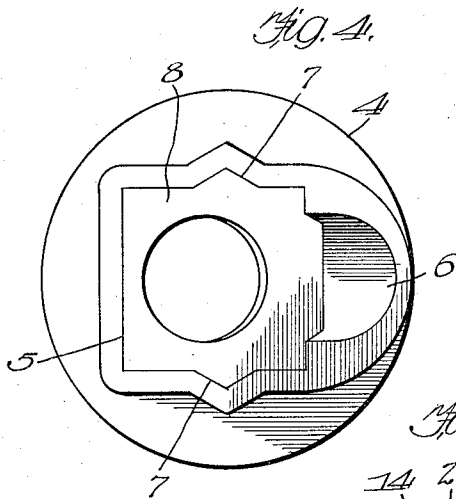
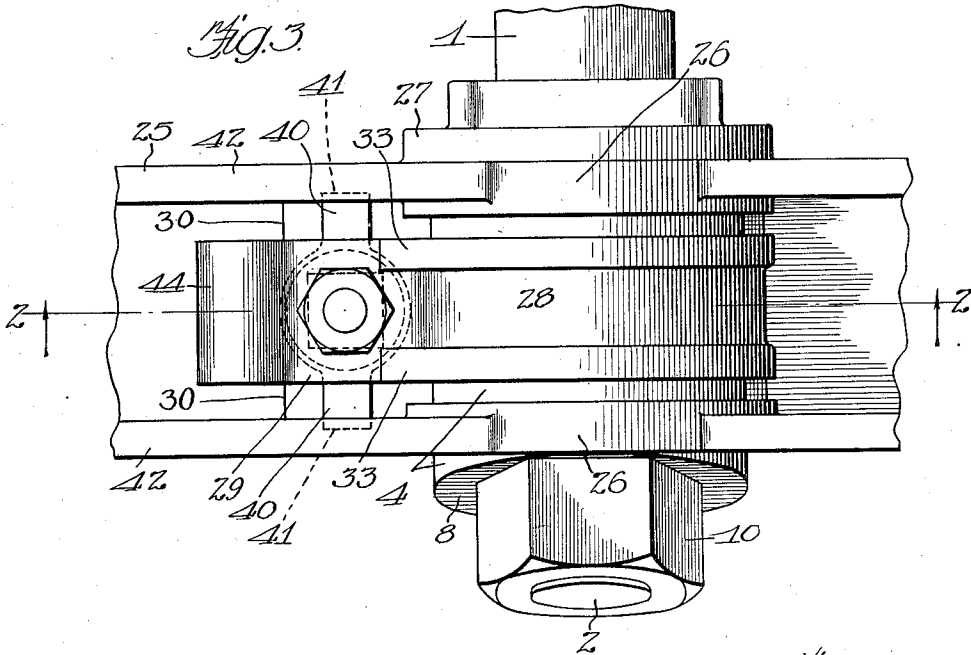
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2 SHEETS—SHEET 2.



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Robert H. Weir

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UNITED STATES PATENT OFFICE.

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BRAKE-BEAM.

1,036,052.

Specification of Letters Patent.

Patented Aug. 20, 1912.

Application filed October 21, 1908. Serial No. 458,804.

To all whom it may concern:

Be it known that I, HENRY ZIEMSS, Jr., 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, of which the following is a specification.

This invention relates to the brake beams of railway brakes.

One of the objects of this invention is to provide means for securing the compression member and the tension member together so that the brake-head-supporting sleeves may be removed from the ends of the beam without dismembering the latter.

Another object of the invention is to provide improved means for rotatably supporting the strut or post of a brake beam.

A further object is to provide improved means for adjustably securing the brake head upon the sleeve.

In the accompanying drawings Figure 1 is a horizontal sectional view through one end of a brake beam embodying the features of my invention. Said view is taken upon the plane of dotted line 1 1 of Fig. 2, which latter view is a vertical section on line 2 2 of Fig. 1. Fig. 3 is a view taken from the left-hand side of Fig. 2. Fig. 4 is an inner end view of one of the sleeves. Figs. 5, 6 and 7 are fragmental detail views of the means for rotatably supporting the fulcrum, Fig. 6 being taken upon the plane of dotted line 6 6 of Fig. 5.

A brake beam embodying my invention may comprise a compression member 1, preferably possessing more or less camber, and a tension member 2, the ends of said tension member being screw-threaded and the ends of the compression member being chamfered upon a plane extending substantially at right angles with the adjacent end portions of the tension member, to provide seats for nuts 3 turned upon the threaded ends of the tension member. A sleeve 4 is adapted to be slipped over the ends of the tension member and the compression member, said sleeve being recessed as at 5 to fit over the compression member and provided with a concave seat 6 for the tension member 2 and recessed as at 7 to accommodate the nut 3 when the sleeve is being placed over the ends of the parts 1 and 2. In the outer end wall 8 of the sleeve 4 is an opening 9 to receive the end of the ten-

sion member 2. Preferably the inner side of the end wall 8 lies against the nut 3. The sleeve 4 is secured in place by means of a nut 10 turned upon the screw-threaded end of the tension member 2 and bearing against the end wall 8 of said sleeve.

It will be seen that upon the removal of the nut 10, the sleeve may be slipped off the end of the beam members 1 and 2 without causing a separation of said beam members, the nut 3 holding the latter in proper relationship.

The compression member 1 and the tension member 2 being under great tension, much difficulty is experienced in practice in adjusting the struts of adjustable fulcrum beams. I have provided means for relieving more or less of the pressure upon the strut throughout the greater part of the adjusting movement, which means will now be described.

The strut 11, which may be of any suitable construction, is rotatably supported at its ends by members 12 and 13 fixed to the compression member 1 and the tension member 2, respectively. The member 12 comprises a disk 14 provided at its center with a tubular pivot stud 15. The strut 11 has at one end a disk 16 adapted to contact the disk 14, the stud 15 extending through an opening 17 in said disk 16. Any suitable means, such as a rivet 18, may be used to connect the parts 11 and 12.

The contacting faces of the disks 14 and 16 are provided with radial ribs 19 which are somewhat narrow relatively to the concave spaces between said ribs. When the ribs on the disk 16 are moved out of contact with the ribs on the disk 14, the pressure upon the strut is decreased and said strut may be turned with comparative ease. By reason of the narrowness of said ribs, most of the turning movement takes place under lessened pressure.

I have herein shown the strut arranged to assume a position wherein the operating stem or post is vertical, as well as positions wherein said post is inclined 40° to the right and the left.

If it be desired to secure the strut in adjusted position, any preferred means may be employed for this purpose, such as perforated lugs 20 on the stationary disk 14 adapted to receive a cotter pin 21 or equivalent device passing through a similar lug

22 on the rotatable disk 16. In the present embodiment, the ribs 19 on said disks are in contact when the strut is in adjusted position.

5 If desired, means may be used to limit the oscillatory movements of the strut, as, for example, projecting stops 23 on the stationary disk 14 arranged to be engaged by a suitable stop on the disk 16, such as the
10 lug 22.

The end of the strut 11 opposite to the end 16 is rotatably supported in any suitable way; for instance, by means of a stud 24 on said fulcrum lying within a bearing
15 opening in the member 13.

The means for securing the brake head 25 upon the sleeve 4 will next be described. The brake head is provided with a hub 26 to receive the sleeve 4, the latter having an
20 annular flange 27 thereon to assist in holding the head in place. One side of the hub 26 is slotted to form a spring clamping-arm 28. The angular end 29 of said arm lies opposite a web 30 formed in the brake head.
25 If desired, the opposite end of the arm may be thickened or reinforced as at 31 and said arm may be reduced in thickness between its edges, as shown at 32 in Figs. 1 and 2. The angular end of the clamping-arm may
30 be strengthened by ribs 33.

The inner concave face of the spring clamping-arm 28 may be specially adapted to engage the sleeve 4, as, for example, by forming ribs or teeth 34 on said arm adapted
35 to engage similar teeth 35 upon the sleeve. The brake head may be yieldingly held against rotation upon the sleeve 4 by the pressure of the spring clamping-arm 28. If it be desired to place additional tension
40 upon said arm, suitable means may be provided, such as a coiled spring 36 lying between the web 30 and a washer 37. The tension of the spring may be transmitted to the spring arm 28 through means such as
45 a bolt 38, against the head of which the washer 37 bears, said bolt extending through openings in the web 30 and the angular end 29 and being screw-threaded to receive a nut 39 by which the tension of the spring
50 may be adjusted. The washer 37 is provided with diametrically opposite lugs 40 that lie within recesses 41 in the webs 42 of the brake head. If it be desired to lock the brake head rigidly upon the beam, the
55 nut 39 may be rotated to compress the spring 36 until the lugs 40 of the washer 37 engage the outer end walls of the recesses 41. The clamping-arm 28 will then be unable to yield to permit relative movement
60 of the brake head. The bolt 38 is held from rotation by lugs 44 on the washer 37.

If desired, the angular end 29 of the spring clamping-member 28 may be connected to the web 30 by means of the spring
65 portion 30^a.

The brake head, in the present embodiment, is locked against withdrawal from the beam by means of a lug 45 upon the inner wall of the hub 26, said lug extending into
70 an arcuate groove 46 in the sleeve 4. One or both ends of the groove 46 are connected with the outer end of the sleeve 4 by means of transverse grooves 47 in said sleeve. After the brake head has been turned until the lug 45 is in alinement with one or the
75 other of the grooves 47, said head may be removed by sliding it longitudinally of the sleeve.

It will be observed that the ends of the hub 26 are not weakened by the formation
80 of slots therein; and that the side webs or flanges 42 of the head connect with the ends of the hub to form a strong, rigid structure.

In Fig. 2 the brake head is represented as yieldingly mounted upon the beam, the arm
85 28 being arranged to yield to permit the brake shoe to adjust itself to the wheel. The brake head may be rigidly locked to the beam by rotating the nut 39 until the lugs 40 of the washer 37 are drawn against
90 the outer end walls of the recesses 41.

The lug 45 holds the brake head against displacement from the beam. If desired, a cotter pin 48 may be passed through the
95 outer end of the sleeve 4 to serve as an additional or safety means to prevent displacement of the head.

I would have it understood that I desire not to be limited to the details herein described, for various modifications will occur
100 to those skilled in the art. Certain features of the brake beam herein shown and described are claimed in the companion application filed by me February 12, 1912, Serial No. 677,035.
105

I claim as my invention:

1. A brake beam comprising a strut; and means for rotatably supporting said strut comprising two contacting parts, the contacting faces of said parts having a plurality
110 of complementary high and low portions, the general plane of said faces being at right angles to the axis of said strut.

2. A brake beam comprising a strut; and means for rotatably supporting said strut
115 comprising two contacting parts, the contacting faces of said parts having radial ribs, the ribs upon one of said parts being adapted to lie upon and between the ribs upon the other part.
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3. A brake beam comprising a strut; means for rotatably supporting said strut comprising a member fixed to said strut; a stationary member; and means for connecting
125 said members to rotate in contact with each other, the contacting faces of said parts having complementary high and low portions.

4. A brake beam comprising a strut; means for rotatably supporting one end of
130

said strut; a disk attached to the other end of said strut; a member having a disk adapted to contact the first mentioned disk, the contacting faces of said disks being radially ribbed; and a pivot extending through and connecting said disks.

5. A brake beam comprising a strut; means for rotatably supporting said strut, said strut having three operative positions; and means for relieving pressure upon said strut in rotating the latter from one operative position to another, said strut being under pressure when in operative position.

6. A brake head having a hub, said hub having two slots therein extending part way around the hub to provide a clamping-arm.

7. A brake head having a hub, a portion of one wall of said hub constituting a clamping arm, said arm being narrower than said hub.

8. A brake head having a hub, a portion of one wall of said hub constituting a clamping arm, both ends of said arm being connected to said hub.

9. A brake head having a hub, and a clamping arm extending part way around the hub, both ends of said arm being integrally connected with the hub.

10. A brake head having a hub; a clamping-arm extending part way around the hub; a spring; a web on said hub forming a seat for said spring; means connecting the other end of said spring with one end of said clamping-arm, said end of said clamping-arm being connected with said web, and the other end of said clamping-arm being connected with the hub.

11. A rigid brake head having a hub; a clamping-arm at one side of said hub and between the ends thereof; and webs at the sides of said head and connected with the ends of said hub.

12. A brake head having a clamping-arm; a spring bearing at one end against the brake head; a member upon which the other end of said spring is arranged to bear; stop means moving with said spring; stop means on the head; means for bringing the first mentioned stop means into engagement with the stop means on the brake head, said clamping-arm being operatively connected with the first mentioned member and being unyieldingly held against movement in one direction when said stop means are in engagement with each other.

13. A brake head having a hub; a clamping-arm at one side of said hub; a spring bearing at one end against the brake head; a bolt upon which the other end of said spring is arranged to bear; stop means moving with the spring; stop means on the head; a nut on said bolt, relative rotation between said nut and said bolt being arranged to bring the first mentioned stop means into

engagement with the stop means on the brake head, said clamping-arm being operatively connected with said bolt and being unyieldingly held against movement in one direction when said stop means are in engagement with each other.

14. A brake head having a hub, said hub having two slots therein extending longitudinally of the brake head, the portion of the hub between said slots forming a spring clamping arm.

15. A brake head having a hub, said hub having two slots therein extending longitudinally of the brake head, the portion of the hub between said slots constituting a clamping arm, both ends of said arm being connected to the hub.

16. A brake head having a hub, said hub having two slots therein extending longitudinally of the brake head, the portion of the hub between said slots constituting a clamping arm, and means for exerting pressure upon one end of said arm.

17. A brake head having a hub; a clamping arm extending part way around the hub, said arm having an angular end; a projecting portion on the hub adjacent to said angular end; and a curved part extending between said angular end and said projecting portion.

18. A brake head having a hub; a clamping arm extending part way around the hub, said arm having an angular end; a projecting portion on the hub adjacent to said angular end; and a curved portion integral with and connecting said angular end and said projecting portion.

19. A brake beam comprising a compression member; a tension member; a disk attached to one of said members; and a strut having a pivotal connection at its ends with the other member and with said disk, said disk and the adjacent portion of the strut being in contact and having complementary high and low portions.

20. A brake-beam comprising a compression member, a tension member, said compression member having a face at right angles to said tension member, a nut threaded on the end of said tension member and bearing against said face, a sleeve fitting upon the ends of said members and inclosing said nut, and means for securing said sleeve in place.

21. A brake beam comprising a compression member, a tension member, said compression member having a face at one end at right angles with said tension member, a nut threaded on the end of said tension member and bearing against said face, a sleeve fitting upon the ends of said members and having an apertured end wall through which the end of said tension member projects, said end wall bearing against said nut, and a second nut threaded on the end of said

tension member and bearing against the outer side of said end wall for holding said sleeve in place.

22. A brake-beam comprising a compression member, a tension member, a rotatable strut, and a portion carried by one of said members and contacting one end of said strut, the contacting faces of said portion and said strut having complementary high and low portions.

23. A brake head comprising a hub slotted part way about its periphery to provide an integral spring clamping arm, and means for moving said arm.

24. In a brake beam, the combination of a sleeve having a corrugated periphery, a brake head fitting on said sleeve, said head

being slotted part way about its circumference to form a spring clamping arm, said arm having corrugations on its inner side adapted to engage the corrugations on said sleeve, and means for moving said arm.

25. In a brake beam, a rotatable strut having bearings in the beam and having two operative positions and means in said bearings for holding said strut under pressure when in operative position, and for relieving said pressure as the strut moves out of operative position.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."