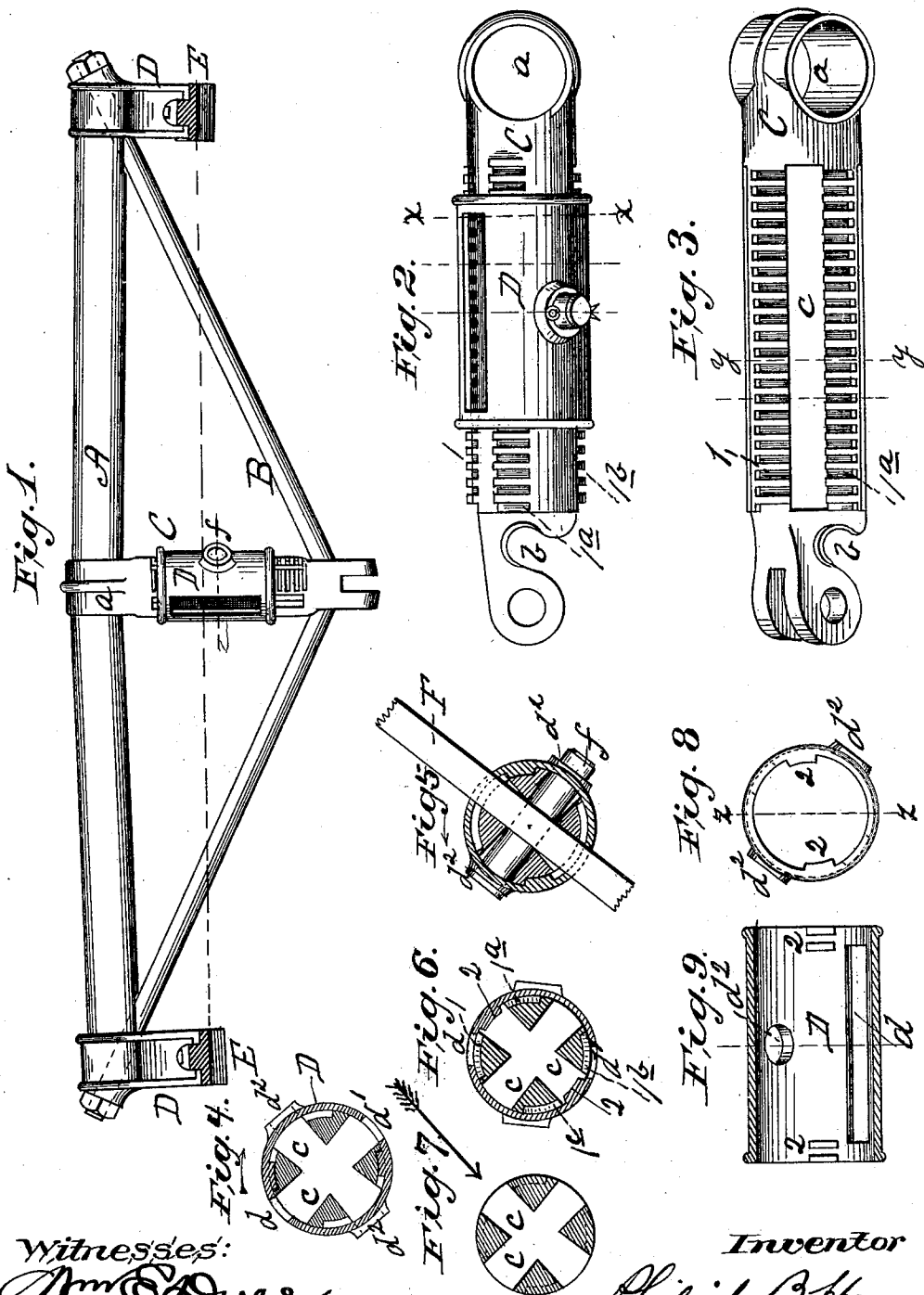


(No Model.)

P. B. HARRISON.
BRAKE BEAM.

No. 508,940.

Patented Nov. 21, 1893.



Witnesses:
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UNITED STATES PATENT OFFICE.

PHILIP B. HARRISON, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CHICAGO RAILWAY EQUIPMENT COMPANY, OF SAME PLACE.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 508,940, dated November 21, 1893.

Application filed June 16, 1893. Serial No. 477,853. (No model.)

To all whom it may concern:

Be it known that I, PHILIP B. HARRISON, 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; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, wherein—

Figure 1 is a plan view of a brake beam embodying my invention, the dotted line indicating the plane of the faces of the brake-shoes. Fig. 2 is a side view of the strut or post complete—arranged as a left hand strut. Fig. 3 is a view of the strut proper, the sleeve having been removed, the strut being viewed at an angle of about forty-five degrees and in line with the lever slot, as shown by arrow in Fig. 7. Fig. 4 is a transverse section of the strut on the line $x-x$ Fig. 2. Fig. 5 is a similar section with the sleeve turned to make a right hand strut. Fig. 6 is a similar view, the sleeve being turned to bring the lugs on its inner surface in line with the slot in the strut proper. Fig. 7 is a transverse section of the strut proper on the line $y-y$ of Fig. 3. Fig. 8 is an end view of the sleeve, and Fig. 9 is a longitudinal section on the line $z-z$ Fig. 8.

Like symbols refer to like parts wherever they occur.

My invention relates to the construction of trussed brake beams, and especially to that class where the brake lever is carried by a fulcrum on the strut between the compression and tension members of the beam. In such structures, the position of the lever fulcrum with relation to the compression member of the beam and the face of the brake shoe is determined by the truck and lever connections with which the beam is to be used, and as these vary according to the standards of different railroads the lever fulcrum must either be adjustable or the beam must be fitted up with special regard to the standard of a given road—which latter demands the keeping on hand of a number of special patterns. Besides this, for each standard, a right and a left hand pattern is frequently required which doubles the number of patterns required by the manufacturer. To overcome said objec-

tions an adjustable fulcrum strut has been devised by me, wherein are combined a slotted strut or post, and a sliding fulcrum support, said parts provided with lugs and recesses whereby the lever fulcrum may be shifted in a right line to and from the compression member of the beam, and said combination or its equivalent embraces the first feature of my invention.

In carrying out the first part of my invention, I prefer to duplicate the slots in the strut and the series of transverse grooves therein, arranging the grooves upon both sides or margins of the lever slots, whereby the sleeve after adjustment in a right line may be partially rotated to the right or left accordingly as a right or left hand strut is required, and said combination or its equivalent, embraces the second feature of my invention.

There are other, minor, features of invention all as will hereinafter more fully appear.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings A, indicates the compression member, B the tension member, and C the strut of a trussed brake beam provided with brake-heads D and brake-shoes E. The dotted line from E to E, Fig. 1, indicates the plane of the faces of the brake-shoes, with relation to which the lever fulcrum f has to be adjusted—being sometimes in front of said plane (as shown in the drawings) and sometimes in rear thereof or nearer the compression member A of the beam.

The strut C may be provided at one end with a collar a for the compression member A, and at the opposite end with a recess or seat b , for the passage of the tension member B, or any equivalent means common to such trussed structures may be provided for like purposes. The strut C has also longitudinal lever slots c, c , for the passage of brake-lever F (see Fig. 5) and at regular intervals on one side of said slot is a series of parallel transverse (or peripheral) short grooves 1, which open into the slot c at its edge, the number of said grooves in the series depending on the extent of longitudinal adjustment of the lever fulcrum desired.

Arranged on the strut proper, is a sleeve or

slide D, also slotted longitudinally as at $d d'$, for the passage of the brake-lever F, and provided, at right angles thereto, with pin holes d^2 , for the lever fulcrum f . Projecting from the inner surface of the sleeve or slide D, and preferably near the ends thereof—is a series of short lugs 2, arranged on one side of and adjacent to the slots $d d'$, said lugs being adapted to enter the peripheral grooves, when the slide is rotated, but being of a length less than the width of lever slot c , so that when the lugs 2 are in line with the slot c (see Fig. 6) the sleeve or slide D can be moved longitudinally in a right line along the strut proper until the pin holes of the slide D are in the desired position for the fulcrum of the lever.

If only a strut, which is not changeable from a right to a left hand strut, is desired, a single series of parallel peripheral grooves 1—on one side of the slot c may be used, but if a strut changeable from right to left (without necessarily changing the position of the fulcrum) is desired, then the series of parallel peripheral grooves should be duplicated on the opposite side of the slot c , as at 1^a , (see Fig. 3) and for securing greater strength and support for the sleeve D each series should be duplicated at a diametrical point on the strut, (see Fig. 6,) so that there will be in all four longitudinal series of parallel peripheral grooves 1, 1^a , 1^b , 1^c , and it is this latter—or preferred construction which has been chosen for purposes of illustration.

In setting up the brake-beam, the sleeve or slide D is first slipped over the strut proper C, after which the strut is secured in position in the trussed beam in the usual manner, after which the sleeve is partially turned until the lugs 2 rest in the grooves c , when the sleeve D can be moved in a right line to or from the compression member A of the beam until the pin holes d^2 (or fulcrum) is in the desired position, after which the sleeve is rotated either to the right or left—accordingly as a right or left hand strut is required—until the lugs 2 enter one set of the parallel peripheral grooves 1, and the slots $d d'$, of the sleeve register with one of the slots c of the strut proper, after which the lever F is passed through the slots d, c, d' , and the fulcrum pin is passed through the pin holes d^2 of the sleeve and the other slot c of the strut (see Fig. 5) which locks the sleeve D or fulcrum support, and preserves the fulcrum in the position to which it has been adjusted.

It is evident that if preferred, the recesses or grooves (1) may be formed in the sleeve and the lugs (2) on the periphery of the strut proper—without departing from the spirit of

my invention, but I do not deem the alternative form as desirable as the form shown in the drawings.

Among the advantages of my invention, are—first the ability to change the strut from a right to a left hand strut without increasing or decreasing the distance of the fulcrum from the compression member; second, the devices admit of quick adjustment, and there is less liability of the sleeve rusting on the strut and thus preventing easy adjustment of the parts; and third, the devices can be readily cast and finished with a great saving of machine work.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a strut or post for trussed brake-beams, the combination of a longitudinally slotted strut proper, and a slotted sleeve or fulcrum support, one of said parts having a lug or lugs, and the other having a series of parallel grooves adapted to receive said lugs, substantially as and for the purposes specified.

2. The combination in a strut or post for trussed brake-beams, of a strut proper having a longitudinal lever slot with a series of parallel peripheral grooves at the margin of said slot, and a slotted sleeve or fulcrum support having one or more lugs on its interior adjacent to the slot thereof, substantially as and for the purposes specified.

3. The combination in a strut or post for trussed brake-beams, of a longitudinally slotted strut proper having two series of parallel peripheral grooves, one on each margin of the lever slot of the strut, and a slotted sleeve or fulcrum support having on its interior adjacent to the slot a lug or lugs adapted to engage either of the parallel peripheral series of grooves of the strut proper; substantially as and for the purposes specified.

4. The combination in a strut or post for trussed brake-beams, of a strut proper having a longitudinal lever slot and provided with two diametrically opposite series of parallel peripheral grooves, of a slotted sleeve or fulcrum support having on its interior at opposite points lugs adapted to engage the opposite series of grooves in the strut proper; substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 13th day of June, 1893.

PHILIP B. HARRISON.

Witnesses:

E. B. LEIGH,
E. T. WALKER.