No. 780,978. PATENTED JAN. 31, 1905.

F. R. CORNWALL.

BRAKE BEAM.

APPLICATION FILED DEC. 5, 1904.

Fig. 1.

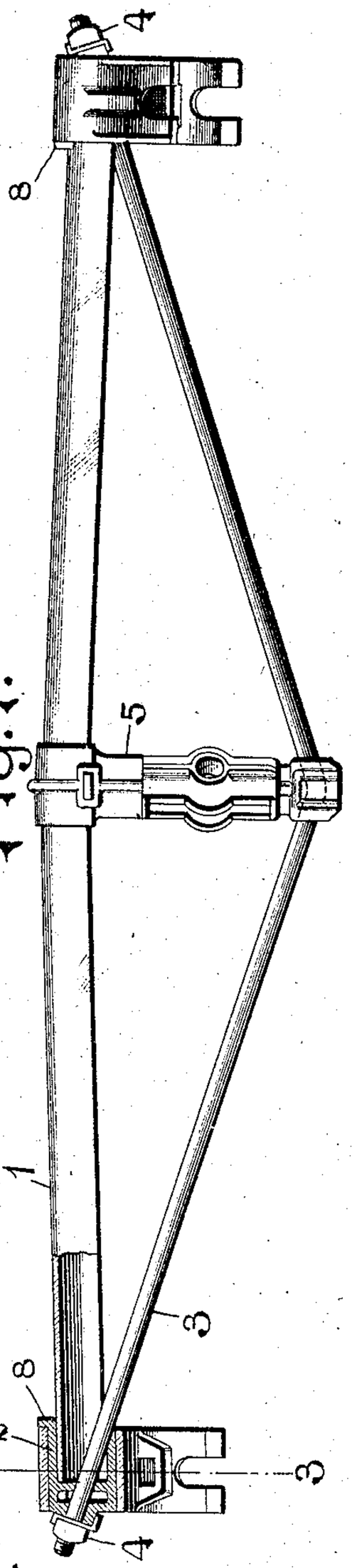


Fig. 2.

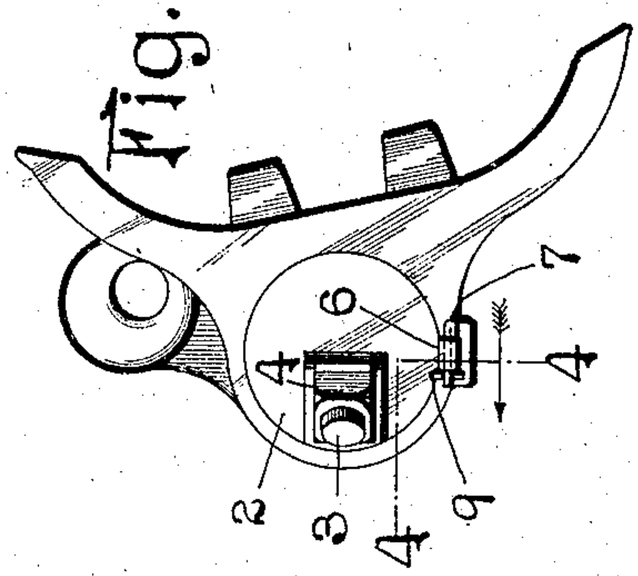


Fig. 3.

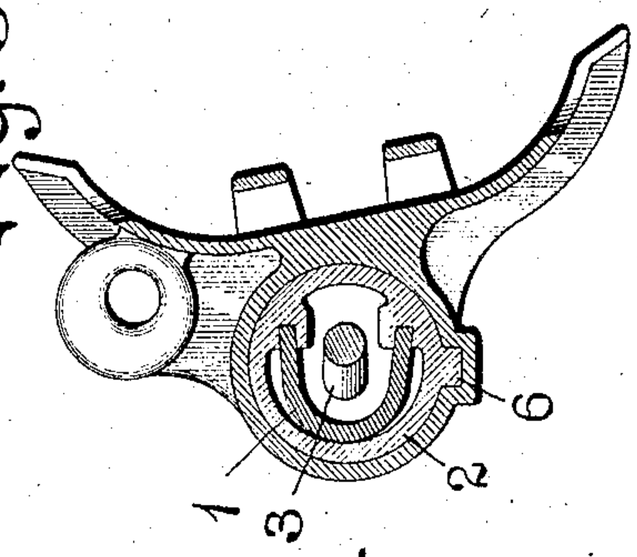


Fig. 4.

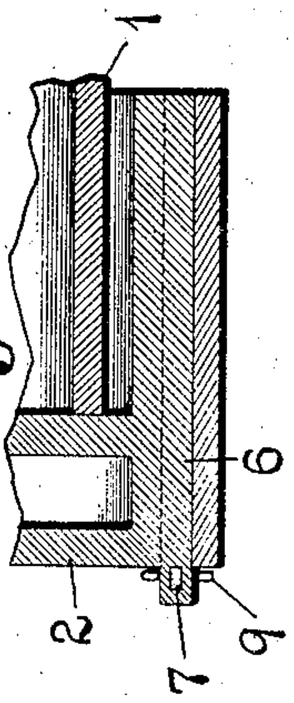
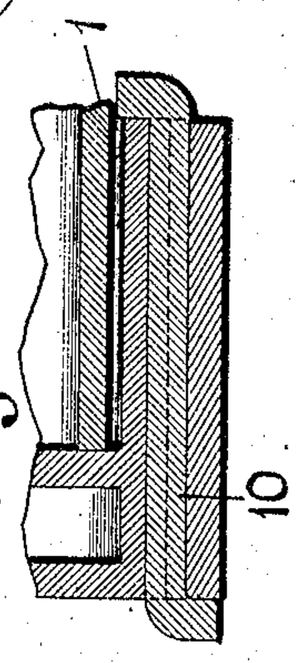


Fig. 5.



Witnesses

a. J. McCauley.

G. A. Pennington

Inventor:-

Frederick R. Cornwall

BY Bakewell & Cornwall

ATT'Y'S.

No. 780,978. Patented January 31, 1905.

UNITED STATES PATENT OFFICE.

FREDERICK R. CORNWALL, OF ST. LOUIS, MISSOURI, ASSIGNOR TO CHICAGO RAILWAY EQUIPMENT COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 780,978, dated January 31, 1905.

Application filed December 5, 1904. Serial No. 235,543.

To all whom it may concern:

Be it known that I, FREDERICK R. CORNWALL, a citizen of the United States, residing at St. Louis, Missouri, 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 an elevational view, partly in section, of a brake-beam with my invention applied. Fig. 2 is an end elevational view of the invention. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a sectional view on the line 4 4 of Fig. 2. Fig. 5 shows a slightly-modified form of securing means, and Fig. 6 is an end elevational view of a modified form of the device.

This invention relates to a new and useful improvement in brake-beams, the object being to construct a beam whose head can be removed while the beam hangs in position under a car. It is found in practice that inspectors frequently permit the brake-shoes to wear down too far, with the result that the attaching-lugs on the head are ground off, so as to destroy their efficiency, and consequently the new heads have to be placed in position. The loss of the shoe frequently causes the attaching-lugs on the head when they are forced up against the wheel to become worn, and other causes, such as breakage of the lugs, &c., render frequent repairs in the way of introducing new heads on the brake-beam necessary. Heretofore it has been the general practice to unhang the old beam to be repaired, take the same into the shop, and rehang a new beam or a good beam in the place of the old one removed for repairs. As the head is the part of the beam most frequently repaired, it will be obvious that a removable head—that is, one which can be taken off of the beam without unhanging or disturbing the integrity of the truss and a new head substituted—possesses many advantages over the old-style beams having heads capable of being removed, but which necessitate the unhanging of the beam or the disturbance of the truss.

I am aware that it has heretofore been the practice to provide brake-beams with adjustable heads—such, for instance, as is shown in the patent to Huntoon, No. 769,384, dated September 6, 1904. It is possible by this construction to screw up the nut so as to compress the spring and withdraw the toothed block from engagement with the serrated surface of the sleeve, thus enabling the head to be removed. This head, however, with its contained spring, serrated block, bolt, and nut is more expensive than the plan proposed by me, and, further, while this rotatable head has its advantages there are no means of locking the head against movement on the beam, and in some instances a rigid head is preferred to an adjustable head. By the construction shown in the accompanying drawings the brake-head is provided with a non-circular socket, whereby it is rigidly mounted on the non-circular thrust-block, being held in position by a cotter-pin, so that it is possible for an inspector to remove the head with the implements which he carries with him and substitute a new head at comparatively slight cost to the road and without unhanging the beam or disturbing the integrity of the truss.

In the accompanying drawings, 1 indicates the compression member.

2 indicates the thrust-blocks, in which the ends of the compression member are seated.

3 is the tension member passing through the thrust-blocks at the ends of the beam and being provided with nuts 4, whereby the tension member may be tightened and a camber placed in the compression member.

5 is the usual strut or brake-lever post. On the thrust-block is a spline or key 6, which preferably extends outwardly beyond the end of the head, the head being provided with a recess to receive the spline or key, so that when the head is in position a cross-key 7 may be inserted in the projecting end of the spline, the ends of said cross-key engaging the outer face of the head to hold the same against longitudinal displacement. The in-

ner end of the thrust-block is provided with a projection 8 to locate the head properly on the thrust-block, and in addition, if desired, the spline or key may be tapered or wedge-shaped, so that the head in being introduced in position will fit tightly on the spline or key. A cotter-pin 9 may be introduced in the cross-key to prevent displacement of said cross-key; but it is obvious that instead of using a cross-key with a cotter-pin, as shown, the ends of the cross-key can be bent with a hammer so as to hold the brake-head in place, in which event the cotter-pin will not be needed.

In Fig. 5 I have shown the thrust-block as being provided with a groove instead of a permanent spline or key, which groove is adapted to register with a groove in the head, whereby a removable spline or key 10 may be employed, this spline 10 having a bent portion or head at its inner end to hold it in position and having its outer end projecting beyond the outer faces of the thrust-block and brake-head. The projecting end of this spline or key 10 may be provided with a cotter-pin, or the end may be bent over to hold the brake-head in position.

It will be observed with respect to the above construction that it is not necessary to loosen up the nuts on the ends of the tension member, and thereby dismantle the beam in order to remove the head, as is the case where a separate thrust-block is not used; but it is possible by the use of a hammer to knock out the cotter-pin or straighten the key or spline, as the case may be, so that the head can be taken off without disturbing the camber of the beam and a new head substituted with a minimum amount of time and labor.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described the invention, what is claimed as new, and desired to be obtained by Letters Patent, is—

1. In a trussed brake-beam, the combination with a non-circular thrust-block, of a brake-head designed to receive a removable brake-shoe and having a correspondingly-shaped socket, whereby said brake-head can be taken off and placed in position by moving it in a direction longitudinally the beam and without disturbing the integrity of the truss, said head when in position being rigidly held against rotary movement, and means for locking said head against longitudinal displacement; substantially as described.

2. The combination with a non-circular thrust-block of a trussed brake-beam, of a brake-head designed to receive a removable brake-shoe and having a non-circular socket and removably mounted thereon, and means engaging the outer face of the brake-head for holding it in position on the thrust-block; substantially as described.

3. The combination with the thrust-block of a trussed brake-beam, of a brake-head removably mounted thereon, and a longitudinally-disposed key or spline for rigidly connecting the thrust-block and brake-head together; substantially as described.

4. The combination with the thrust-block of a trussed brake-beam, of a spline or key extending longitudinally thereof, a removable brake-head provided with a way for receiving said spline or key, and means mounted on the thrust-block and engaging the brake-head to hold said brake-head in position; substantially as described.

5. The combination with the thrust-block of a trussed brake-beam, of a spline or key carried by the thrust-block and fitting in the recess in the inner face of the head, and means at the end of said spline or key for engaging the brake-head and holding it in position; substantially as described.

6. The herein-described thrust-block for trussed brake-beams, the same having a locking projection on its periphery for fitting in a recess in the socket of the head, and a key-support on the outer end of said thrust-block; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 2d day of December, 1904.

FREDERICK R. CORNWALL.

Witnesses:

LENORE WILSON,

GEORGE BAKEWELL.