

914,530.

R. H. THOMPSON.
BRAKE BEAM.
APPLICATION FILED JULY 24, 1908.

Patented Mar. 9, 1909.
2 SHEETS—SHEET 1.

Fig. 1.

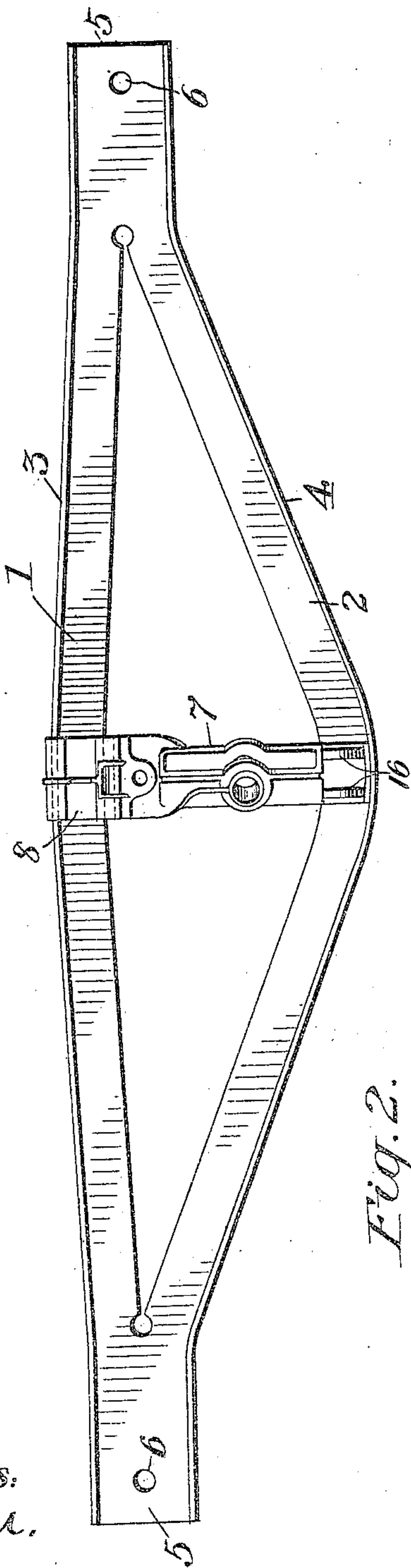
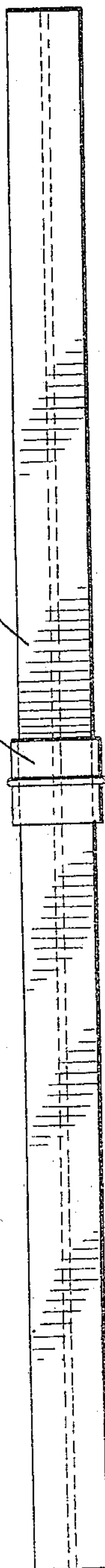


Fig. 2.



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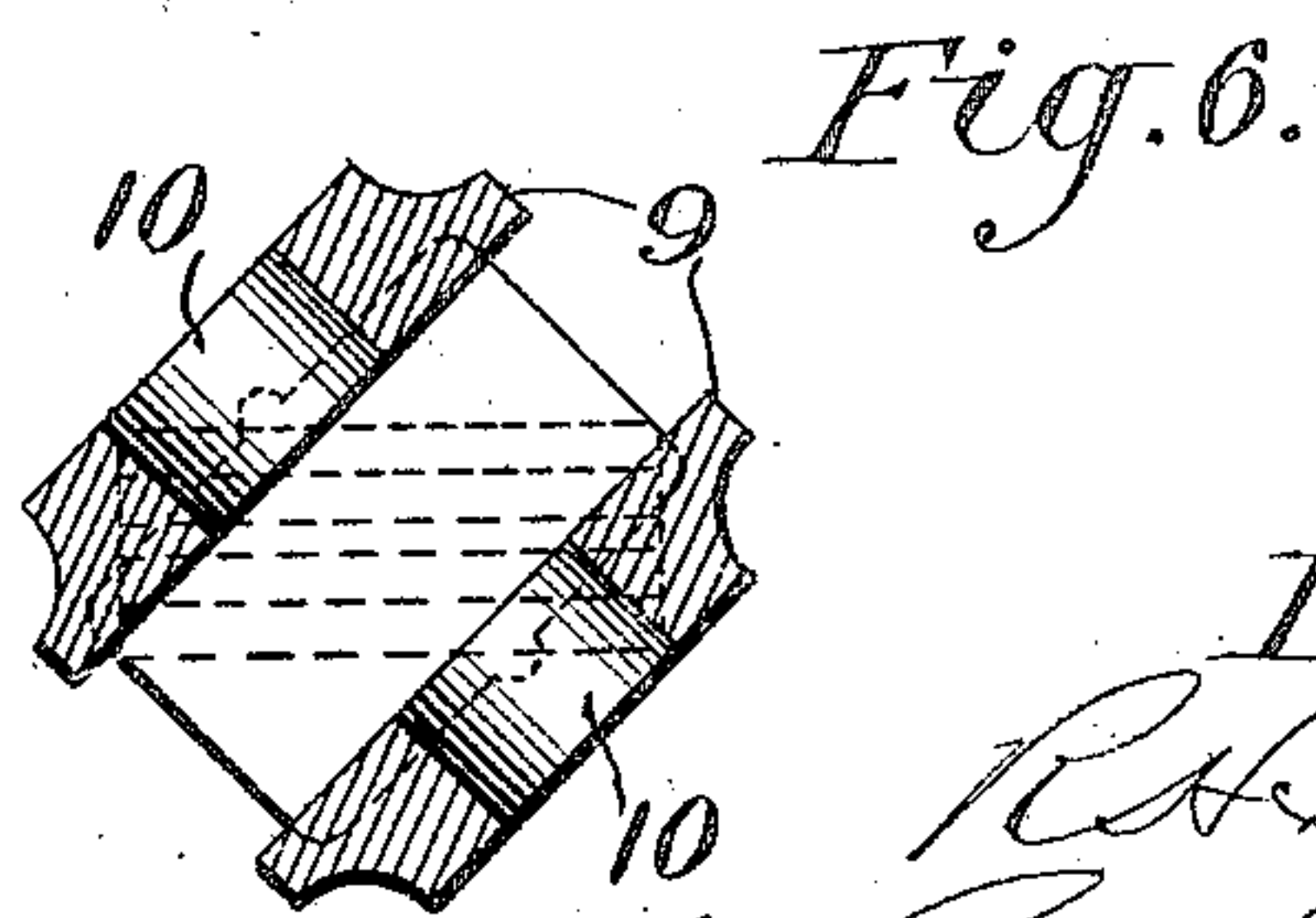
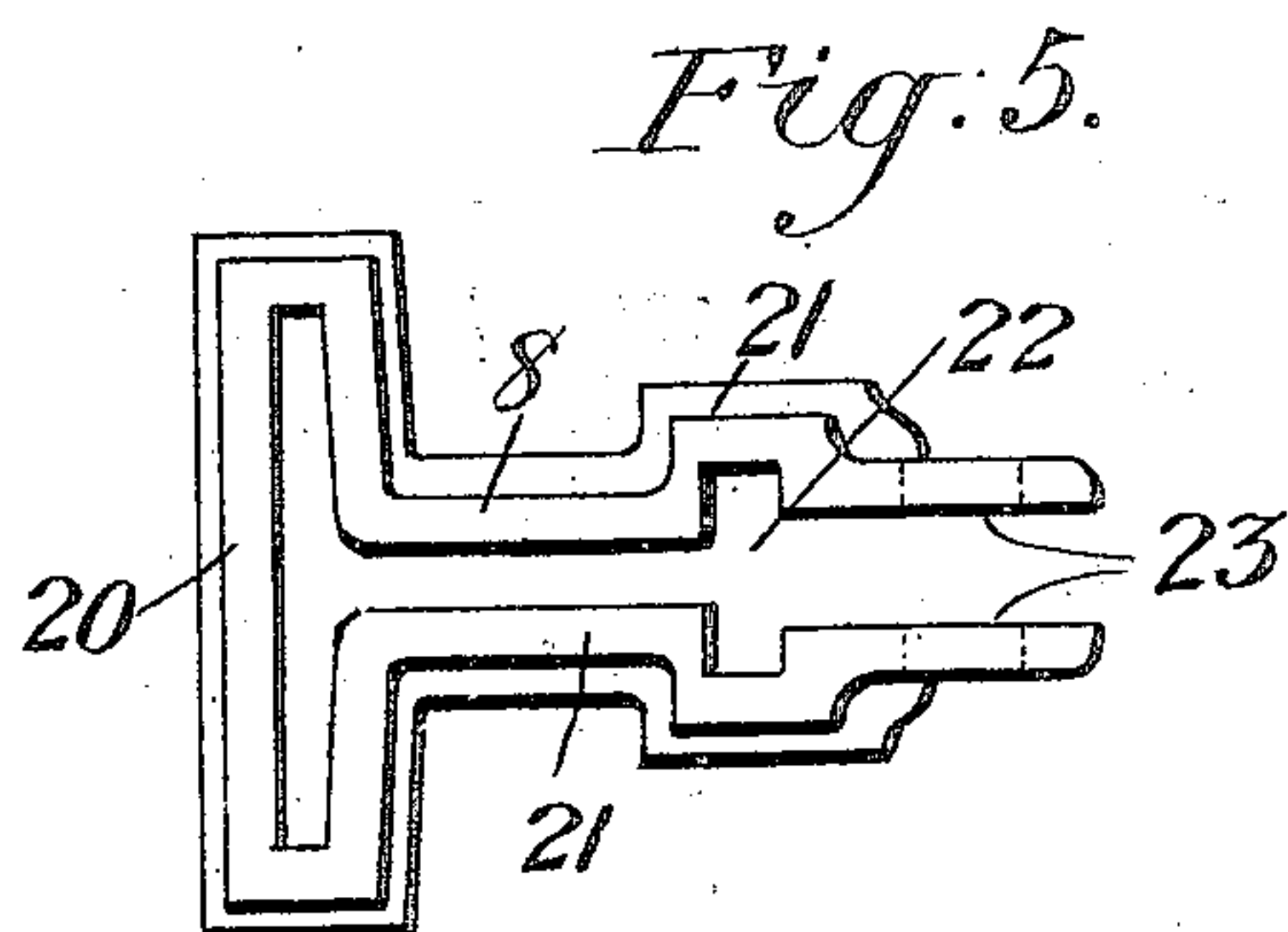
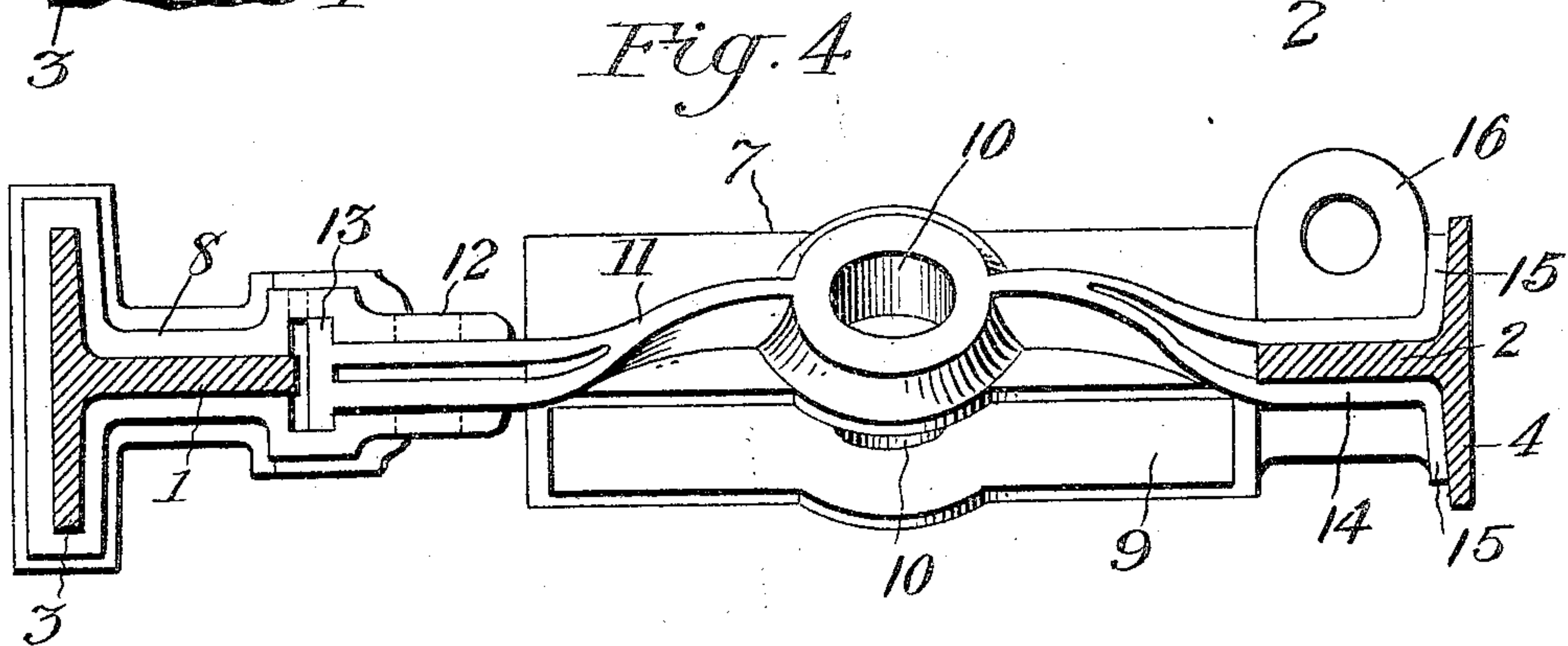
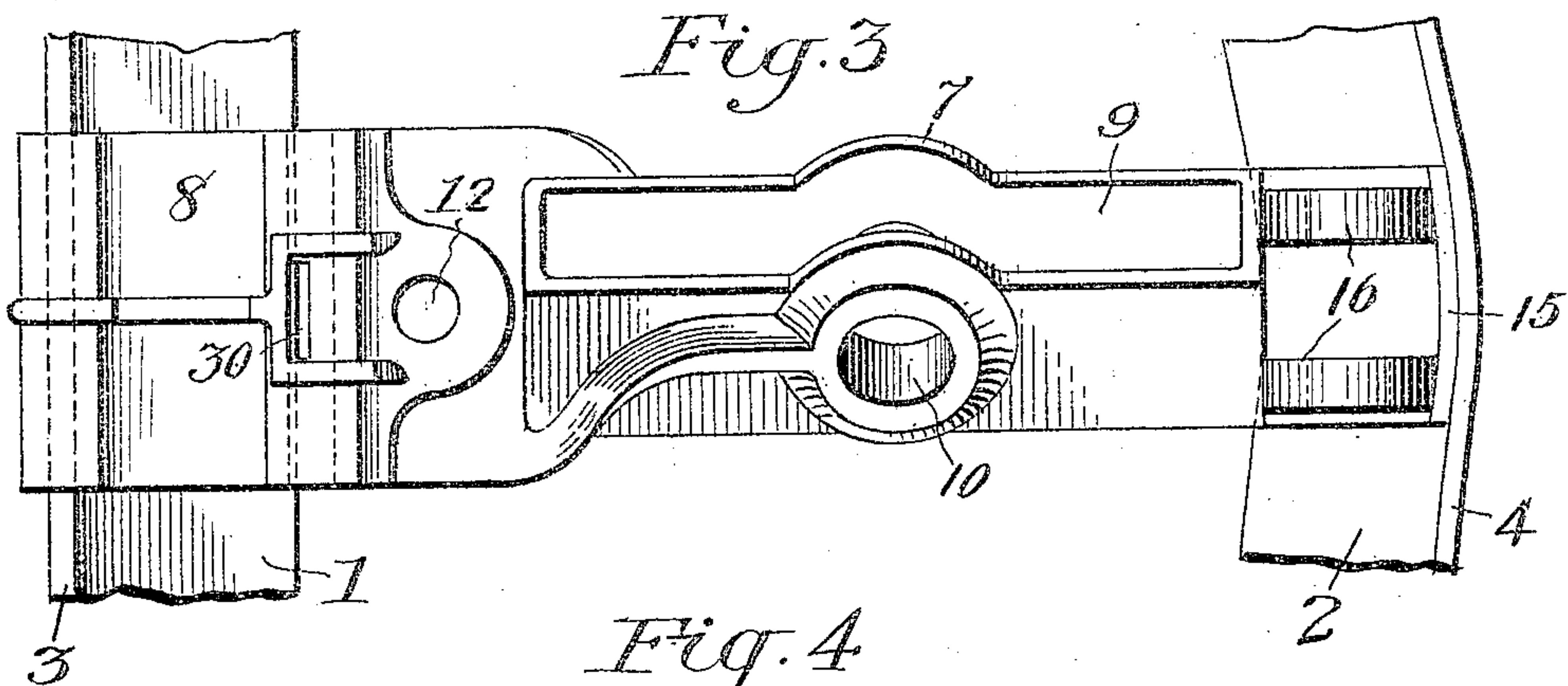
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2 SHEETS-SHEET 2

914,530.



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UNITED STATES PATENT OFFICE.

ROBERT H. THOMPSON, OF DENVER, COLORADO.

BRAKE-BEAM.

No. 914,530.

Specification of Letters Patent.

Patented March 9, 1909.

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To all whom it may concern:

Be it known that I, ROBERT H. THOMPSON, a citizen of the United States, and resident of Denver, Colorado, have invented certain new and useful Improvements in Brake-Beams; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to integral or solid truss brake beams, in which the truss member is formed from a rolled shape beam having marginal flanges and an intermediate web by slitting the web longitudinally intermediate its ends and stretching or distending the same to form the tension and compression chord members, said beam being provided with a removable strut interposed between the chords, said strut comprising a member slotted to embrace the flange and web of one chord member, and a king-post interlocking at one end with said head member and having a clevis at the other end to engage the flange and web of the other chord member, said head member being of a length to admit its being slipped over the end of the brake beam and into proper position on its chord member, after which the king-post is engaged at its clevised end with the other chord member and slid into locking engagement with the head, so that the strut may be applied or removed from the beam with facility, without the use of special tools and without distorting or injuring any portion of the beam or the strut.

In the accompanying drawings, Figure 1 is a plan view of the beam embodying the invention, Fig. 2 is a side elevation thereof, Fig. 3 is an enlarged partial plan view, showing the construction and arrangement of the strut, Fig. 4 is a transverse section through the beam at one side of the strut, Fig. 5 is a side elevation of the head member of the strut, Fig. 6 is a transverse section through the slotted portion of the strut adapted to receive the brake lever.

In the drawings, Figs. 1 and 2 represent the invention as involving the use of a rolled I-beam, although it will be understood that the invention is not limited to the use of an I-beam in this connection, but is applicable to beams of other shapes involving marginal flanges and an intermediate web, and when hereinafter, the invention is spoken of in connection with an I-beam, it will be under-

stood that it also embraces other beams having the essential characteristic features of marginal flanges and an intermediate web.

In constructing the body of the beam the rolled shape, such as an I-beam is cut to appropriate length and its web slit or divided by a longitudinal kerf intermediate its ends and the sections of the beam on each side of the kerf are stretched apart or distended to form an integral or solid truss, having, as indicated in Fig. 1, an upper web member 1, a lower web member 2, an upper marginal flange 3, a lower marginal flange 4, and two end sections 5, in which the original form of the rolled shape is preserved, as will be apparent from an inspection of Fig. 1. The upper flange and web portion constitute the compression chord of the truss, while the lower flange and its associated web portion form the tension chord member, and obviously the respective chord members may be stretched symmetrically to form a diamond shape truss, the compression chord member may remain straight, while the stretching is applied to the tension member only, or, as indicated in Fig. 1, the compression member may be given a slight upward bend at its middle, while the tension member is considerably stretched or distorted. The ends of the truss as thus formed are provided with one or more perforations 6, by means of which the brake heads, (not illustrated) may be secured in position. In order to impart the necessary strength and rigidity to the trussed brake beam as thus constructed, there is applied between the chord members a strut 7. It is the general practice to apply struts to trussed brake beams in this particular relation, but as a general rule, the struts have been either formed as solid posts, rigidly and permanently attached to the respective chord members or as longitudinally divided castings, the sections of which were bolted or riveted together so as to engage one or both of the chord members. In the case of the permanently attached struts, it had been found practically impossible to remove the strut without damaging it or the truss itself, and in the case of the sectional struts as heretofore employed, considerable difficulty has been experienced in making the struts strong enough to stand the service to which they are subjected, and in fitting and applying the struts to beams of standard sizes. The present invention contemplates the provision of a strut which will overcome

all of these difficulties and which possesses great structural strength and capability of being quickly applied to or removed from position on the brake beam by unskilled
 5 workmen and without the necessity of special tools. Said strut comprises a body portion 7, which forms the king-post and a head portion 8, which is adapted to embrace the web and flange of one of the chord members.
 10 In the form of the invention illustrated, the head 8 is applied to the compression chord member, while the foot of the king-post engages the tension chord member and the opposite end of said king-post is interlocked
 15 with the head 8. The king-post includes a box-like central portion 9, which is slotted transversely to receive the brake lever, which is pivoted in said box-like structure by means of a bolt passing through registering
 20 openings 10, which openings are reinforced by heavy marginal flanges on the outer faces of the portion 9, and said portion 9 is further reinforced by surface flanges 11, which, toward the ends of the box-like portion 9,
 25 are given a twist of 40° and merge into a T-head 13 at one end, and a clevis or bifurcation 14 at the other end, which clevis is provided with lateral feet 15, and two upstanding perforated ears 16, which latter serve as
 30 the means for supporting the hanging brake beam. The head portion of the strut comprises a generally T-shaped member, which is slotted longitudinally and transversely to engage the web and flange of the compression
 35 chord and embrace the same with a substantially close fit, as indicated in Fig. 4. The forward end of the head is provided with a second T-shaped slot which is adapted to receive the T-head 13 on the upper end of
 40 the king-post in a manner clearly illustrated in Fig. 4. The T-head on the king-post and the forward end of the head 8 are provided with registering bolt holes 23 and 12 respectively, to receive a bolt to lock the parts to-
 45 gether, and in order to drive the parts up tight and secure an accurate adjustment between the two members of the strut and between the strut and the brake beam, the head 8 is provided with a transverse key-
 50 way 30, into which a tapered key may be driven, which has the effect of forcing head 13 tightly into engagement with the T-slot in the forward end of head 8, and also drawing said head 8 firmly into engagement with
 55 the chord member of the brake beam and forcing the clevised foot of the king-post 7 firmly into engagement with the flange 4 and web 2 of the tension chord member.

The head member 8 is made of a length which will admit of said head being slid over
 60 either end of the brake beam, that is to say, the longitudinal dimension of the head 8 is such that the lower end of said head will pass inside of the flange 4 when the end 5 of the
 65 brake beam is threaded through the T-shaped slot in said head, and the latter may then be slid freely along the compression chord member of the beam. By reason of this particular structural coöperation between the head
 70 8 and the brake beam, it will be seen that the head may be quickly and easily applied to position on the beam, and to apply the entire strut, it is only necessary to set the king-post in the middle of the truss with its
 75 clevised foot straddling the web of the lower chord member, and then slide the head along the compression chord member until the T-slot 22 therein registers with the T-head 13 on the upper end of the king-post. The two
 80 parts may then be driven together with a few taps of a hammer, and the locking bolt applied through registering holes 12 and 23, after which the several parts may be firmly set up by driving a key into key-way 30.

What I claim as my invention is:—

1. In a brake beam, the combination of a
 85 beam having marginal flanges, and an intermediate web, the web being slit longitudinally intermediate its ends and stretched or distended to form a solid truss, and a strut
 90 interposed between the truss chords, said truss comprising two separate members, one of which surrounds the flange and web of one chord and is capable of being slipped over
 95 the end of the beam and longitudinally along the beam, and the other member interlocking with the first and having a bifurcated foot to engage the flange and the web of the opposite chord.

2. In a brake beam, the combination of an
 100 I-beam having its web slit longitudinally intermediate its ends and stretched or distended to form a solid truss, and a strut interposed between the truss chords, said truss
 105 comprising a T-head slotted to embrace the web and flange of one chord and being of a length to admit its being slipped over the end of the beam, and a king-post interlocking with said head and having a clevised foot to engage the other chord.
 110

In testimony whereof I affix my signature, in presence of two witnesses.

ROBERT H. THOMPSON.

Witnesses:

JACOB KANZLER,
 L. P. HEWITT.