

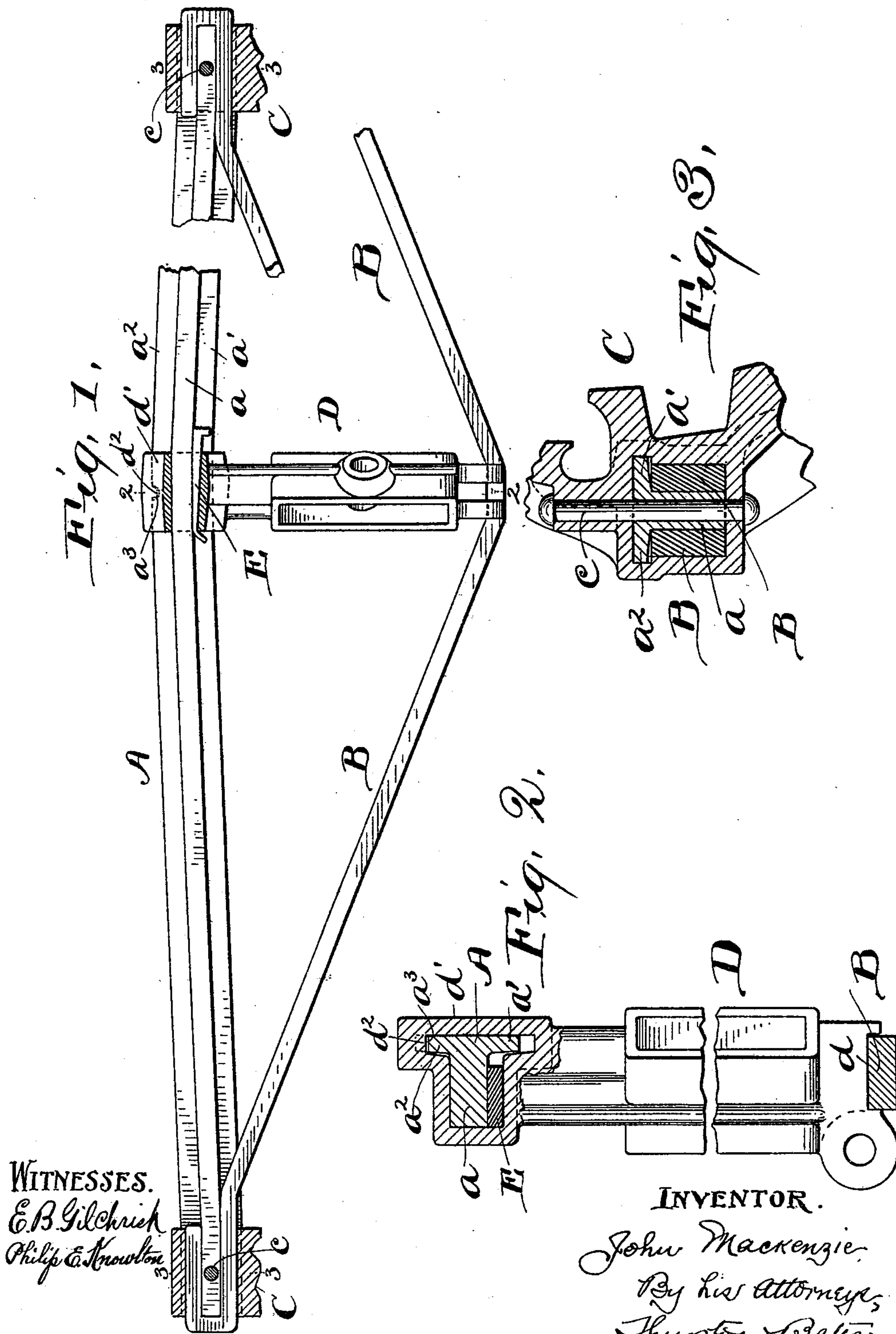
No. 631,428.

Patented Aug. 22, 1899.

J. MACKENZIE.
BRAKE BEAM.

(Application filed Oct. 8, 1898.)

(No Model.)



WITNESSES.
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UNITED STATES PATENT OFFICE.

JOHN MACKENZIE, OF CLEVELAND, OHIO.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 631,428, dated August 22, 1899.

Application filed October 8, 1898. Serial No. 692,982. (No model.)

To all whom it may concern:

Be it known that I, JOHN MACKENZIE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Brake-Beams, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The object of the invention is to provide a novel form of brake-beam of which the chief advantages are due to the fact that to assemble and secure the parts thereof in position no bolts or rivets are used between its ends and no heating of parts is necessary.

The brake-beam embodying the invention is cheap, simple, and strong, and all of the members are subjected to a proper and uniform strain.

The invention is shown in the accompanying drawings and hereinafter described, and definitely pointed out in the claims.

In the drawings, Figure 1 is a bottom view of the complete beam, some of the parts being broken away to better show the construction. Fig. 2 is a transverse sectional view in the plane indicated by line 2 2 of Fig. 1, and Fig. 3 is a sectional view in the plane indicated by line 3 3.

Referring to the parts by letters, A represents the compression member of the beam, which is substantially T-shaped in the transverse section, this form being that which is not only best adapted to resist the torsional strain to which it will be subjected in use, but is also best adapted to be combined in the manner described with the other parts of the beam. When the beam is used in the ordinary manner on a railway-car, the web *a* occupies a substantially vertical position, while the two flanges *a'* *a''* extend horizontally in opposite directions from the upper edge of the web.

The tension member B, which is preferably a rectangular bar, is bent into the desired form substantially as shown, its ends being bent back so as to be adapted to extend around the ends of the web *a* and to lie in contact with both sides thereof. The thickness of this tension member is preferably a trifle less than the width of the flanges *a'* *a''*.

The brake-heads C embrace the ends of the member A and the bent ends of the member B and are preferably shrunk onto these parts in the position shown, whereby the two members are connected. The bolts *c* are, however, preferably employed to hold the heads firmly in place, said bolts passing through the web of the member A, but not through the bent ends of the member C.

The strut or king-post D is notched at what, for convenience in description, I will term the "front" end, and the highest part of the tension member lies in and fits this notch *d*. On the rear end of this strut is formed a sleeve *d'*, which embraces the compression member. Internally this sleeve is of such shape that it can have substantially no up-and-down movement, but can be moved a considerable distance forward and backward. It is provided with an inwardly-extended lug *d''*, which engages with a notch *a'''* in the flange *a''*, this lug and notch being for the purpose of preventing any movement of the sleeve longitudinally of the compression member.

E represents a key which when the parts have been assembled in the desired relation to each other is driven in between the web *a* and the front part of the sleeve *d'*. This key is beveled on its front surface, and the adjacent part of the sleeve *d'* is correspondingly beveled, whereby the driving in of this key forces the strut forward sufficiently to bring about the proper tension and impose a uniform strain upon the members.

Having described my invention, I claim—

1. In a brake-beam, a compression member consisting of a web with integral flanges extending in line from opposite sides thereof, a tension member whose ends extend around the ends of the web of the compression member and lie on each side of said web in the space bounded on two sides by the web and a flange, and a collar which embraces the compression member near its end and embraces the tension member on each side of the web where it contacts therewith, in combination with a strut held between the tension and compression member, substantially as described.

2. In a brake-beam, a compression member which is T-shaped in cross-section by

reason of a longitudinal web and longitudinal
flanges extending therefrom, and a tension
member the ends of which are rectangular in
cross-section and extend around the ends of
5 the web of the compression member and lie
against each side thereof, and a collar having
a substantially rectangular opening and sur-
rounding said compression member and the
tension member near the end of the beam,
10 said collar contacting with the edges and
outer faces of the flanges of the compression

member and with the edge of the web and
with two outer sides of each of the tension-
member ends, combined with a strut between
said two members, substantially as described. 15

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

JOHN MACKENZIE.

Witnesses:

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