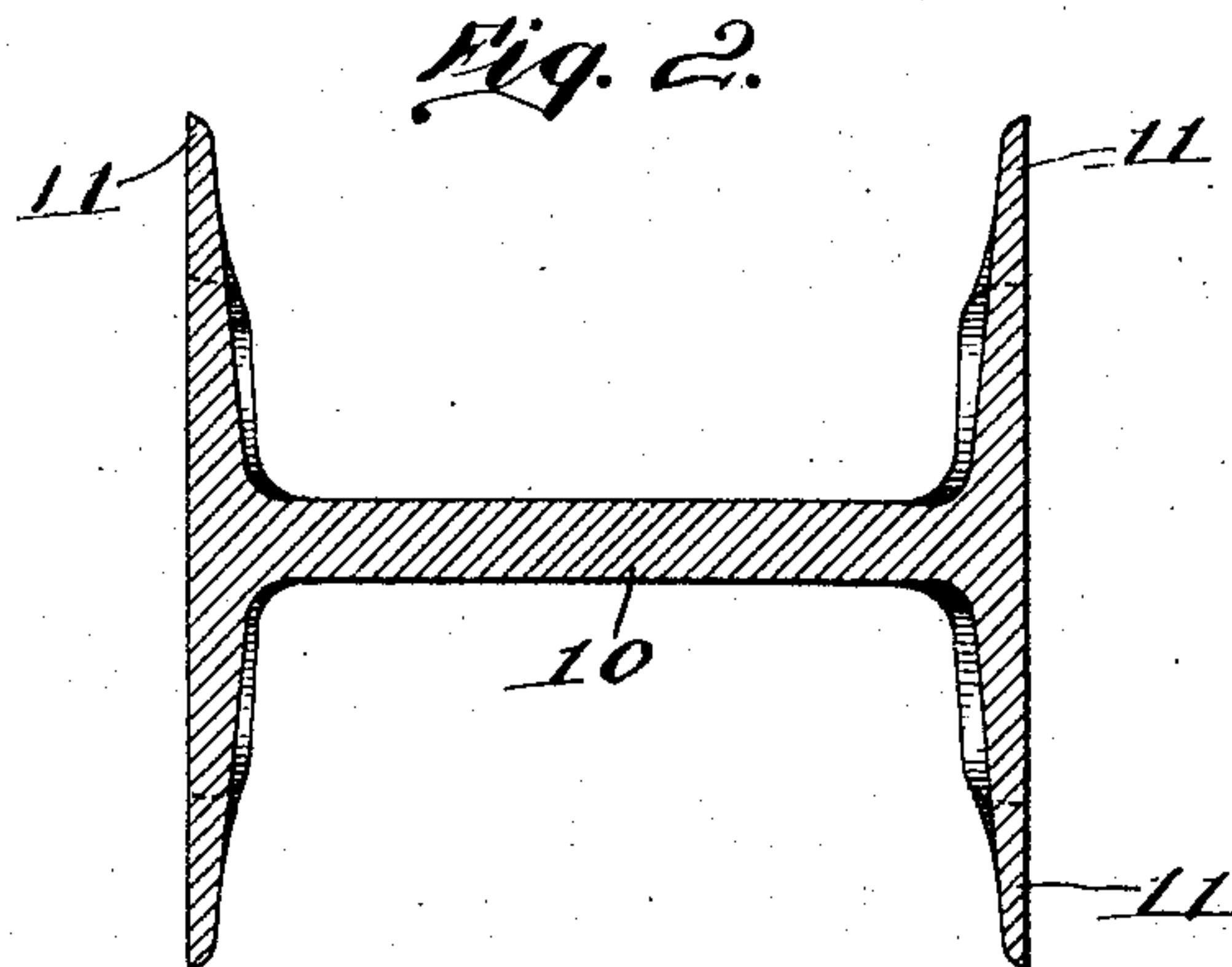
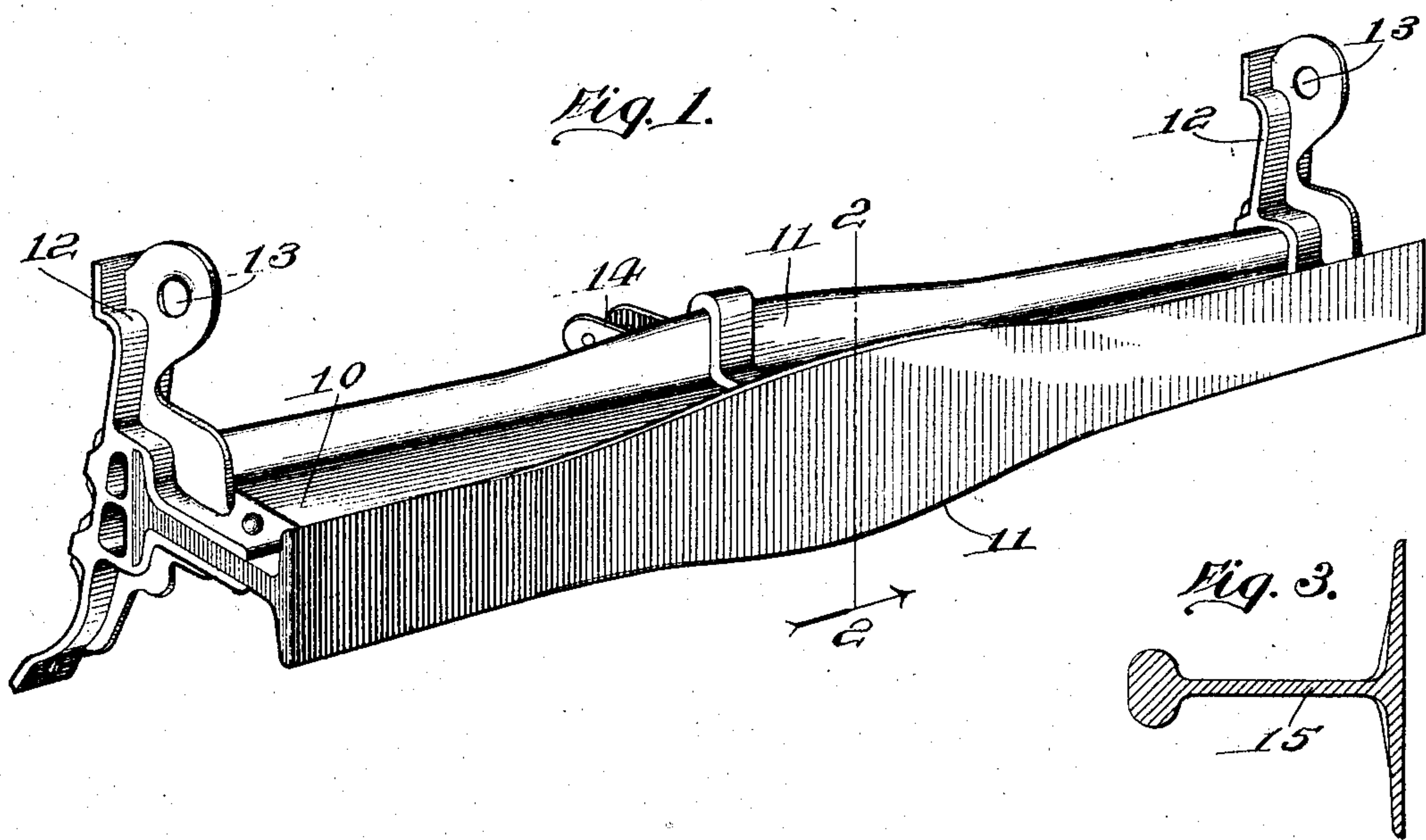


No. 790,058.

PATENTED MAY 16, 1905.

J. M. HOPKINS.
BRAKE BEAM.

APPLICATION FILED FEB. 20, 1905.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES M. HOPKINS, OF CHICAGO, ILLINOIS.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 790,058, dated May 16, 1905.

Application filed February 20, 1905. Serial No. 246,483.

To all whom it may concern:

Be it known that I, JAMES M. HOPKINS, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Brake-Beams, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to the form and character of the beam employed for carrying the heads to which are attached railway-car brakes. As ordinarily constructed the brake-beam and its appurtenances are supported in part by hangers, to which the heads are attached, and in part by the lever for actuating the brake and which is attached to the beam midway of its ends. Brake-beams have been designed heretofore with especial reference to resisting the approximately horizontal strain applied by means of the lever; but it is found in practice that there is communicated to the beam a strain in approximately vertical plane, which tends to bend or buckle it at or near its middle portion.

The object of this invention is to provide a construction of beam which will secure increased strength to resist these vertical strains; and the invention consists in the structure hereinafter described, and which is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of the beam, brake-heads, and the strut or lever fulcrum. Fig. 2 is a transverse sectional view of the beam on the line 2 2 of Fig. 1; and Fig. 3 is a view similar to Fig. 2, showing a modified form of construction.

The beam proper consists of an I-beam 10, with its flanges widened through their middle portion, as shown at 11. Such a beam may be constructed of commercial rolled stock having flanges of uniform sizes throughout, such flanges being subsequently widened by pressure, this action necessarily rendering them thinner at the widened portions, as shown. The extent to which the flanges are widened and the length of the section thus treated will be determined by the conditions of service and the judgment of the manufacturer. As shown, the widening is greatest at

the middle of the beam and gradually decreases, so that the widened section is approximately one-third of the entire beam. Obviously the beam may be of so-called "deck" form, as shown in Fig. 3, having a single flange, as 15, and a mere rib along the other margin of its web.

The usual brake-heads 12 12 are attached to the beam in the customary manner, and each is preferably provided with an eye 13 for the engagement of a supporting-link. The strut or fulcrum block 14 is of any ordinary form and secured to the beam, as has been customary.

By means of the form of beam shown and described increased strength is secured through the middle section for sustaining the vertical stress, while the weight of the beam is not increased, the added strength being secured by the change of form from a beam having flanges of uniform width to one having its flanges relatively wider midway of its ends—that is to say, there is an increase of width of flange at the middle of the beam, while the cross-sectional area is uniform throughout its length.

I claim as my invention—

1. A rolled brake-beam of I form having its flanges wider at its middle portion than at its ends.

2. A brake-beam in I form having its flanges of increased width and less thickness at its middle portion than at its ends.

3. A brake-beam having an approximately horizontal web portion and an approximately vertical flange portion, such flange portion being of greater width and less thickness at its middle portion than at its ends.

4. A brake-beam having an approximately horizontal web portion and an approximately vertical flange portion, such flange portion being of greater width and less thickness at its middle portion than at its ends, the cross-sectional area of such flange being substantially uniform throughout the length of the beam.

JAMES M. HOPKINS.

Witnesses:

LOUIS K. GILLSON,

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