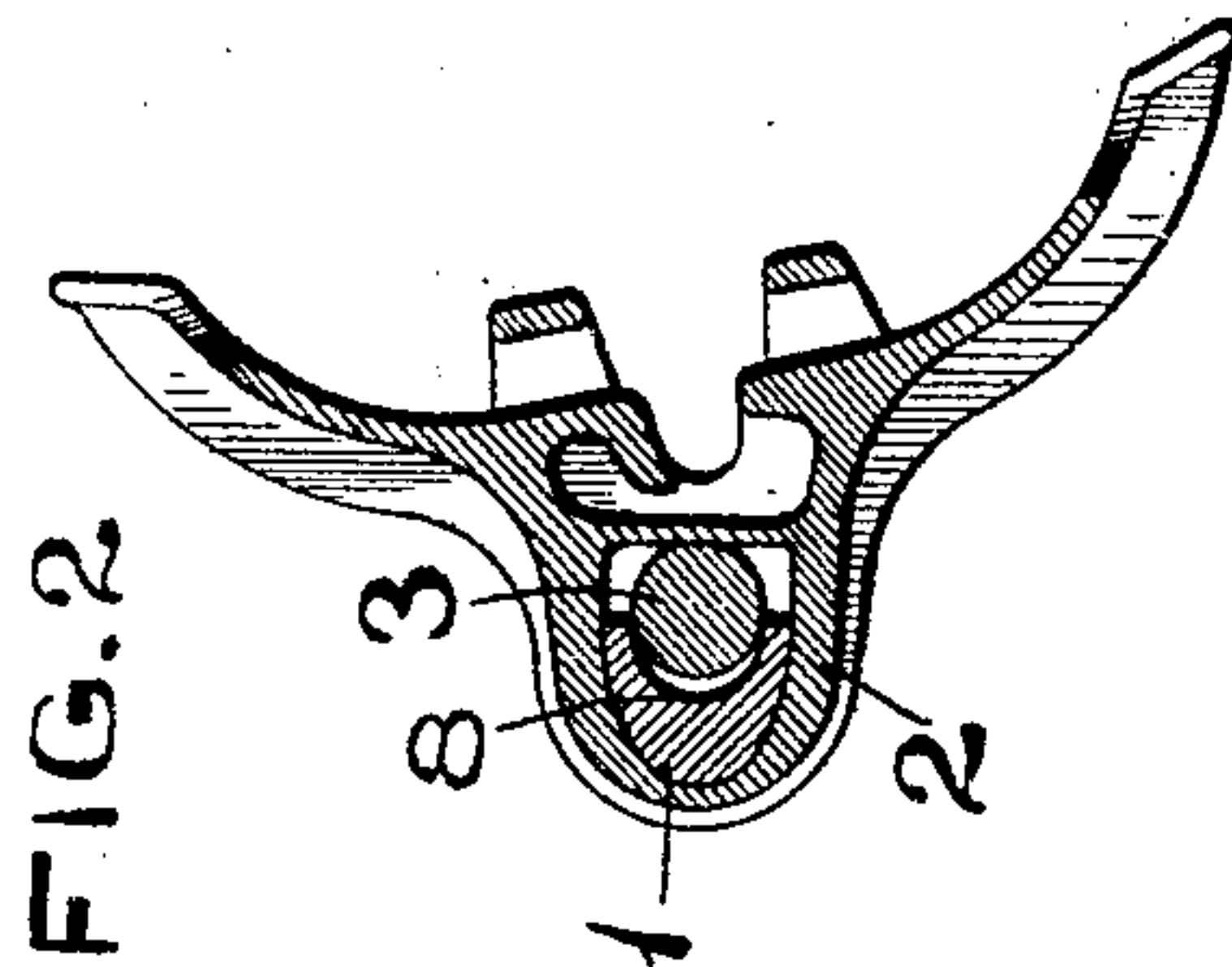
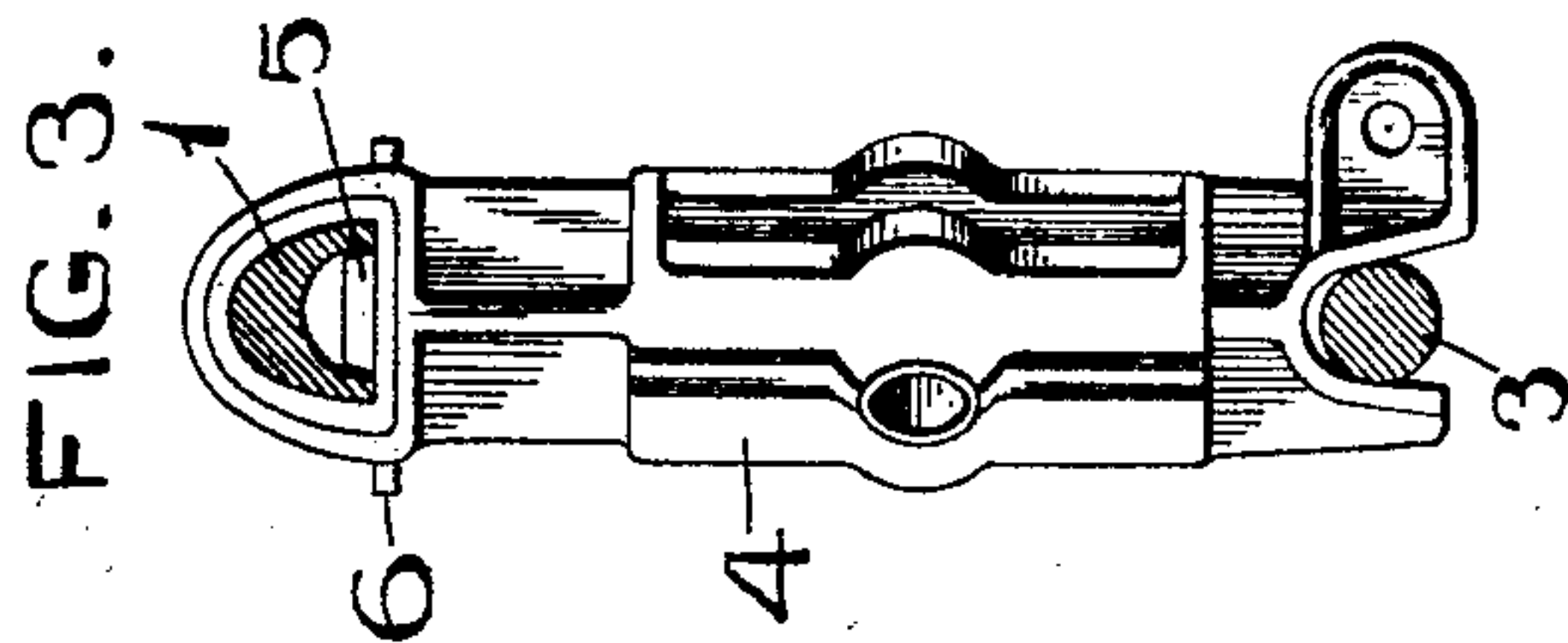
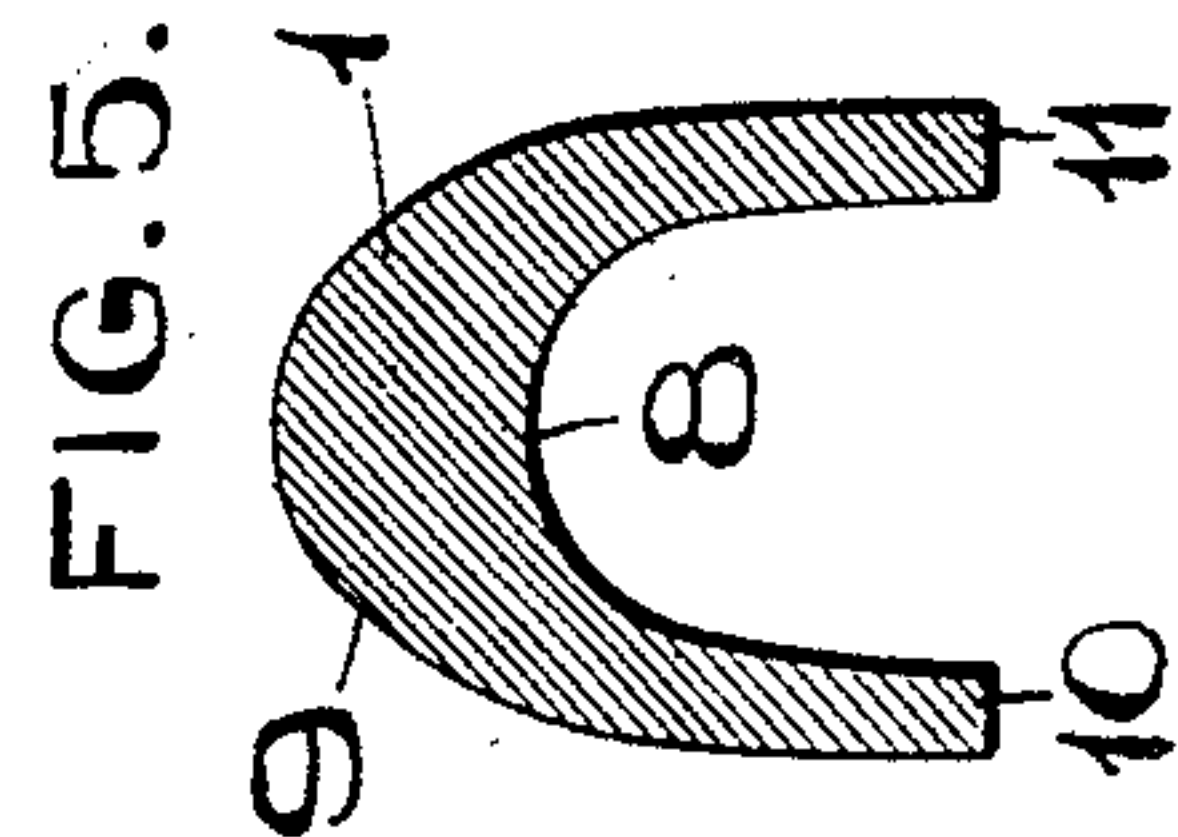
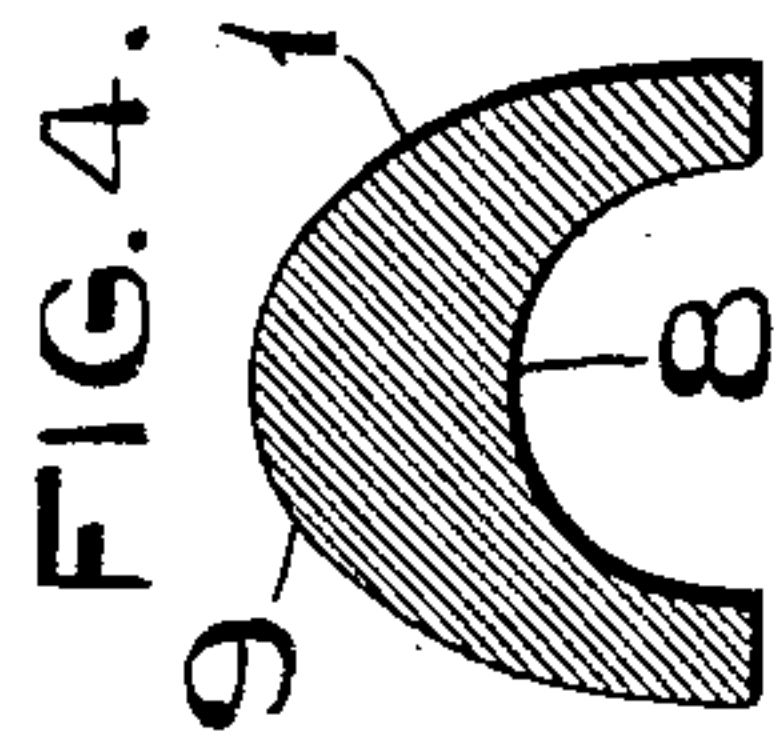
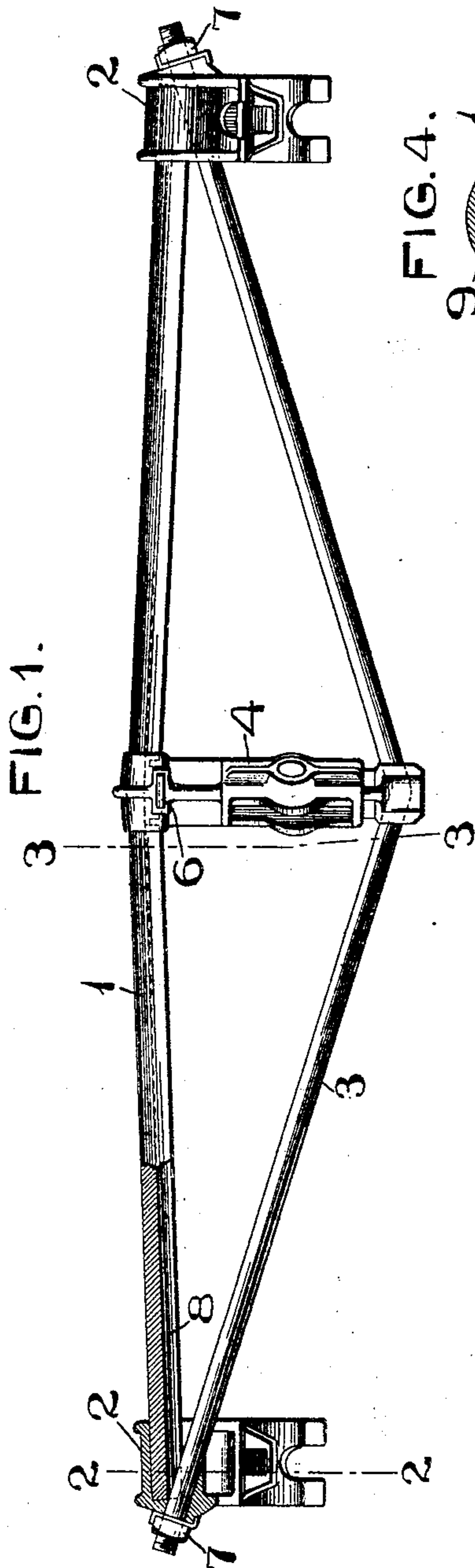


No. 805,821.

PATENTED NOV. 28, 1905.

H. B. ROBISCHUNG.
BRAKE BEAM.

APPLICATION FILED JULY 15, 1905.



ATTEST.

H. J. Fletcher.
B. F. Funk

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ATT'Y'S.

UNITED STATES PATENT OFFICE.

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BRAKE-BEAM.

No. 805,821.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed July 15, 1905. Serial No. 269,889.

To all whom it may concern:

Be it known that I, HENRY B. ROBISCHUNG, a citizen of the United States, residing at Kalamazoo, Michigan, 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 a plan view of my improved brake-beam. Fig. 2 is a sectional view on the line 2 2 of Fig. 1. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is an enlarged sectional view through the compression member, and Fig. 5 is a similar view showing a modified form of compression member.

This invention relates to a new and useful improvement in brake-beams of that type shown in Patent No. 782,599, granted to Frederick R. Cornwall February 14, 1905, the object of the invention being to construct a brake-beam whose compression member is in the form of a channel having diverging legs or members whereby the bulging stresses to which this structure is subjected under load are counteracted by the strains tending to preserve its original shape.

In the preferred form of my invention the compression member is preferably a commercially-rolled form whose central portion in cross-section is made thicker than the legs, whereby the extra material so added tends to materially strengthen the structure. The legs are spread slightly at the center of the beam, so as to increase its strength in a vertical direction when the beam is in position under a car. The spreading of the legs at the center of the beam does not materially lessen the resisting powers of the compression member when subjected to the usual strains and the load is applied through the strut or post; but the flaring legs add materially to the strength of the beam in resisting loads on the compression member applied in a vertical direction. The railroads require that the strength of the beam be so increased as to resist vertically-applied loads, and it will be noticed that by so increasing the strength of the beam to resist vertically-applied loads the torsional resistance of the beam is like-

wise increased. This torsional strain is the result of an unequal wearing of the brake-shoes and other causes well known in practice. It will be observed from an inspection of Figs. 4 and 5 that both of the forms of the compression member there illustrated are well adapted to meet the demands above set forth.

In the drawings, 1 indicates the compression member, 2 the brake-heads fitted on the ends thereof, and 3 is the tension-rod passing through the concave end portion of the compression member 1.

4 is a strut or brake-lever post whose outer end is provided with a seat for the tension-rod and in whose inner end is formed an eye so constructed as to take in the U-shaped compression member, which is flared at this point. This eye is provided with an internal lug 5, fitting between the legs of the compression member, for spacing and holding said legs apart, while a wedge or key 6 is driven through an opening adjacent the eye, so as to bear against the legs and hold the strut in position against accidental displacement. The tension-rod 3 is held in place by nuts 7 on the respective ends thereof.

By reference to Fig. 4 it will be noticed that the compression member is in the form of a channel concavo-convex in cross-section, the convex contour being in the form of a parabola, while the concave portion is in the form of a deep crescent. In the form illustrated in Fig. 4 the concave portion conforms to the exterior or circumference of the rod 3, which snugly fits the concave wall 8 of said compression member 1, and the deepest portion of the parabolically-shaped convex portion 9 is a considerably greater distance from the deepest portion of the convex wall 8 than the remaining portions. The channel is preferably rolled to this form, and by arranging the cross-sectional area so that the compression member will gradually increase in thickness until the central longitudinal portion thereof is considerably thicker than the remaining portions a beam of exceptional strength is provided.

In Fig. 5 I have illustrated the beam as having the flanges or legs 10 and 11 continued beyond the form of a crescent, so that the edges of these legs or flanges 10 and 11 overlap the tension member 3; but the deep-

est portion of the concave wall at each end snugly fits around the tension member 3.

Having thus described the invention, what is claimed as new, and desired to be secured by

5 Letters Patent, is—

1. In a brake-beam, the combination with a strut and a tension member, of a channel-shaped compression member, the exterior of which is in the form of a parabola and the
10 inner portion of which is curved in the form of a deep crescent, whereby the central longitudinal portion of the compression member is materially thicker than the remaining portions; substantially as described.

15 2. In a brake-beam, the combination with a compression member having an exterior parabolical portion and a crescent-shaped inner wall, of a tension member snugly engaging the inner wall of the compression member,
20 and a strut; substantially as described.

3. In a brake-beam, the combination with a compression member having a concavo-convex form, the central longitudinal portion being of considerably greater thickness than the
25 sides, a tension member cooperating with the

compression member, and a strut; substantially as described.

4. In a brake-beam, the combination with a U-shaped compression member, the convex portion of which is in the form of a parabola 30 and the concave portion of which is in the form of a deep crescent, of a tension member engaging the concave portion of the compression member, and a strut; substantially as described.

5. In a brake-beam, the combination with a U-shaped compression member whose middle portion is materially thicker than the remaining portions, the exterior of said U-shaped member being in the form of a parabola, a
40 tension member engaging the concave portion of said U-shaped compression member, and a strut; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, 45 this 5th day of July, 1905.

HENRY B. ROBISCHUNG.

Witnesses:

J. O. CHAMBERLAIN,
HOMER GREEN.