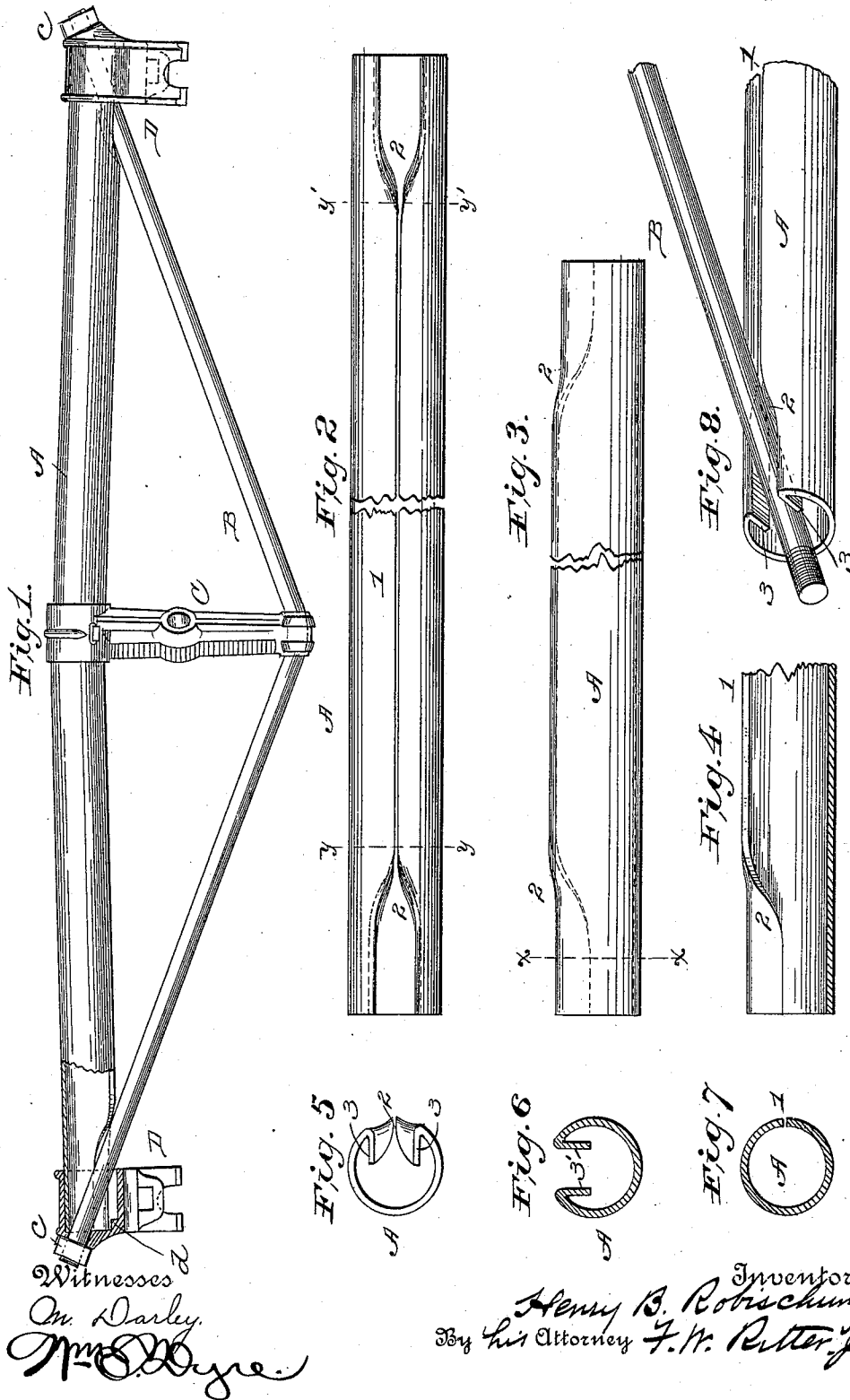


(No Model.)

H. B. ROBISCHUNG.
BRAKE BEAM.

No. 570,057.

Patented Oct. 27, 1896.



UNITED STATES PATENT OFFICE.

HENRY B. ROBISCHUNG, OF KALAMAZOO, MICHIGAN.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 570,057, dated October 27, 1896.

Application filed September 16, 1896. Serial No. 605,981. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. ROBISCHUNG, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Brake-Beams; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a trussed brake-beam, one end broken away to more clearly show the invention. Fig. 2 is a detached front view (parts broken out) of the tubular compression member of the beam, illustrating the preferred form of the invention. Fig. 3 is a detached top (or bottom) view of the tubular compression member, (parts broken out,) the dotted lines indicating the inturned margins of the slot for the passage of the tension-rod. Fig. 4 is a longitudinal sectional view of one end of the compression member, the line of section coinciding with the slot. Fig. 5 is an end view of the compression member, as illustrated in Fig. 2. Fig. 6 is a view of a cross-section of the compression member, taken on the line xx , Fig. 3. Fig. 7 is a view of a cross-section of the compression member, taken on the line yy , Fig. 2. The diameter of the compression member will by preference be the same between the points yy' , and a cross-sectional view at any point between the dotted lines yy and $y'y'$ will correspond with Fig. 7. Fig. 8 is a perspective view of one end of the compression member and a portion of the truss-rod, in position, to illustrate the increased bearing afforded the truss-rod and the end bearing afforded the brake-head.

Like symbols refer to like parts wherever they occur.

In the construction of trussed brake-beams the tubular form of compression member has been generally adopted to secure strength and stiffness with little weight of metal, and to retain the advantages of the trussed structure the tension member has been made to enter or intersect the compression member at or adjacent to its ends.

In employing a tubular compression member the closed or welded tube has been rec-

ognized as the typical form, or that which afforded the maximum of strength with the minimum of weight; but where the tension member enters the compression member the compression member has heretofore been slotted for the passage of the ends of the tension member and has presented to the tension member a bearing-surface only equal to the thickness of the metal composing the tube, and this is the case whether the same be a welded tube or an open tube, that is to say, one longitudinally slotted for the entire or a greater part of its length.

In applying the brakes a trussed beam is always subjected to more or less wear and torsional strain, which falls on the beam and tension member at the junction of the two, and in cases where the beam is hung improperly—either too high or too low—this wear and strain has been found to materially reduce the cross-section of the tension-rod and otherwise lead to the destruction of the beam.

The object of the present invention is to obviate the wear of the parts and strengthen the compression member at the points indicated; and to accomplish the same I form the tension-rod slot of a tubular compression member with flanges, (preferably inturned,) which increase the bearing between the compression and tension member and strengthen the compression member, which, or its equivalent, embodies the main feature of my invention.

It will be evident that the main feature of my invention may be applied to a welded as well as to an open or longitudinally slotted compression member; but inasmuch as certain advantages are incident to the use of an open or longitudinally slotted tube, as, for instance, the ability to use an increased thickness of metal and a high-grade steel in the manufacture of the tubular compression member, whereby greater stiffness and strength of beam are obtained at little if any increase in cost, I prefer to construct the compression member in the form of a longitudinally-slotted tube having the slot edges in apposition except at the ends of the tube, at which points the edges of the slot are turned inward to increase the width of the slot sufficiently to afford passages for the ends of the

tension-rod and flanged bearings therefor; and said construction forms a second feature of my invention.

There are also other (minor) features of invention, all as will hereinafter more fully appear.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates a tubular compression member, B a tension-rod, C a strut, and D D brake-heads, combined by means of the nuts *c c* to constitute a trussed brake-beam.

In the structure chosen for purposes of illustration the brake-heads D D are cupped heads, which receive the ends of the compression member, the compression member is a longitudinally (or open) slotted tube, and the combining-nuts *c c*, or nuts of the tension-rod, have seats or bearings directly on the heads D D; but, if desired, the well-known cap or end plate may be used instead of the closed (or cupped) socket of the head to afford the bearing or seat of the nuts *c c*, and a welded tube may be used instead of an open-slotted tube for the compression member without departing from the scope or spirit of my invention, as said features are now well-known equivalents.

In carrying out my invention I prefer to form the tubular compression member A of a blank having parallel sides, said blank curved or bent to bring the edges in apposition along the line 1 at all points except where the tension-rod B enters at the points 2 2 near the ends of the compression member, from which points to the end of the blank the edges are turned directly in to form flanges 3 3, against which the tension-rod bears.

It is immaterial whether the flanges 3 3 are bent in or at right angles to the blank before or after said blank is bent into tubular form. In either case there will be obtained a tubular compression member having inturned flanges at the points where the tension-rod enters, and in either case the inturned edges will afford an increased end bearing (see Figs.

5 and 6) for the cupped (or capped) brake-head, as well as a slot for the reception of the lug *d* (see Fig. 1) within the head D, which prevents the movement of the head on the compression member.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A compression member for trussed brake-beams said member having flanged slots for the passage of the ends of the tension-rod; substantially as and for the purposes specified.

2. A compression member for trussed brake-beams, said member comprised of an open slotted tube having inwardly-projecting flanges adjacent to its ends; substantially as and for the purposes specified.

3. A compression member for trussed brake-beams, said member comprised of a longitudinally-slotted tube the edges of the slot being in apposition except at the ends of the member where the tension-rod enters, and at said points the edges of the slot turned inward to constitute flanges for the slot; substantially as and for the purposes specified.

4. In a trussed brake-beam the combination with a brake-head and tension member, of a compression member having flanged slots for the passage of the ends of the tension member; substantially as and for the purposes specified.

5. In a trussed brake-beam the combination with a tension member, and a cupped brake-head having a lug for engaging the compression member, of a longitudinally-slotted compression member having the edges of the slot turned in at the ends of the beam to constitute flanged slots for the tension member and means to engage the lugs in the brake-heads; substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 11th day of September, 1896.

HENRY B. ROBISCHUNG.

Witnesses:

E. T. WALKER,
J. W. ADAMS.