

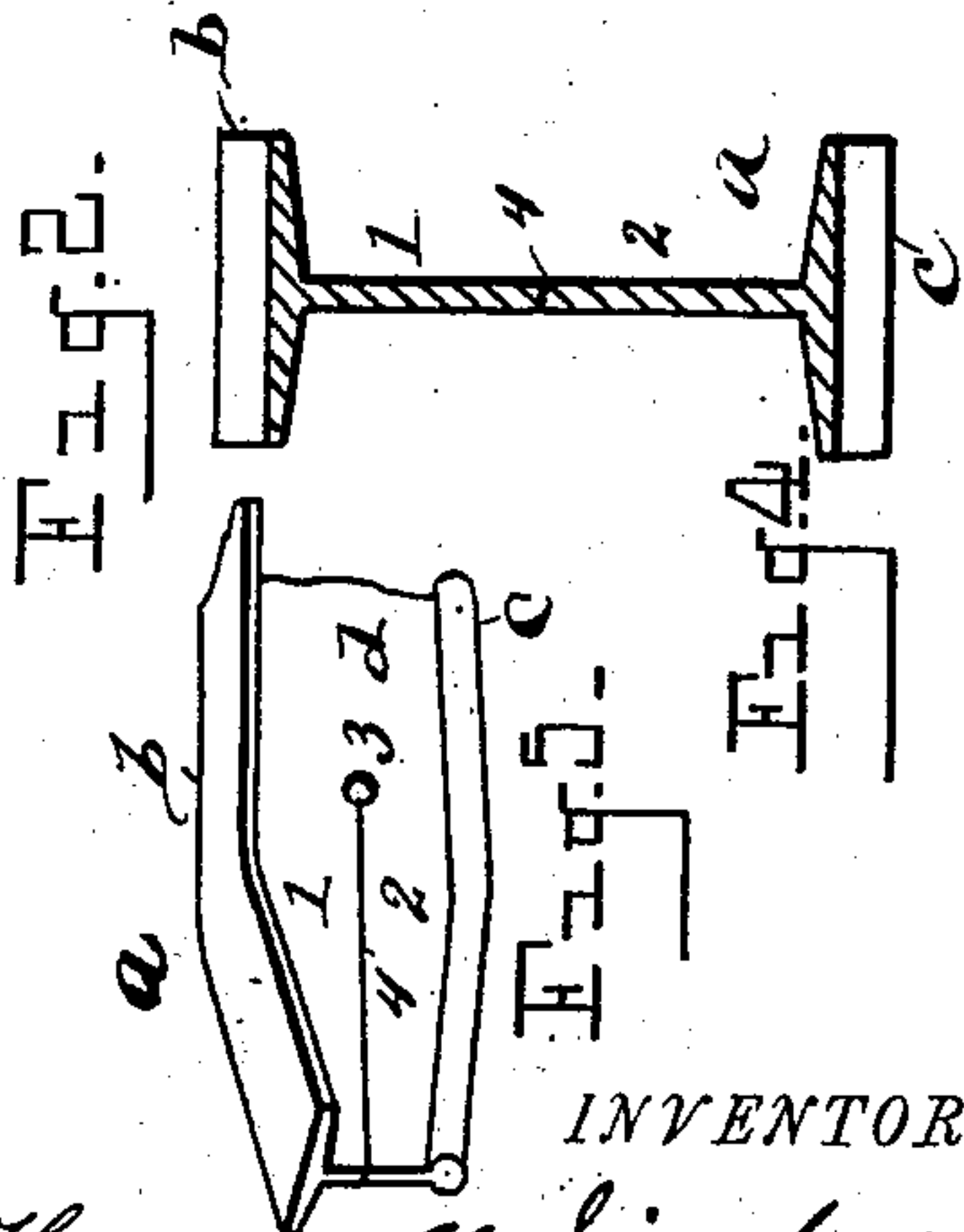
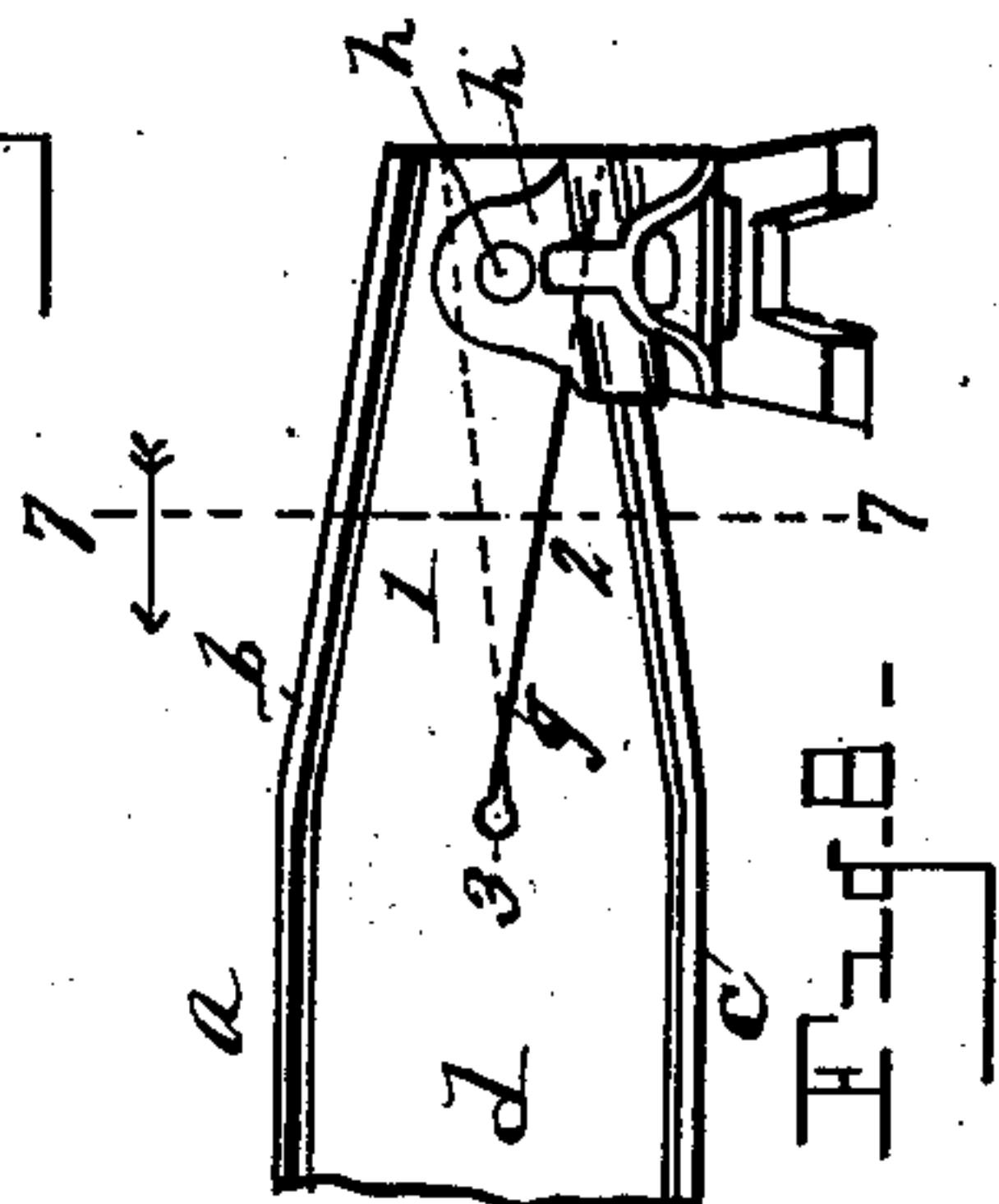
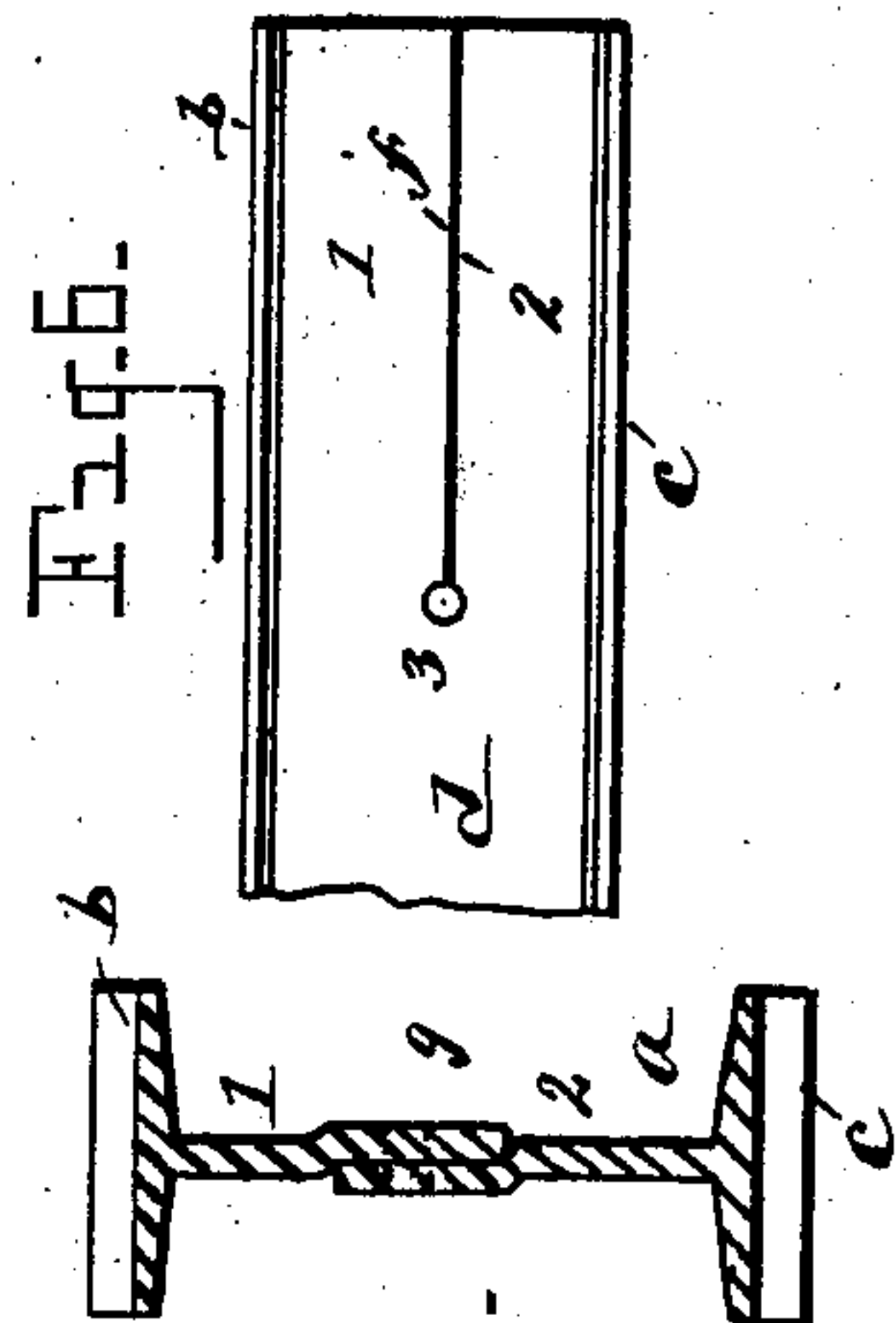
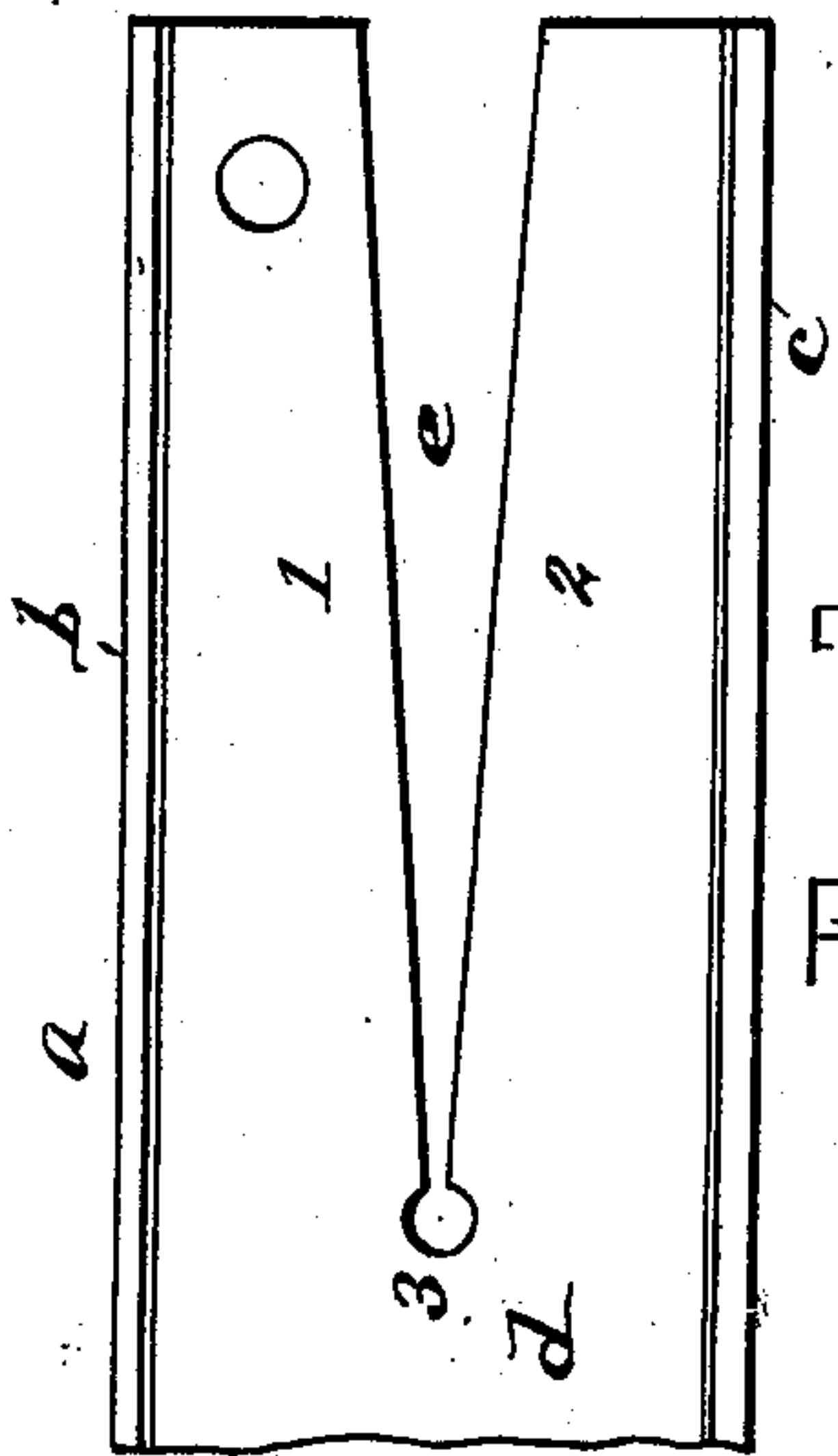
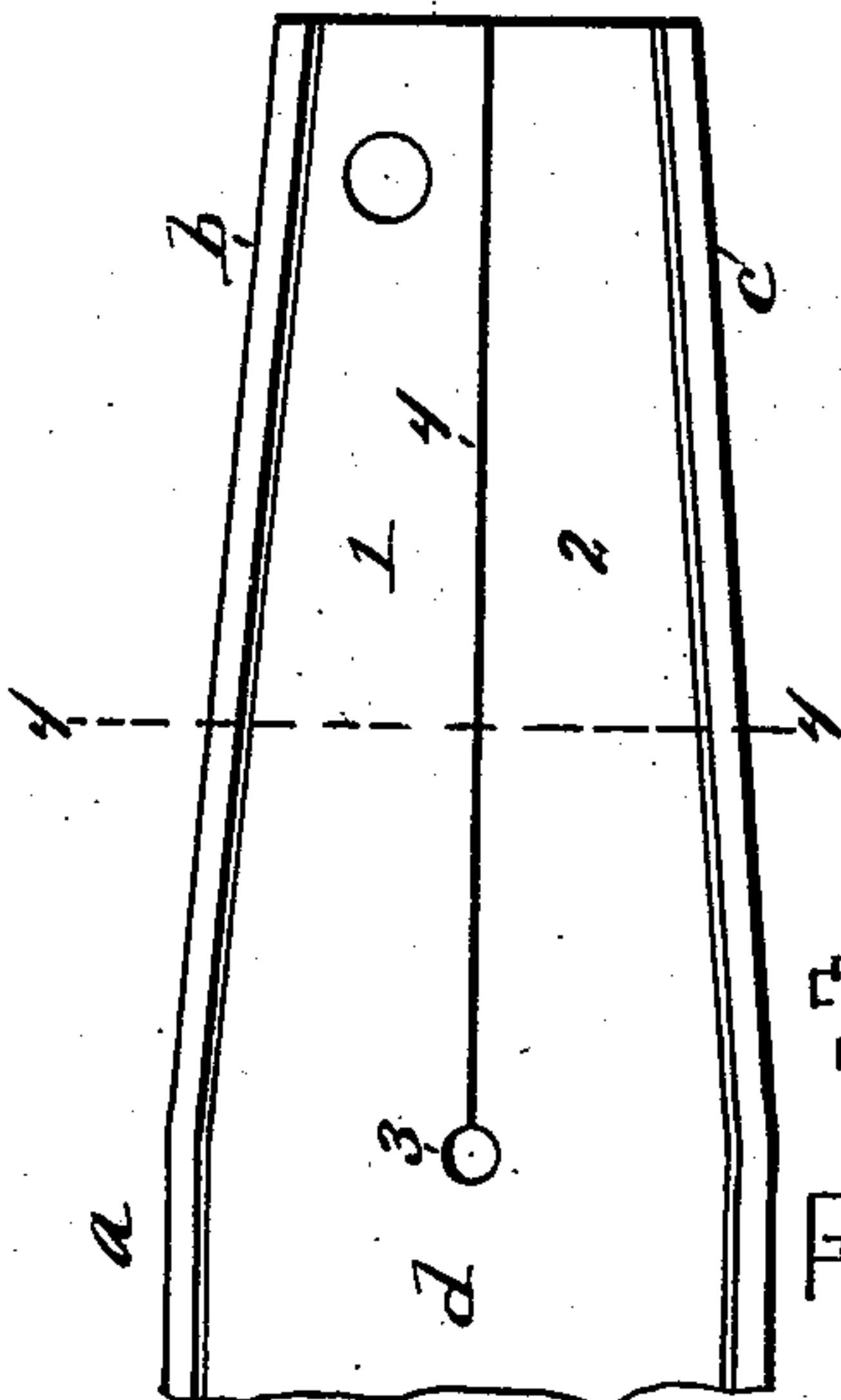
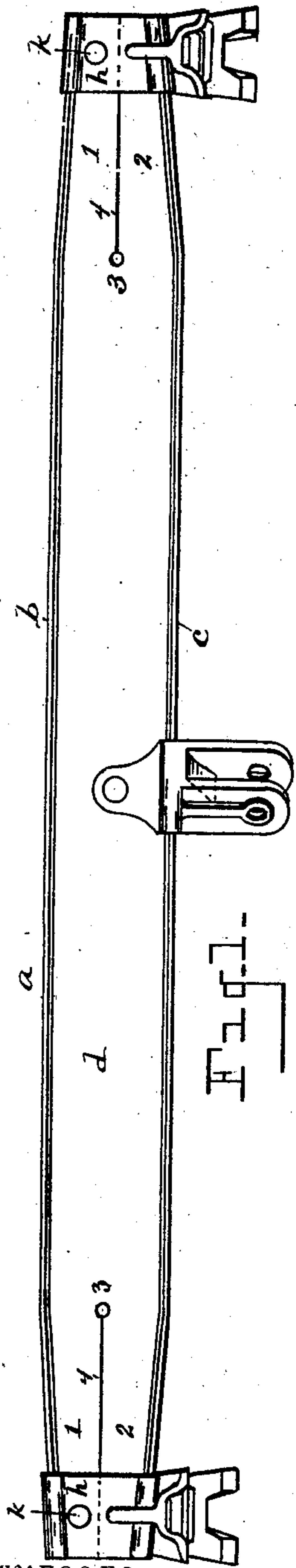
No. 715,518.

Patented Dec. 9, 1902.

T. H. SIMPSON.
RAILWAY BRAKE BEAM.

(Application filed Dec. 13, 1901.)

(No Model.)



WITNESSES.

O. B. Baerziger.
J. M. Poland.

INVENTOR.

Thomas H. Simpson
By Newell S. Wright

His Attorney

UNITED STATES PATENT OFFICE.

THOMAS H. SIMPSON, OF DETROIT, MICHIGAN, ASSIGNOR TO CHICAGO RAILWAY EQUIPMENT COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

RAILWAY BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 715,518, dated December 9, 1902.

Application filed December 13, 1901. Serial No. 85,766. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. SIMPSON, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Railway Brake-Beams; and I 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, reference being had to the accompanying drawings, which form a part of this specification.

My invention pertains to the construction of brake-beams, and has for its object a brake-beam of superior simplicity, economy, and efficiency.

I carry out my invention as hereinafter described and claimed, and illustrated in the drawings, in which—

Figure 1 is a side elevation embodying features of my invention. Fig. 2 is a detail view of one end of the beam, illustrating a step in the process of manufacture. Fig. 3 is another detail view of one end of the beam, illustrating another step in the process of construction. Fig. 4 is a view in section on the line 4 4, Fig. 3. Fig. 5 is a detail view in perspective. Fig. 6 is a view in detail, illustrating a modification in the construction of the beam; and Fig. 7 is a view in section on the line 7 7, Fig. 8. Fig. 8 is a detail view, in side elevation, illustrating one form of my invention.

My invention more particularly has reference to a brake-beam having its ends reduced.

In the drawings, *a* represents any desired standard rolled beam. In Figs. 1 to 4 and 6 to 8 a standard I-beam is shown, provided with upper and lower flanges *b* and *c* and a web *d*. In Fig. 5 an ordinary deck-beam is shown, having a web *d*. I do not limit my invention to any particular form of beam.

The chief feature of my invention relates to a narrowing or reducing of the ends of the beam to provide for a sufficient movement of the beam when in position, as for inside hanging.

It is well understood that ordinary standard rolled beams are usually too wide at the extremities for inside hanging, in consequence of

which it has been found desirable and necessary to reduce the extremities of the beam in order that it may be properly applied. To accomplish this end, my invention contemplates slitting or kerfing the web of the beam longitudinally thereof at the extremity of the beam in any desired form and forcing the adjacent portions of the beam inward the one toward the other. In Figs. 1 to 5 I have shown and illustrated a construction wherein the web at the end of the beam is kerfed or cut away, a wedge-shaped or triangular portion of the web being removed, as indicated in Fig. 2 at *e*. The adjacent portions of the beam on the opposite sides of the kerf (indicated by the numerals 1 and 2) are then forced the one toward the other the desired distance. In Figs. 6 and 8 the extremity of the web is slitted, as indicated at *f*, Fig. 6. To facilitate the inward forcing and reduction of the parts 1 and 2, the web is preferably perforated, as shown at 3. In the form shown in Figs. 6 and 8 the web is not cut away; but the adjacent parts 1 and 2 after the web is slitted, as at *f*, and perforated, as shown in Fig. 6, are caused to overlap one another as the said parts are forced inward. In the form illustrated in Figs. 1 and 5 the edges of the parts 1 and 2 are simply forced together, as indicated at the meeting line 4. The overlapping of said parts is shown in Figs. 7 and 8. The overlapping edges are also perforated, as shown at *g*, to receive a rivet passed through the brake-head. Where the web is gored, as indicated in Fig. 2, and the adjacent parts are brought together to reduce the end of the beam, the brake-heads (indicated at *h h*) may surround the adjacent extremity of the beam to hold the parts together, the brake-head being secured in place in any suitable manner. Where the parts 1 and 2 are overlapped, a rivet 5 may be passed through the brake-head and through the overlapping parts to hold them in place. While I prefer to force both of the parts laterally adjacent to the kerf inward, my invention contemplates the forcing inward of only one of said parts as coming within its scope. The kerf may be simply a slit or it may be of any desired form.

In certain other processes of reducing the

ends of the brake-beams it has been necessary to heat the beam and re-form it in a heated condition. This draws the temper of the beam and necessitates added expense in the manufacture of the beam. My invention, however, may be accomplished without heating the beam, as the web may be kerfed of desired form and one or both of the parts laterally adjacent thereto may be forced inward under suitable press. By dispensing with the necessity of heating the beam it may be more economically reduced at its extremities than where heat is employed, while also the temper is retained in the metal.

If it were desired, one of the parts laterally adjacent to the kerf might be left straight, the other laterally-adjacent part only being pressed inward either to meet the edge of the corresponding portion or to overlap it, as may be desired.

The brake-head applied to a beam having its parts overlapped may simply be forced over one of the flanges of the beam and riveted to the overlapping parts of the beam. Where the brake-head surrounds the end of the beam it may be riveted in place, as indicated at *k*, to one of the laterally-adjacent parts.

What I claim as my invention is—

1. A commercially-rolled member for brake-beam having top and bottom flanges, whose web is divided at the ends into two portions of substantially equal length and is provided with an enlarged perforation near the ends of said beam and from thence to the end thereof is bent at an angle to the axis of the beam whereby seats are formed for brake-heads at the ends of said beams; substantially as described.

2. A brake-beam provided with a web, the extremity of the web being longitudinally kerfed, forming adjacent parts of equal length on opposite sides of the kerf, said parts pressed inward the one toward the other to form a reduced end of the beam, said beam having in combination therewith a brake-head, and a rivet simultaneously uniting said brake-head and the adjacent parts of the beam to hold the parts of the reduced end of the beam and the brake-head in place.

3. A commercially-rolled I-beam for brake-beam whose web is divided at the ends into two portions of substantially equal length and is provided with an enlarged perforation near the ends thereof and from thence to the end is bent at an angle to the axis of the beam whereby seats are formed for brake-heads at the ends of said beams; substantially as described.

4. A commercially-rolled member for brake-beam whose web is divided at the ends into two portions of substantially equal length and is provided with an enlarged perforation at the inner ends of said divisional line and

from thence to the end thereof is bent at an angle to the axis of the beam whereby seats are formed for brake-heads at the ends of said beams; substantially as described.

5. A commercially-rolled member for brake-beams whose web is provided with a circular perforation and from thence divided to the ends of the beam, said divided portions being bent at an angle to the axis of the beam to provide a gradually-increasing overlap in the web to the ends of the beam; substantially as described.

6. A commercially-rolled member for brake-beams, having top and bottom flanges, whose web is provided with a circular perforation and from thence divided to the ends of the beam, said divided portions being bent at an angle to the axis of the beam to provide a gradually-increasing overlap in the web to the ends of the beam; substantially as described.

7. A commercially-rolled I-beam for use in a brake-beam, having top and bottom flanges, whose web is provided with a circular perforation and from thence divided to the ends of the beam, said divided portions being bent at an angle to the axis of the beam to provide a gradually-increasing overlap in the web to the ends of the beam; substantially as described.

8. In a brake-beam, a commercially-rolled member whose web is kerfed at the ends, the portions of said web surrounding said kerf forming an overlap to the ends of said beam, and a brake-head riveted thereto, the rivet therefor uniting the overlap portions of the web and holding said brake-head in position; substantially as described.

9. A brake-beam provided with overlapping web portions at the ends thereof, brake-heads, and rivets simultaneously securing said brake-heads to said beam and holding the reduced ends of said beam in place; substantially as described.

10. A brake-beam composed of a commercially-rolled member provided with overlapping web portions at the ends thereof, brake-heads, and rivets simultaneously securing said brake-heads to said beam and holding the reduced ends of said beam in place; substantially as described.

11. A brake-beam composed of an I-beam provided with overlapping web portions at the ends thereof, brake-heads, and rivets simultaneously securing said brake-heads to said beam and holding the reduced ends of said beam in place; substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

THOMAS H. SIMPSON.

Witnesses:

N. S. WRIGHT,
J. M. POLAND.