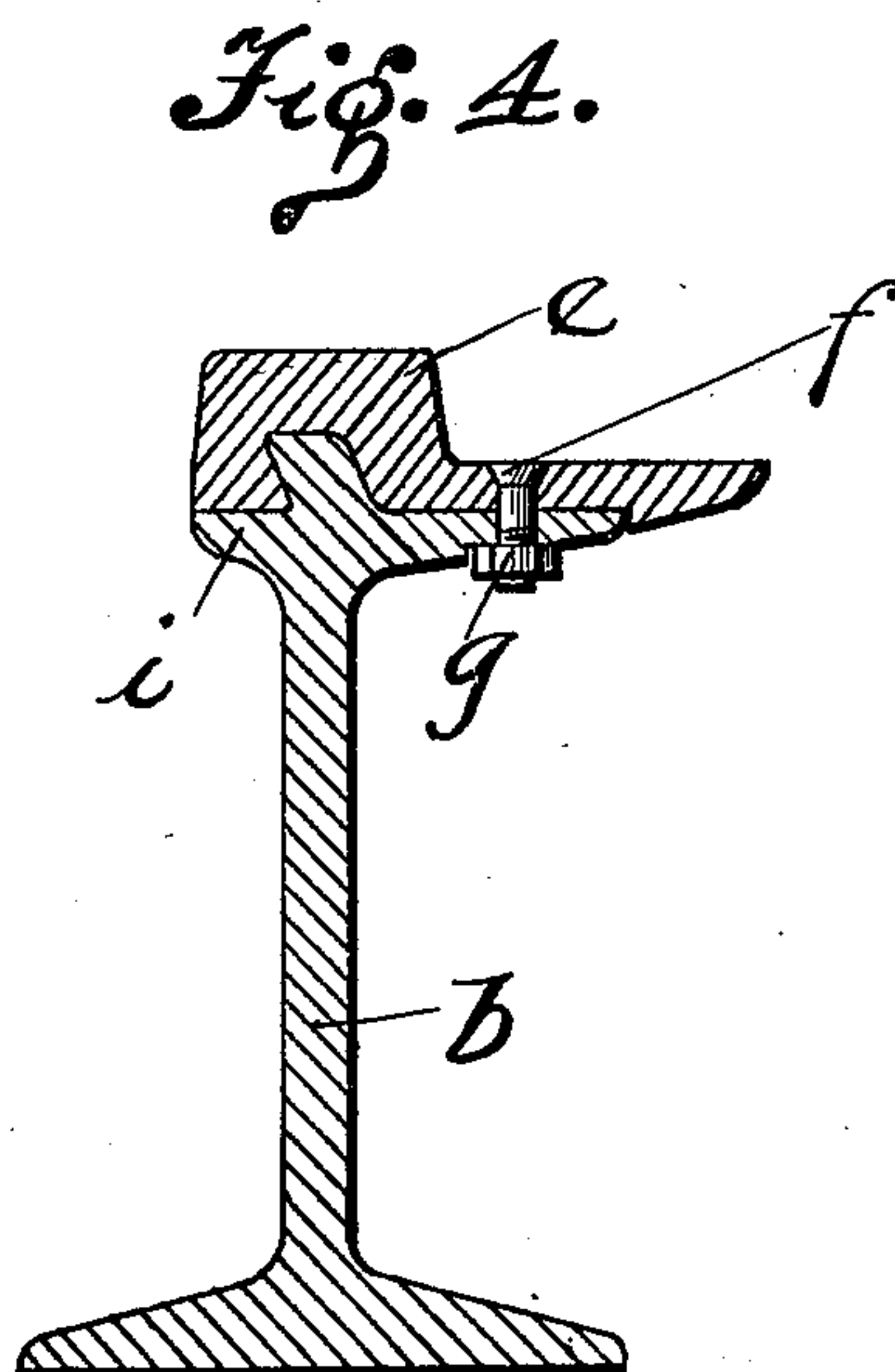
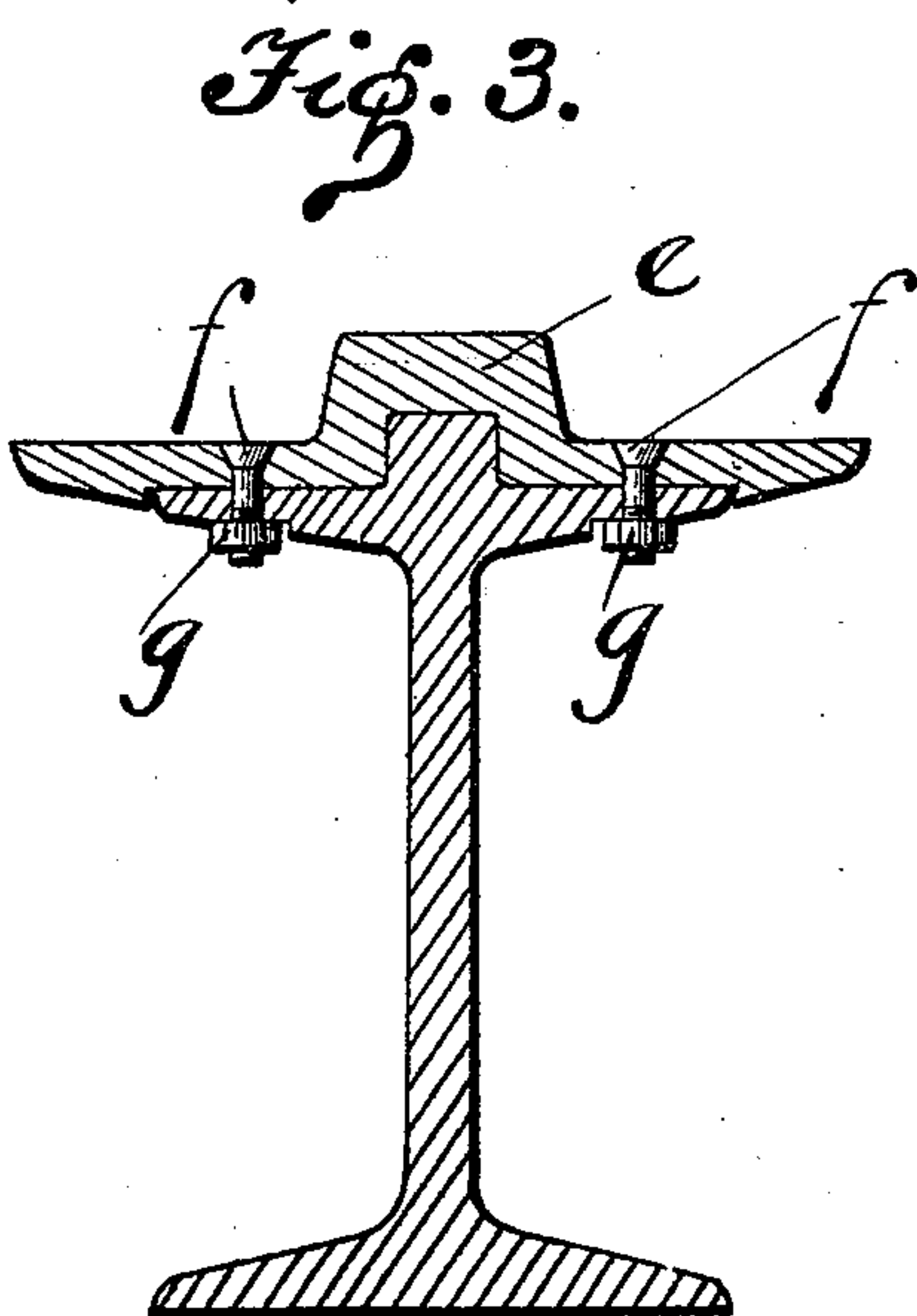
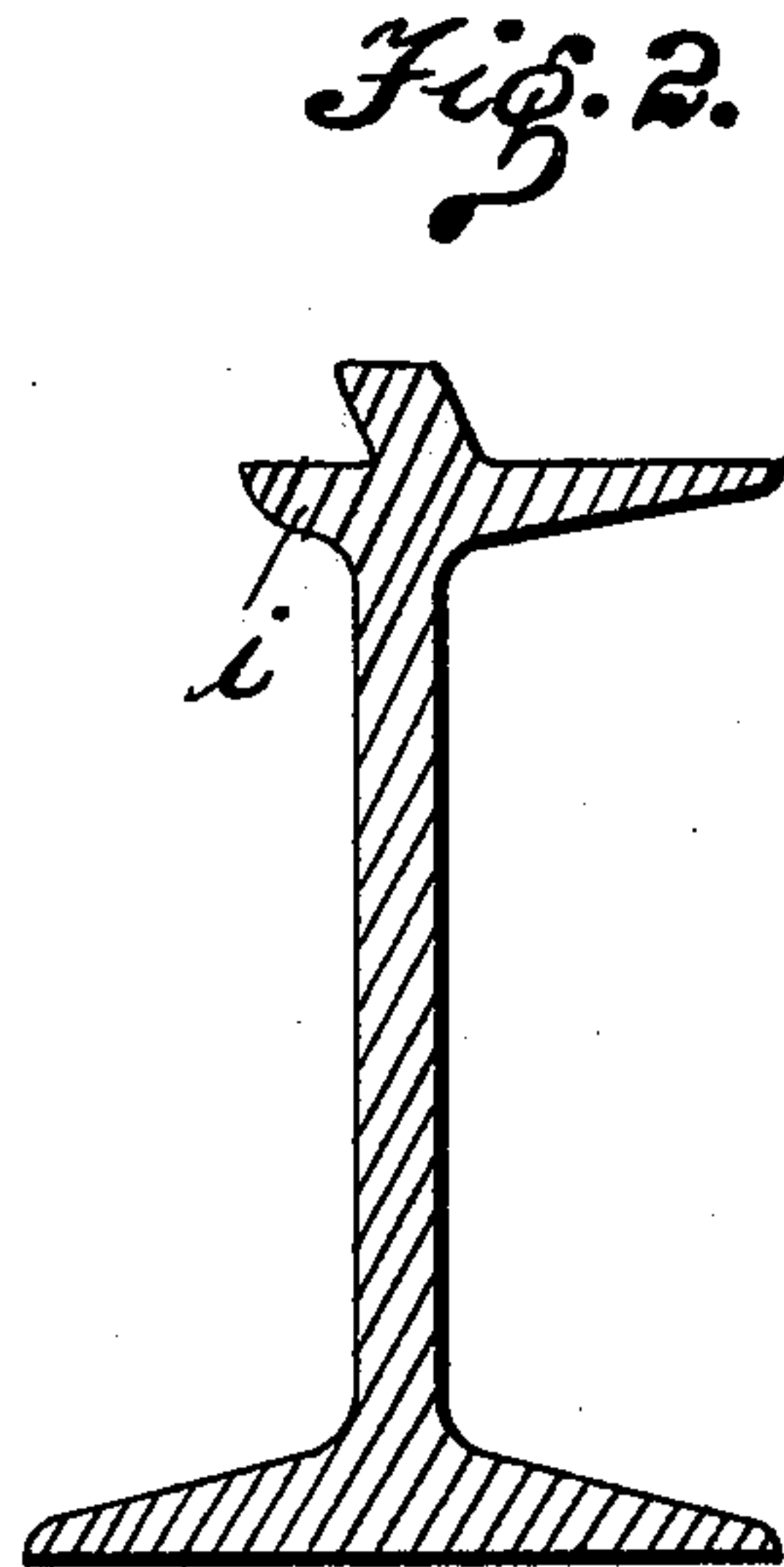
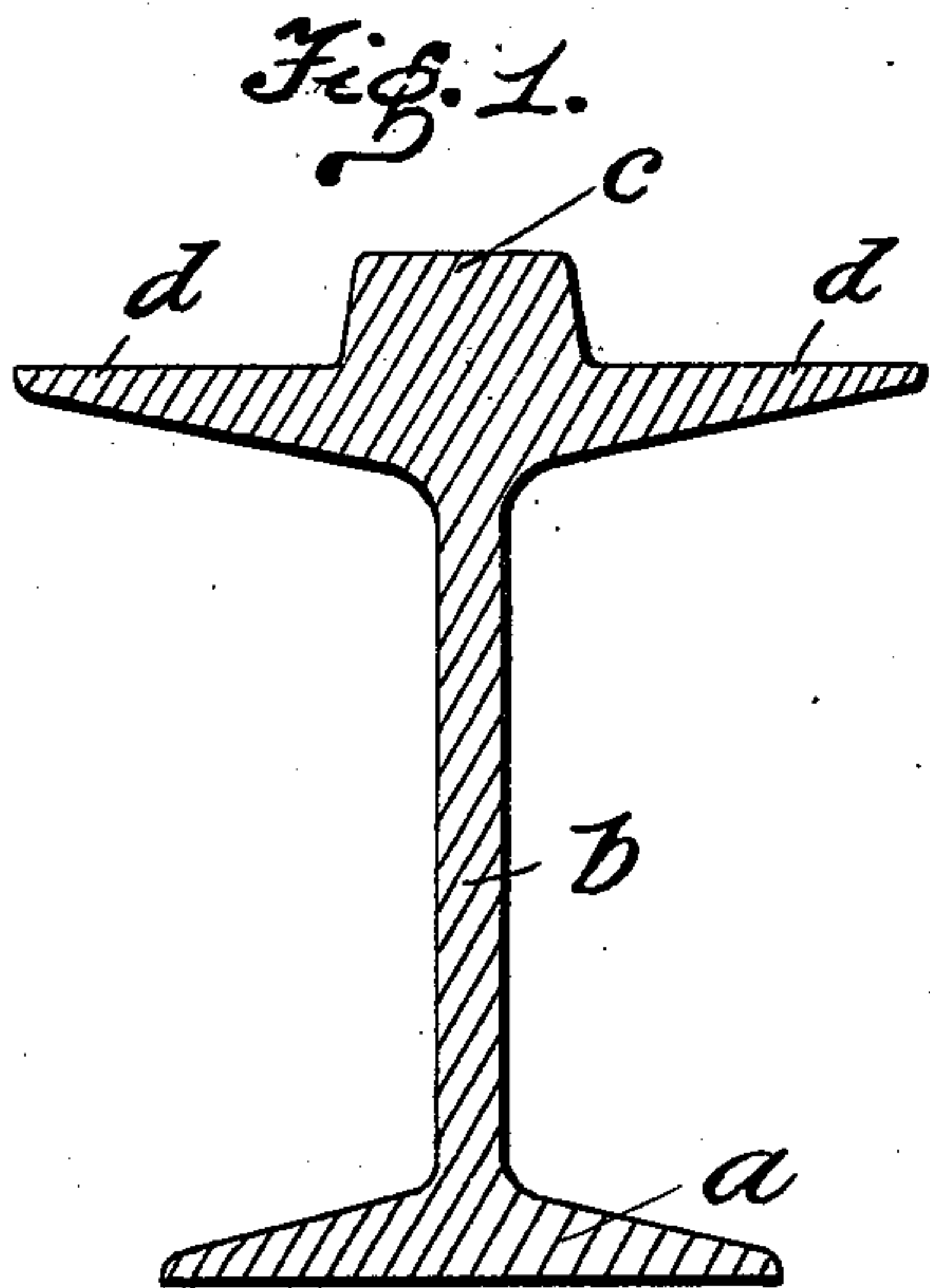


A. G. HEINLE.
RAIL.

No. 562,135.

Patented June 16, 1896.



Witnesses:-

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Am Wilson

Inventor:

Albert G. Heinle.

By *Henry C. Evert.*

Atty.

(No Model.)

2 Sheets—Sheet 2

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Fig. 6.

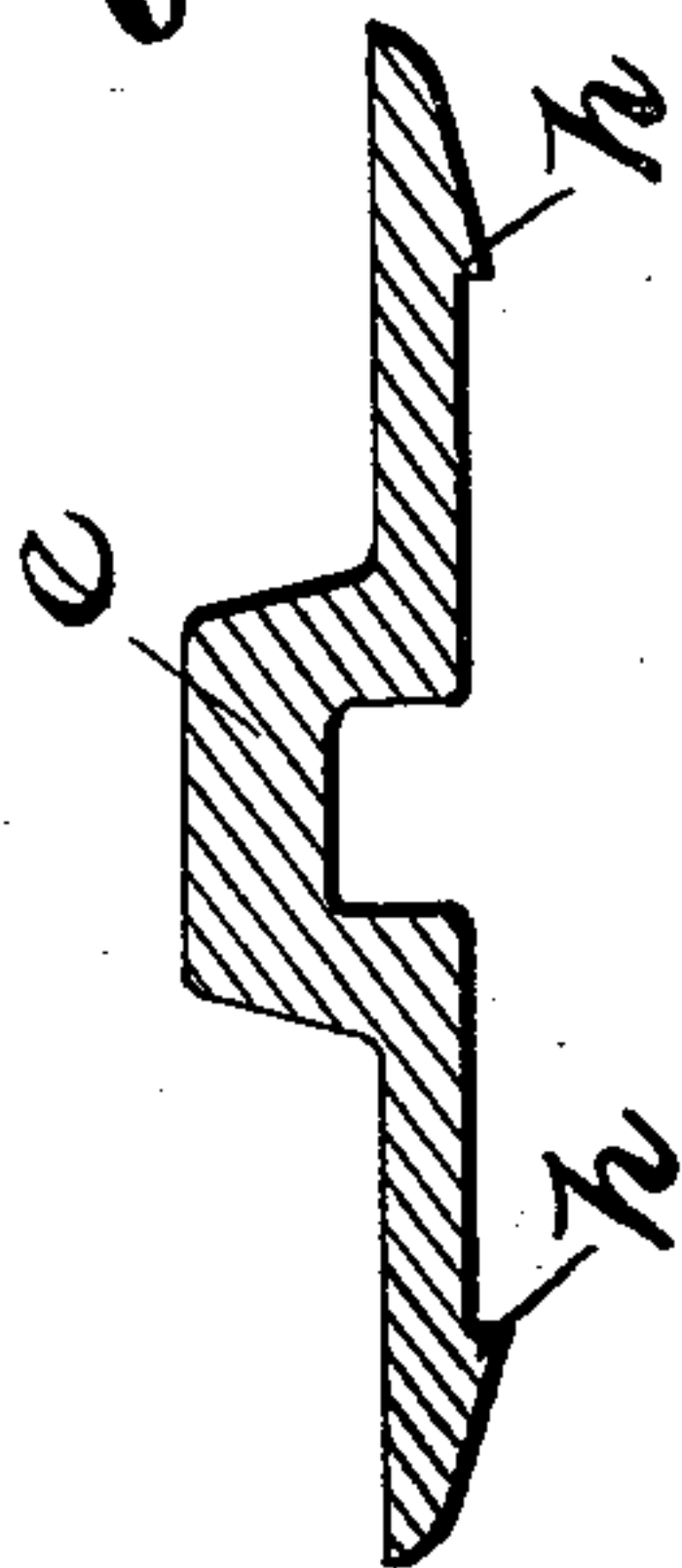


Fig. 5.

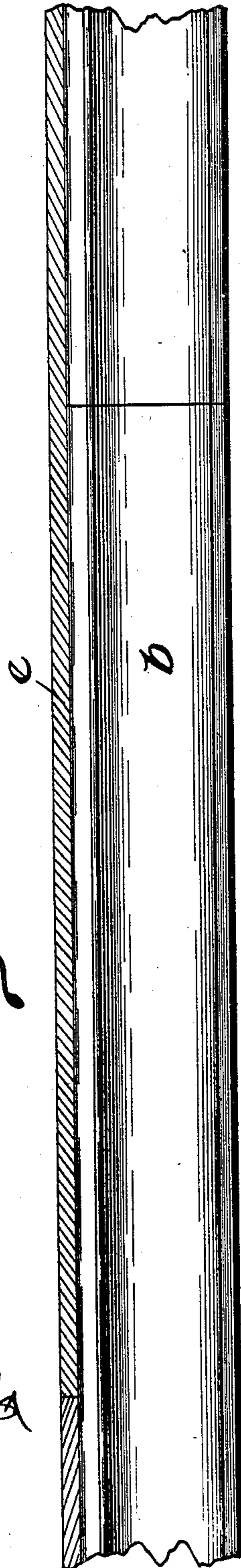
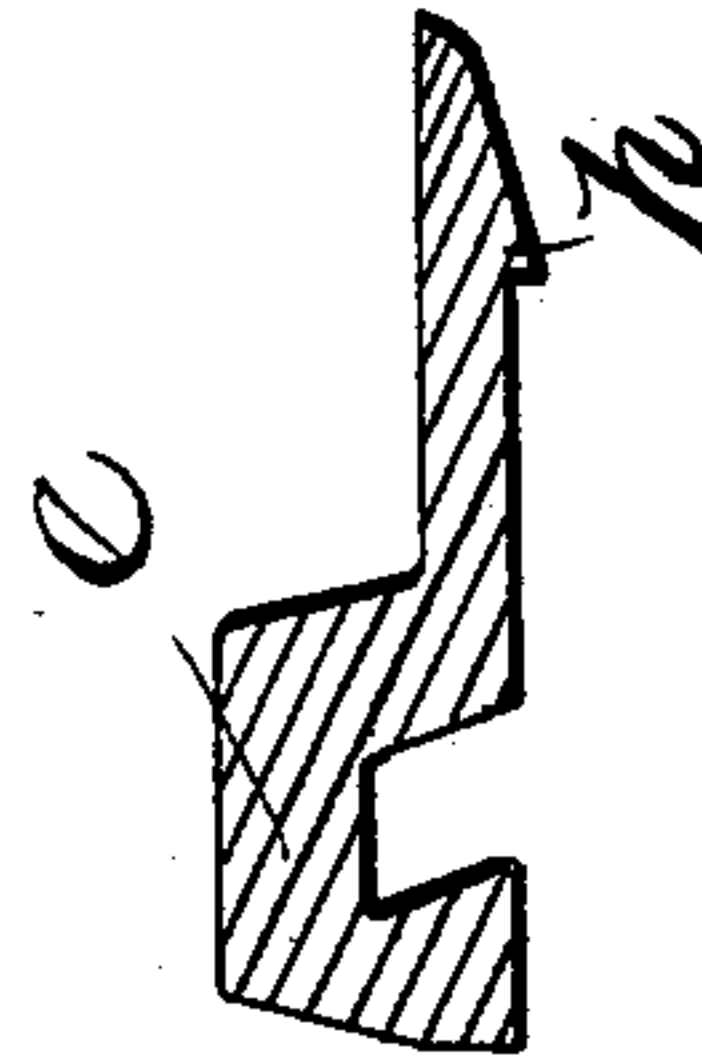


Fig. 7.



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UNITED STATES PATENT OFFICE.

ALBERT G. HEINLE, OF MCKEE'S ROCKS, PENNSYLVANIA.

RAIL.

SPECIFICATION forming part of Letters Patent No. 562,135, dated June 16, 1896.

Application filed December 19, 1895. Serial No. 572,699. (No model.)

To all whom it may concern:

Be it known that I, ALBERT G. HEINLE, a citizen of the United States of America, residing at McKee's Rocks, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rails, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to certain new and useful improvements in rails in general, and relates more particularly to that class known as "compound" rails, and used principally in the construction of street and other railways.

15 The invention has for its object the construction of a rail of the above-referred-to class whereby the top portion may be readily removed when it becomes worn and a new piece substituted therefor without tearing up the track, and saving a very considerable amount in the cost of repairs; furthermore, a rail that will not be affected by expansion and contraction to as great an extent as the ordinary T or tramway rail.

25 A further object of the invention is to construct a compound rail as described, wherein a wider flange may be obtained than in the ordinary construction; furthermore, whereby a flange may be provided on both sides of the rail, thus securing great convenience to vehicles, as the wheels of the vehicle will not necessarily need to be on the inner face of the rail as at present, and thereby allowing the same to "turn out" of the track readily.

35 A still further object of the invention is to provide a compound rail of the above-referred-to class that will be extremely simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture.

40 With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more particularly described, and specifically pointed out in the claims.

45 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters of reference indicate similar parts throughout the several views, in which—

Figure 1 is a transverse vertical sectional

view of my improved rail. Fig. 2 is a similar view of the body portion of the single-flange rail. Fig. 3 is a transverse vertical sectional view of my improved rail with cap or top rail in position. Fig. 4 is a similar view of the single-flange rail, showing a slight modification. Fig. 5 is a side view of my improved rail with the cap or top rail shown in longitudinal vertical section. Fig. 6 is a sectional view of the double-flange top or cap rail. Fig. 7 is a similar view of the single-flange top or cap rail.

To construct this rail, the base-plate *a* and the upright portion *b* of the rail are of the ordinary shape. A top or bearing surface *c* is formed, and a flange *d* extends on each side of the rail, as shown in Fig. 1 of the drawings. In this construction the bearing-surface *c* and flanges *d* may be made smaller, as shown in Fig. 2, and a top rail *e*, consisting of a bearing-surface portion with flanges on both sides, is provided, which is adapted to fit over the bearing-surface *c*, and rests on the same and the flanges *d*. Bolt-holes are provided through the flanges *d* and the flanges of the top rail *e*, said holes being recessed in the flanges *e e*, so as to admit the heads of the bolts *f f*, thus making the top of the bolt flush with the top of the flange. The flanges *d d* are provided with a cut-away portion on their underneath side, so as to form a perfectly straight and smooth bearing-surface for the nuts *g g* of the bolts *f f*.

The flanges of the top or cap rail *e* are provided with a slight flange or projection *h h* on their underneath side, as shown in Figs. 6 and 7, which engages the ends of the flanges *d d*, thus making the top or cap rail more rigid. From the inner end of this flange to the groove formed to fit over the bearing portion *c* the flange of the rail *e* is flat on the underneath side, so as to allow the same to fit neatly on the flange *d*.

When it is desired to have but one track or bearing-surface on each rail, the flange *d* is formed on the inner side of the rail, and the other side is provided with a slight projection or flange *i*, which is adapted to form a rest for the cap or top rail, together with the flange. When the single-flange rail is used, the head of the rail proper, over which the cap is adapted to fit, may be inclined as

shown in Figs. 2 and 4, and the groove in the cap or top rail is similarly constructed so as to fit on same. This incline in the groove and on the head of the rail proper will serve to re-
 5 tain the cap or top rail in position more firmly and rigidly than were the same straight, as in the construction of the double flange.

The operation of my improved rail is as follows: The rail is spiked to the ties in the
 10 ordinary and well-known manner. When the top or cap rail is used, the same is placed over the head of the rail proper and bolted securely to the flanges $d d$, as shown in Figs. 3 and 4 of the drawings. It will be noted
 15 that the rail can be used either with a double or a single flange, and that the same may be constructed so as to receive the cap or top rail, or to be used without the same, as may be desired.

When the rail is used with the double flange, either with the cap or top rail or without the same, it will be noted that it will be of great convenience to vehicles, especially where
 20 there is heavy hauling, as the wheels on one side of the vehicles can engage the outer flange of one rail and the other wheels of the vehicle the inner flange of the opposite rail, thus allowing the wheels to leave the track readily when desired, as the wheels will turn
 25 from the bearing-surface of the rails instead of directly against them as at present. This will also prevent considerable wear on the rails, as will be readily apparent.

When the cap or top rail is employed, it
 35 will be observed that the same has many advantages over the ordinary construction, as during extremely cold weather considerable trouble is often caused by broken rails. With my improved rail, should the cap or top rail
 40 become broken, the break would not extend farther than the cap-rail by reason of the joint, and the same could be readily removed without removing the rail proper, and a new cap or top rail placed in position, without de-
 45 laying the cars while repairing the track.

The construction, as shown in Fig. 4, will be found particularly desirable when the single flange is used, as the inclined head of the rail proper will form a wedge to retain the
 50 cap or top rail rigidly in position.

A particular advantage to which I wish to call attention is the fact that the joints of the cap or top rail will not be over those of the rail proper, which will give a neater joint
 55 than would otherwise be the case.

I wish to call particular attention to the fact that this construction of a rail will dispense entirely with the fish-plates by using the cap or top rail, and thereby obtaining a very considerable saving in the cost of con-
 60 struction of the tracks.

The holes or apertures in the flanges d are formed in an oblong shape, so as to give room for the movement of the securing-bolts caused by the expansion and contraction of the rails.
 65 By this construction any danger of the breaking of the bolts from the above cause will be effectually prevented.

It will also be noted that the head of the rail having the single flange need not neces-
 70 sarily be of the exact shape as shown in the drawings, but may be of any desired shape that may be found to retain the rail rigidly in its position.

It will be noted that various changes may
 75 be made in the details of construction of my improved rail without departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters
 80 Patent, is—

1. In a compound rail, a body provided with a head having beveled sides and a lateral flange, a flanged cap having an inclined groove to receive the head, as and for the purpose
 85 described.

2. In a compound rail, a body provided with a head having its sides inclined, a cap having a groove to receive the head, shoulders formed on the under side of the flanges of the cap
 90 and means for locking the body and cap together, as and for the purpose described.

3. In a compound rail, the body portion thereof having an inclined head, a track-flange arranged on one side of the rail and a
 95 slight projection or flange on the other side, a cap or top rail having a flange and an inclined groove, said groove being adapted to fit over the inclined head, thus forming a wedge, the flange of the top rail having a pro-
 100 jection on its underneath side adapted to engage the flange of the rail proper, and suitable means for locking said flanges together, substantially as shown and described.

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

ALBERT G. HEINLE.

Witnesses:

H. C. EVERT,
 ALFRED M. WILSON.