

No. 695,610.

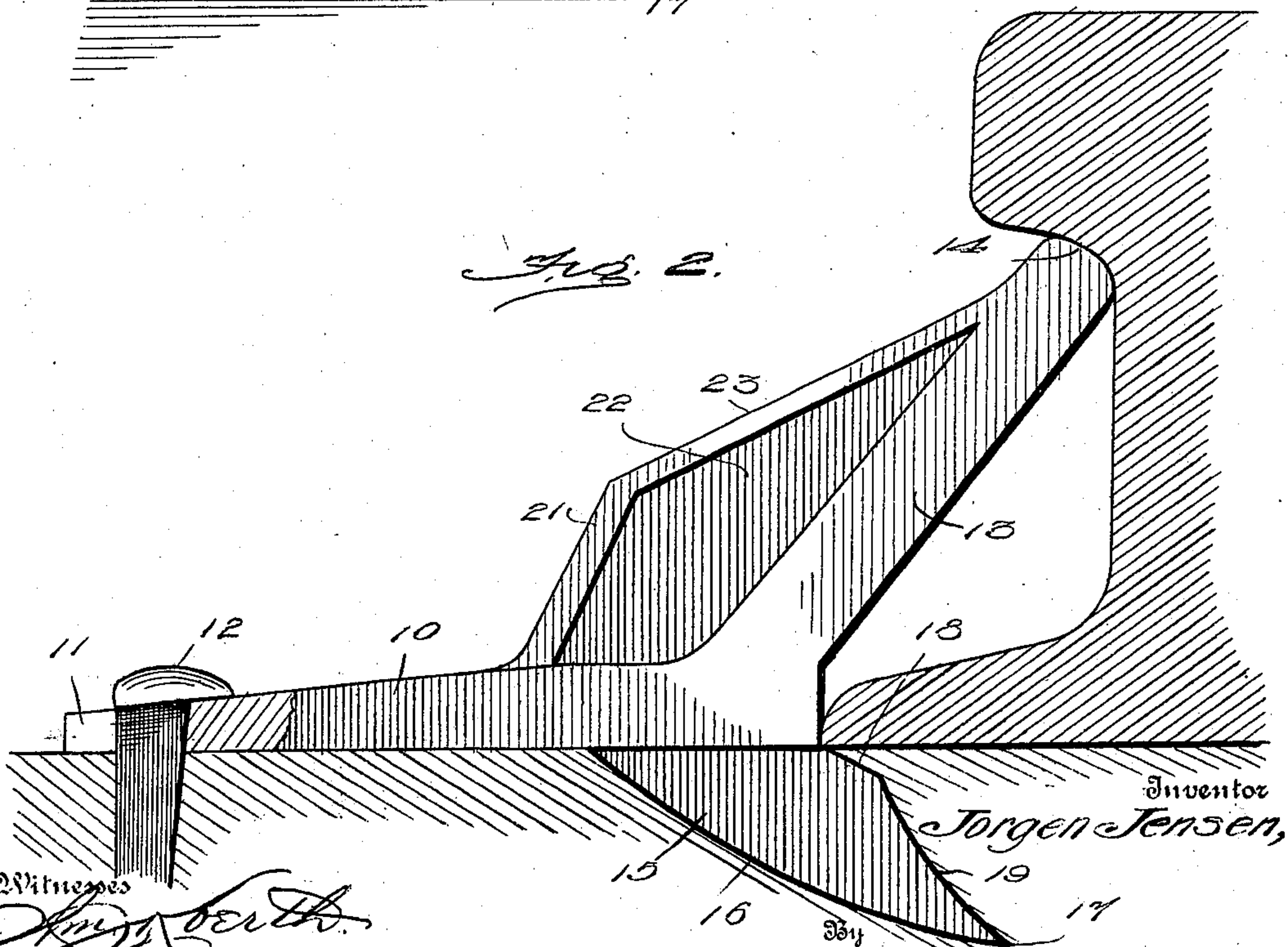
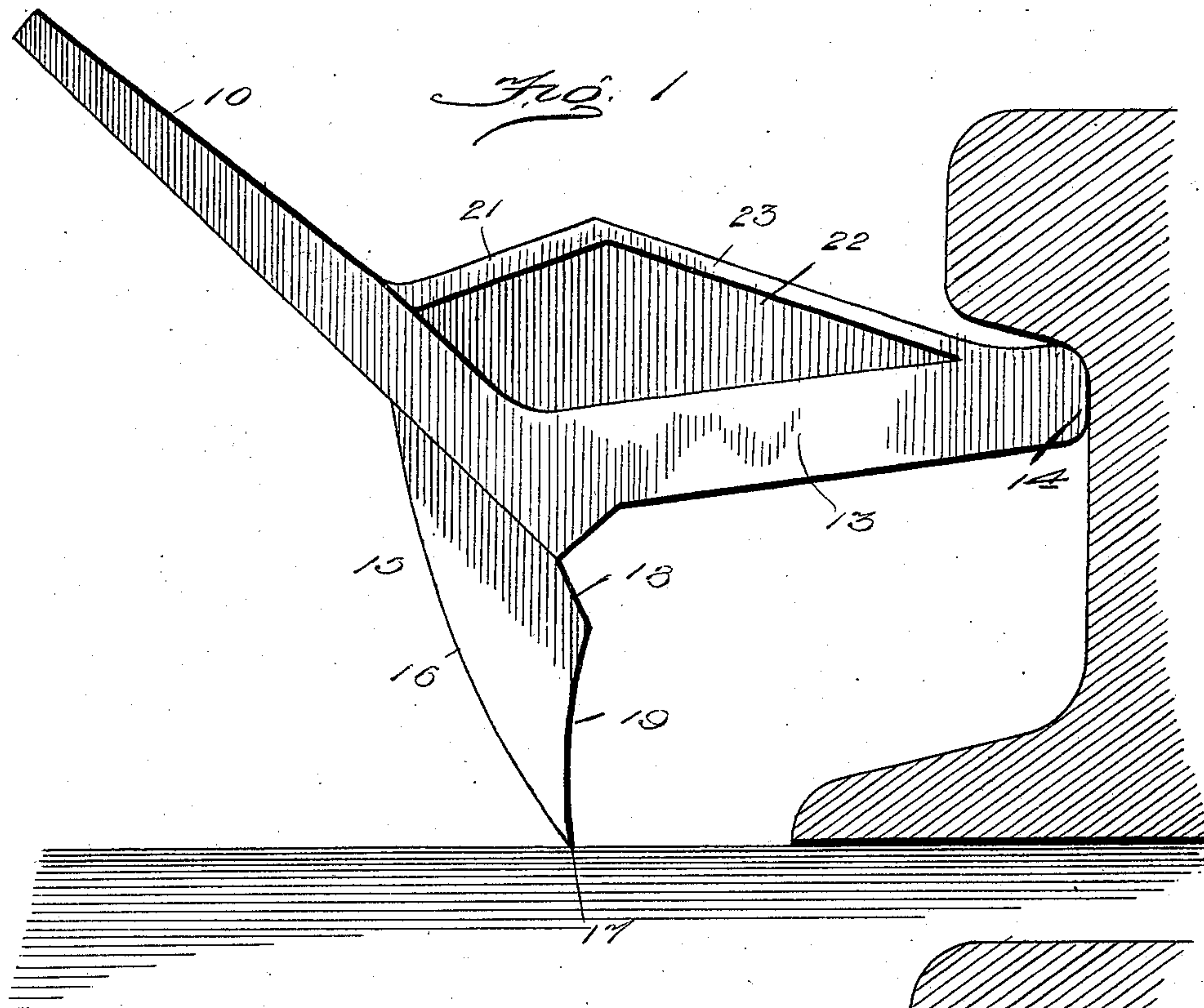
Patented Mar. 18, 1902.

J. JENSEN.
RAIL BRACE.

(Application filed Nov. 20, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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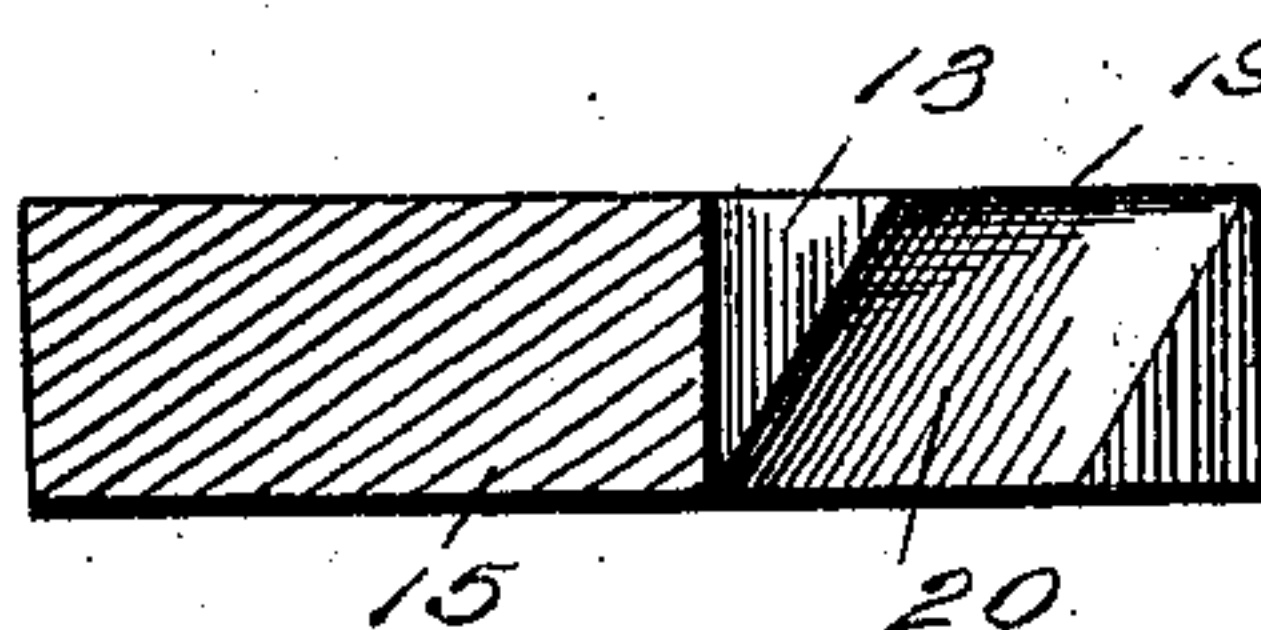
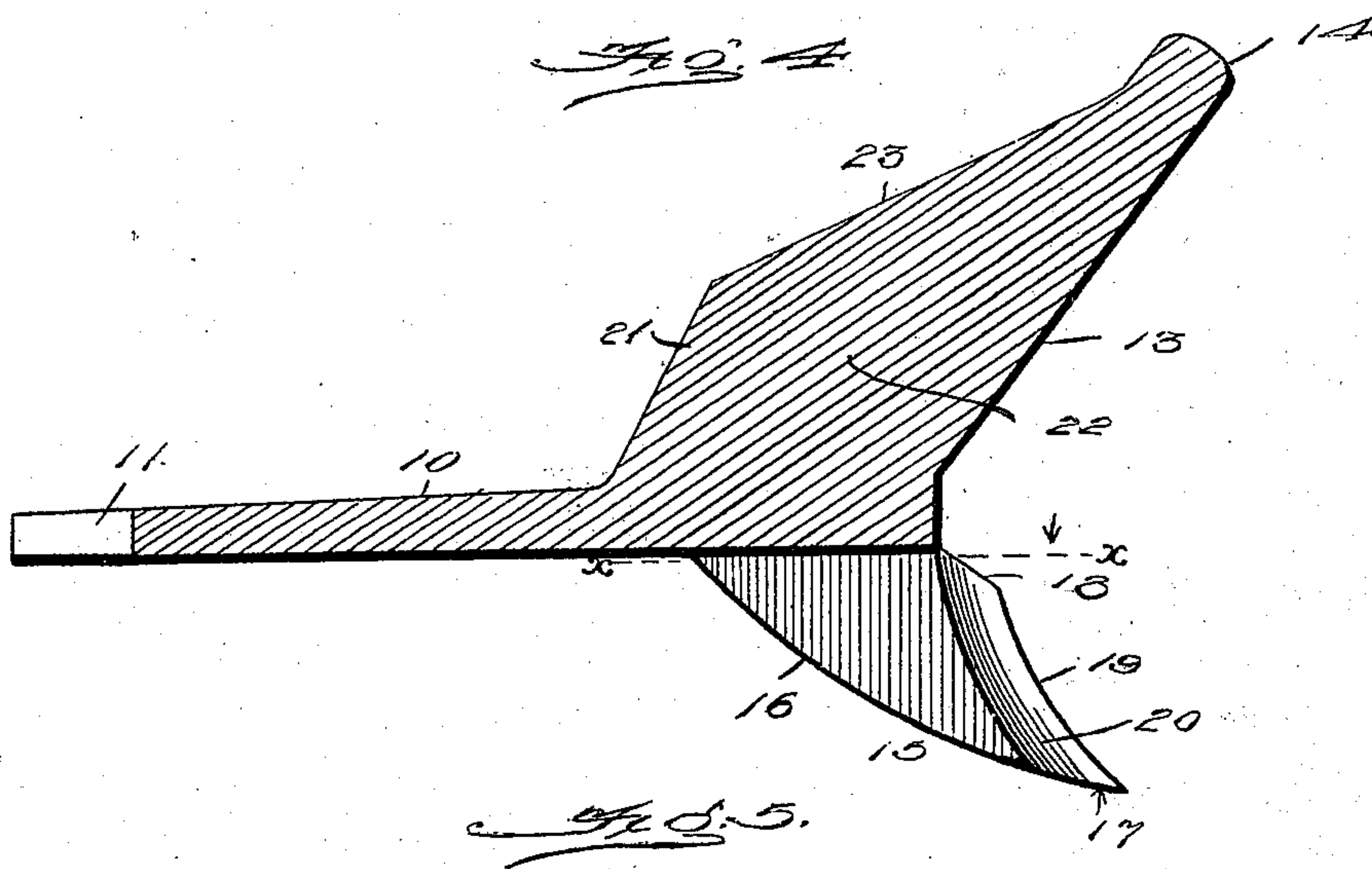
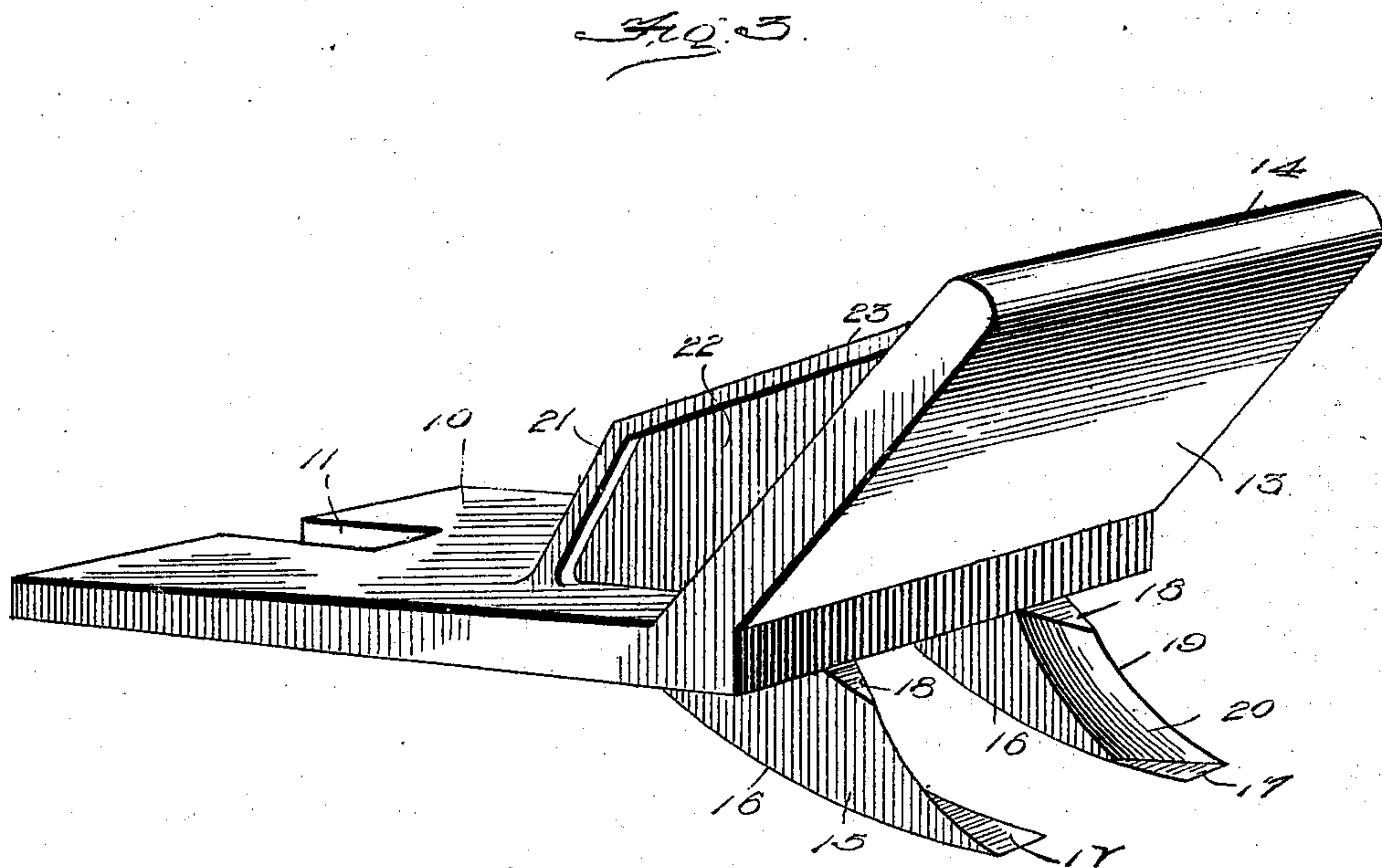
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2 Sheets—Sheet 2.



Witnesses

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UNITED STATES PATENT OFFICE.

JORGEN JENSEN, OF BLACK DIAMOND, WASHINGTON.

RAIL-BRACE.

SPECIFICATION forming part of Letters Patent No. 695,610, dated March 18, 1902.

Application filed November 20, 1901. Serial No. 83,044. (No model.)

To all whom it may concern:

Be it known that I, JORGEN JENSEN, a citizen of the United States, residing at Black Diamond, in the county of King and State of Washington, have invented new and useful Improvements in Rail-Braces, of which the following is a specification.

This invention relates to rail-braces; and the object in view is to provide a simple and efficient brace for supporting the rails of a road-bed against lateral displacement, overcoming the liability of the rails to spread, especially at curves, and at the same time removing to a considerable extent the strain on the spike or spikes which hold the brace in place on a tie.

The improved brace contemplated in this invention comprises one or more teeth adapted to be driven into a wooden tie, so as to pass and lie beneath the base-flange of the rail, and also comprises an impact-face to receive the blows of a suitable driving implement, wherewith the teeth are driven into the tie.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a rail-brace constructed in accordance with the present invention, showing the initial position of the brace with relation to a rail preparatory to driving the brace into its place. Fig. 2 is a similar view showing the final position of the brace and its relation to the rail. Fig. 3 is a detail perspective view of the brace. Fig. 4 is a longitudinal section through the brace. Fig. 5 is a horizontal section taken on the line $x x$ of Fig. 4.

Similar numerals of reference designate corresponding parts in all the views.

In the drawings the rail-brace contemplated in this invention comprises, essentially, a base 10, preferably in the form of a flat rectangular plate, which is cast or otherwise formed integral with the remaining elements of the device, the said base being provided adjacent to its outer edge with an opening or notch 11 to receive a retaining-spike, (shown at 12 in Fig. 2.)

Extending obliquely upward from the inner edge of the base 10 is the brace proper, (designated at 13,) the said brace having its upper edge rounded, as shown at 14, to form a fulcrum which is adapted to bear snugly beneath and against the ball or head of the rail, as illustrated in Figs. 1 and 2, while the inner edge of the base 10 is adapted to be brought to bear against the adjacent base-flange of the rail, as shown in Fig. 2.

On its under side the base 10 is provided with one or more teeth 15. Each tooth is approximately crescent-shaped, and comprises a transversely flat but longitudinally convex bottom surface 16, terminating at the extremity of the tooth in a sharpened transverse cutting-point 17, as best illustrated in Fig. 3, so as to enter and cleave the wooden tie. The tooth also comprises an upper triangular surface 18, which extends inward from the inner end of the base 10 and inclines slightly downward therefrom, said surface forming a ledge which when the brace is brought to its final position underlies the adjacent edge of the base-flange of the rail, as shown in Fig. 2. The advance edge of the tooth is concave and sharpened to form a cutting edge 19, the tooth being beveled rearwardly therefrom, as shown at 20, so as to force the wood laterally and prevent the wood from being jammed between the base of the brace and the bottom flange of the rail.

In placing one of the rail-braces in position it is first associated with the rail in the manner illustrated in Fig. 1, with the fulcrum 14 bearing beneath the ball or head of the rail and the points of the teeth resting against the upper surface of the tie. The rail-brace is then driven downward until the teeth pass beneath the rail, as shown in Fig. 2. This brings the base into contact throughout with the upper surface of the tie, and the brace is held permanently in said position by means of an ordinary spike 12, which is driven through the notch or opening 11 into the tie.

In order to provide for driving the teeth into the tie, the rail-brace is provided on its upper side with an impact-surface 21. The impact-surface 21 is located at a considerable distance from the brace 13 and is supported by one or more webs or ribs 22, which form an integral part of the rail-brace as a whole

and extend backward and outward from the member 13.

The impact-surface 21 is disposed at an angle to a cross-web 23, which covers the outer edges of the ribs 22 and extends from the impact-surface to a point near the fulcrum 14 of the brace 13. The ribs 22 materially stiffen and strengthen the device as a whole and at the same time form the supports for the transversely-extending web which constitutes the impact-surface adapted to receive the blows of a hammer, sledge, mallet, or other suitable implement, wherewith the teeth 15 are driven home.

The device hereinabove described is conveniently formed in one piece and may consist either of a casting or forging. Only one spike is needed to hold the rail-brace in position, as the teeth which are driven into the wooden tie take the major portion of the strain and prevent possible movement of the rail-brace, which acts in turn to prevent lateral movement of the rail. The rail-brace also overcomes the tendency of the rail to tip or tilt under the action of a rapidly-moving train, especially at curves.

I do not desire to be limited to the details hereinabove set forth, and accordingly reserve the right to change, modify, or vary the construction within the scope of the appended claims.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. A rail-brace comprising a base-plate adapted to be fastened flatwise to a tie, a brace proper extending obliquely upward therefrom and adapted to engage beneath the head of a rail, a raised impact-surface located in the angle between the base-plate and brace proper, and one or more teeth projecting downward from the lower side of the base.

2. A rail-brace comprising a base adapted to lie flatwise upon a tie, a brace proper ex-

tending obliquely upward from the inner end thereof and adapted to bear beneath the head of a rail, a raised impact-surface located between the base and brace, and one or more teeth projecting from the lower side of the base and provided at their inner sides with sharpened cutting edges.

3. A rail-brace comprising a base, a brace proper extending obliquely upward from the inner end thereof and adapted to engage under the head of a rail, a raised impact-surface located between the base and brace, and crescent-shaped teeth projecting downward and inward from the base and having their inner sides sharpened and beveled in opposite directions so as to cleave a wooden tie and force the fiber thereof laterally in opposite directions.

4. A rail-brace comprising a base, a brace therefor extending obliquely upward therefrom and adapted to bear against the head of a rail, an offset impact-surface located between the base and brace, and a plurality of teeth extending downward and inward from the base, each tooth comprising a forward cutting edge, a beveled side, and an inclined ledge, the highest portion of which is in line with the lower surface of the base, said ledge being adapted to pass beneath the adjacent base-flange of the rail.

5. A rail-brace comprising a base, a brace therefor extending obliquely upward therefrom and adapted to bear beneath the head of a rail, teeth projecting downward from the base, one or more ribs located in the angle between the base and brace, and a web supported by said rib or ribs and constituting an impact-surface.

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

JORGEN JENSEN.

Witnesses:

S. PLOUGH,
JOHN KELLEHER.