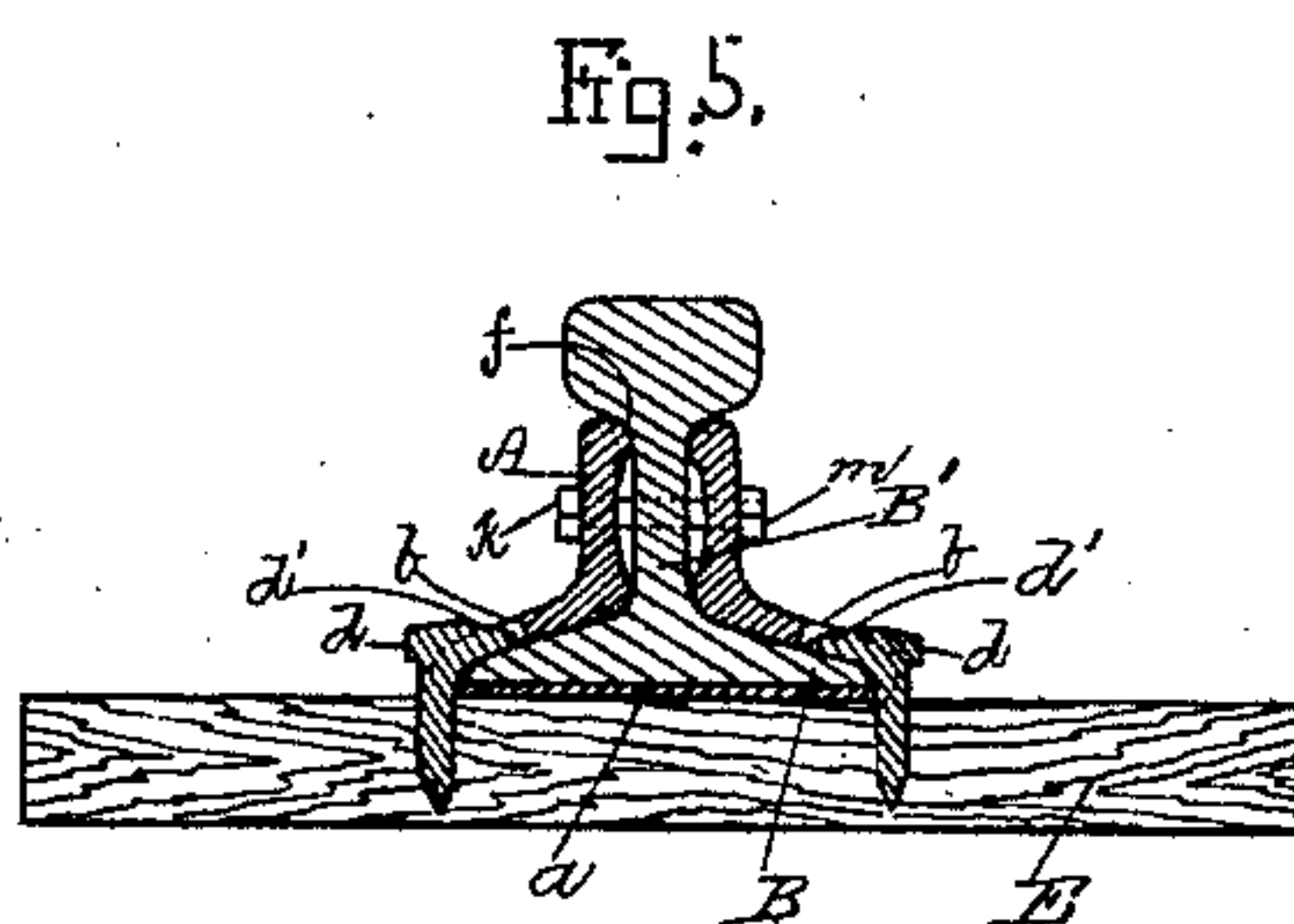
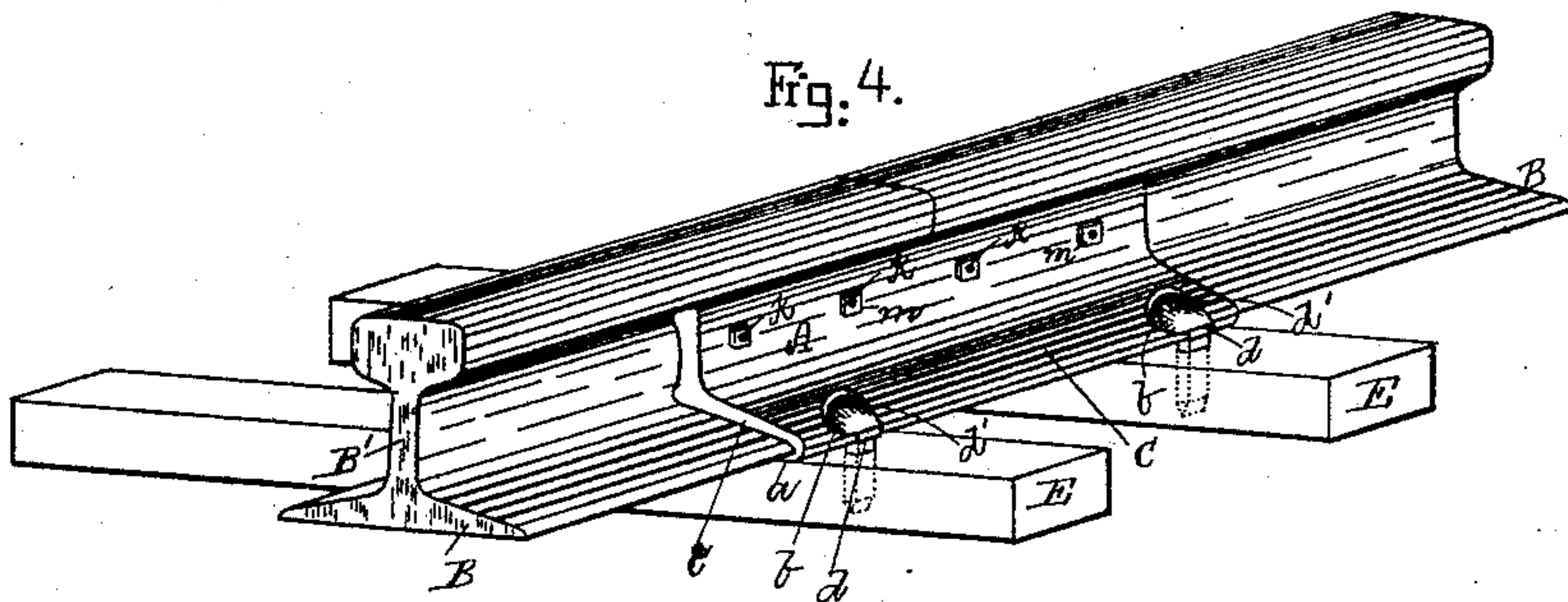
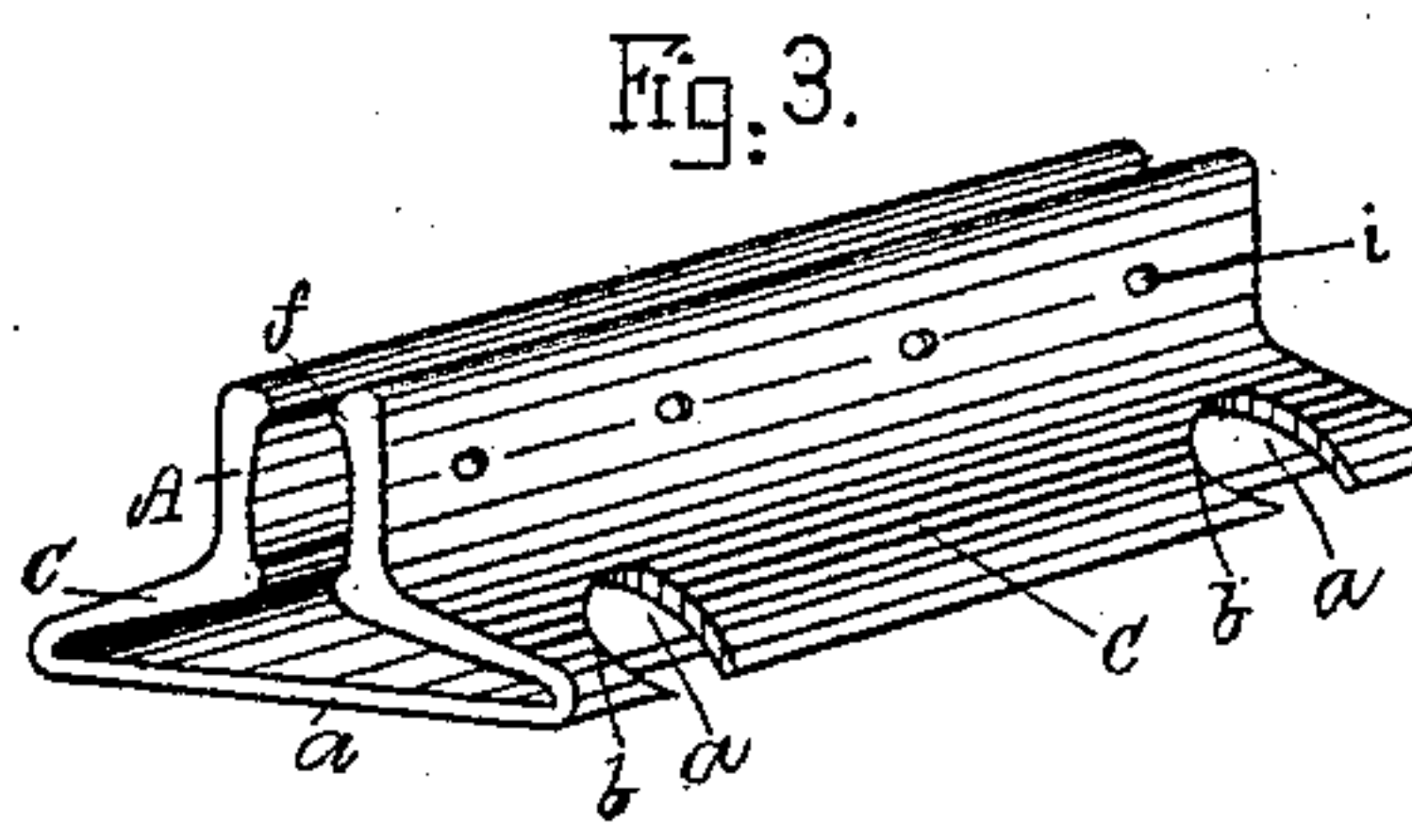
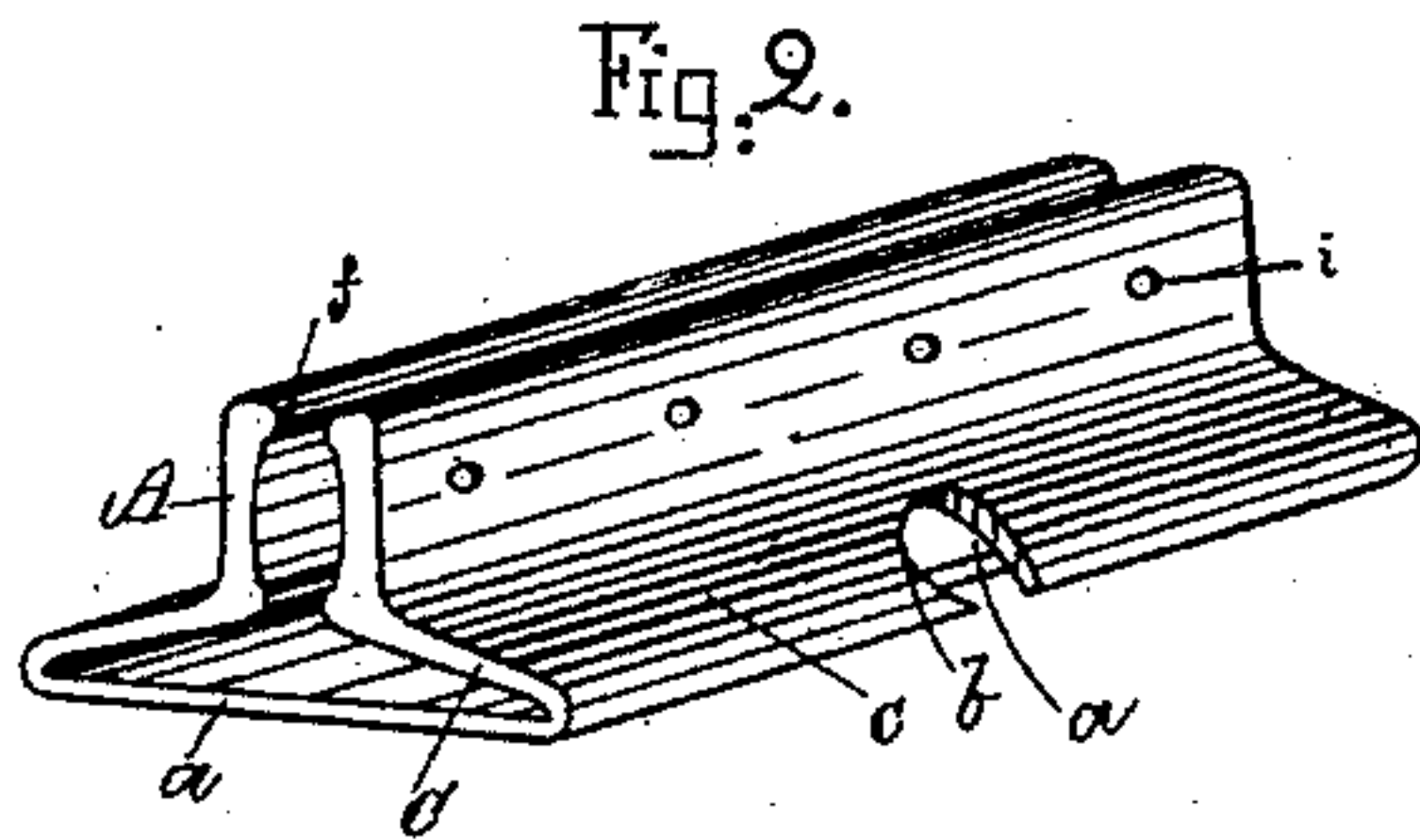
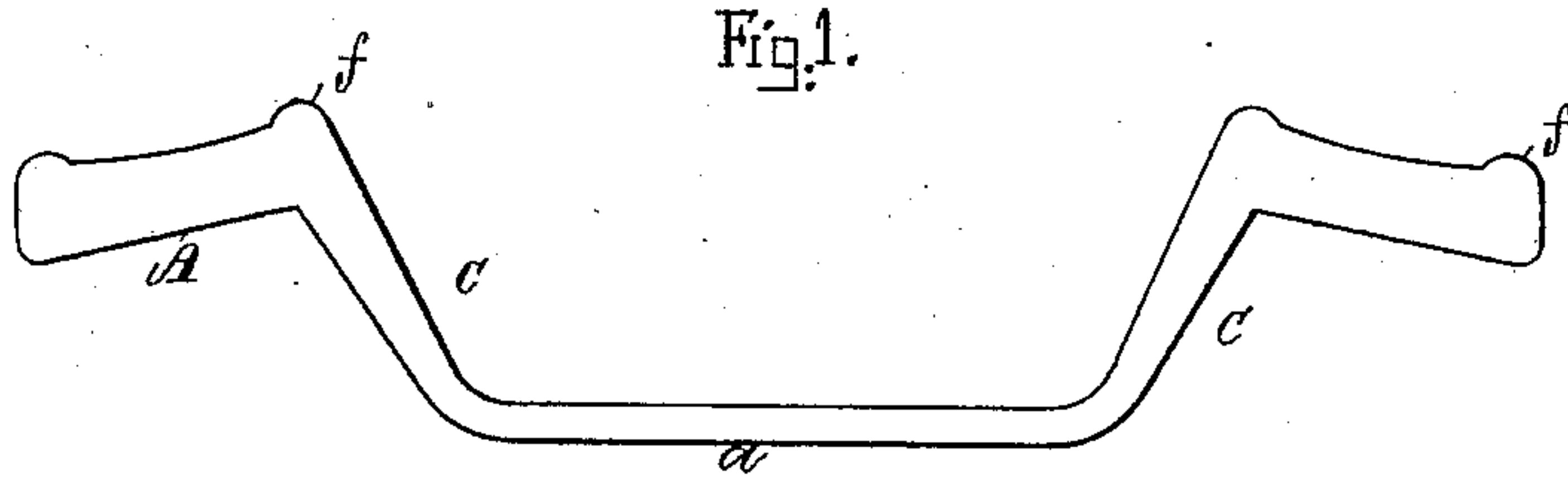


(No Model.)

D. A. CHAPIN & C. A. KING.
CHAIR AND FISH PLATE FOR RAILROAD JOINTS.

No. 437,288.

Patented Sept. 30, 1890.



Witnesses.

Laurenty H. Möller.
John R. Snow.

Inventor

Daniel A. Chapin,
Charles A. King,
by W. A. Copeland
their atty

UNITED STATES PATENT OFFICE.

DANIEL A. CHAPIN AND CHARLES A. KING, OF BOSTON, MASSACHUSETTS.

CHAIR AND FISH-PLATE FOR RAILROAD-JOINTS.

SPECIFICATION forming part of Letters Patent No. 437,288, dated September 30, 1890.

Application filed May 14, 1890. Serial No. 351,729. (No model.)

To all whom it may concern:

Be it known that we, DANIEL A. CHAPIN and CHARLES A. KING, both of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Combined Chairs and Fish-Plates for Railroad-Joints, of which the following is a specification, reference being had to the accompanying drawings, which form a part hereof.

Our invention is an improvement on the combined chair and fish-plate shown in patent, No. 288,656, granted to H. B. Nickerson, November 20, 1883, and consists in having, instead of the lugs shown in his patent, a notch in the edge of the base and flange of the plate to allow the spike to set up against the rail, the recess in the flange being large enough to receive the full head of the spike and allow the spike-flange to set down upon the rail-flange.

In the drawings, Figure 1 is an end view of the rolled blank before shaping to the finished form. Figs. 2 and 3 are perspective views of the chair and fish-plate completed. Fig. 4 represents the device in use where the joint occurs between two ties. Fig. 5 is a transverse vertical section.

The blank is first rolled to the shape shown in Fig. 1 and then bent to the form shown in Figs. 2 and 3. We prefer to make the upright or web portion A of greater thickness than the base and to taper the flange C downward.

The notches *b* are preferably punched as

slots in the blank before bending, and when the blank is bent crosswise of the slot to the form of the finished device these slots form notches in the edge of the fold, as shown. The notch is deep enough to let the spike *d* bearsnug against the flange B of the rail, and extends into the flange C sufficiently to receive the full head of the spike, so that the spike-head flange *d'* bears directly down upon the rail-flange without any intervening plate. At the same time the spike lying within the notch prevents any longitudinal or creeping movement of the plate.

Bolts *k* pass through holes *i* in the web of the plate and through corresponding holes in the web B' of the rail, having nuts *m* on the threaded end thereof.

We prefer to form a bead *f* on the inner faces of the web A of the fish-plate.

What we claim as our invention is—

A combined chair and fish-plate having two upright portions, two flange portions, and a connecting-base with slots which form notches in the base and flange to admit spikes, the recess in the plate-flange being sufficiently large to receive the full head of the spike and allow the spike-head flange down upon the rail-flange, substantially as described.

DANIEL A. CHAPIN.
CHARLES A. KING.

Witnesses:

FLETCHER LADD,
WM. A. COPELAND.