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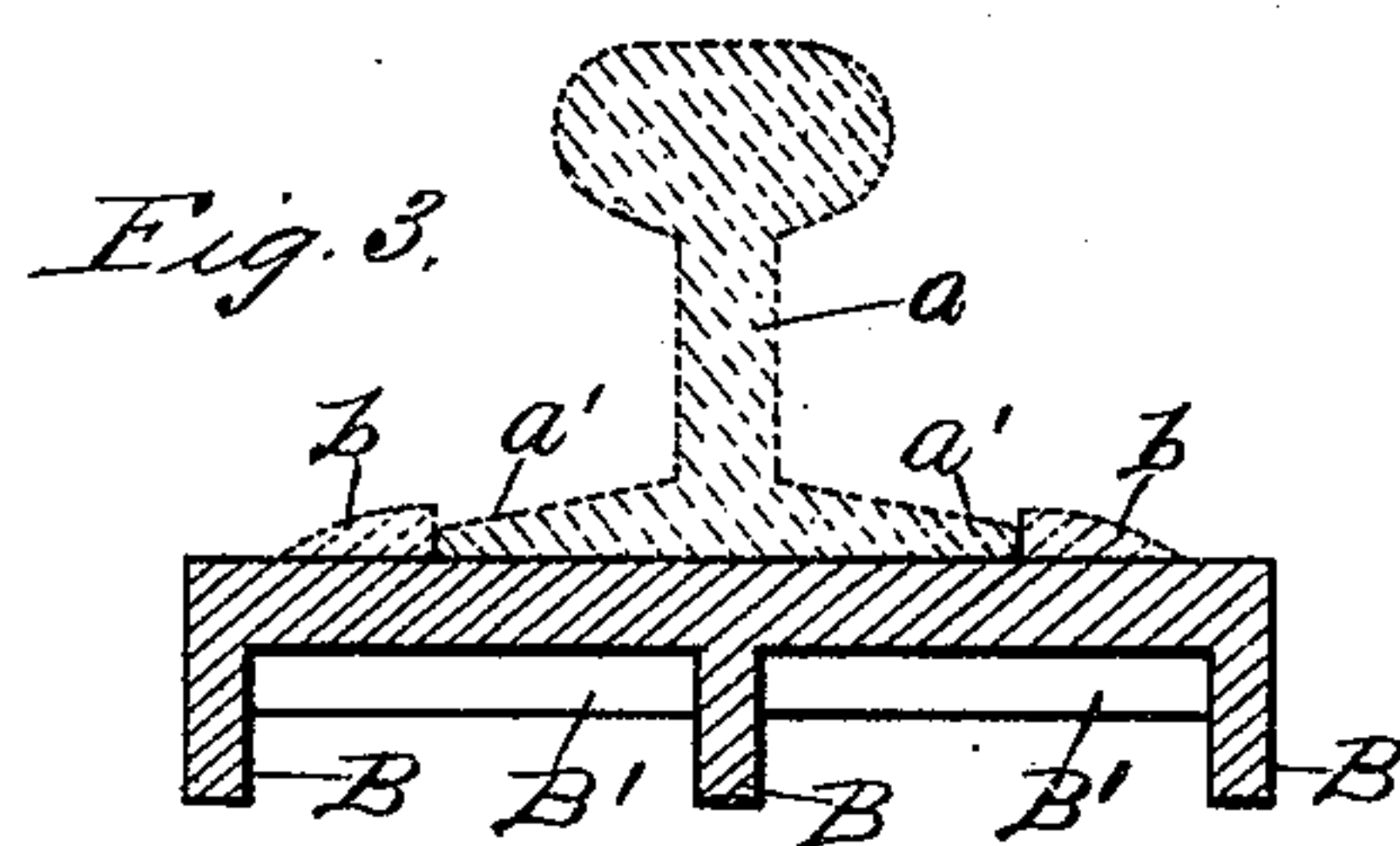
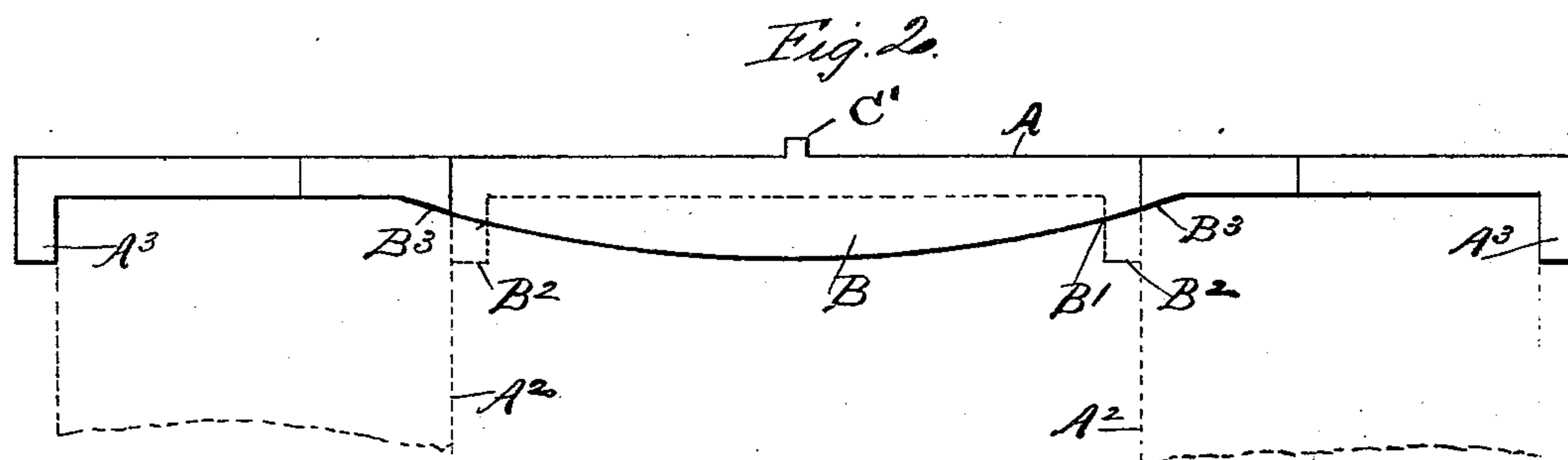
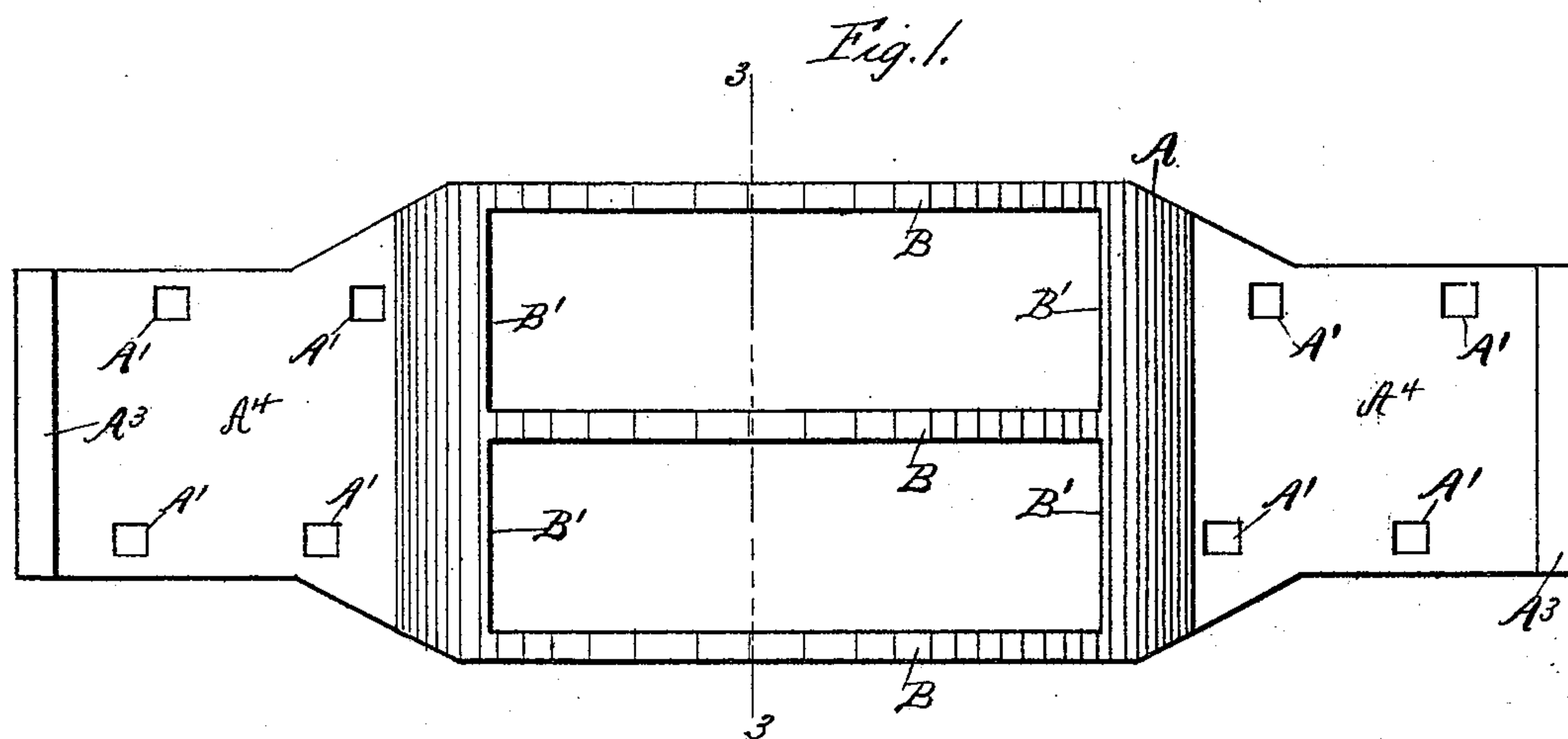
2 Sheets—Sheet 1.

J. W. WALSH.

BED PLATE FOR RAILWAY RAIL JOINTS.

No. 459,338.

Patented Sept. 8, 1891.



Witnesses =

Frank C. Curtis.

A. Davenport

Inventor:
John W. Walsh

John W. Walsh

by Geo. A. Mowbray
Author.

Atty

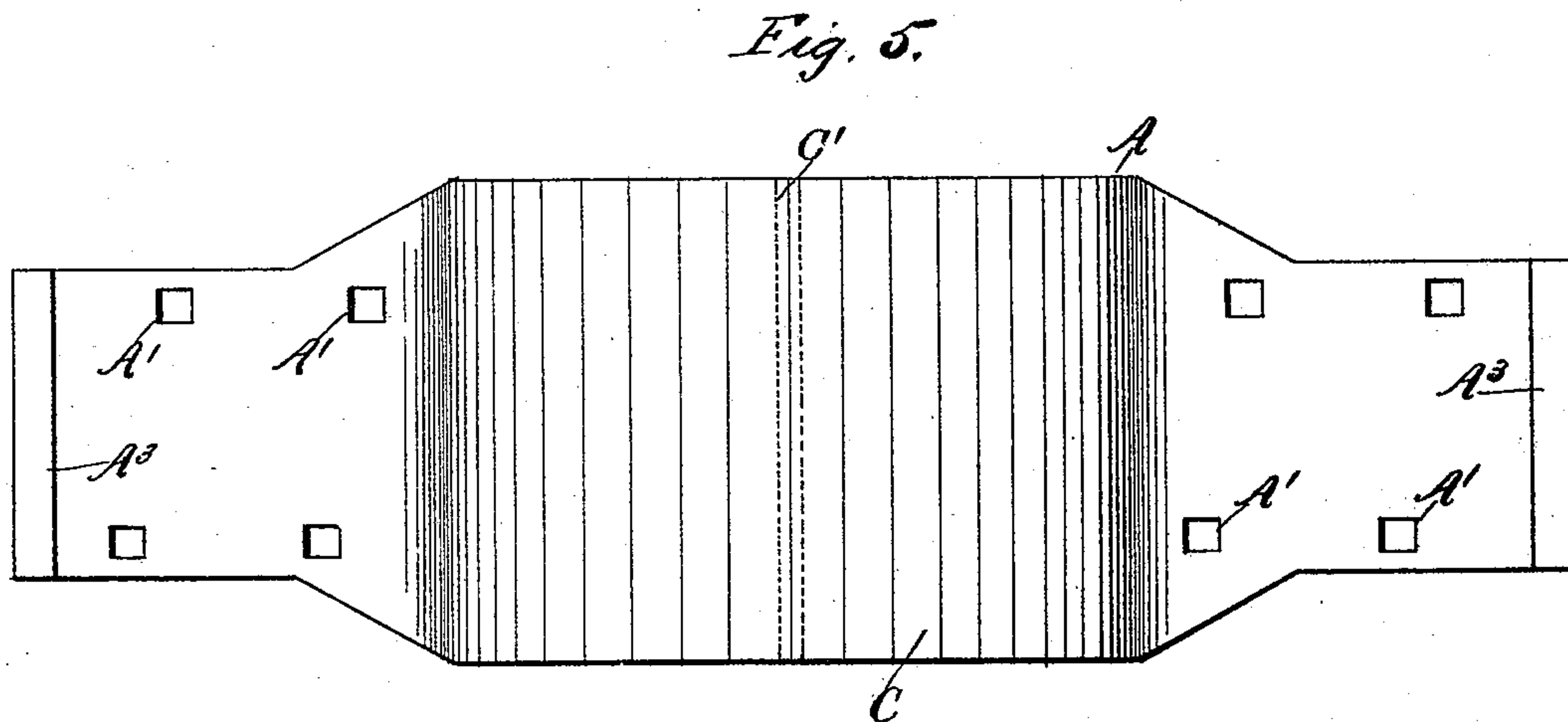
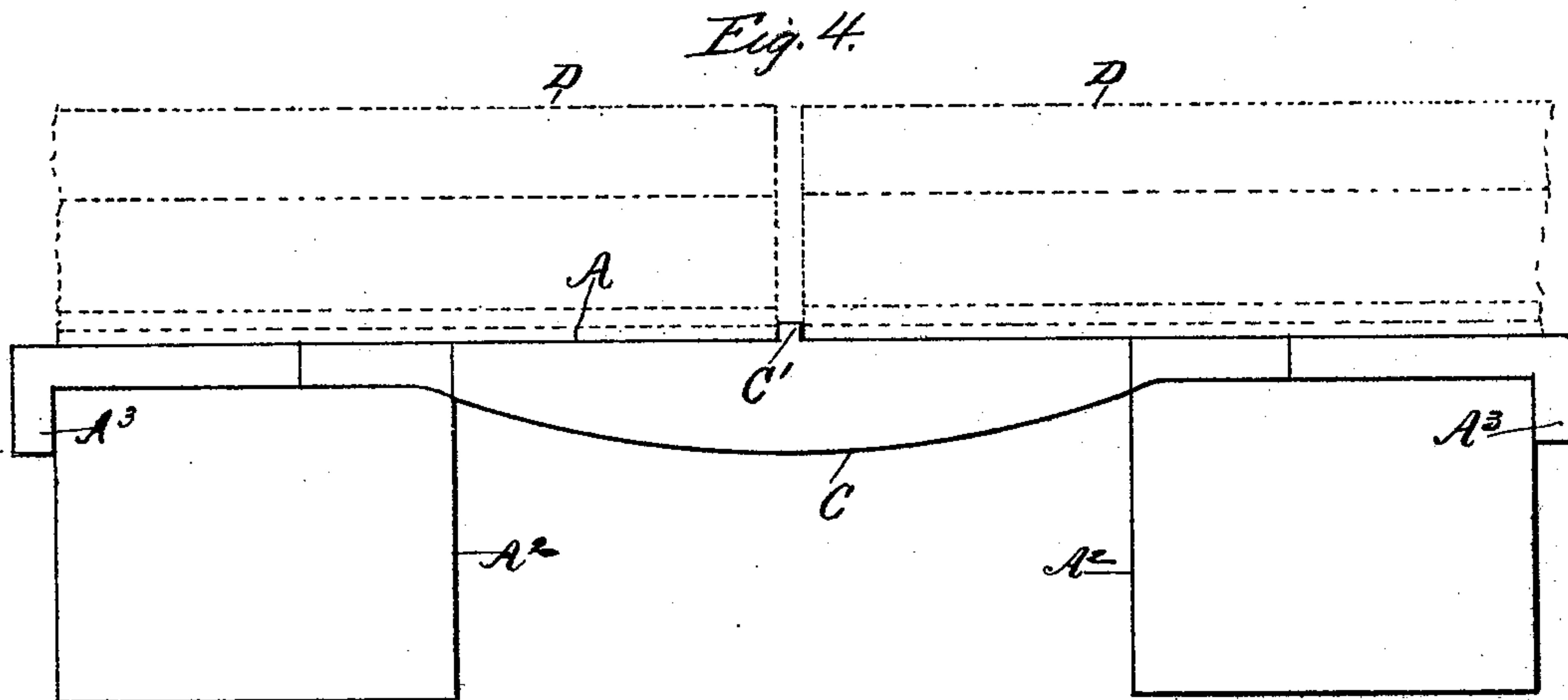
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2 Sheets—Sheet 2.

J. W. WALSH.
BED PLATE FOR RAILWAY RAIL JOINTS.

No. 459,338.

Patented Sept. 8, 1891.



Witnesses:
Frank C. Curtis.
A. Thompson

Inventor:
John W. Walsh,
by Geo. A. Mooker
Atty.

UNITED STATES PATENT OFFICE.

JOHN W. WALSH, OF TROY, NEW YORK, ASSIGNOR OF TWO-THIRDS TO
EDWARD F. MURRAY AND ERASTUS H. VAUGHN, BOTH OF SAME PLACE.

BED-PLATE FOR RAILWAY-RAIL JOINTS.

SPECIFICATION forming part of Letters Patent No. 459,338, dated September 8, 1891.

Application filed November 5, 1890. Serial No. 370,375. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. WALSH, a citizen of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Bed-Plates for Railway-Rail Joints, of which the following is a specification.

My invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a bottom plan view of my improved bed-plate for railway-rail joints. Fig. 2 is a view in side elevation of the same. Fig. 3 is a vertical cross-section of the same, taken on the broken line 3 3 in Fig. 1. Figs. 4 and 5 are respectively a side elevation and a bottom plan view showing a modification.

The principal object of my invention is to adapt the bed-plate of a railway-rail joint or chair to be supported by two cross-ties or sleepers, one at each end of the plate.

A is the bed-plate, provided near each end with the spike-holes A', by which the plate can be spiked to the cross-ties A². The lower or bottom face of the plate is provided with the depending cross-flanges A³, one at each end of the plate, adapted to engage with the sides of the ties to prevent them from spreading and assist the spikes in holding the plate in place, the plate also having bearing-surfaces A⁴, adapted to rest upon the ties.

The middle part of the plate is provided with a plurality of longitudinal or bridge flanges B, extending lengthwise of the plate from one end bearing to the other. The bridge-flanges are fish-bellied in form, as shown, whereby they project from the lower surface of the plate a greater distance at their middle part than they do at their ends. The ends of the several bridge-flanges preferably terminate in a cross-flange B'. These cross-

flanges B' serve to prevent the cross-ties A² from crowding together and strengthen the plate just at the beginning of the bearing-surface, which rests upon the supporting cross-tie. The cross-flanges B' may be of any desired depth. I have indicated their form when made of the same depth as flanges A³ by dotted lines B² in Fig. 2; but as some cross-ties are made wider than others I prefer to have the depth of the cross-flanges B' and the ends of the bridge-flanges of a uniform depth, as shown by the solid lines, and to strengthen the plate at the angle formed between the end bearing-surfaces and the cross-flanges B' by a fillet B³, connecting such flange with such bearing-surface, as shown. The fillet may have a rounded or concaved face and be adapted to rest upon one corner or other part of the cross-tie, either being forced down into the yielding material of a wooden tie or resting on a face prepared to receive it. The bridge-flanges give strength to the middle part of the plate and make it possible to produce a light strong plate. The deep cross-flanges contiguous to the cross-tie permit the plate to be raised from the tie and wedges inserted between the tie and the plate to raise the track-rail without disturbing the cross-ties, which is a great convenience in the cold season when the soil about the ties is frozen. When desired, the middle or bridge part of the plate may be made in one solid flange, as shown in Figs. 4 and 5 at C. I have shown in Fig. 4 by solid lines and in Fig. 5 by dotted lines the form and position of a rising cross-flange C' on the upper surface of the middle part of the plate. I have also indicated by dotted lines D in Fig. 4 the relative positions of the railway-rails. The cross-flange C' prevents the rails from being displaced by creeping along the joint-plate and unequally distributing the load of the plate upon the plate-supporting ties, as would happen on steep grades, and prevents abutting contact of the rails one upon another. The plates may be provided with any known form of cheek-pieces or flanges to engage the web, ball, or flanges of the rail.

I have indicated by dotted lines in Fig. 3 the relative positions of rails and flanges, a

representing the rails, and *b* the flanges rising from the upper surface of the plate to engage with the flanges *a'* of the rails.

What I claim as new, and desire to secure
5 by Letters Patent, is—

1. A bed-plate for railway-rail joints, having a bearing-surface at each end adapted to rest upon a cross-tie, a depending cross-flange at each end of the plate, and a depending
10 bridge-flange extending from one bearing-surface to the other, substantially as described.

2. In a bed-plate for railway-rail joints, having a bearing-surface at each end adapted to rest upon a cross-tie, and a plurality of bridge-
15 flanges severally extending from one bearing-surface to another, the combination, with a depending cross-flange located at the junc-

tion of such bridge-flanges and one of the bearing-surfaces, of a fillet located in the angle formed by such cross-flange and that
20 part of the plate having such bearing-surfaces, substantially as described.

3. The combination, with the bed-plate of a railway-rail joint, of a depending cross-flange at each end of the plate, and a rising
25 cross-flange at the middle part of such plate, substantially as described.

In testimony whereof I have hereunto set my hand this 28th day of October, 1890.

JOHN W. WALSH.

Witnesses:

FRANK C. CURTIS,

W. H. HOLLISTER, Jr.