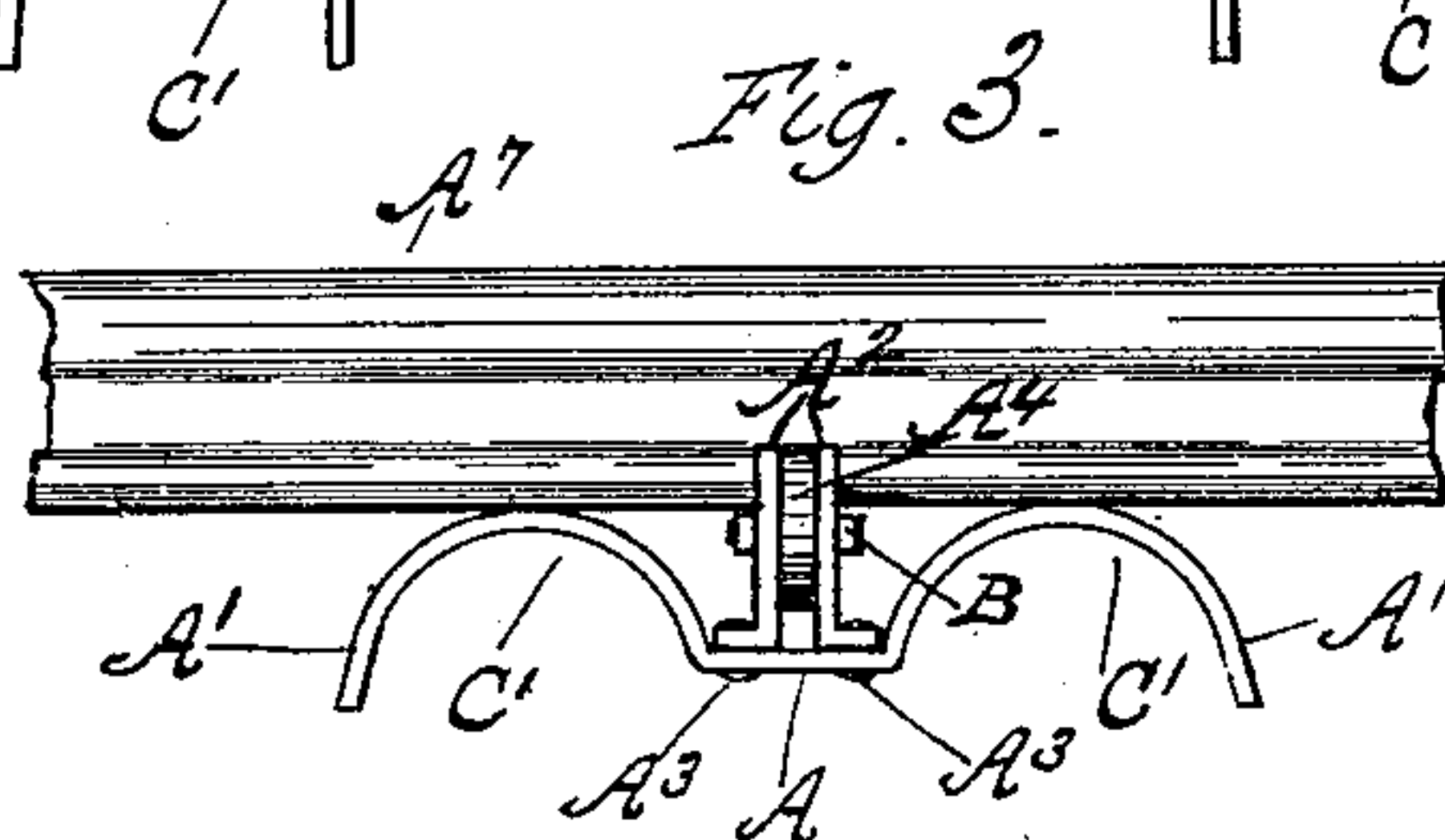
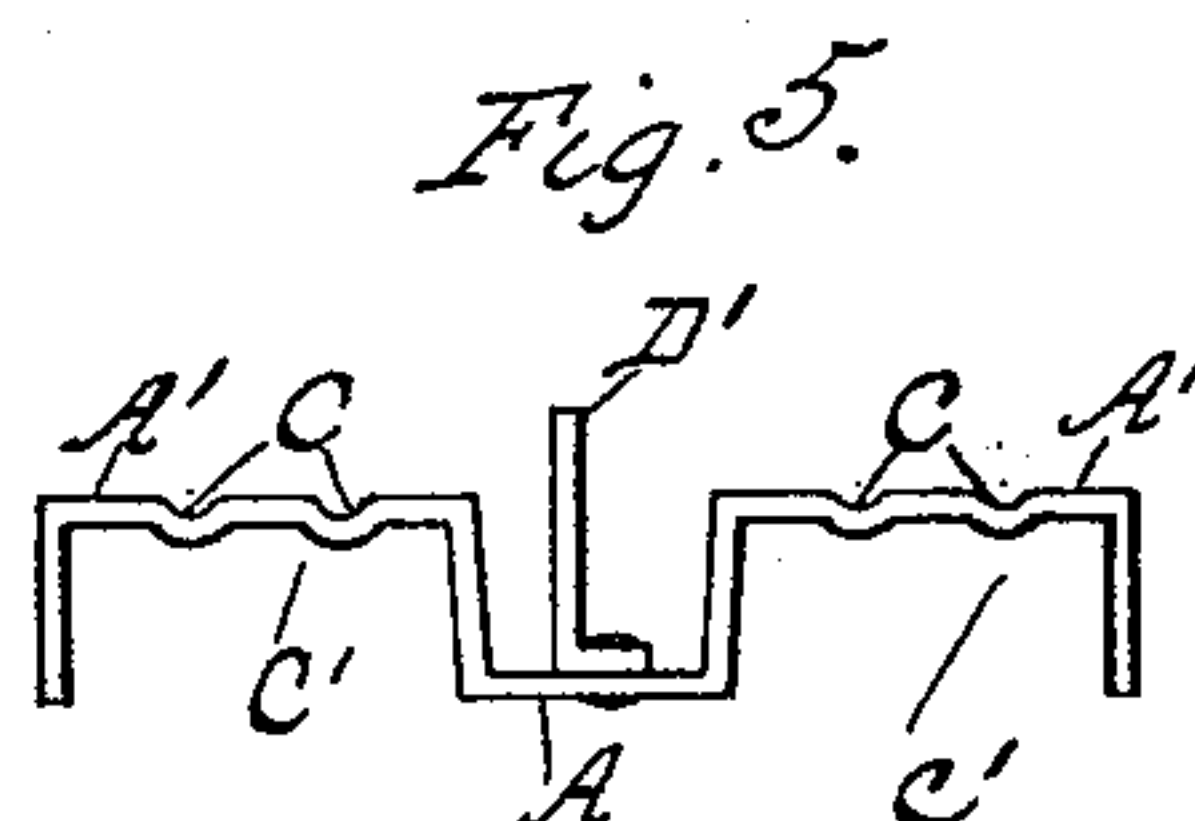
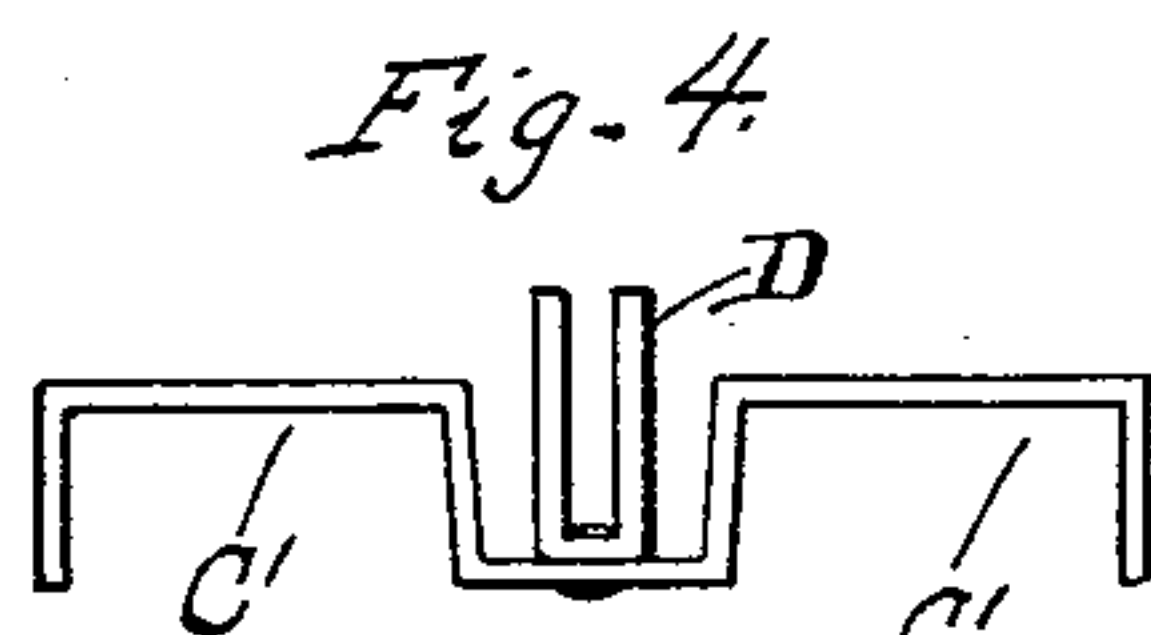
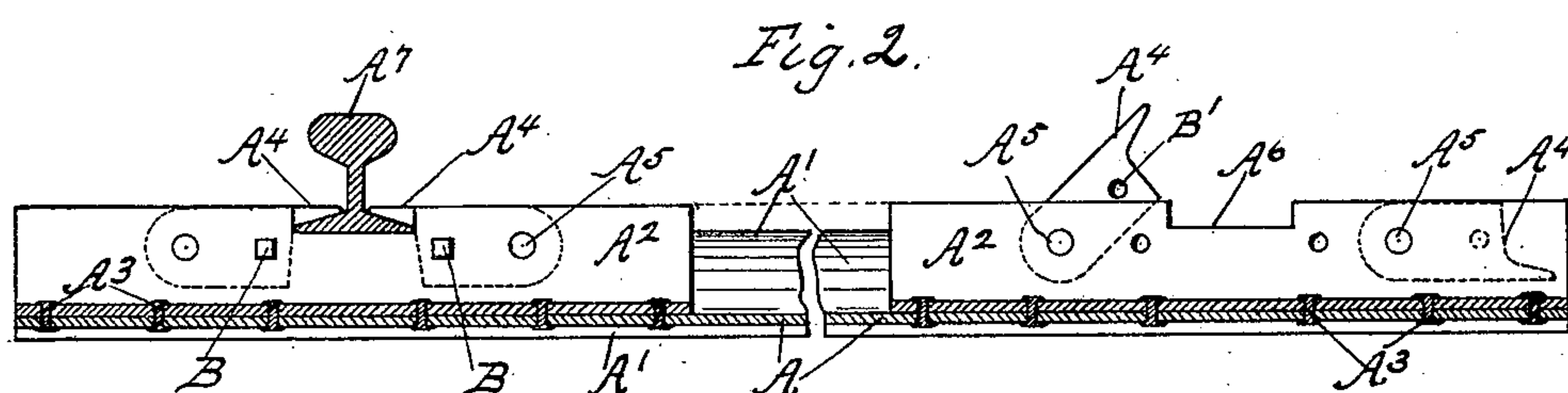
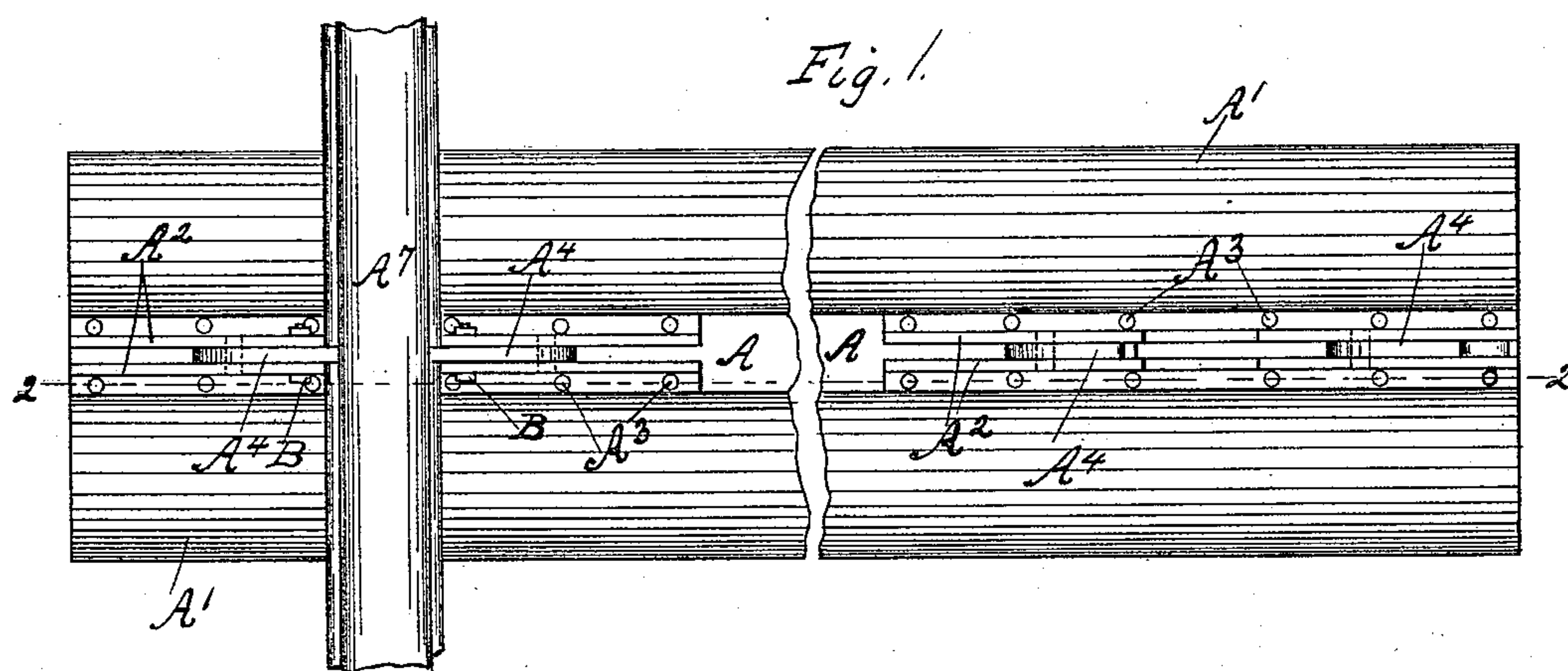


(No Model.)

J. F. HARRIS.
METALLIC RAILROAD TIE.

No. 461,261.

Patented Oct. 13, 1891.



Witnesses:
Frank C. Curtis.
B. M. Fife.

Inventor:
John F. Harris
by Geo. Mosher
Atty.

UNITED STATES PATENT OFFICE.

JOHN F. HARRIS, OF FORT EDWARD, NEW YORK.

METALLIC RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 461,261, dated October 13, 1891.

Application filed January 31, 1891. Serial No. 379,763. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. HARRIS, a citizen of the United States, residing at Fort Edward, county of Washington, and State of New York, have invented certain new and useful Improvements in Metallic Railroad-Ties, 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 top plan view of my improved metallic railroad-tie, having its middle portion broken away and showing a rail in position on one end. Fig. 2 is a longitudinal vertical section of the same, taken on the broken line 2 2 in Fig. 1. Fig. 3 is an end elevation of the parts shown in Fig. 1. Figs. 4 and 5 are end views showing modified forms of the lateral wings of the tie.

My improved tie comprises a horizontal metallic plate A, which may be rolled or forged with the laterally-projecting wings A', of a uniform or differing thickness, as desired, and the upright angle-plates A² secured to the horizontal plate along its longitudinal middle part, as by the rivets A³. The upright plates are secured in a position parallel to each other and to the horizontal plate, with a space between the upright plates adapted to receive the rail-clamps A⁴, each pivoted to the uprights by a pivot A⁵. The uprights are also provided with a transverse recess A⁶, adapted to receive the foot or flanges of the rail A⁷. The rail is placed upon the ties transversely of the same, with the foot resting in the recesses, which are preferably made of such depth in the uprights as will permit the bottom of the rail to rest upon the top of the wings A', as shown. The rail is secured in such position by means of the clamps A⁴, which are swung from an open position, such as shown on the right-hand end of the tie in Fig. 2, to the closed position shown on the left-hand end of the same tie, where the

swinging ends of the clamps are shown in contact with the rail-flanges.

The clamps are securely locked in their closed position by means of a bolt or pin B, inserted through a bolt-hole B' in the clamp and corresponding holes in the uprights. The bolts may be slightly tapered or pointed, so that when they are driven through the clamp and uprights they will cause the apertures therein to register with each other and force the clamps tightly against the rail-flanges, thereby firmly holding the rails in position upon the uprights.

The uprights may extend the whole length of the tie, as indicated by dotted lines in Fig. 2, or part way only, as shown by the solid lines in the same figure.

My improved form of construction permits the clamps to be turned back to the position indicated by dotted lines at the extreme right-hand end of Fig. 2, in which position the clamp is entirely concealed between and protected from injury by the uprights.

Although I prefer to give the lateral wings a curved cross-sectional form similar to that shown in Fig. 3, the form may be varied as desired. In Fig. 4 the form is shown angular instead of curved, and in Fig. 5 the plate is shown with stiffening-corrugations C.

The pockets C' are adapted to receive the ballast beneath, and the curved or angular walls give sustaining strength to the tie, whether provided with the corrugations C or not. When desired, the uprights may be united in a single piece of plate-metal D, made U-shaped in cross-section and secured by a single line of rivets to the horizontal plate, as shown in Fig. 4, or a single upright D' may be employed, as shown in Fig. 5.

It is obvious that the clamps may be riveted at each end to the uprights whether the latter are arranged in pairs or singly.

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

1. The combination, with a horizontal plate and wings projecting laterally therefrom, of a rail-supporting upright riveted to the horizontal plate, and means, substantially as described, for securing the rail thereon.

2. The combination, with a horizontal plate and curved wings projecting laterally there-

from, of a recessed rail-supporting upright riveted to the horizontal plate, and means, substantially as described, for securing the rail thereon.

- 5 . 3. The combination, with a horizontal plate and wings projecting laterally therefrom, of a pair of recessed rail-supporting uprights secured to the horizontal plate in a position parallel with each other, whereby a narrow channel is formed between the uprights, rail-clamps located in such channel and pivoted

at one end to the uprights, whereby the other end is adapted to swing into and out of such channel, and means, substantially as described, for fastening the swinging end of such clamps in contact with the rail-flanges. 15

In testimony whereof I have hereunto set my hand this 26th day of January, 1891.

JOHN F. HARRIS.

Witnesses:

A. R. WING,

JOHN J. MORGAN.