

No. 804,084.

PATENTED NOV. 7, 1905.

A. M. BAIRD.
METALLIC RAILROAD TIE.
APPLICATION FILED JAN. 28, 1905.

2 SHEETS—SHEET 1.

Fig. 1

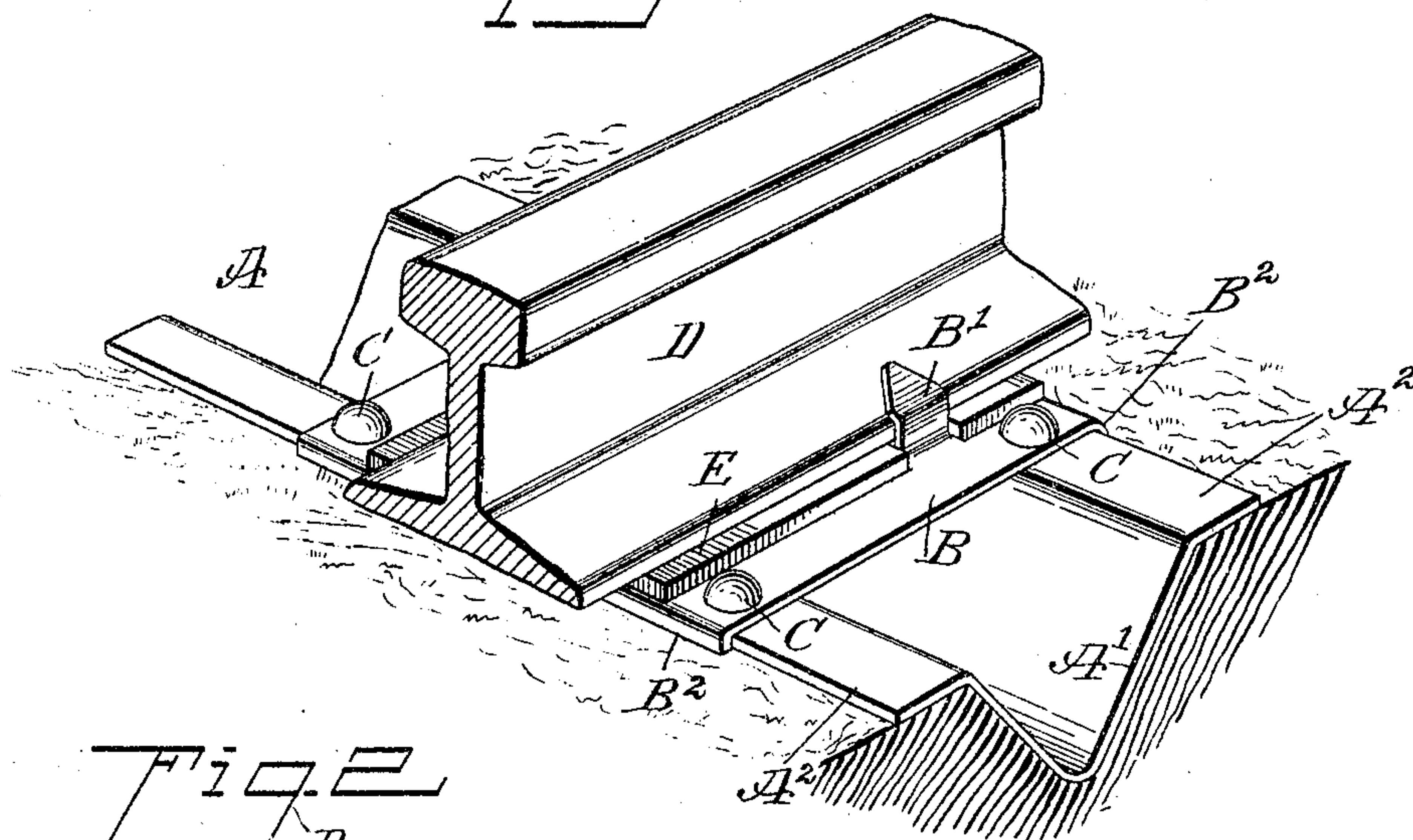


Fig. 2

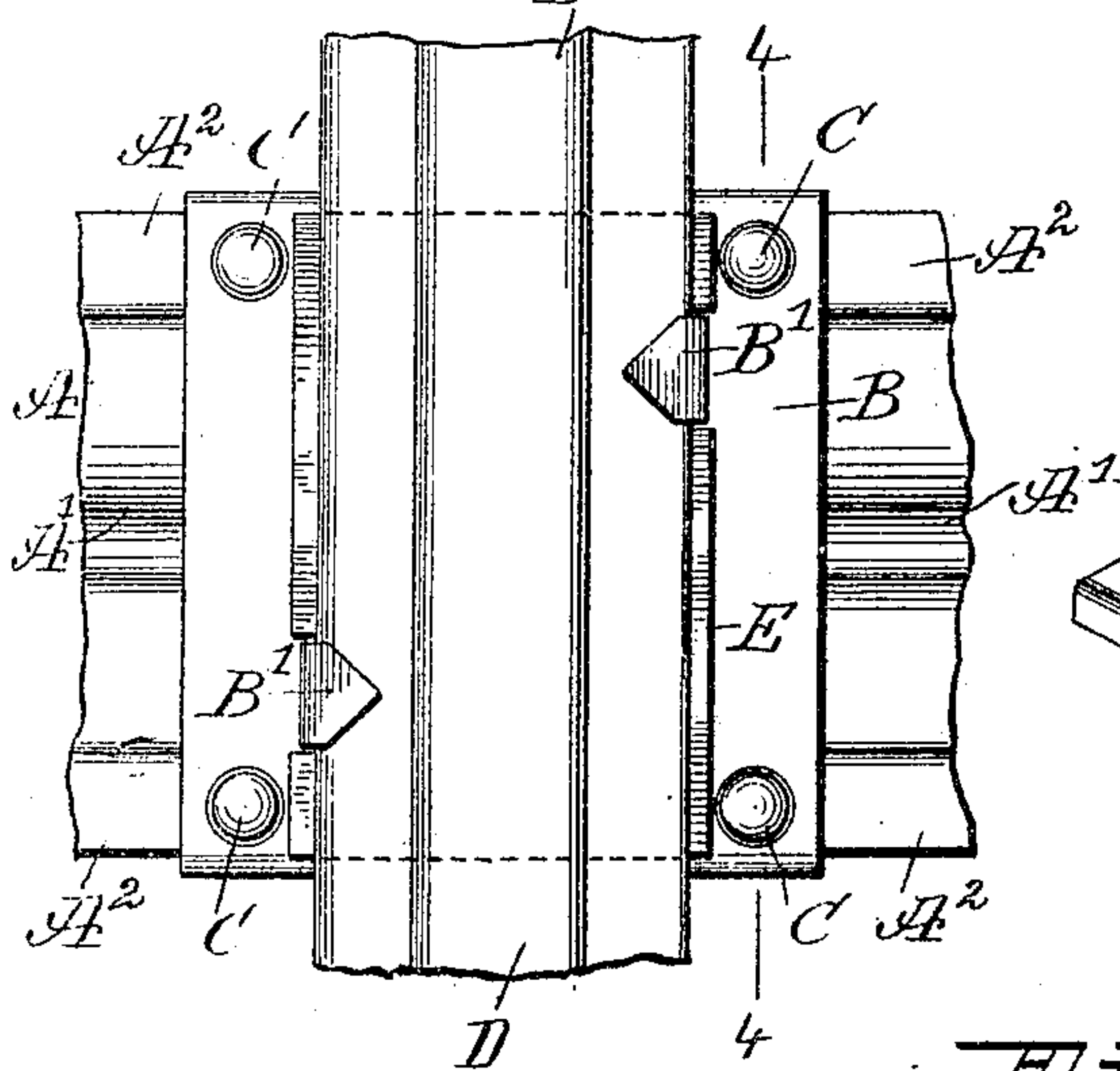


Fig. 3

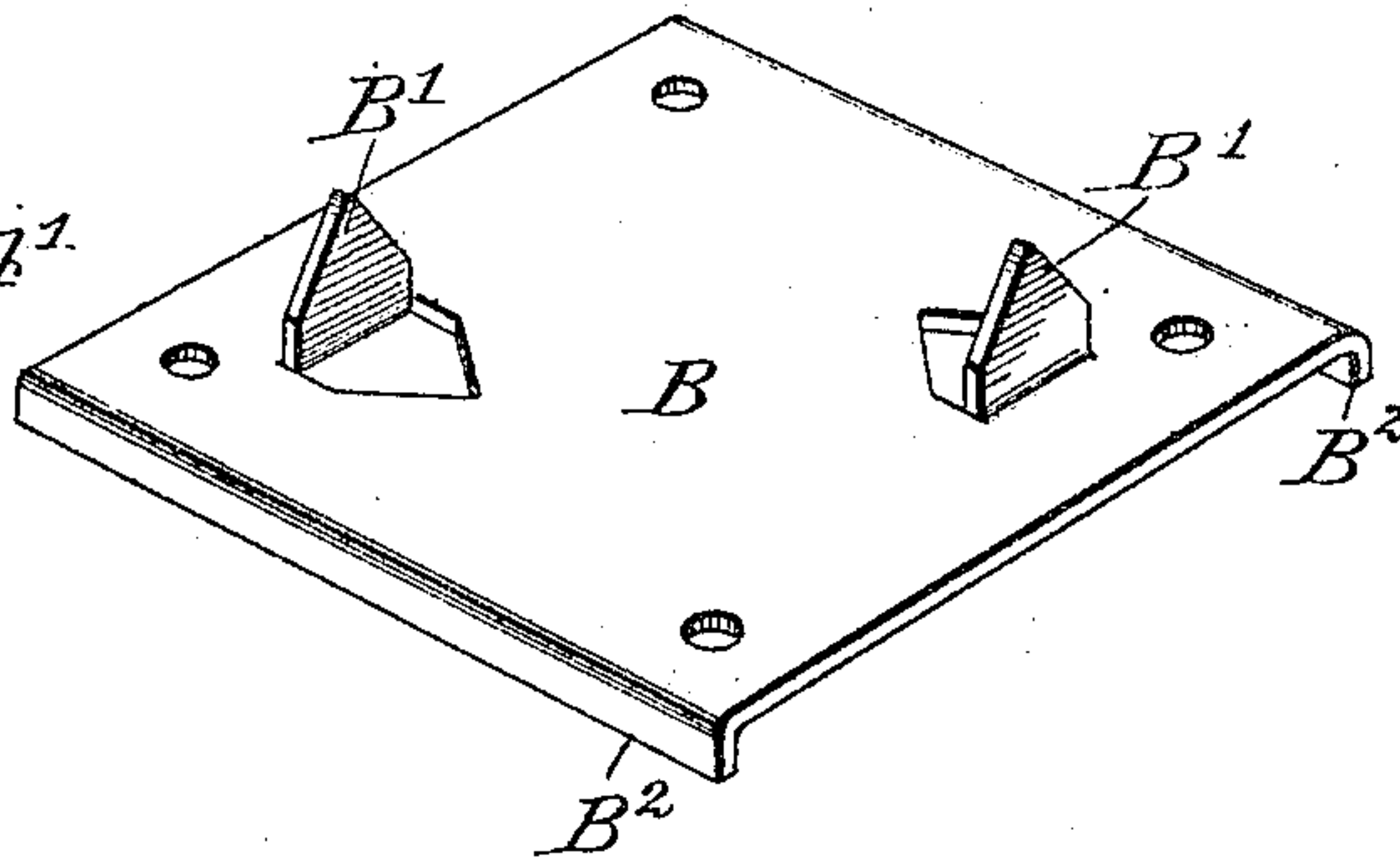
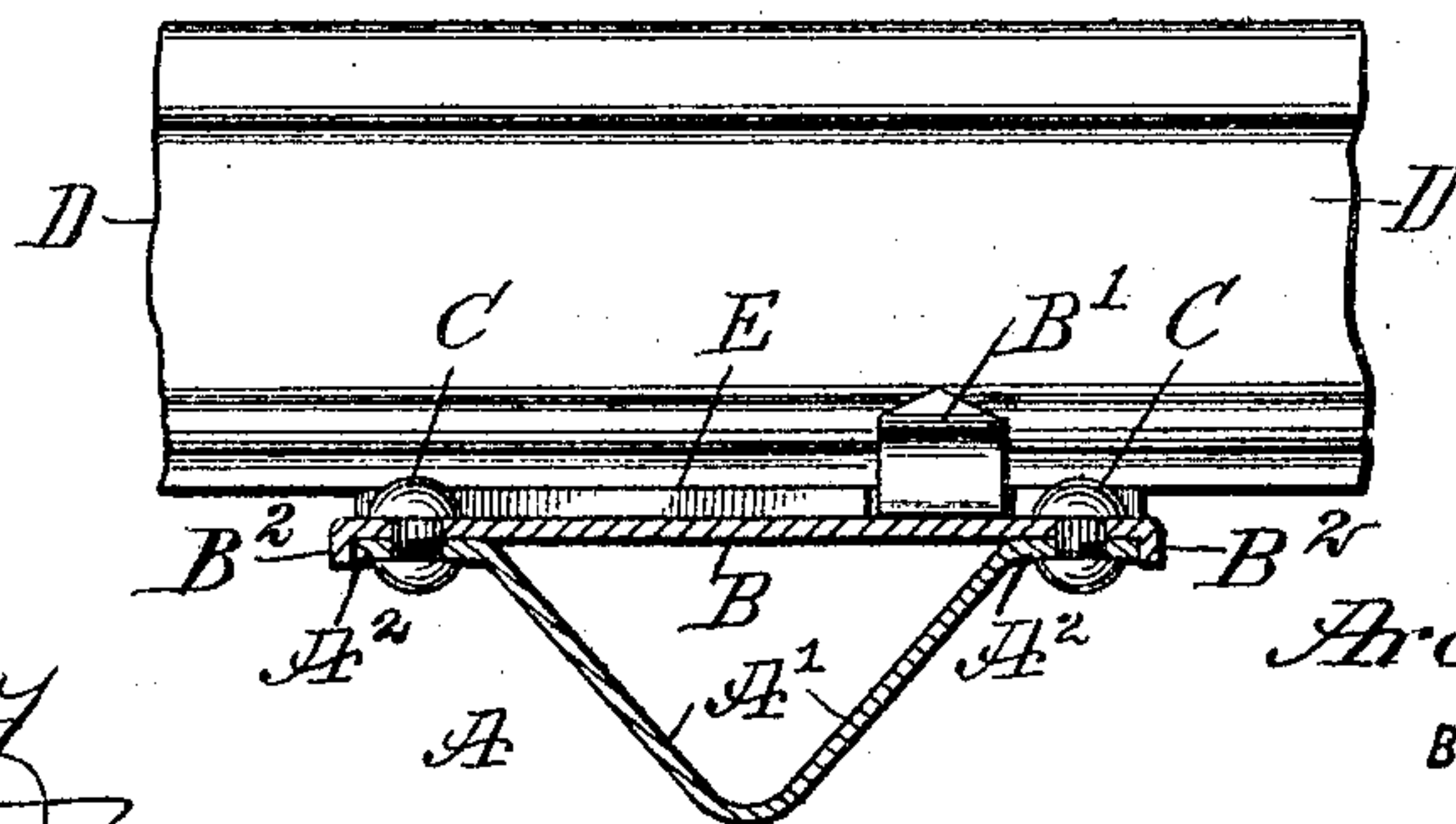


Fig. 4



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2 SHEETS—SHEET 2.

Fig. 5

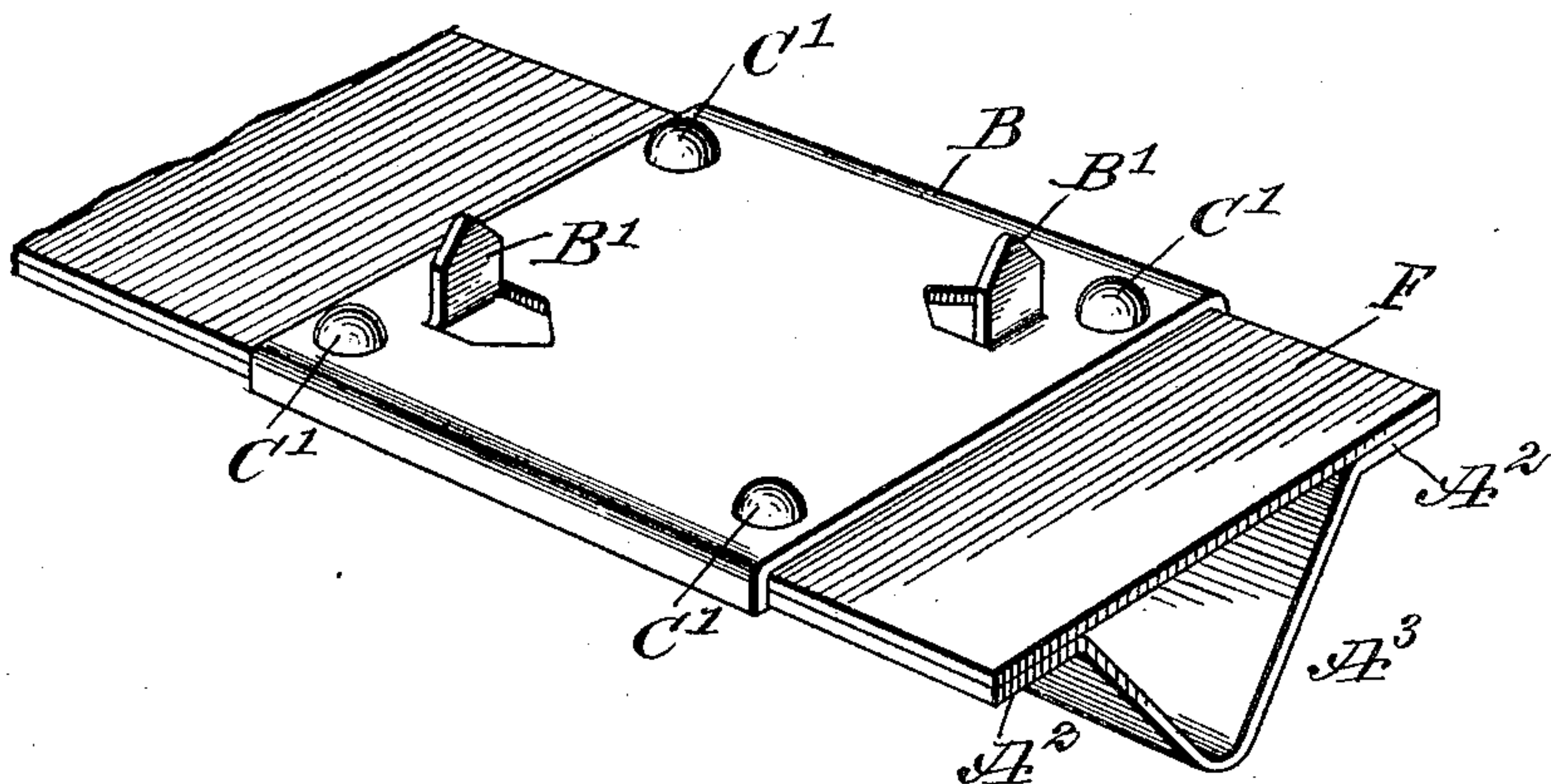


Fig. 6

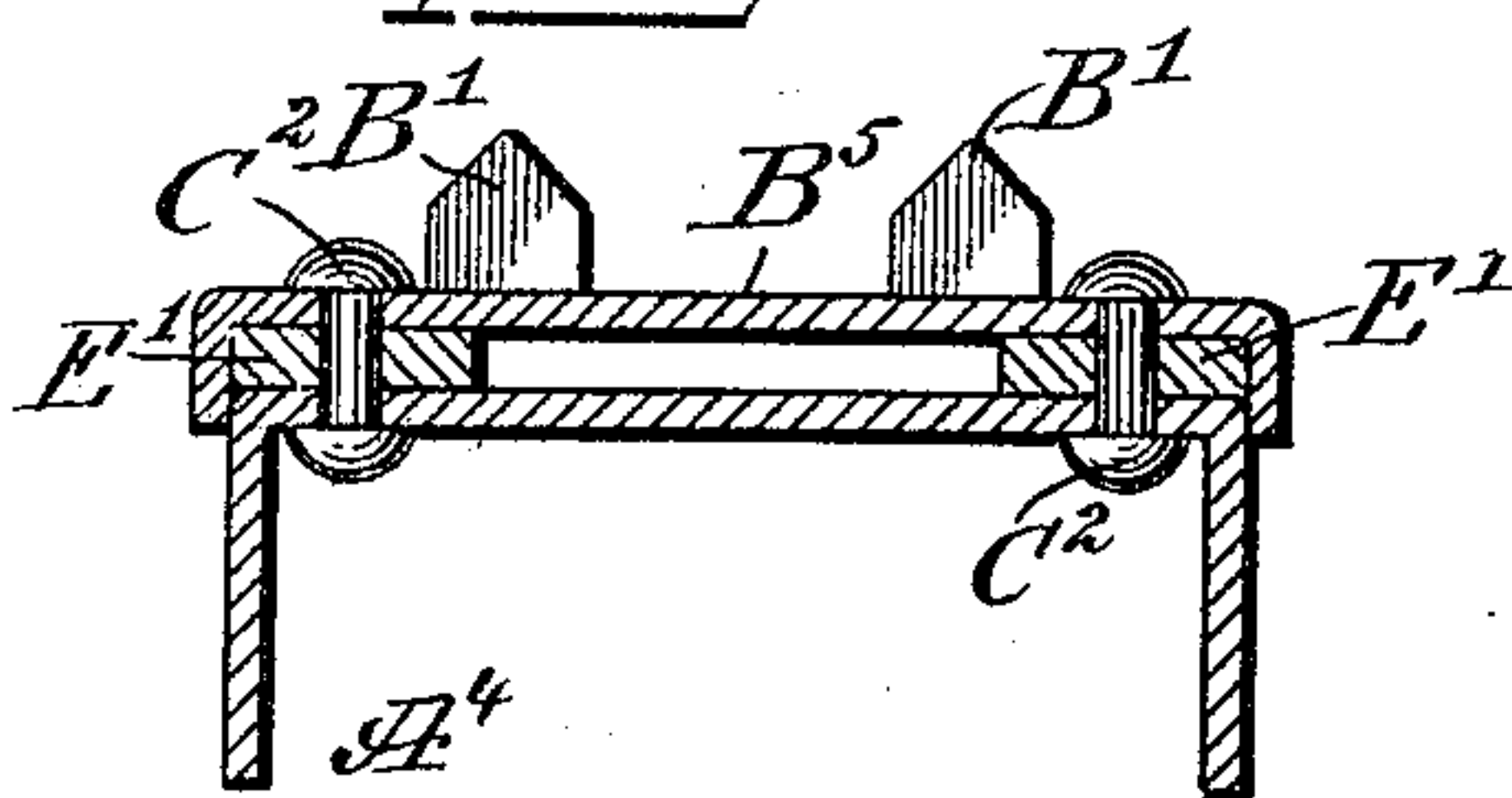


Fig. 7

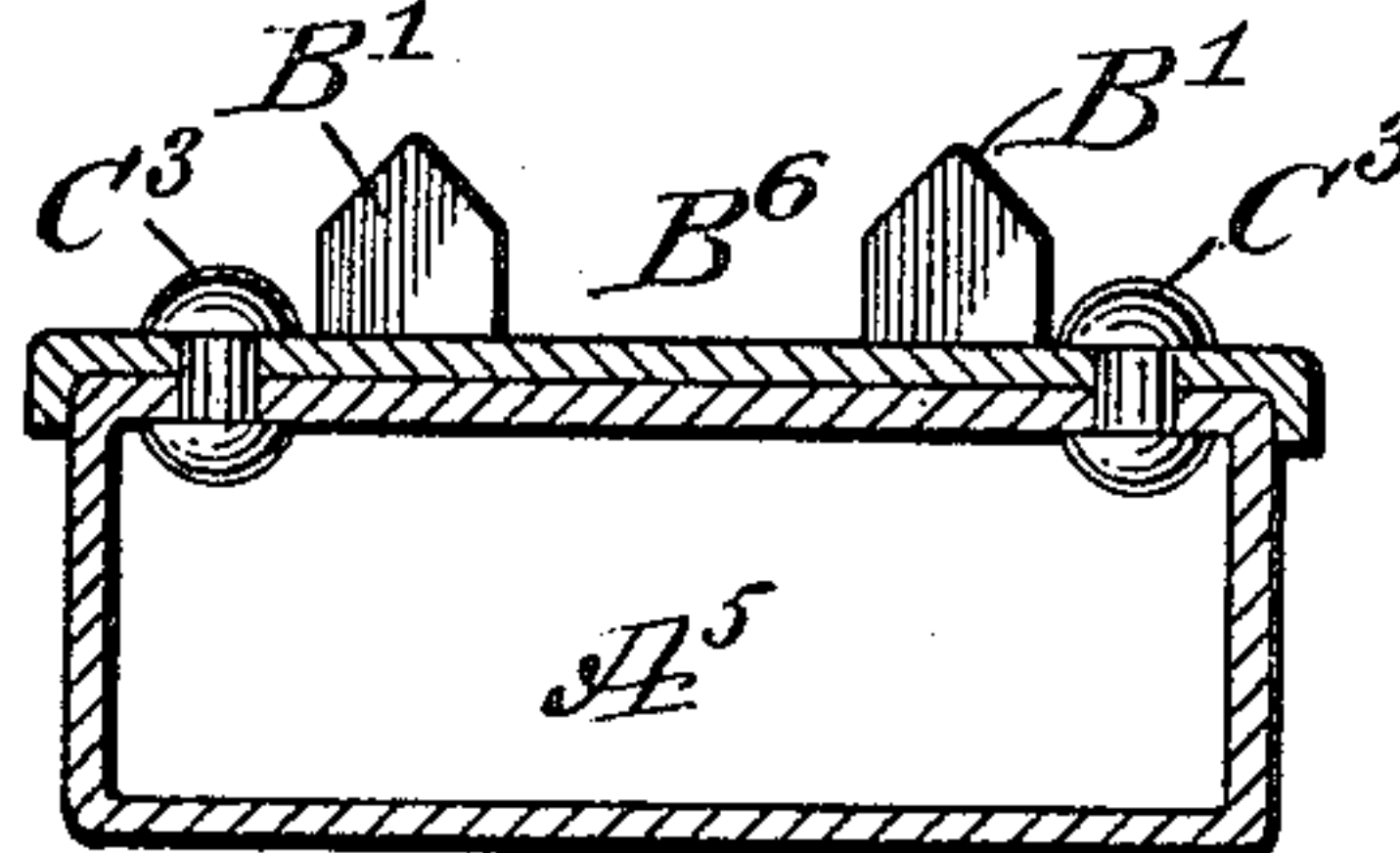
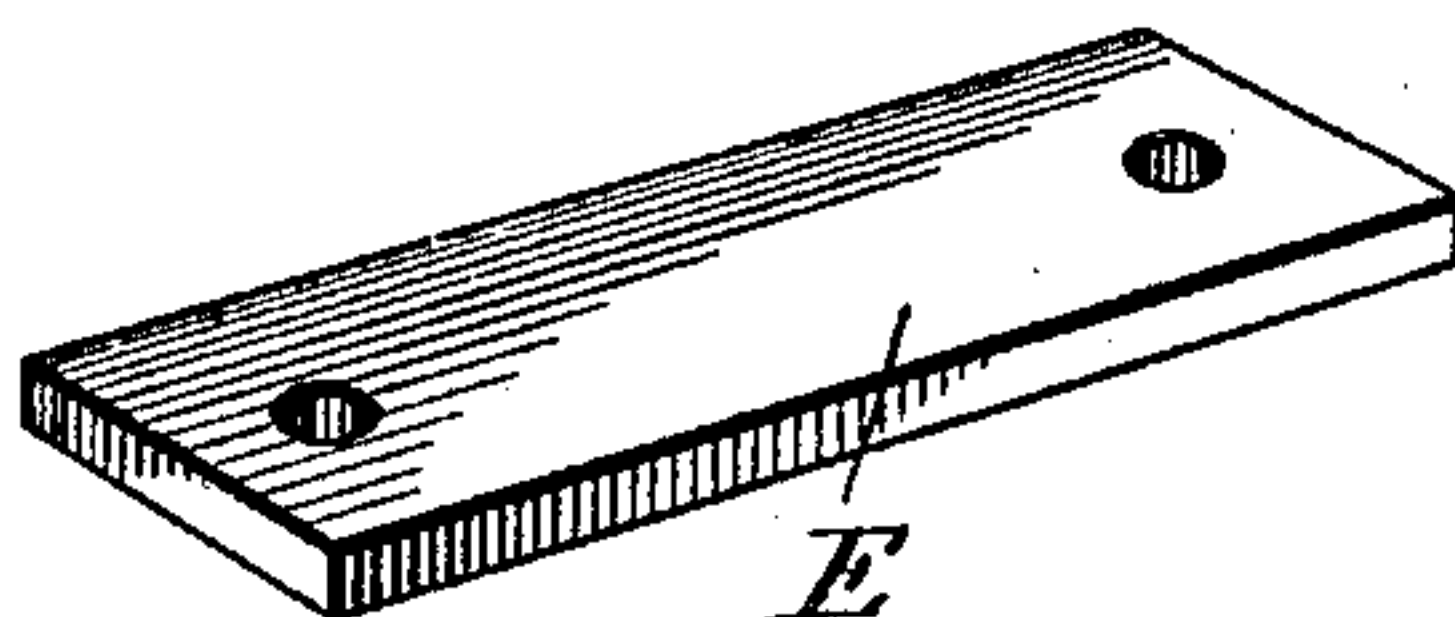


Fig. 8



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ARCHIE M. BAIRD, OF TOPEKA, KANSAS.

METALLIC RAILROAD-TIE.

No. 804,084.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed January 28, 1905. Serial No. 243,038.

To all whom it may concern:

Be it known that I, ARCHIE M. BAIRD, a citizen of the United States, and a resident of Topeka, in the county of Shawnee and State of Kansas, have invented a new and Improved Metallic Railroad-Tie, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved metallic railroad-tie which is simple and durable in construction, cheap to manufacture, and arranged to combine the utmost strength with lightness.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement as applied. Fig. 2 is a plan view of the same. Fig. 3 is a perspective view of the tie-plate. Fig. 4 is a sectional elevation of the improvement as applied, the section being on the line 4-4 of Fig. 2. Fig. 5 is a perspective view of a modified form of the improvement. Figs. 6 and 7 are cross-sections of modified forms of the improvement, and Fig. 8 is a perspective view of a modified form of the deadening-pad.

The metallic tie A (illustrated in Figs. 1, 2, and 4) has its body A' made V-shaped, and its sides terminate in integral flanges A², adapted to rest on top of the railroad-bed, the body A' being set into the bed, as plainly indicated in Fig. 1. Across the tie A extends a tie-plate B, secured by rivets C to the flanges A², it being understood that one tie-plate B is provided for each rail D, and the latter is held against upward or transverse movement by lugs B', struck up from the tie-plate B and bent over the bottom flanges of the rail D on opposite sides, as plainly indicated in the drawings. One, two, or more such lugs B' may be used on each side of a rail, it being understood that in manufacturing the tie-plate B the lugs B' are struck up and stand vertically until the rail D is placed in position, and then the lugs B' are bent over to engage and rest on the lower flanges of the rail. The sides of the tie-plate B are preferably provided with downwardly-extending flanges B² abutting against the

outer edges of the tie-flanges A², so as to prevent the body A' from spreading, thus reinforcing or strengthening the tie A.

In order to deaden the contact of the metallic surfaces as much as possible, it may be desirable to place a deadening-pad E between the sole of the rail D and the tie-plate B, the said pad being preferably in the form of a plate of compressed fiber or other suitable non-metallic material.

Although I have shown and described my preferred form in Figs. 1, 2, 3, and 4 it is expressly understood that I do not limit myself to this particular form, as the same may be varied without deviating from my invention. For instance, as shown in Fig. 5, the tie A³ is provided with a covering-plate F, extending from one end of the tie A³ to the other, and on this covering-plate F are placed the tie-plates B, having sets of integral lugs B', one set for engagement with each rail, the tie-plates being spaced apart according to the gage of the railroad. Rivets or other fastening means C' are used for securing the covering-plate and the tie-plates in position on the tie A³.

As illustrated in Fig. 6, the tie A⁴ is made of inverted-U shape, and the means for deadening the metallic contact consists of longitudinal strips E' of fiber or other material interposed between the tie-plate B⁵ and the tie A⁴ and secured with the tie-plate B⁵ to the tie A⁴ by the fastening means C².

As illustrated in Fig. 7, the tie A⁵ is box-shaped and the tie-plate B⁶ is secured to the top of the tie A⁵ by fastening means C³. The deadening-pad for this construction may be of any one of the constructions above referred to.

The lugs B' of the tie-plates serve the purpose of the spikes usually employed, and the tie-plates are preferably made of soft steel to allow of convenient bending of the lugs over the rail-bases and back bending whenever it is desired to remove a rail and replace the same by a new one.

In the manufacture of the ties and tie-plates it may be desirable to have the same mill-rolled, hydraulic-pressed, or bulldozed from steel plates; but other methods of making the same may be employed, if desired, it being understood that the main object is to combine strength with lightness and to insure long life to the railroad-tie and its tie-plate.

To protect the parts against undue corro-

sion by the weather, it may be desirable to dip the same in asphaltum before placing the tie in position on the road-bed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A metallic railroad-tie comprising a metallic tie, tie-plates permanently fastened thereto and forming rests for the bases of the rails, and lugs struck up from the body of the tie-plates and adapted to be bent over the flanges of the rails when the latter are placed in position on the tie-plates to hold the rails against transverse movement.

2. A metallic railroad-tie comprising a metallic tie made V-shaped in cross-section and having integral side flanges extending outwardly, and a tie-plate extending across the tie and permanently secured to the said flanges, the tie-plate having lugs struck up from the body of the plate and spaced from the margin thereof for engaging the rail-flange at opposite sides.

3. A metallic railroad-tie comprising a metallic tie made V-shaped in cross-section and having integral side flanges extending outwardly, and a tie-plate extending across the tie and riveted to the said flanges, the tie-plate having lugs struck up from the body of the plate and spaced from the margin thereof, the lugs being adapted to be bent to engage the rail-flange at opposite sides, the said tie-plate also having integral flanges extending vertically downward and fitting over the side edges of the tie-flanges.

4. A metallic railroad-tie comprising a metallic tie made V-shaped in cross-section and having integral side flanges extending outwardly, a tie-plate extending across the tie and secured to the said flanges, the tie-plate having

struck-up lugs adapted to be bent to engage the rail-flange at opposite sides, and a non-metallic pad interposed between the sole of the rail and the tie-plate and having recesses in its side edges, the said lugs when bent to engage the rail-flanges also engaging the said recesses to hold the pad against movement.

5. A metallic railroad-tie comprising a metallic tie made V-shaped in cross-section and having integral side flanges extending outwardly, a tie-plate extending across the tie and secured to the said flanges, the tie-plate having struck-up lugs for engaging the rail-flange at opposite sides, and a covering-plate for the tie, interposed between the latter and the tie-plate.

6. A metallic railroad-tie comprising a tie proper, a tie-plate extending across the tie and permanently secured thereto, the tie-plate having lugs struck up from the body of the plate for engaging the rail-flange, and a covering-plate for the tie arranged between the latter and the tie-plate.

7. A metallic railroad-tie, comprising a tie proper, and a tie-plate riveted to the top of the tie and having integral flanges extending vertically downward at the sides of the tie, and lugs struck up from the body of the tie-plate, and spaced from the margin thereof, the said lugs being adapted to be bent when the rail is in position to secure the same in place.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARCHIE M. BAIRD.

Witnesses:

A. V. LINDELL,
F. P. ELMORE.