

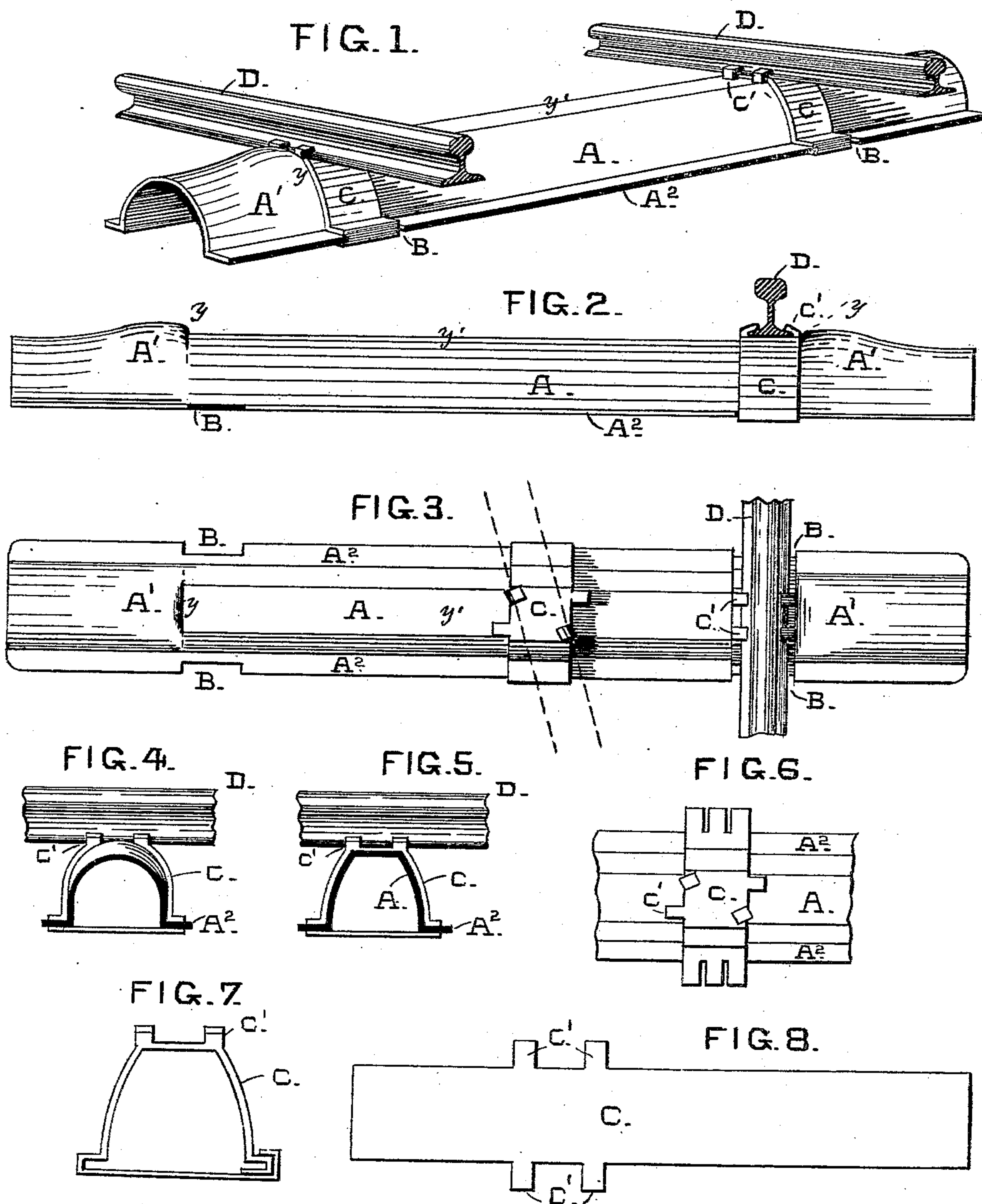
(No Model.)

W. P. HALL & C. C. BARNETT.

RAILROAD TIE.

No. 373,656.

Patented Nov. 22, 1887.



WITNESSES:
Sam. Fullinger
Chas. H. Barnett

INVENTORS:
William P. Hall
Chas. C. Barnett.
Attorney:
C. M. Alexander

UNITED STATES PATENT OFFICE.

WILLIAM P. HALL AND CHARLES C. BARNETT, OF PIQUA, OHIO.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 373,656, dated November 22, 1887.

Application filed June 10, 1887. Serial No. 240,926. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM P. HALL and CHARLES C. BARNETT, citizens of the United States, residing at Piqua, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to that class of railroad-ties which are constructed of metal and are provided with means for securing the rails to the ties, and has for its object to produce a tie of cheap but durable construction that shall resist all strain and shall be provided with means for readily attaching the rails.

The invention consists in the construction and arrangement of parts hereinafter set forth.

15 In the drawings, Figure 1 is a perspective view of an improved tie with the rails attached. Fig. 2 is a side elevation of the same, showing but one rail. Fig. 3 is a plan of Fig. 2, with a clamp for a switch-rail attached. Fig. 4 is an end elevation of the tie and rail. Fig. 5 is a section adjacent to the rail-clamp. Fig. 6 is a plan view of the switch-rail clamp and adjacent parts of the tie. Fig. 7 is a side view of a detached rail-clamp; Fig. 8, a detail view of a blank for forming the clamps.

20 The tie A is formed from a metal sheet pressed into shape.

In cross-section the tie resembles an arch with a flattened crown, y' , and is provided with edge flanges, A^2 . The ends A' of the tie are so formed as to be higher at the point of junction with the main portion of the tie than the flattened crown, and thereby form a shoulder, y , at each end of the said flattened crown, while the extreme ends of the tie are below the said shoulders and may be depressed below the crown of the main portion.

25 The shoulders y , above described, are struck up from the crown of the arch without perforating or weakening the arch, and these shoulders are directed inward, or toward the middle of the length of the tie, so as to afford unyielding abutments, which will effectually prevent outward thrust of the rails when strapped down upon the tie. Between the said shoulders is the flattened crown y' , which is adapted to afford a firm bearing for a switch-rail.

Adjacent to the ends of the flattened crown of the tie the flanged edges are provided with notches or recesses B for the clamps or chairs C. The clamps or chairs C are formed of a metal strip having near one end a pair of ears or fingers, C' , on each side, as shown in Fig. 8. This blank, when applied to the tie, has the shorter end bent, so as to grasp one of the flanges A^2 and rest in one of the recesses B, and is then continued up one side of the tie, so that the fingers will rest on top the tie, with the intermediate part of the blank flattened to rest snugly on top of the tie. The blank is then continued down the other side of the tie and seated in the recess B and bent to grasp the flange A^2 , and is then continued across the bottom of the tie and bent over the flange and the end of the strip already secured to the said flange. The clamps or chairs having been placed, as described, at each end of the tie adjacent to the shoulders, which latter effectually prevent the said clamps or chairs, and consequently the rails, from spreading, the rails are placed in position and the fingers bent around the rail-flanges.

The recesses B in the tie regulate the distance between the rails, being cut according to the intended gage of the road on which the ties are to be used.

In Figs. 3 and 6 is illustrated the switch-rail clamp, which is formed similar to the main-rail clamp, except that the ends are only of a sufficient length to grasp the flanges A^2 , as the said clamps must be adapted, usually, to be applied to the ties after they are ready to be placed on the road, or even after the rails are applied. Any suitable fastening device may be employed to retain the said switch-rail clamps in position.

The preferred mode of preparing the ties is to form them of steel or iron, apply the main-rail clamps with the finger at one side of each bent so that the rail-flange may be readily passed under them, if desired, and then the tie dipped in asphaltum or other weather-proof material.

In order to effect a firm union between the clamps or chairs and the tie, the said clamps may be shrunk thereon. The shoulders, besides establishing the gage and preventing the rails from spreading, will add strength to the tie and give such a bearing on the road-bed as

to prevent any sidewise displacement of the tie.

It is evident that the invention is not confined to the exact construction and arrangement of parts shown, as modifications of the same will be suggested to any one skilled in the art.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A railroad-tie formed of a single sheet of metal, having contracted bracing ends and shouldered abutments, the top of the tie between the shoulders being flat and the sides and ends convex or arched laterally, substantially as described.

2. The combination, with the shouldered tie, of a clamp or chair embracing the edges of the tie and provided with fingers for engaging the rail-flanges, substantially as described.

3. The tie having contracted shouldered ends and recessed flanges, a clamp or chair surrounding the tie and resting in the recesses in the flanges, and provided with fingers to grasp the rail-flange, substantially as described.

4. A railroad-tie of arched form trans-

versely at each end and having shoulders and outwardly-inclined crowns beyond the shoulders, in combination with the flattened crown extending from one of said shoulders to the other, substantially as and for the purposes described.

5. The combination, with a tie having edge flanges, of a clamp or chair grasping the said flanges and provided with fingers to grasp the rail-flanges, substantially as described.

6. A railroad-tie constructed of a single sheet of metal pressed into shape and having formed upon its ends shoulders struck up from the crown of the tie, and contracted bracing portions extending from the said shoulders to the respective ends of the tie, in combination with rail-clamps embracing the tie and abutting against the said shoulders, substantially as herein set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM P. HALL.
CHARLES C. BARNETT.

Witnesses:

CHAS. H. BARNETT,
HENRY O. EVANS.