

(No Model.)

C. P. HAWLEY.

COMBINED WOOD AND METAL RAILROAD TIE.

No. 379,575.

Patented Mar. 20, 1888.

Fig. 1.

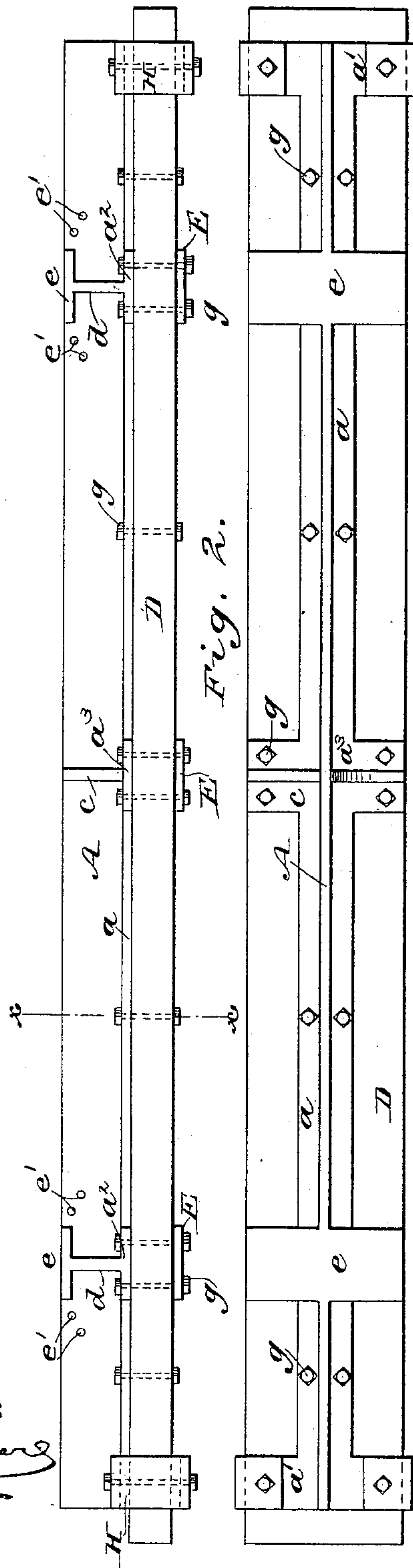
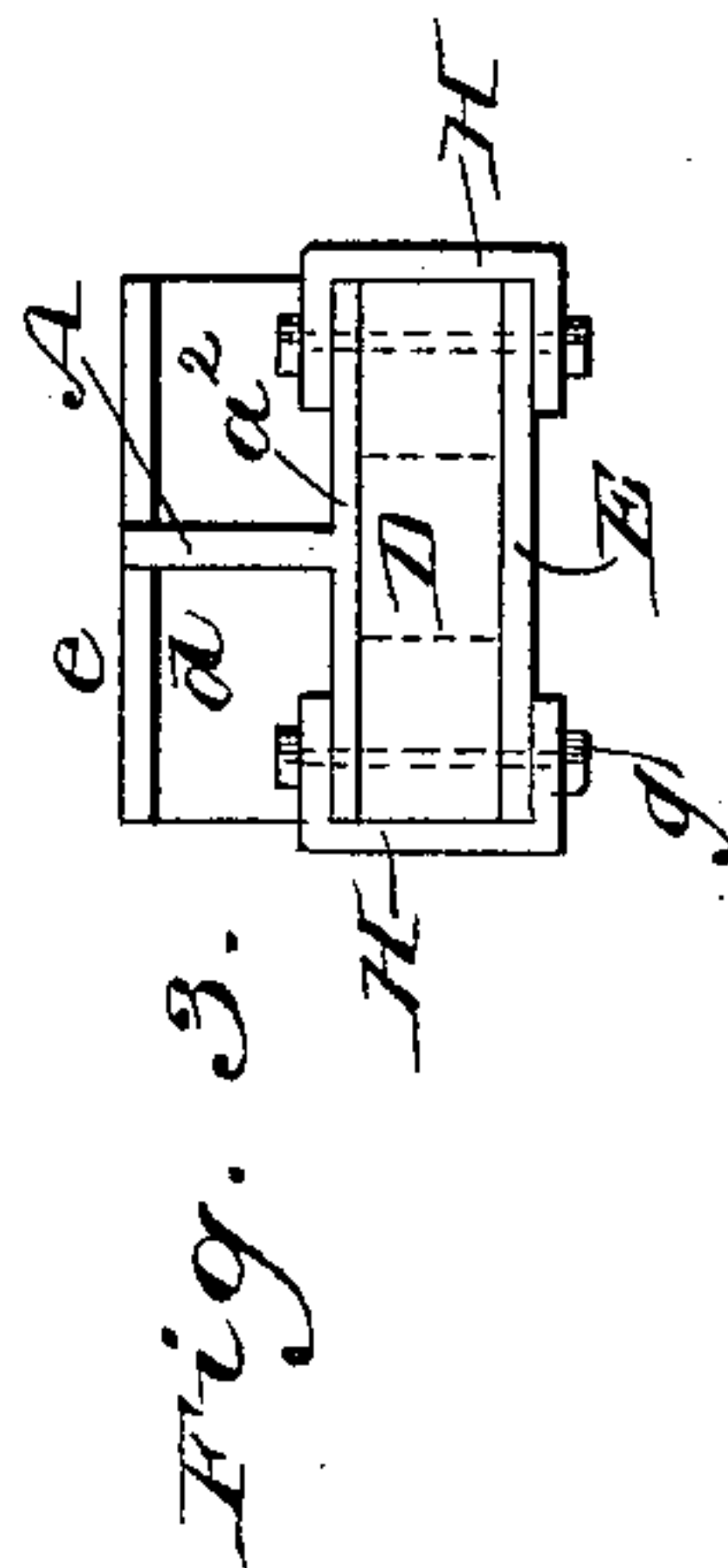
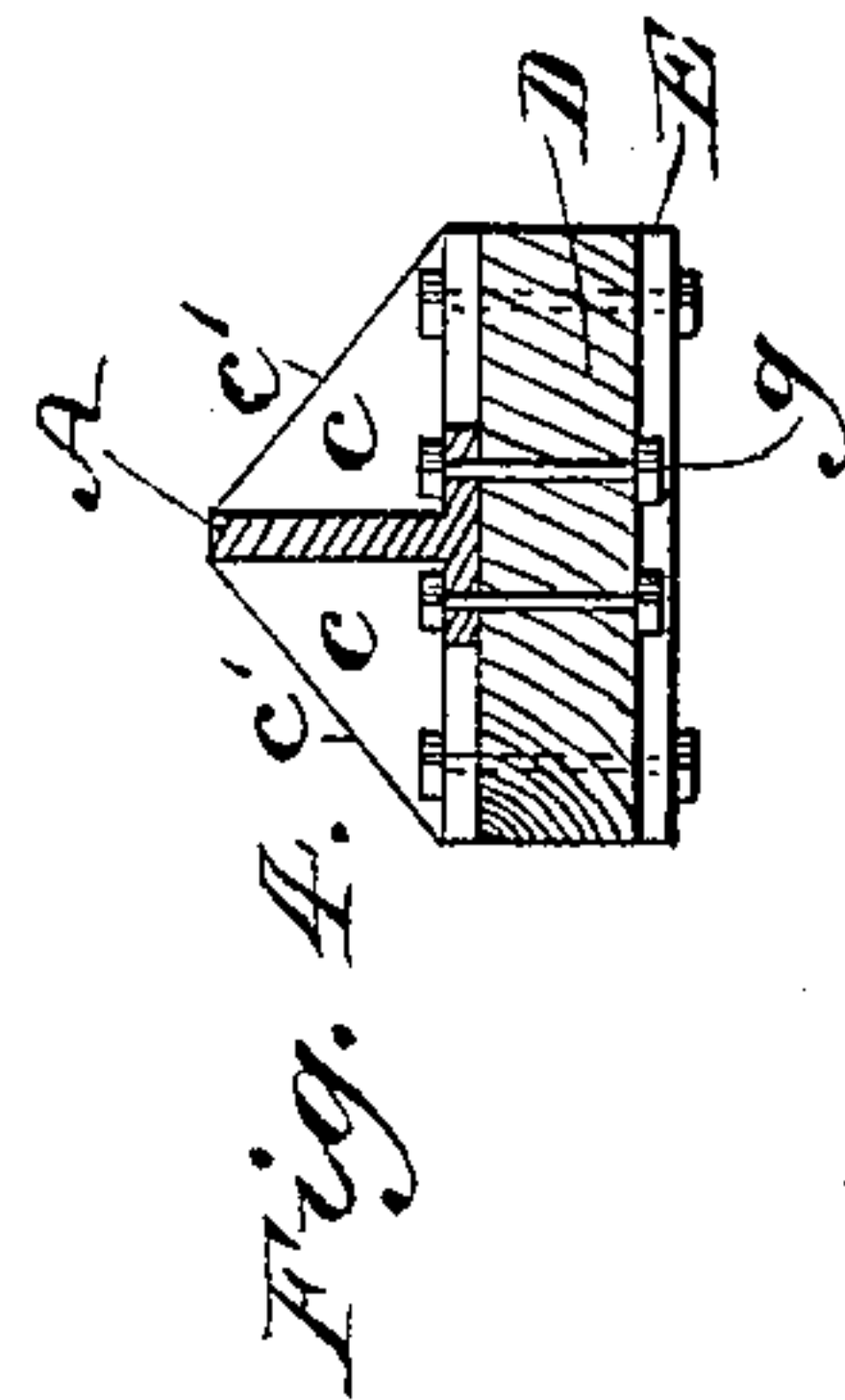


Fig. 2.



WITNESSES:

*John H. Deemer*  
*C. Sedgwick*

INVENTOR:

*C. P. Hawley*

BY

*Munn & Co.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES P. HAWLEY, OF NEW YORK, N. Y.

## COMBINED WOOD AND METAL RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 379,575, dated March 20, 1888.

Application filed October 5, 1887. Serial No. 251,517. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES P. HAWLEY, of the city, county, and State of New York, have invented a new and Improved Combined  
5 Wood and Metal Railroad-Tie, of which the following is a full, clear, and exact description.

My invention relates to an improvement in railroad-ties, and has for its object to provide  
10 a tie constructed partially of metal and partially of wood, which will offer a perfect form to be held securely by the ballast and be quickly and conveniently laid, and wherein, further, when the wood becomes decayed, the  
15 tie can be easily taken up, new wood substituted, and be immediately relaid.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out  
20 in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

25 Figure 1 is a side elevation of the tie. Fig. 2 is a plan view, and Fig. 3 is an end view. Fig. 4 is a section on line  $xx$  of Fig. 1.

The present invention is to a certain extent a modification of or an improvement upon the  
30 metallic railroad-tie filed by myself June 25, 1887, Serial No. 242,485, and allowed August 30, 1887.

The tie consists of a web, A, of a length about equal to an ordinary sleeper, which web  
35 is provided with a longitudinal flange,  $a$ , integral with the base, the web and flange representing in cross-section an inverted T. At the ends, center, and at that portion over which the rails are adapted to pass the base  $a$  is of  
40 a width equal to the proposed width of the complete tie, as shown at  $a'$ ,  $a^2$ , and  $a^3$ . A cross web or brace,  $c$ , is placed in the center for stiffening and strength, which transverse web is preferably integral with the longitudinal web and base, embracing the entire width  
45 of the latter, and the said transverse web is made with inclined upper edges,  $c'$ , as illustrated in Fig. 4. Centrally and transversely the flanges or base portion  $a^2$  another cross-  
50 web,  $d$ , is provided, which not only tends to

strengthen and stiffen the tie, but also serves as a support for the rail-plate  $e$ , which plates and webs extend the entire width of the base portion  $a^2$ , as shown in Fig. 3.

The small apertures  $e'$  in the longitudinal  
55 web A are intended to accommodate a rail-clamp, preferably of the character set forth in the allowed application aforesaid.

The metal tie above described is adapted to rest upon a rectangular wooden block or plank,  
60 D, of suitable length and breadth, and the two parts are connected by means of a series of bolts,  $g$ , passing through the base of the metal tie and into the block or plank, or in any other approved manner.  
65

Opposite the extended base portions  $a'$ ,  $a^2$ , and  $a^3$  binding-plates E are placed transversely beneath the block or plank and in engagement therewith, the said binding-plates and base being united by the bolts  $g$ .  
70

As an additional means of connecting the wooden block or plank and metal portion of the tie, U-shaped clamps H are provided, adapted to embrace the ends of the extended portions of the base and the clamping-plates,  
75 as represented in Fig. 3. The clamps are preferably used at all times in connection with the ends of the tie, but may, if desired, be employed whenever a clamping-plate is used. The cross web or brace  $c$  may also be  
80 duplicated at the ends of the tie without departing from the spirit of the invention.

If in practice it is found desirable, the block or plank D may be formed of a number of separate strips, as illustrated in dotted lines,  
85 Fig. 3.

It will be understood that at all switches and other complicated points in the track the cross-webs  $d$  and rail-plates  $e$  may be placed at a proper angle to accommodate the several  
90 rails. It will also be understood that instead of wood any equivalent material not metallic may be employed.

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

1. The combination, with an inverted-T-shaped metal tie-beam, of a base-block secured thereto, of a non-metallic substance, substantially as shown and described.



2. The combination, with an inverted-T-shaped metal tie-beam, of a base-block of a non-metallic substance, and U-shaped clamps adapted to unite the said block and beam, substantially as shown and described.

3. The combination, with an inverted-T-shaped metal tie-beam, of a non-metallic base-block, clamp-plates held transversely beneath the block, and U-shaped clamps uniting the base of the tie-beam and the transverse clamp-plates, substantially as shown and described.

4. The combination, with an inverted-T-

shaped metal tie-beam provided with T-shaped transverse webs and transverse integral braces, of a non-metallic base-block, clamp-plates held transversely beneath the block, and U-shaped clamps uniting the base of the tie-beam and the ends of the clamp-plates, substantially as herein shown and described.

CHARLES P. HAWLEY.

Witnesses:

JEROME MAGIVNY,  
CHAS. H. HOLLAND.