

No. 846,862.

PATENTED MAR. 12, 1907.

E. C. POTTER.  
METALLIC RAILWAY TIE.  
APPLICATION FILED NOV. 24, 1906.

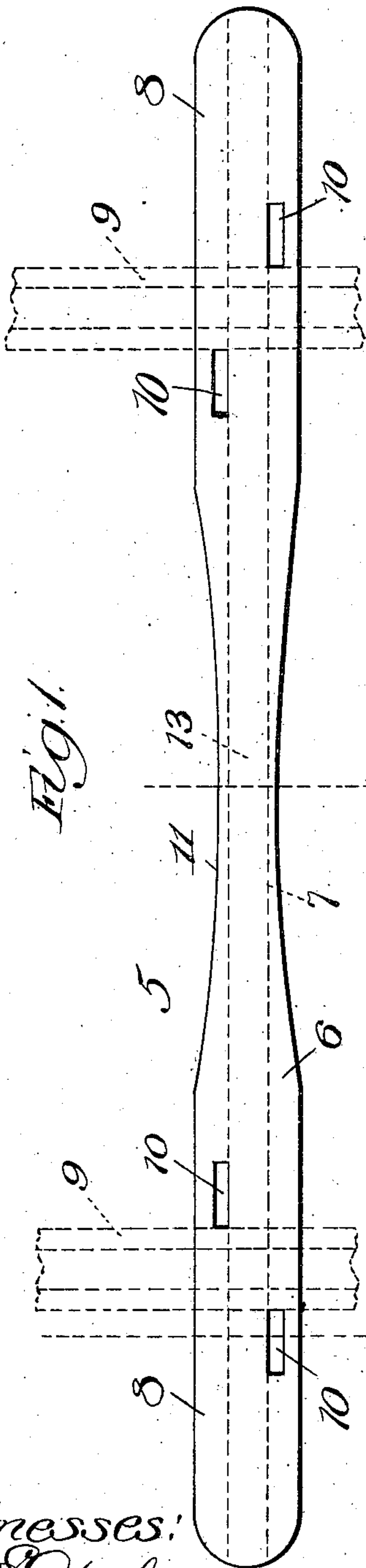


Fig. 1.

Fig. 2.

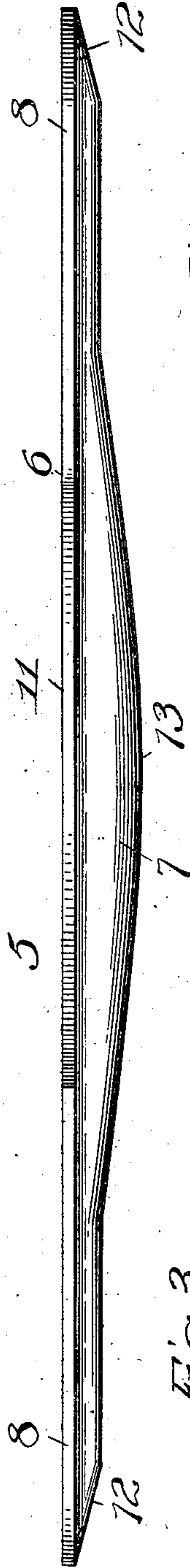


Fig. 4.

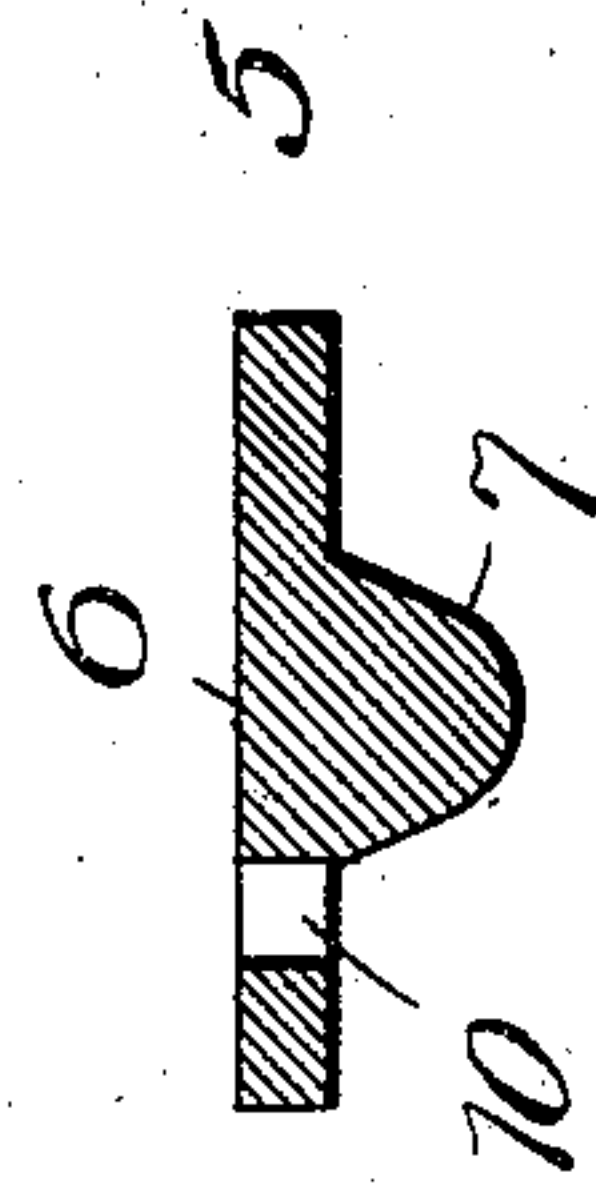
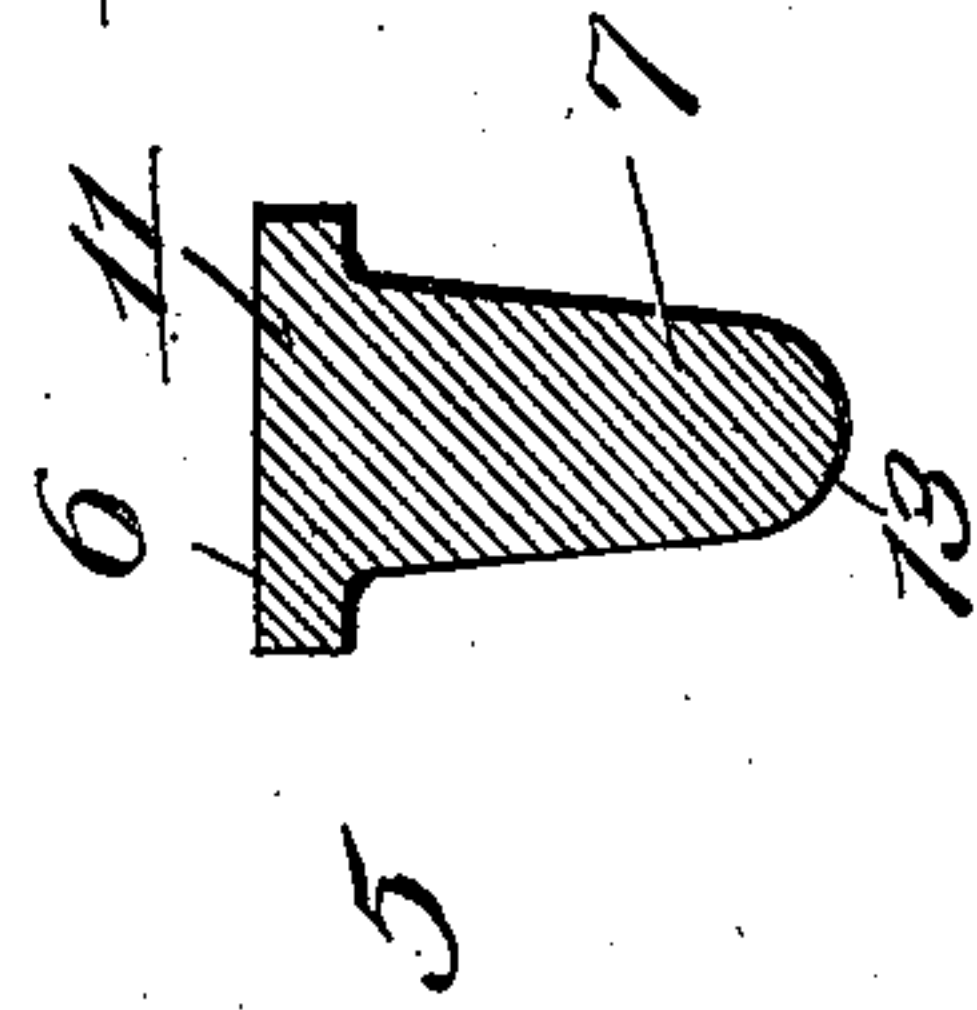


Fig. 3.

Witnesses:  
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# UNITED STATES PATENT OFFICE.

EDWARD C. POTTER, OF CHICAGO, ILLINOIS.

## METALLIC RAILWAY-TIE.

No. 846,862.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed November 24, 1906. Serial No. 344,810.

*To all whom it may concern:*

Be it known that I, EDWARD C. POTTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Metal Railway-Ties, of which the following is a specification.

My invention relates to an improvement in the class of metal railway-ties which are formed by casting.

To produce a metal railway-tie by casting, as has hitherto been done, in a suitable mold involving a flask with its drag and cope is so expensive in the matters of mold equipment and labor as to be practically prohibitive for commercial purposes.

The object of my invention is to provide a novel construction of metal railway-tie which shall afford to it the qualities of strength, durability, and proportions requisite to properly adapt the article to its purpose and which more particularly shall adapt it to be produced by the easiest and least expensive mode of casting—namely, from a blast-furnace into the properly-prepared open sand molds of an ordinary pig-bed to which the sow leads from the tap-hole of the blast-furnace.

The foregoing and other objects are accomplished by my improved construction of cast-metal railway-tie illustrated in the accompanying drawing, in which—

Figure 1 is a plan view of the tie, showing by dotted lines the rails it is adapted to support; Fig. 2, a view of the tie in side elevation; Fig. 3, a section taken at the line 3 on Fig. 1 viewed in the direction of the arrow and enlarged, and Fig. 4 a section taken at the line 4 on Fig. 1 viewed in the direction of the arrow and enlarged.

My improved tie (denoted as 5 in the drawings) consists of a flat top 6 and a longitudinal central base-web 7. The top is devoid of projections and is of adequate width as to its end portions 8 8 to afford sufficient seating area for rails 9 9, which bear upon it between slots 10 10, provided in the top, as represented, and adapted to hold clips (not shown) of any suitable construction for fastening the rails down upon the tie. Between the end portions 8 the top is materially reduced in width, as represented, to diminish the weight of the tie as much as possible, thereby affording the narrowed central portion 11. The web 7, which is beveled outwardly toward the extremities of the end

portions, as represented at 12, is relatively and uniformly shallow from the inner ends of the beveled sections to points near the transverse centers of the expanded portions of the top, from which it gradually increases in depth to the transverse center of the tie, thereby forming the relatively deeper central web portion 13.

The deepened central portion of the web affords a large area for its embedment in a road-bed of ballast, which is tamped against the web to anchor the tie in place, and it also more than compensates for the weakening of the tie by narrowing the central portion of its top and reinforces it throughout its central portion, where it requires to be strongest to resist fracture in handling, more particularly in dumping it upon the road-bed from cars on which it is transported.

The described construction of railway-tie by reason of its regular top surface and of the form of its web peculiarly adapts it to be formed by casting from a blast-furnace into the properly-shaped sand molds of an ordinary pig-bed, with the material advantage that a large number of the ties may be thus produced in a single cast at the minimum expense with great facility and without requiring any finishing after being molded. The slots 10 may be formed with cores in the sand molds.

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

1. A cast-metal railway-tie comprising a top formed with relatively expanded end portions and a relatively narrower central portion, and a longitudinal base-web formed with relatively shallow end portions and a relatively deeper central portion and of a cross-sectional width approximating the reduced portion of the top of the tie, for the purpose set forth.

2. A cast-metal railway-tie comprising a top formed with relatively expanded end portions, containing slots, and a relatively narrower central portion, and a longitudinal base-web formed with relatively shallow end portions and a relatively deeper central portion increasing in depth toward the transverse center of the tie and of a cross-sectional width approximating the reduced portion of the top of the tie.

EDWARD C. POTTER.

In presence of—

W. B. DAVIES,

C. W. WASHBURNE.