

**No. 714,068.**

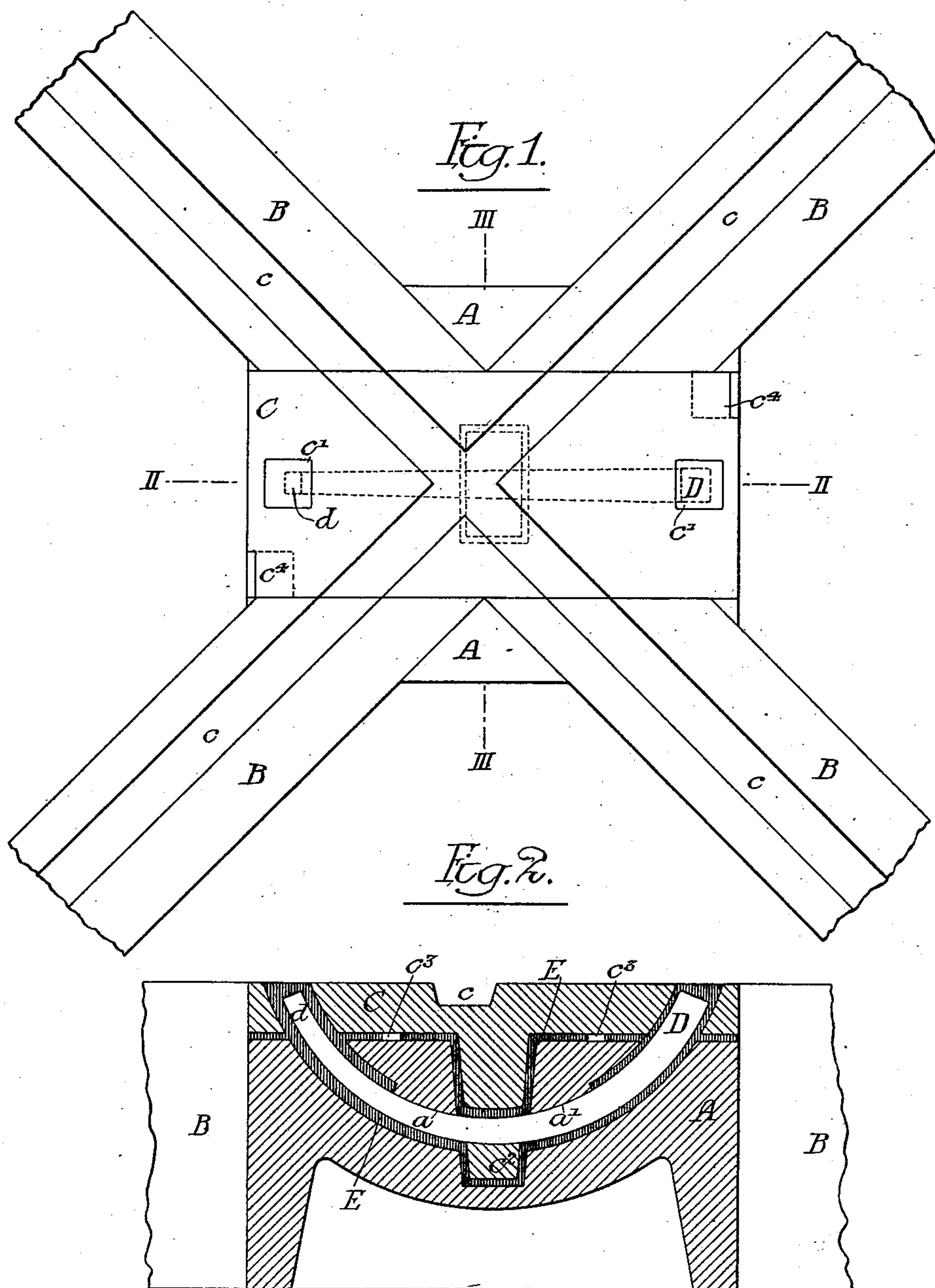
**Patented Nov. 18, 1902.**

**C. B. VOYNOW.**  
**RAILWAY TRACK STRUCTURE.**

(Application filed July 29, 1902.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:-

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Herman E. Metcalf

Inventor:-

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Howard Howard

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Fig. 3.

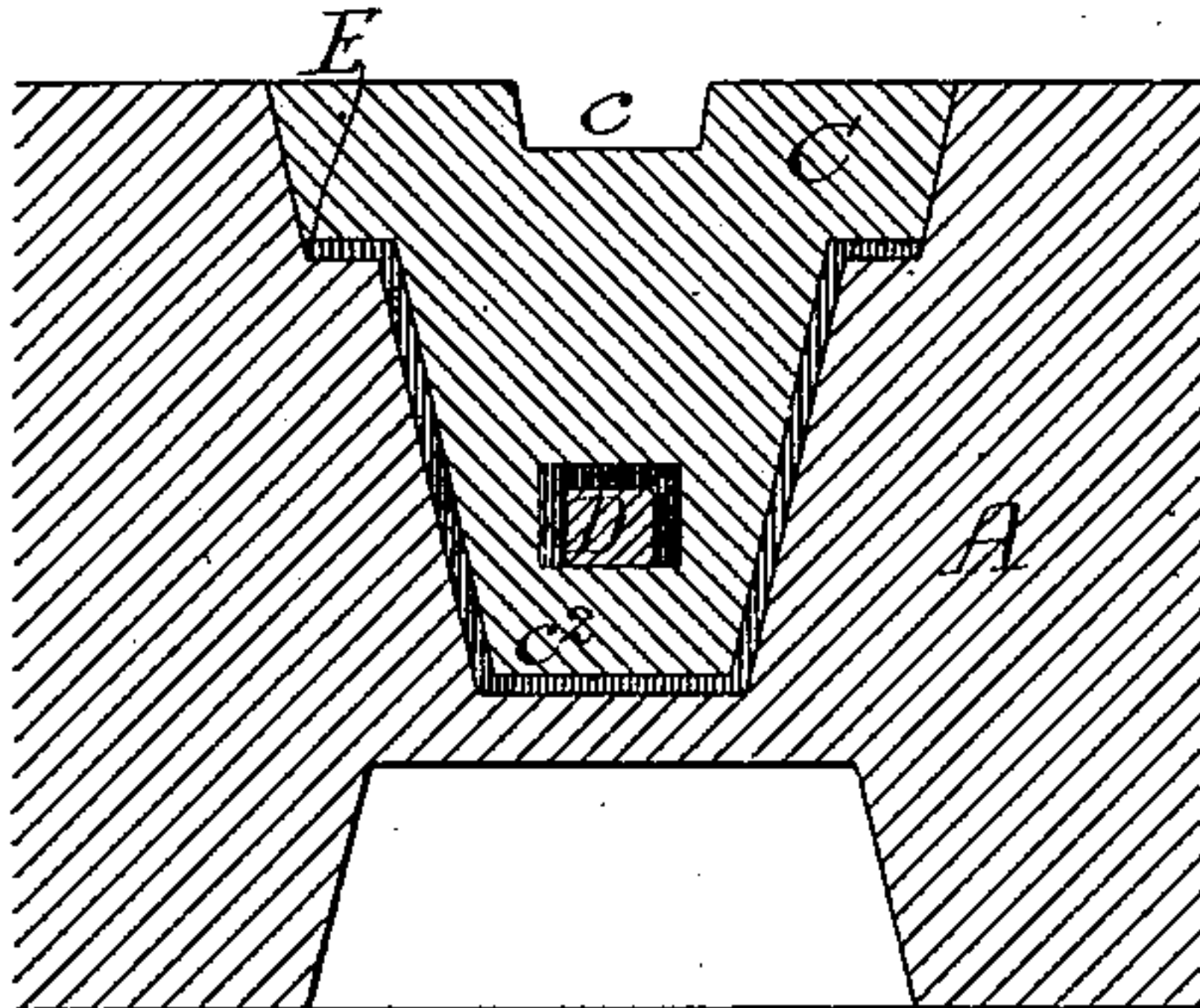
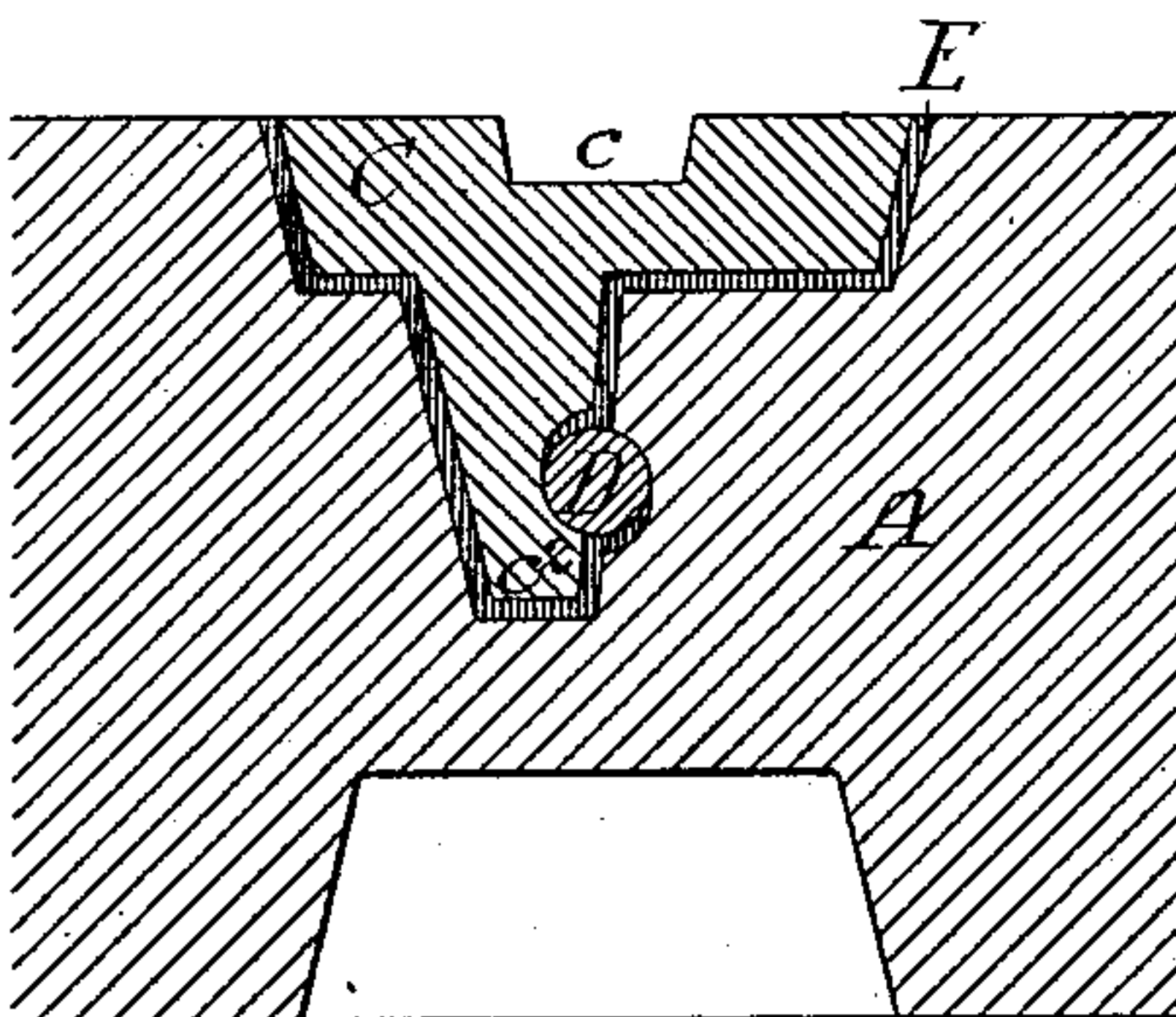


Fig. 4.



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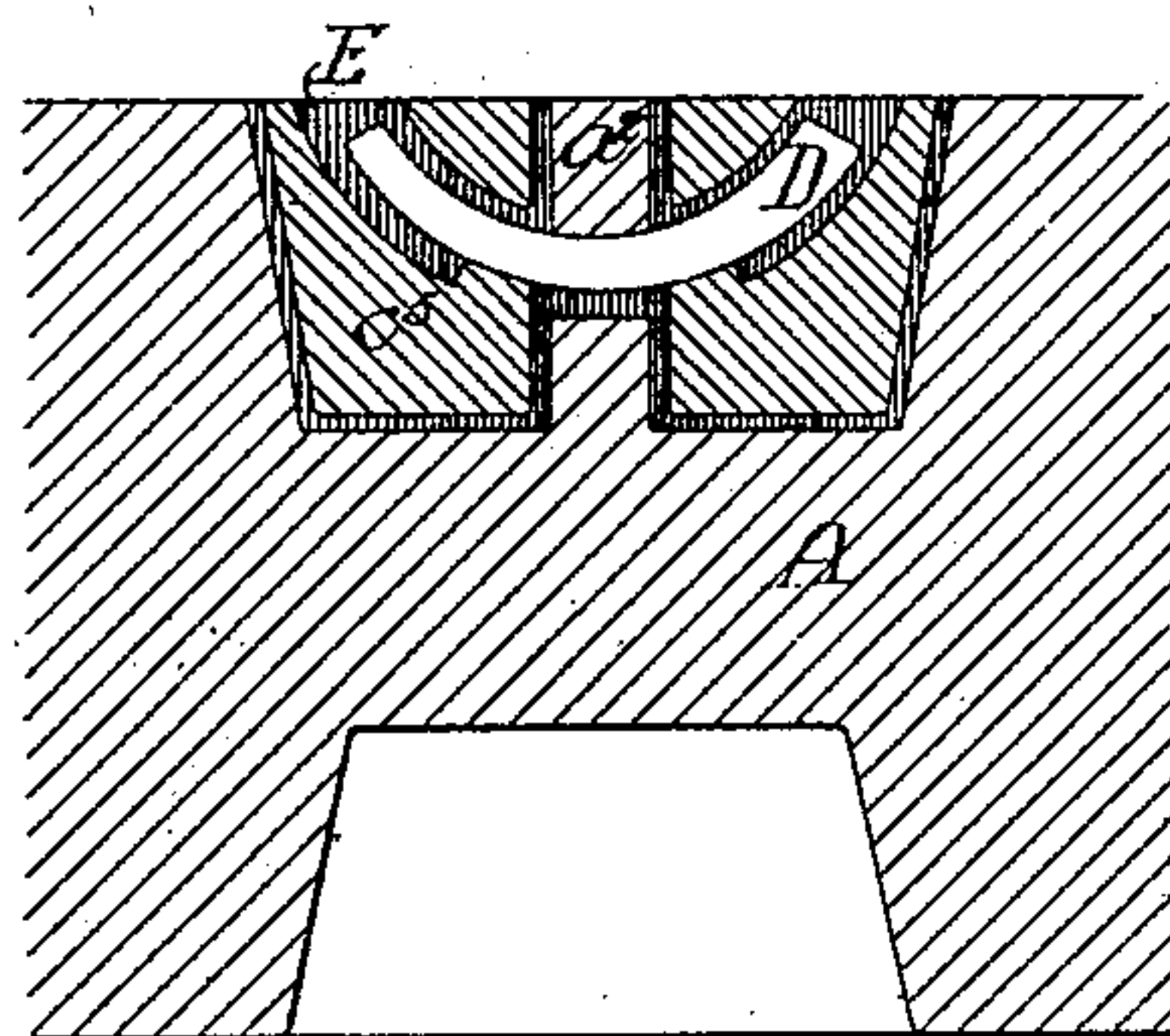
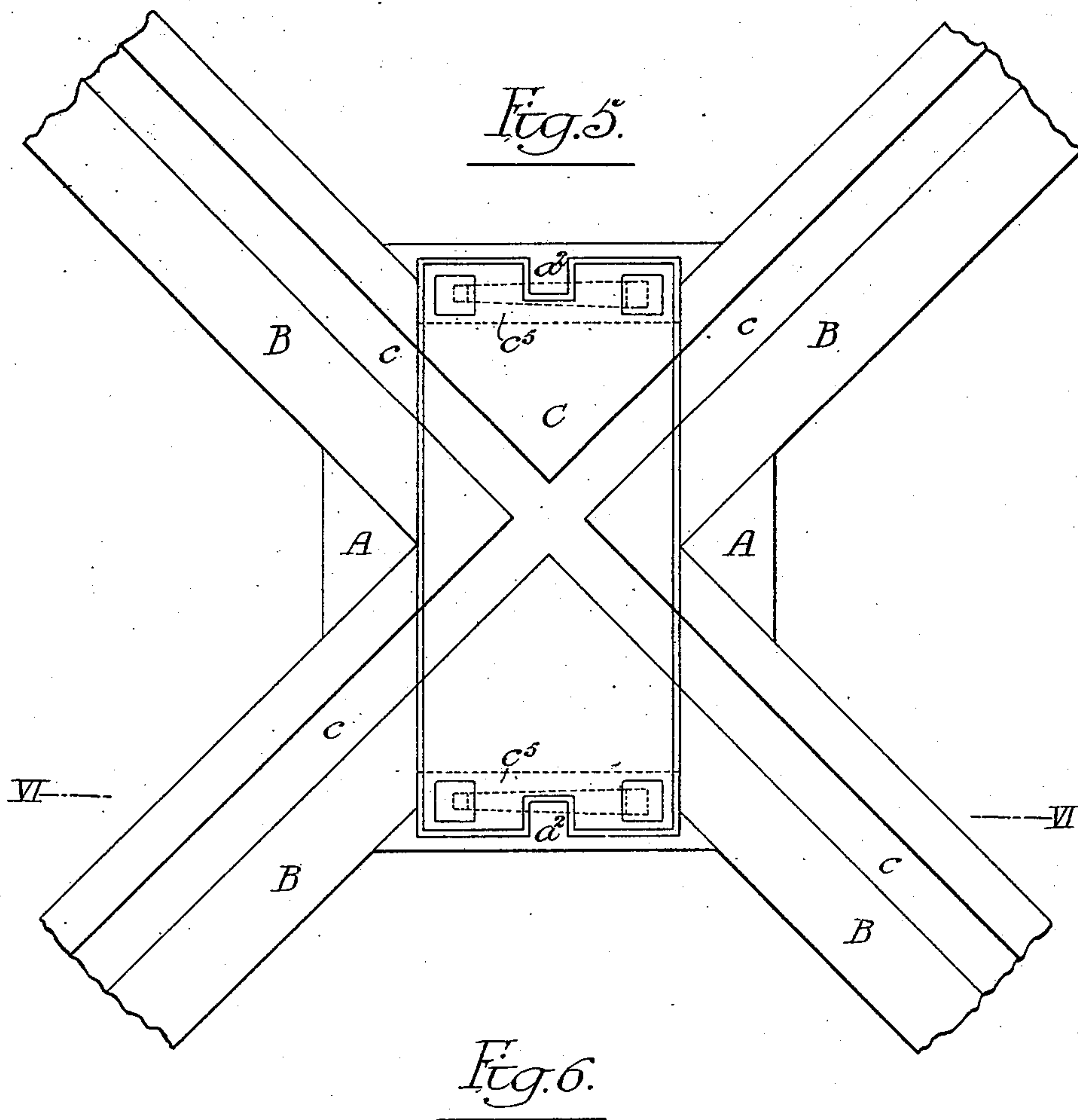
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Witnesses:-

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# UNITED STATES PATENT OFFICE.

CONSTANTINE B. VOYNOW, OF PHILADELPHIA, PENNSYLVANIA.

## RAILWAY-TRACK STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 714,068, dated November 18, 1902.

Application filed July 29, 1902. Serial No. 117,484. (No model.)

*To all whom it may concern:*

Be it known that I, CONSTANTINE B. VOYNOW, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Railway - Track Structures, of which the following is a specification.

My invention relates in general to railway-track structures and in particular to that portion of such structures at or adjacent to the crossing or intersection of two or more rails; and its objects are to provide a structure of the class referred to which shall resist to a maximum degree the wear to which it is subjected, which shall have few parts capable of being easily assembled, and in which the portion subjected to the greatest wear may be readily replaced without disturbing the adjacent pavement.

A further object is to provide new and efficient means for securing to a suitable support or base that part of a railway-track crossing, frog, switch, or like structure which is subjected to the greatest wear, said securing means being capable of ready insertion and removal at the ground-level of the structure.

These and other objects of my invention will more fully appear from the following description, taken in connection with the accompanying drawings, which illustrate a form which my invention may take in practice; but it will be understood that other embodiments and variations in form and details of construction may be produced without material change in the principles involved, and these embodiments and variations I wish it to be understood fall strictly within the scope of my invention.

In the drawings, Figure 1 is a plan view of a railway-track crossing constructed according to my invention. Fig. 2 is a vertical section on line II II of Fig. 1. Fig. 3 is a vertical section on line III III of Fig. 1. Fig. 4 is a similar view of a slight modification. Fig. 5 is a plan view of a modification; and Fig. 6 is a vertical section on line VI VI, Fig. 5.

As is well known the wear upon a track structure at crossings, frogs, switches, and the like is very great, these parts becoming

so injured as to require replacement long before the main portions of the track are worn out. To obviate the necessity of tearing up and removing the entire structure, it has been the practice to provide a wear-plate at the intersection of the rails which is of harder material than the other portions of the structure and is independently removable and replaceable. The novel construction of this wear-plate and of its supporting-base and the means for securing the parts together constitute the principal features of my improvements.

Referring to the drawings, it will be seen that in carrying my invention into effect I provide a body portion or base-piece A for the crossing, which forms a support for the attachment of the ends of rails B B. The upper portion of the base-piece A is suitably formed with a depression for the reception of a wear-plate C, which is of harder material, such as manganese-steel or chrome-steel, and has its upper surface formed in continuation of the rails B B, as by grooves *c c*. The wear-plate C is secured to the base-piece A by means of a curved locking member D, which is inserted in an opening in the wear-plate and, engaging both the wear-plate and the base-piece, approaches and is accessible at its opposite end through another opening in the wear-plate at the opposite end thereof. As shown in Figs. 1, 2, and 3, this locking member D is inserted through opening *c'* in plate C, passes through a channel formed for the purpose in base-piece A and a hole in depending lug *c<sup>2</sup>* of plate C to lock the latter securely in position. Member D is preferably an arc-shaped wedge which tapers slightly from end to end. In forming the complete structure the wear-plate C is placed in position upon the base-piece A, resting on small pieces of metal, (shown at *c<sup>3</sup> c<sup>3</sup>*), with the lug *c<sup>2</sup>* projecting into the socket formed for the purpose, leaving a space between the wear-plate and the base-piece. The wedge D is then driven in and, bearing against the surfaces *a a'* of the base-piece and the lower side of the hole in lug *c<sup>2</sup>*, securely locks the plate in position. A liner E of any suitable material, such as zinc, spelter or Babbitt metal, is then introduced in a molten state, and it fills the



spaces and crevices between the wear-plate and base, thus forming a perfect support for the wear-plate.

In order to remove the wear-plate C, the smaller end  $d$  of the locking member D is struck with a suitable tool, and owing to its taper it is easily loosened and driven partly out, when it may be removed. The wear-plate may then be removed by means of prying-tools inserted in openings  $c^4$ .

In Fig. 4 the lug  $c^2$  is shown formed with the hole for the locking member D upon its side instead of through it, and the locking member itself is shown round in cross-section instead of rectangular.

Referring now to Figs. 5 and 6, in which two locking members are employed, it will be seen that the central lug depending from the wear-plate C is dispensed with, and the wear-plate is formed with a depending extension  $c^5$  at each end, which projects downwardly into a suitable depression in the base-piece A. A vertical groove is formed in the outer face of each extension  $c^5$  to fit the vertical projections  $a^2$  upon the base-piece, and the locking members D are inserted in a channel formed in each extension  $c^5$  and pass through an opening in each projection  $a^2$ , thus securely locking the wear-plate to the base-piece at each end, as shown in detail in Fig. 6. The liner is then introduced as before.

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

1. A railway-track structure comprising a base-piece and a wear-plate, and an arc-shaped wedge for securing said wear-plate to said base-piece.

2. A railway-track structure comprising a base-piece and a wear-plate, a curved locking member for securing said wear-plate to said base-piece, and a liner interposed in a molten state between said wear-plate and said base-piece.

3. A railway-track structure comprising a base-piece and a wear-plate, a curved locking member for securing said wear-plate to said base-piece, and a liner interposed in a molten state between said wear-plate and said base-piece and in contact with said locking member.

4. A railway-track structure comprising a base-piece and a wear-plate, a curved wedge-locking member for securing said wear-plate to said base-piece, and a liner interposed in a

molten state between said wear-plate and said base-piece, substantially as described.

5. A railway-track structure comprising a base-piece and a wear-plate, a curved wedge-locking member for securing said wear-plate to said base-piece, and a liner interposed in a molten state between said wear-plate and said base-piece and in contact with said locking member, substantially as described.

6. A railway-track structure comprising a base-piece and a wear-plate, an extension formed upon said wear-plate and projecting into said base-piece, and a curved locking member engaging said extension and base-piece and accessible at each end at the ground-level, substantially as described.

7. A railway-track structure comprising a base-piece and a wear-plate, an extension formed upon said wear-plate and projecting into said base-piece, and a curved tapering locking member inserted through an opening in said wear-plate and engaging said extension and base-piece and accessible at its forward end through another opening in said wear-plate, substantially as described.

8. A railway-track structure comprising a base-piece and a wear-plate, an extension formed upon said wear-plate and projecting into said base-piece, a curved tapering locking member inserted through an opening in said wear-plate and engaging said extension and base-piece and accessible at its forward end through another opening in said wear-plate, and a liner interposed in a molten state between said wear-plate and said base-piece, substantially as described.

9. A railway-track structure comprising a base-piece and a wear-plate, an extension formed upon said wear-plate and projecting into said base-piece, a curved tapering locking member inserted through an opening in said wear-plate and engaging said extension and base-piece and accessible at its forward end through another opening in said wear-plate, and a liner interposed in a molten state between said wear-plate and said base-piece and in contact with said locking member, substantially as described.

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

CONSTANTINE B. VOYNOW.

Witnesses:

WILL. A. BARR,  
JOS. H. KLEIN.