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PATENTED APR. 11, 1905.

D. F. EARNEST & W. T. GILCHRIST.

RAILWAY TIE.

APPLICATION FILED DEC. 22, 1904.

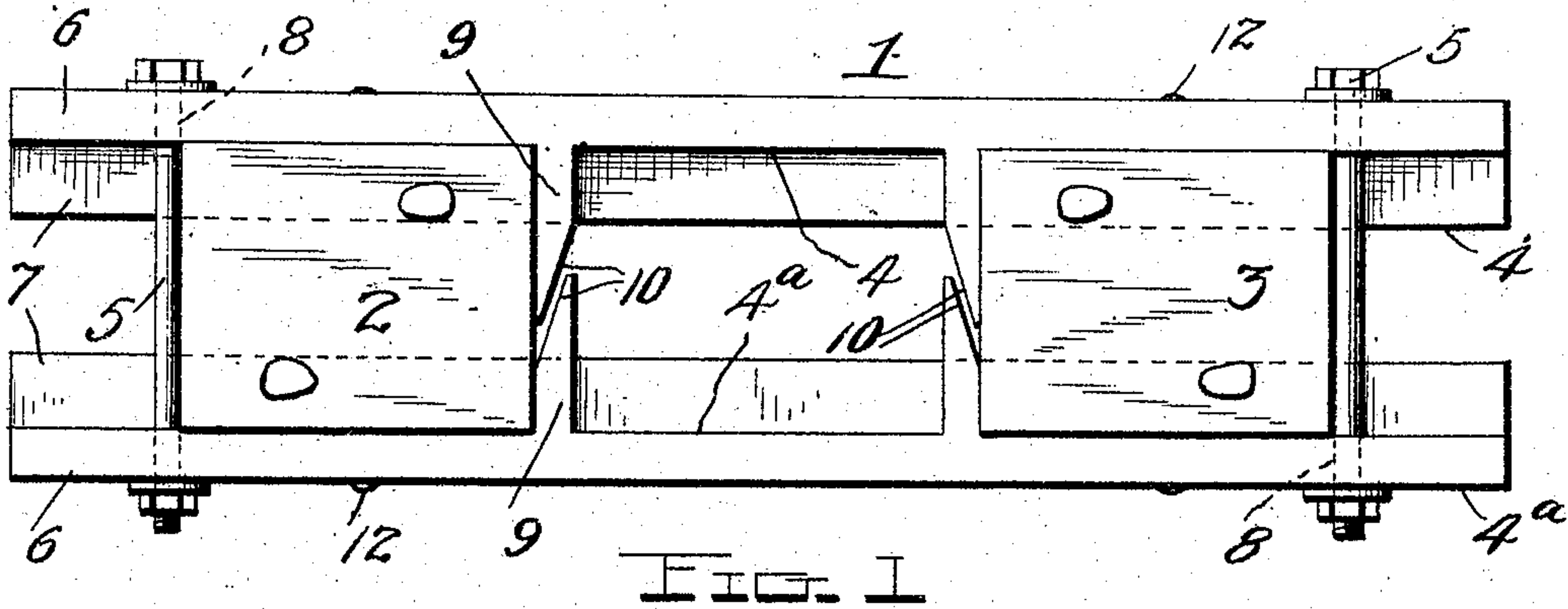


FIG. 1

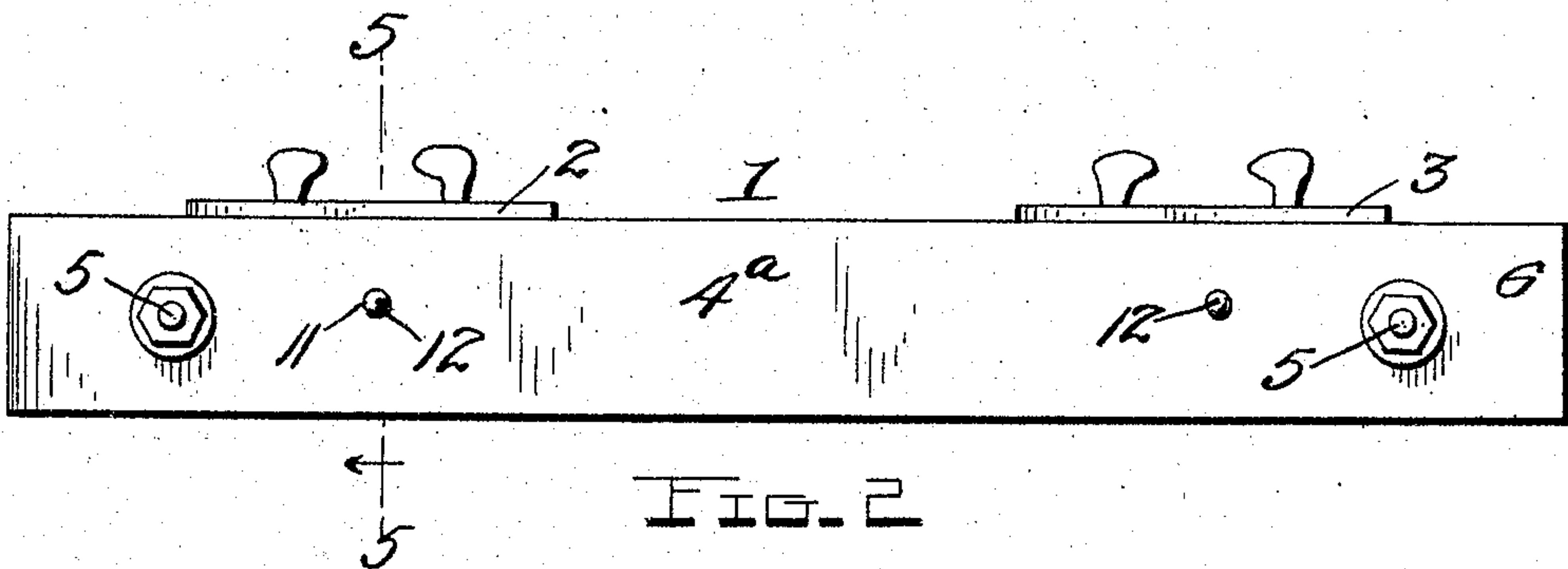


FIG. 2

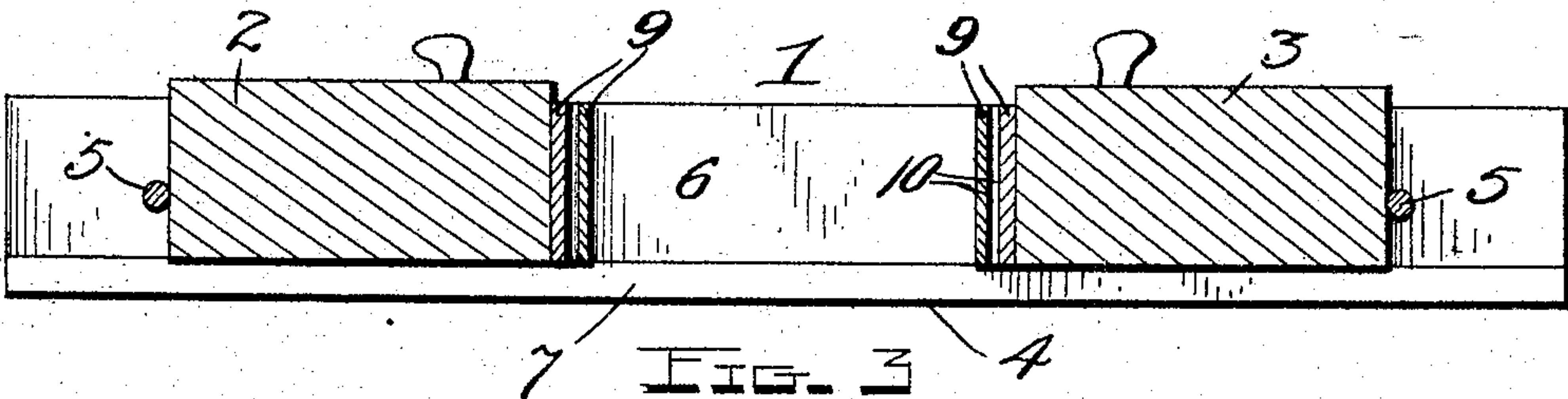


FIG. 3

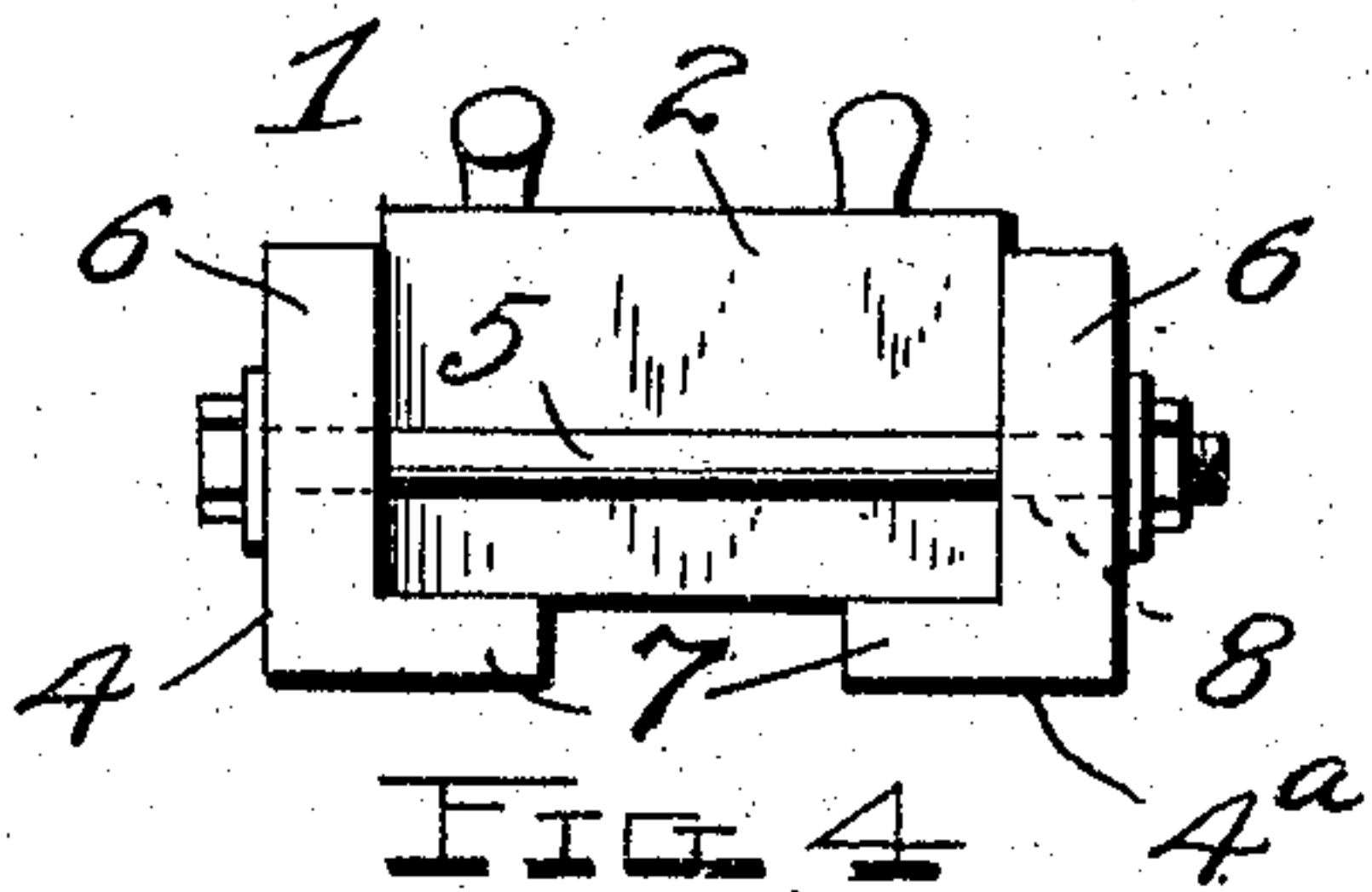


FIG. 4

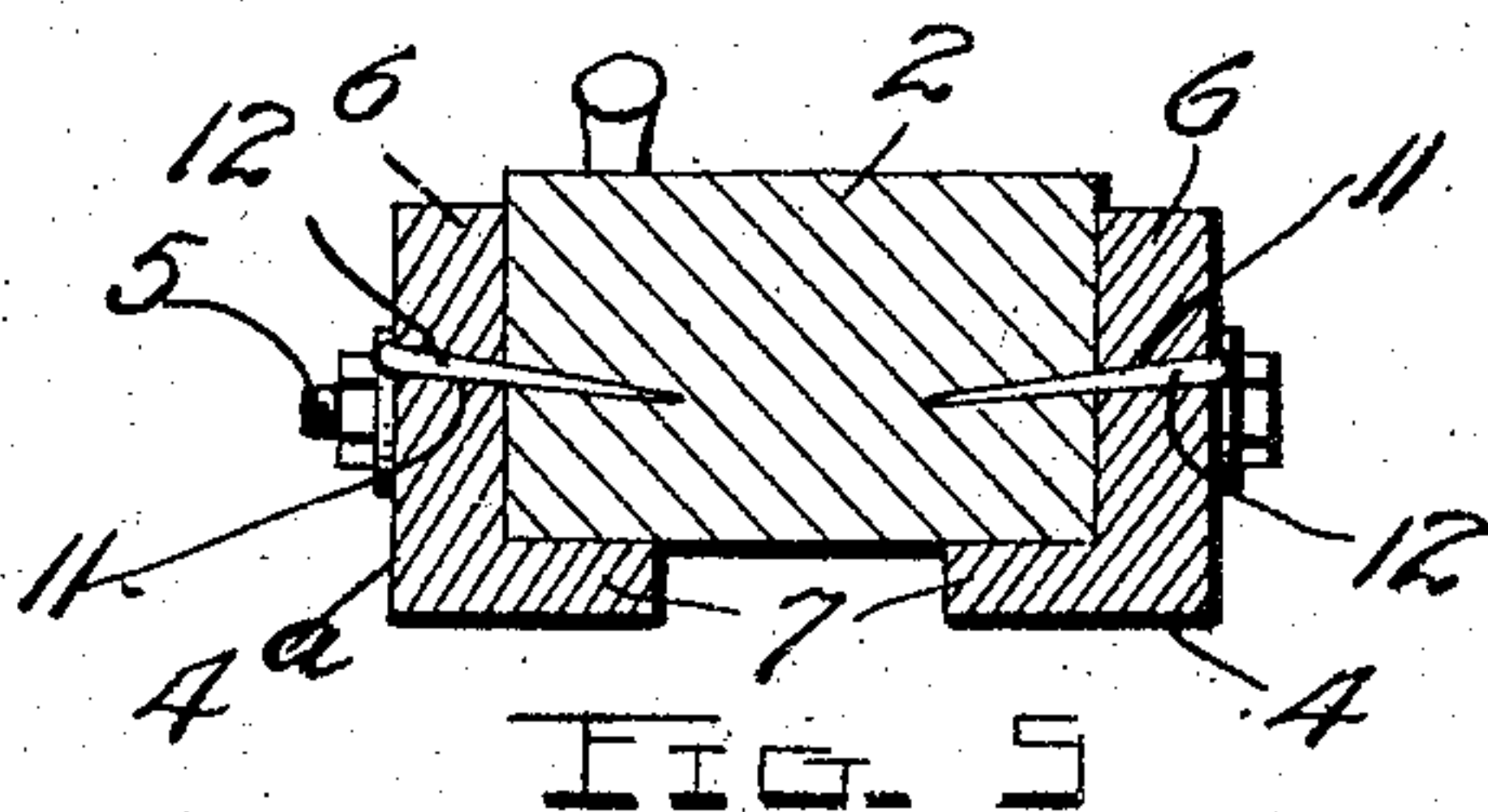


FIG. 5

Witnesses

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# UNITED STATES PATENT OFFICE.

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## RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 786,962, dated April 11, 1905.

Application filed December 22, 1904. Serial No. 237,956.

*To all whom it may concern:*

Be it known that we, DAVID F. EARNEST and WILLIAM T. GILCHRIST, citizens of the United States, residing at West Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Railway-Ties; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in railway cross-ties of the composite metal and wood type; and it consists in certain novel features of construction, combination, and arrangement of parts hereinafter fully described and claimed.

The object of our invention is to provide a simple and durable railway-tie of this character which may be manufactured at a comparatively small cost and to which the track-rails may be secured by the usual spikes.

The above and other objects, which will appear as the nature of our invention is better understood, are accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of our improved railway-tie. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical longitudinal section. Fig. 4 is an end elevation, and Fig. 5 is a transverse sectional view taken on the line 5 5 in Fig. 2.

Referring to the drawings by numerals, 1 denotes our improved tie, which consists of two blocks of wood 2 and 3, which are secured between two metallic tie-sections 4 and 4<sup>a</sup>, which are united by bolts 5. The half-sections of the tie consist of angle metal bars, preferably of right-angular form in cross-section, which have their upright portions 6 somewhat thicker than their horizontally-disposed portions 7. Adjacent to the outer ends of each of the half-sections are formed bolt holes or openings 8, and at a suitable distance from said bolt-holes are inwardly-projecting arms 9. These arms 9 have their ends oppositely beveled, as shown at 10, so as to permit the opposing arms on the two half-sections to

overlap each other, when the said sections are united by the bolts 5, which pass through said holes or openings 8. The arms 9, together with the bolts 5, form sockets to receive the blocks of wood 2 and 3, which are preferably rectangular in form and of sufficient thickness or height to project slightly above the upper edges of the upright portions 6 of the half-sections of the tie, their bottoms or lower faces resting upon the inwardly-projecting horizontal portions 7 of said tie-sections, as seen in Figs. 4 and 5 of the drawings. It will be seen that when the nuts of the bolts 5 are tightened the two tie-sections 4 and 4<sup>a</sup> will be firmly clamped upon the blocks 2 and 3, and thus held rigidly together. Any desired number of the bolts 5 may be used, and they may be disposed in any suitable points along the tie. In order to render the connection between the tie-sections and the blocks more secure, we provide in the upright portions 6 of said sections openings 11, through which nails or the like 12 may be driven into the blocks, as seen in Fig. 5 of the drawings.

The construction, use, and advantages of our improved tie will be readily understood from the foregoing description taken in connection with the accompanying drawings. It will be seen that track-rails of any description may be secured upon the tie by spiking them to the blocks of wood in the usual manner and that said blocks will form cushions which will provide for the impact of the car-wheels. These ties may be manufactured at a comparatively small cost, and they are of very durable construction. The blocks 2 and 3, it will be seen, may be replaced without disturbing the ties. If desired, the stays between the half-sections of the tie may be filled in with ballast, concrete, or other material.

While we have shown and described the preferred embodiment of our invention, it will be understood that we do not wish to be limited to the precise construction herein set forth, since various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.



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

1. A railway-tie comprising two metallic tie-sections having inwardly-extending base portions on their opposing inner sides, wooden blocks interposed between said sections and bearing on said base portions, and means to clamp said sections together and to also secure said blocks between them, substantially as described.

2. A railway-tie comprising two metallic half-sections having socket members, blocks of wood between said socket members and bolts for securing said half-sections together, substantially as described.

3. A railway-tie comprising two half-sections of angular form in cross-section having bolt-holes and inwardly-projecting arms, bolts passing through said bolt-holes to secure said sections together, and blocks of wood clamped between said half-sections and disposed be-

tween said arms and said bolts, substantially as described.

4. A railway-tie comprising two half-sections of angular form in cross-section having bolt-holes and inwardly-projecting arms, bolts passed through said bolt-holes to secure said sections together, blocks of wood clamped between said half-sections and disposed between said arms and said bolts, said half-sections being also formed with openings intermediate said bolt-holes and said arms, and nails or spikes passed through said holes and into said blocks, substantially as described.

In testimony whereof we hereunto set our hands in presence of two subscribing witnesses.

DAVID F. EARNEST.  
WILLIAM T. GILCHRIST.

Witnesses:

CHAS. GIBBS,  
R. E. WRENN.