

(No Model.)

2 Sheets—Sheet 1.

W. R. KINNEAR.
RAILROAD TIE.

No. 483,154.

Patented Sept. 27, 1892.

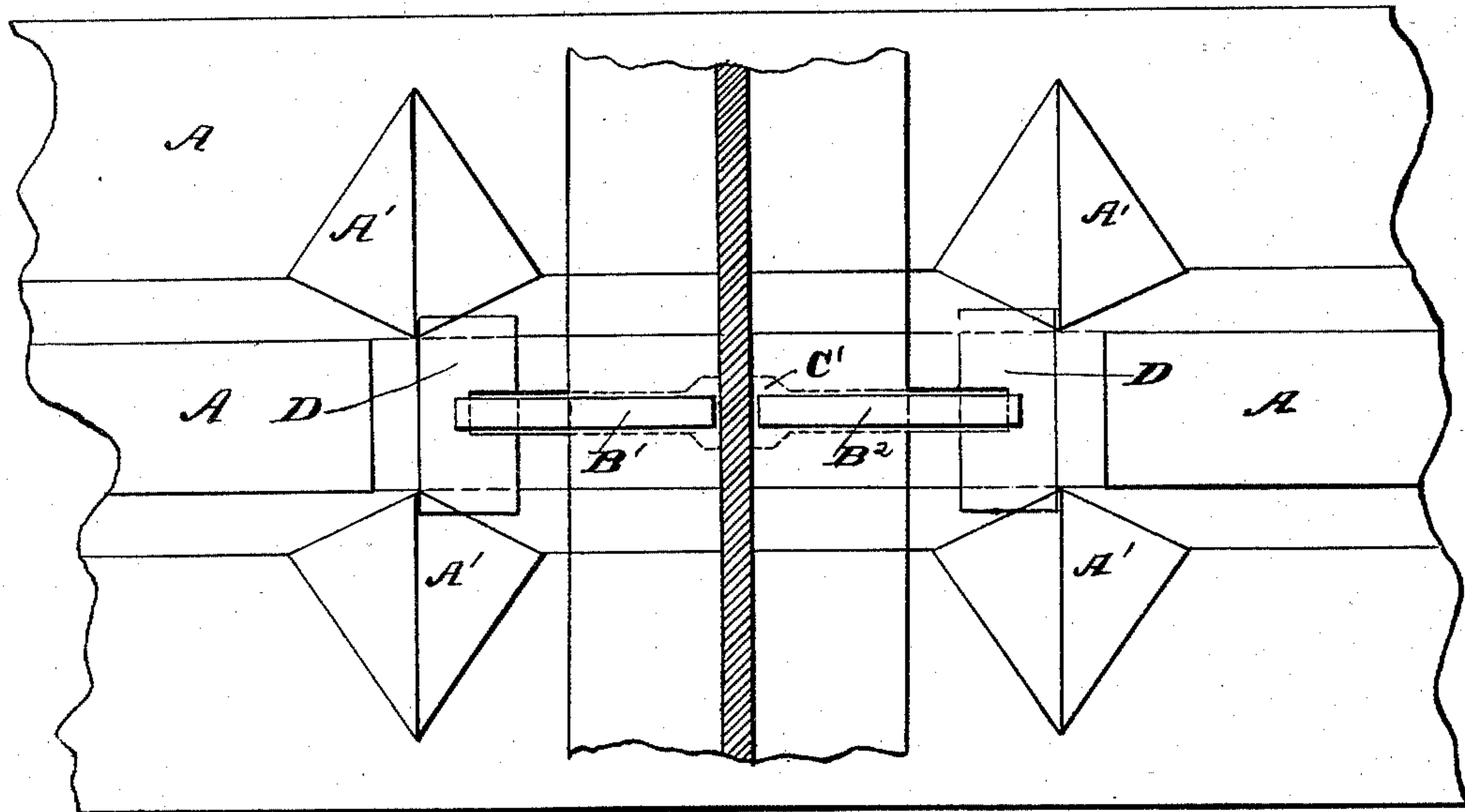


Fig. 1.

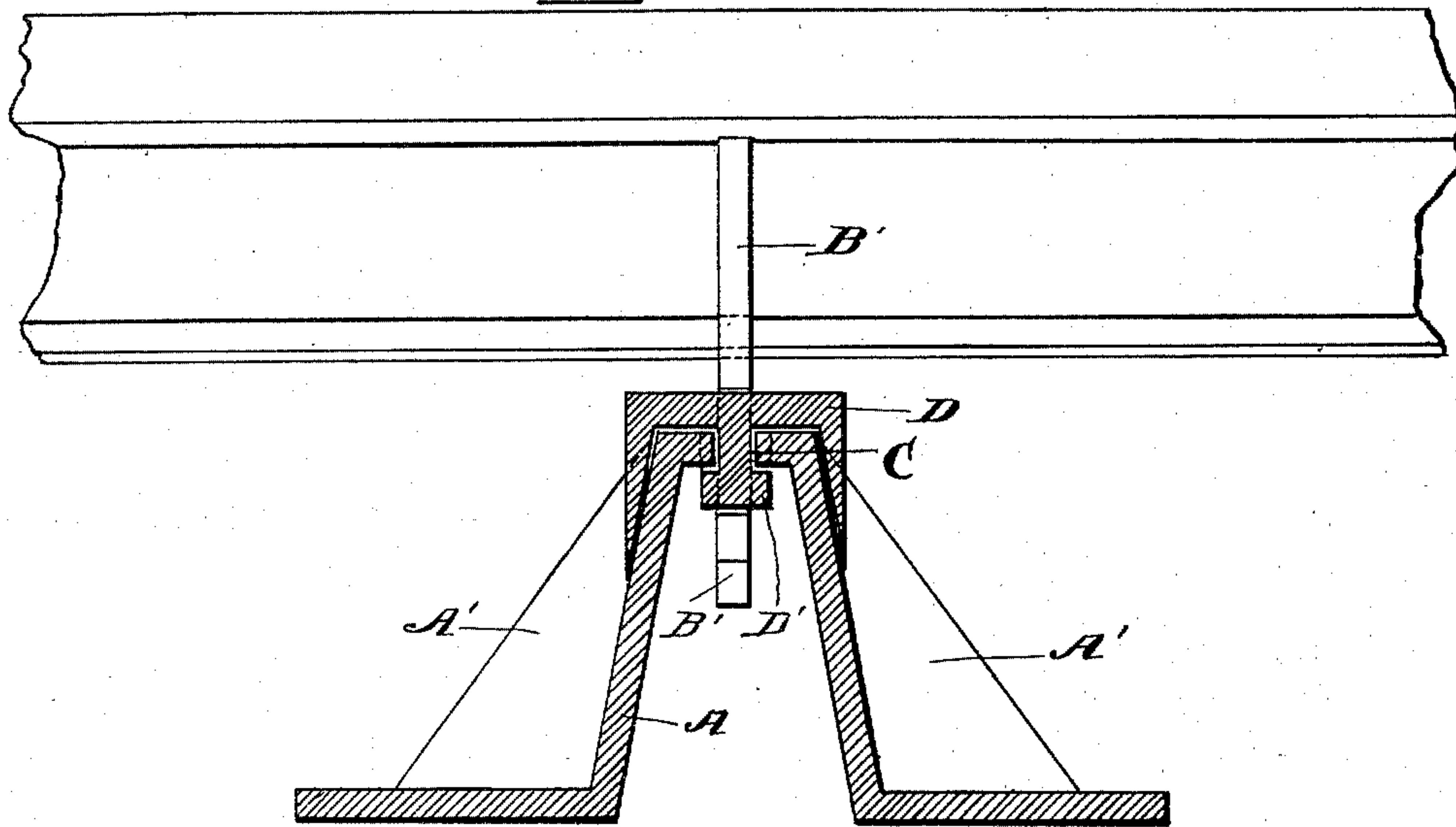


Fig. 2.

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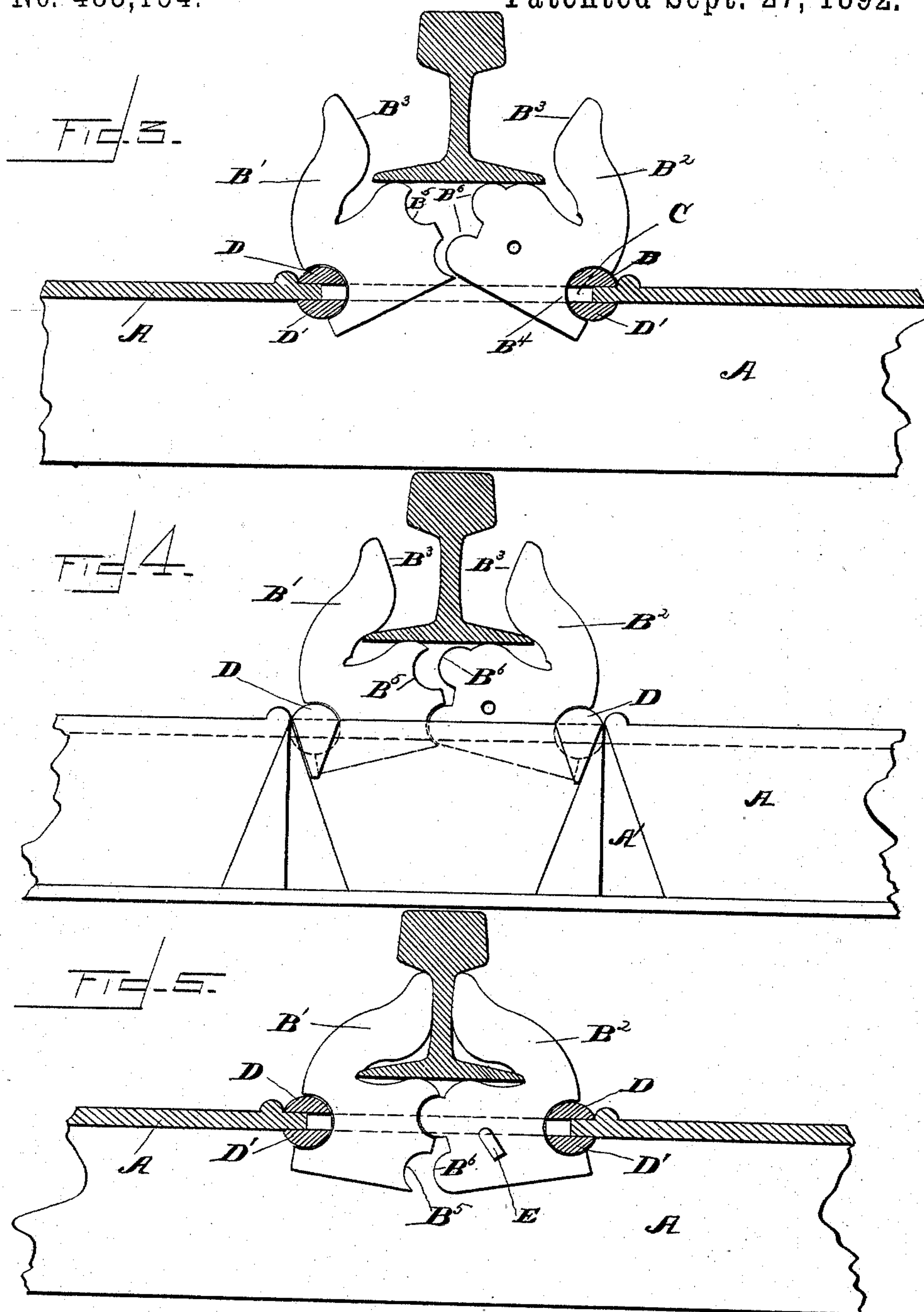
Inventor
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By his Attorneys
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UNITED STATES PATENT OFFICE.

WILLIAM R. KINNEAR, OF COLUMBUS, OHIO.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 483,154, dated September 27, 1892.

Application filed March 15, 1892. Serial No. 425,064. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. KINNEAR, a citizen of the United States, and a resident of Columbus, in the county of Franklin, State of Ohio, have made certain Improvements in Railroad-Ties, of which the following is a specification, together with the drawings forming a part thereof.

This invention relates to improvements in railroad-ties; and it consists in the novel construction and arrangement of the parts, as hereinafter more fully set forth and described, and has for its objects to provide a metallic tie which will be inexpensive and simple in construction and at the same time provide a fastening to maintain the rail in position under all conditions and operate to clasp it more rigidly in proportion as the weight is increased.

In the drawings, Figure 1 is a plan view showing the rail in position on this tie. Fig. 2 is a cross-section of the same. Figs. 3, 4, and 5 are detail views showing the method of placing the rail in position within the fastenings.

The letter A designates the tie, which is found, as herein shown, to allow of its manufacture by either rolling or stamping out of plate metal. In either instance the angular braces A' are pressed into shape so as to maintain the form of the tie against any crosswise thrust. These braces are so placed as to support the tie at the points where the fastenings are placed. These fastenings are mounted in a slot C cut in the top of the ties and wide enough to receive the fastenings singly. In the center the slot C is enlarged to form the opening C' to allow for the introduction of the bearings D, which are constructed to form a rounded surface, against which the fastenings B' and B² bear. To maintain them in position in the slot and prevent them becoming dislodged by the vibration incident to the passage of heavy trains, they are provided with the guide-flanges D', which extend under the top plate of the tie, and thus prevent the bearings becoming dislodged. It is against the bearings D that the fastenings B' and B² rest and are provided with the rounded recesses B⁴ to fit the said bearings. When in position within the slot C, the fastenings abut each other and are provided at this point the one with the re-

cesses B⁵ and the other with the knuckles B⁶, adapted the one to fit the other. It is by means of these recesses B⁵ and knuckles B⁶ that the fastenings B' and B² are compelled to operate in unison in rising to open the clamping-jaws B³. These clamping-jaws when grasping a rail rest against the side of the rail, between the head and flange, which latter rests on the abutting fastenings just above the joined recesses and knuckles. In order to give direct thrust by the rail upon this part of the fastenings, they are cut away to either side of where the flange of the rail rests and rounded to obviate friction. In this position of the parts it is obvious that the impacts received upon the rail tend to drive downward that part of the fastenings on which it rests, which causes the fastenings to revolve on the bearings D and throw the clamping-jaws B³ the tighter against the sides of the rail. By this action the resultant strain of the weight carried on the fastenings, as described, is to throw it in a line between the bearings D or lengthwise of the tie, the line of strongest resistance. By means of this construction, causing, as it does, the action above described, I am permitted to use a lighter material than I otherwise could.

The operation of placing a rail within these fastenings is illustrated in Figs. 3, 4, and 5, showing the successive steps. To remove the rail, the reverse operation is followed, as seen by reading the sequence of figures of the drawings backward.

In some instances and as an additional precaution I keep the fastenings from rising out of place by inserting the pin E in a perforation in one of the fastenings below the top of the tie. To allow for this pin being inserted, a slot is cut in the side of the tie to admit of its passage to the inside. This prevents any unintentioned interference with the placement of the rails.

While I have thus described this invention as having the loose bearings D, I do not wish to be understood as limiting myself strictly to that form, as in some instances I much prefer the more economical construction of cutting the metal of the top of the tie, and therefore turning a rounded bearing for the reception of the fastenings B' and B², and this form I wish to be understood as claiming.

What I claim is—

In a railroad-tie such as described, the combination, with pivots attached to the tie, of fastenings having bearings on the said pivots and forming supports for the rail between the said bearings, connections between the said fastenings to cause them to move in unison, and clamping-jaws attached to the said fastenings and adapted to grasp the sides of

the rail as the said fastenings are depressed between the bearings, substantially as described.

In testimony whereof I have hereunto set my hand this 23d day of January, 1892.

WILLIAM R. KINNEAR.

Witnesses:

NORTON STUTSON,

A. N. VAN DEMAN.