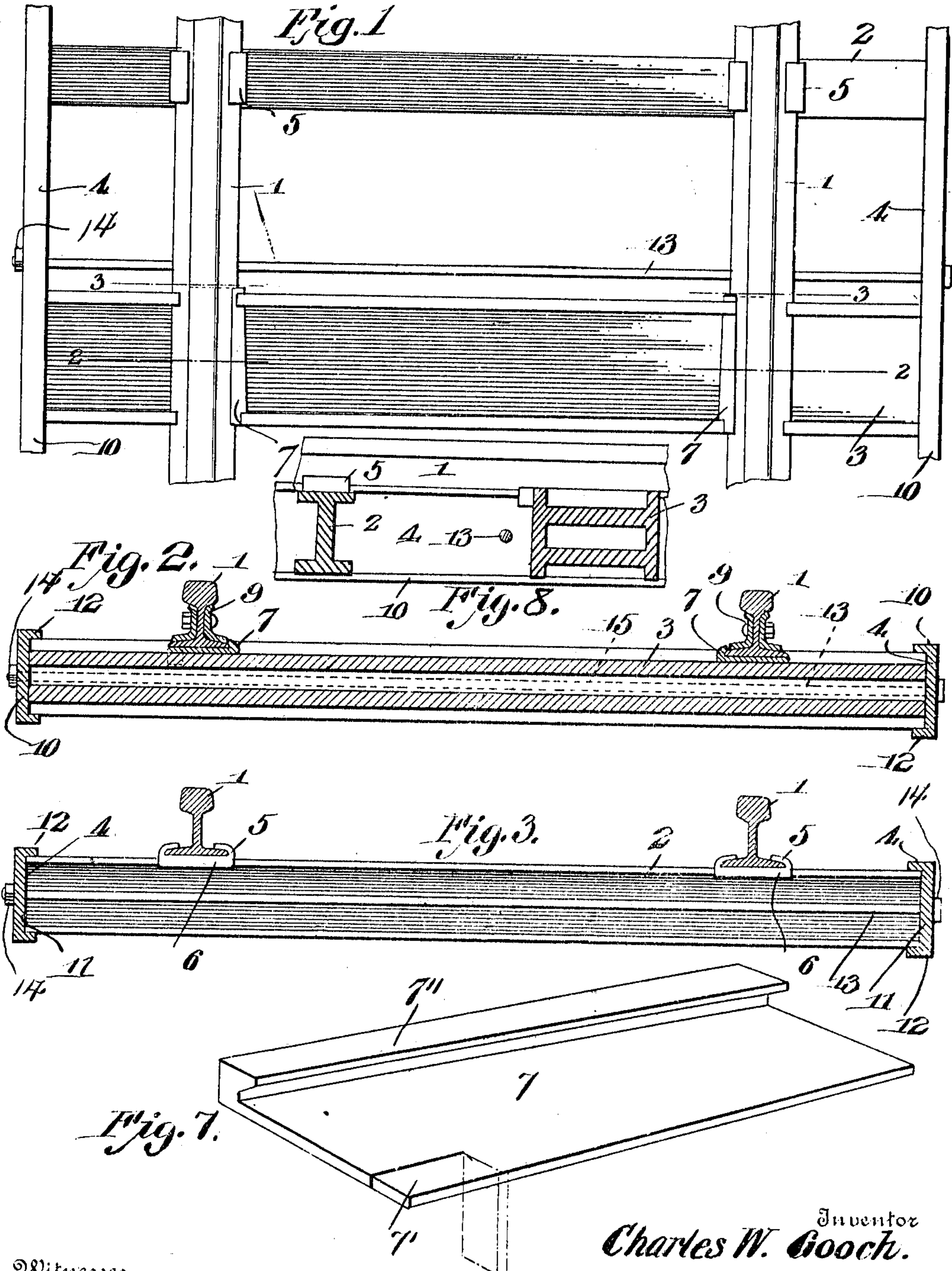


999,644.

C. W. GOOCH.
STEEL RAILROAD TIE.
APPLICATION FILED AUG. 31, 1910.

Patented Aug. 1, 1911.

2 SHEETS—SHEET 1.



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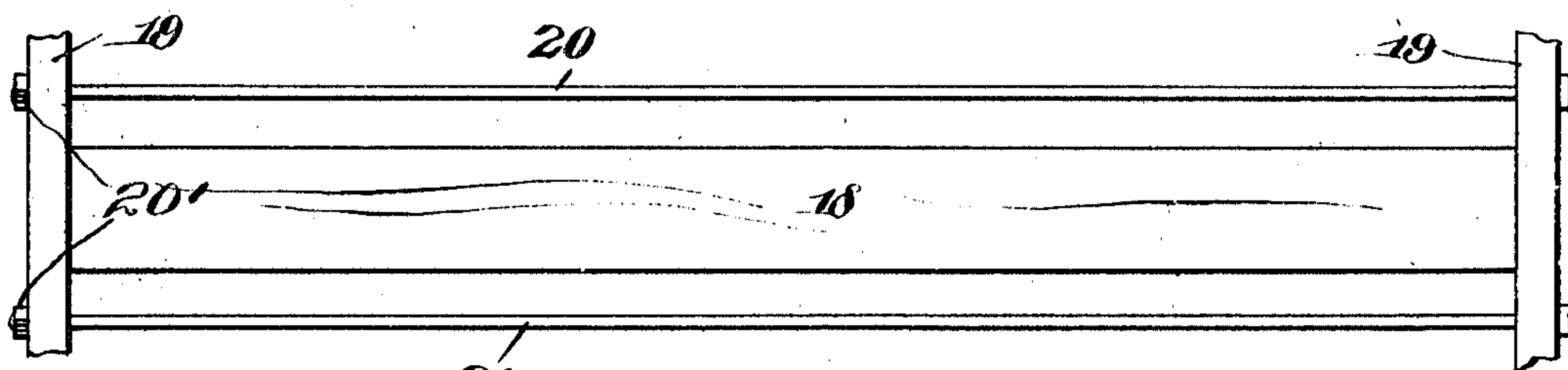
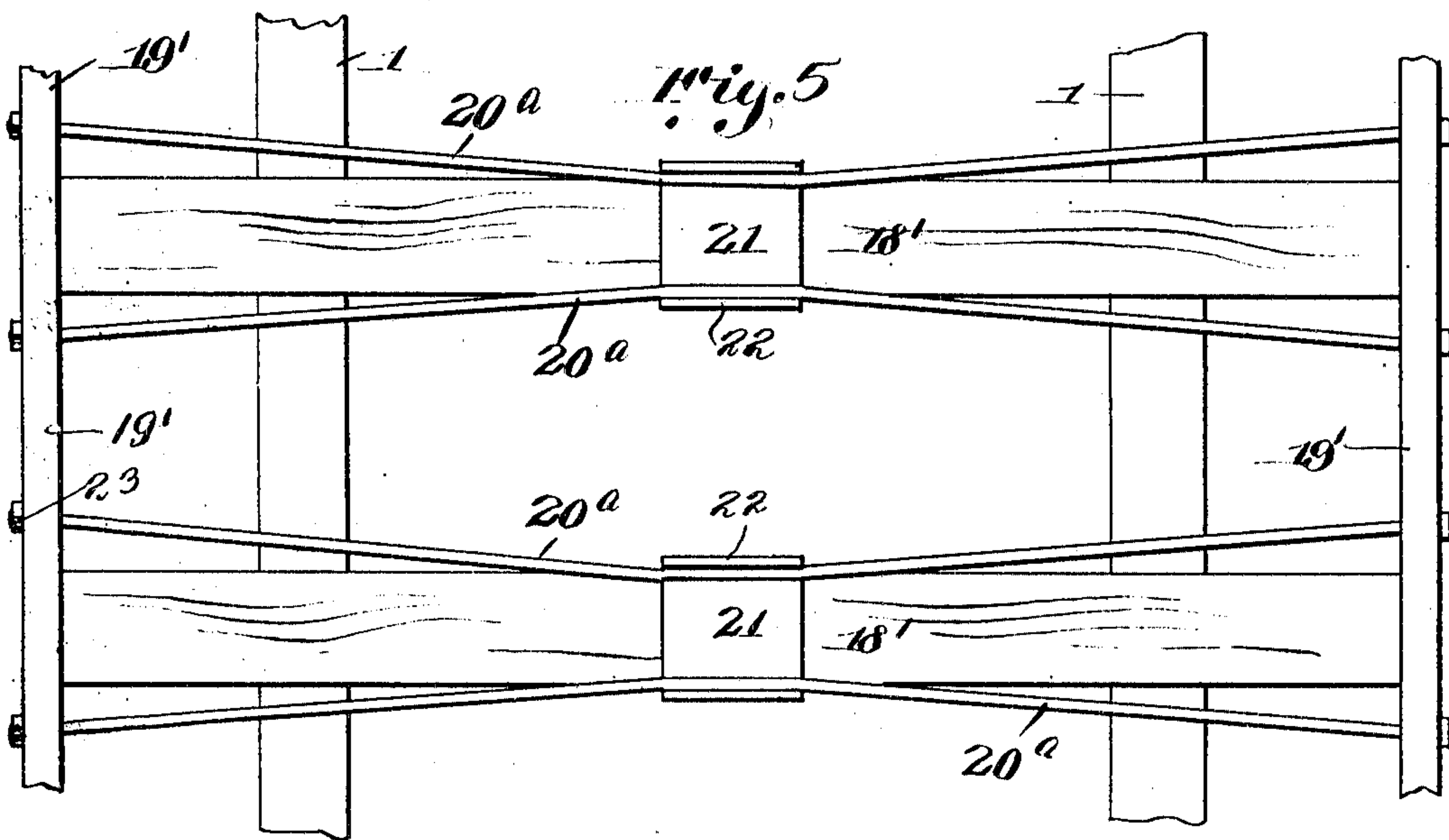
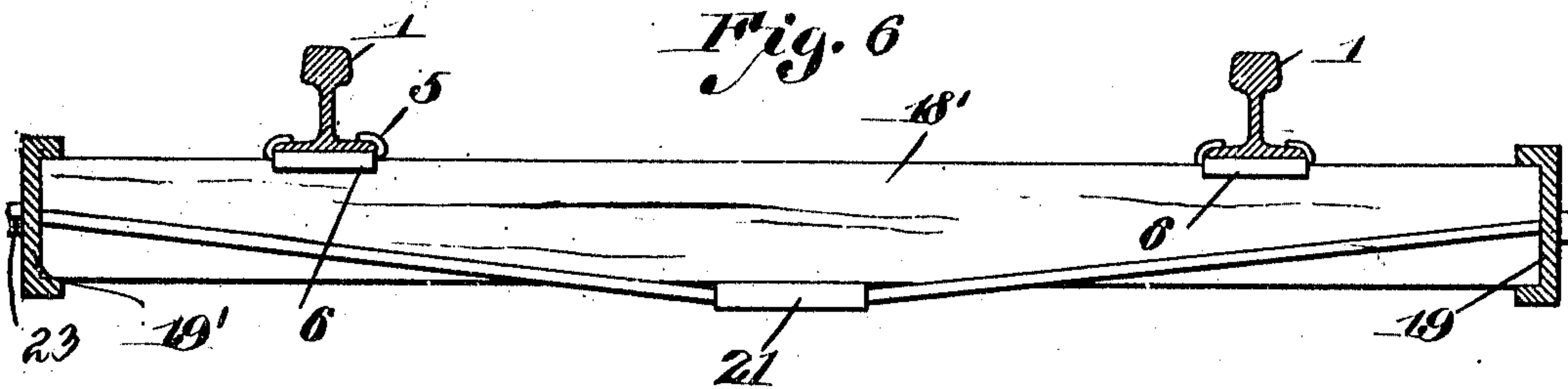
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UNITED STATES PATENT OFFICE.

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STEEL RAILROAD-TIE.

999,644.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed August 31, 1910. Serial No. 579,802.

To all whom it may concern:

Be it known that I, CHARLES W. GOOCH, a citizen of the United States, residing at Ellsworth, in the county of Nobles and State of Minnesota, have invented new and useful Improvements in Steel Railroad-Ties, of which the following is a specification.

This invention relates to improvements in railroad beds, and the primary object of the invention is to provide a railroad bed or bearing for railroad rails, comprising preferably, metallic ties having their ends so connected as to form practically a railroad bed made up of continuous ties and connections for the ties.

With the above, and other objects in view, which will appear as the description progresses, the invention resides in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a top plan view of a portion of a railroad bed constructed in accordance with the present invention. Fig. 2 is a longitudinal sectional view upon the line 2—2 of Fig. 1. Fig. 3 is a similar section upon the line 3—3 of Fig. 1. Fig. 4 is a top plan view illustrating a slightly modified form of the device. Fig. 5 is a bottom plan view of a still further modified form of the device. Fig. 6 is a side elevation taken transversely of Fig. 5. Fig. 7 is a perspective view of one of the rail securing members. Fig. 8 is a cross section of the device illustrated in Fig. 1.

In the accompanying drawings and referring to Figs. 1, 2, 3 and 7 particularly, the numeral 1 designates the rails, 2 and 3 the I-beams which in this case serve as ties, and 4 the longitudinally extending members adapted to contact and support the ties. The ties 2 are arranged with their flattened faces horizontal. The upper horizontal faces of the I-beams or ties 2 are provided with spaced chairs 5. These chairs 5 may be integrally formed or otherwise connected with the tie and are each provided with rail base engaging flanges 6. The ties 3 upon which the meeting ends of the rails 1 rest are of a greater width than the ties 2, and these ties 3 have their flanges arranged vertically instead of horizontally as is the case with the ties 2. The projecting flanges upon the upper faces of each of the ties 3 are cut away at spaced intervals. The tie 3

spaced longitudinally extending walls, and an upper and lower wall connecting the said longitudinal walls. The connecting members of the tie are sufficiently spaced away from each other, so that a certain amount of resiliency is provided by the said tie, and at the same time the connecting walls thus formed add materially to the strength of the tie. The vertical walls provided by the said cut away portions are inclined toward each other, to correspond with the inclinations of the base flanges of the rails, and the said cut away portions are of a slightly greater width than the base of the rails. One of the said cut away portions is of a greater length than the opposite cut-away portion. The tie 3 is adapted for the reception of a chair 7. This chair 7 has one of its ends of a greater width than its opposite end so that when the same is positioned upon the tie, the chair will be securely connected with the tie. In order to provide for the retention of the chairs 7 upon the ties 3, the smaller end of the said chair 7 is provided with a longitudinal slit or cut away portion 7', the same extending a suitable distance and adapted to be bent downwardly against the base of the tie so as to prevent accidental removal of the said chair. One of the longitudinal edges of the chair 7 is provided with an overlying flange 7'', the same being adapted to engage with the edge of the web of the rail opposite to that contacted by the cut-away portion of the flange formed by the walls provided by the cut away portions adjacent to that portion of the chair having the longitudinally extending portion on 7''.

The side members 4 are each substantially U-shaped in cross section and have their offset portions overlying both the top and the bottom of the I-beams 2 and 3. These members 4 are provided with alining openings, the same being adapted for the reception of a headed rod 13 having its opposite end provided with threads adapted for the reception of a nut 14. It will be noted by reference to Fig. 2 of the drawings that the I-beam 3 is preferably centrally recessed or hollow so as to add to the resiliency of the track, and it will be further noted that the members 4 may extend the entire length of the railway so as to effectively and securely prevent the track and ties therefor from shifting either laterally or longitudinally.

In Fig. 4 there has been illustrated a slightly modified form of the device. In this figure the ordinary wooden ties 18 are employed and the rails may be connected thereto through the medium of the usual spikes. The ends of the ties are connected by longitudinally extending cross sectionally U-shaped continuous members 19, and these members 19 are retained against the ends of the ties through the medium of headed rods 20 having one of their ends provided with threads which are adapted for the reception of nuts 20'.

In Figs. 5 and 6 I have illustrated a still further modified form of the device. In these figures the usual ties 18' are employed. The ends of the said ties are contacted by the continuous, substantially cross sectionally U-shaped members 19'. These members 19' overlie both the top and bottom edges of the ties 18', as clearly illustrated in Fig. 6 of the drawings. The members 19' are each provided with alining openings positioned, preferably, adjacent the ends of the ties and the said openings are adapted for the reception of suitable rods 20^a. All of the said rods have one of their ends provided with a head and its opposite end provided with threads, the said threads being adapted for the reception of nuts 23. The under faces of these ties are each provided with substantially U-shaped brackets 21, the ears or offsets 22 of the same being adapted to receive the securing rods 20^a. It will be noted by reference to Fig. 5 that the rods 20^a are inclined from their centers in opposite directions so that the said rods 20^a form an effective truss.

From the above description, taken in connection with the accompanying drawings, it will be noted that I have provided an extremely simple and effective device for the purpose intended, one which securely retains the ends of the I-beams or ties in proper relation with each other and prevents lateral or longitudinal movement of the said ties, and which also provides a substantially solid and continuous structure for the reception of the rails, and it will be understood that while I have illustrated and described the preferred embodiment of the improvement, as it now appears to me, changes in minor details of construction, within the scope of the following claims may be resorted to if desired.

Having thus fully described the invention, what I claim as new is:—

1. In a device for the purpose set forth, the combination with railroad ties, substantially continuous engaging members for the ends of the ties, said members being constructed of cross sectionally U-shaped elements, and adjusting means for retaining the elements upon the ends of the ties.
2. In a device for the purpose set forth, the combination with ties and rails therefor, of longitudinally extending members for the ties, and adjustable truss members connected with the tie engaging members.
3. In a device for the purpose set forth, the combination with railway ties, said ties having their ends provided with substantially U-shaped continuous engaging members, the ties being further provided with centrally arranged plates having depending ends, and adjustable truss members connecting the elements and adapted to underlie the depending ends of the plates.
4. In a device for the purpose set forth, ties for railway rails, said ties being constructed of I-beams, chairs upon the I-beams adapted to receive the base flanges of the rails, continuous members engaging the ends of the ties and adjustably securing elements connecting the said engaging members.
5. In a device for the purpose set forth, a railway bed comprising ties constructed of I-beams, a portion of said beams having their upper faces provided with chairs comprising rail base overlying members, the intermediate ties having vertically extending projections upon each of their sides, said projecting members being cut away angularly to provide for the reception of the base flanges of the rails, wedge-shaped chairs positioned between the cut away portions and the base flanges of the rails, each of said plates having one of its ends slit and adapted to be bent downwardly against the side of the tie, continuous retaining members for the ends of the ties, and adjustable securing members for the retaining members.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. GOOCH.

Witnesses:

F. W. STANTON,
SUSIE B. LENZ.