

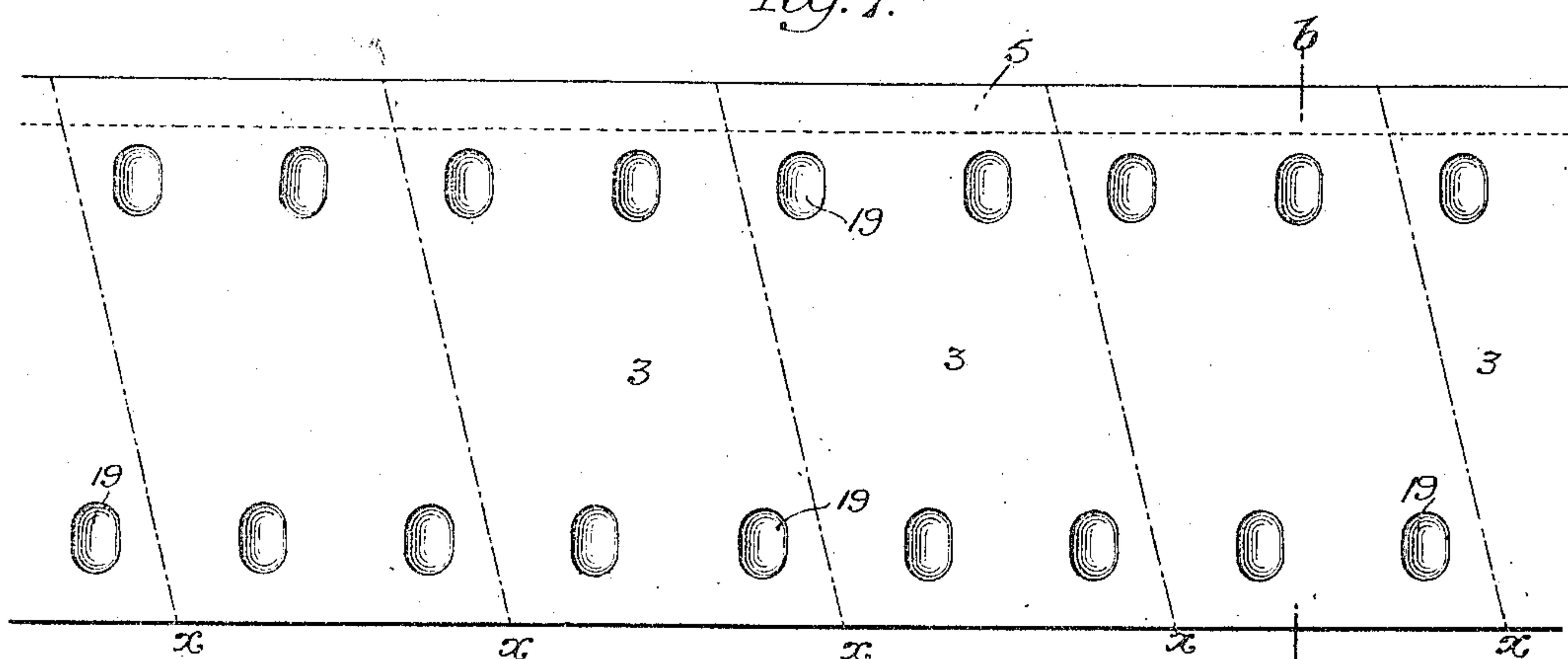
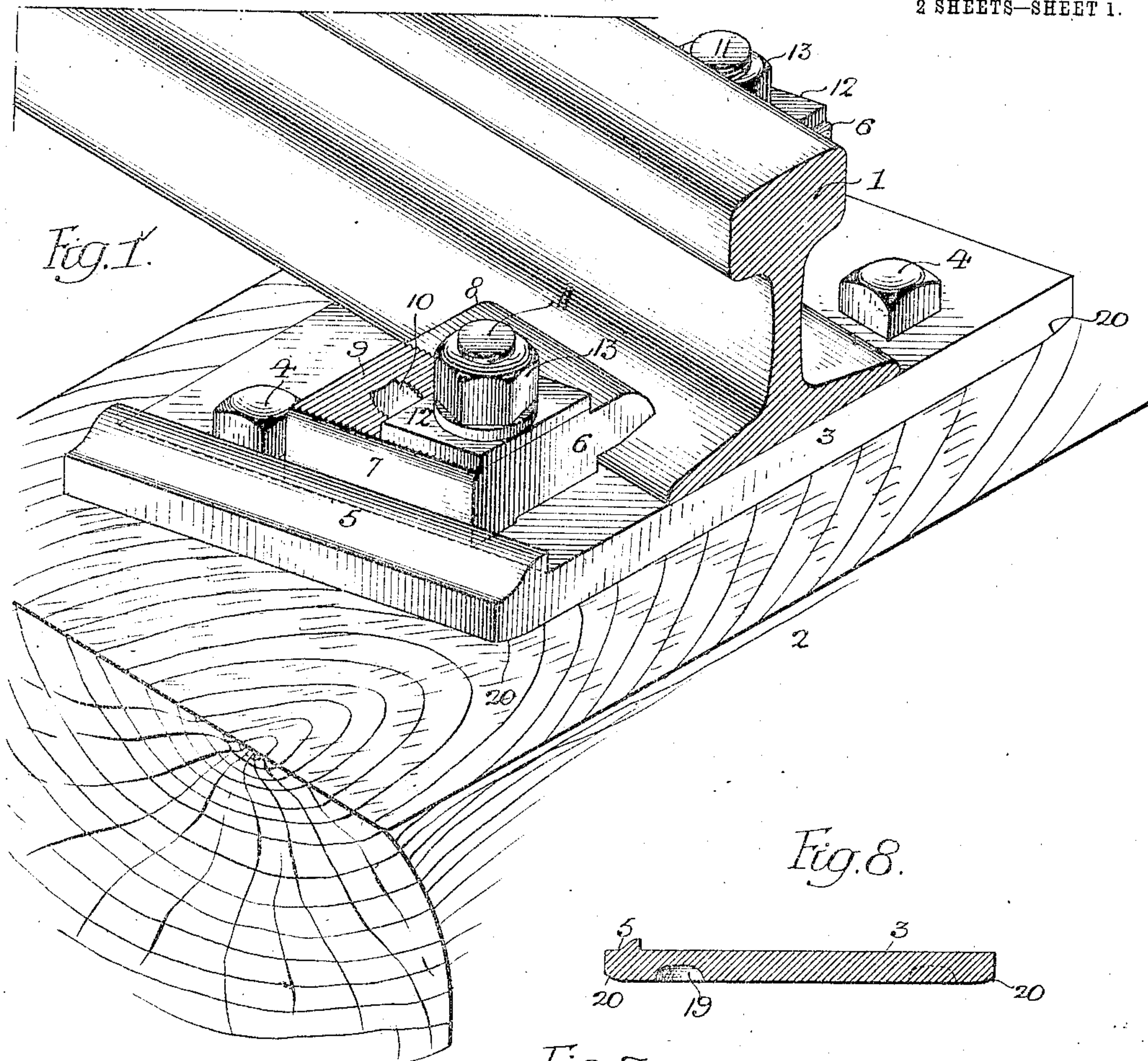
No. 828,794.

PATENTED AUG. 14, 1906.

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TIE PLATE AND RAIL FASTENING FOR USE THEREWITH.

APPLICATION FILED APR. 13, 1906.

2 SHEETS—SHEET 1.



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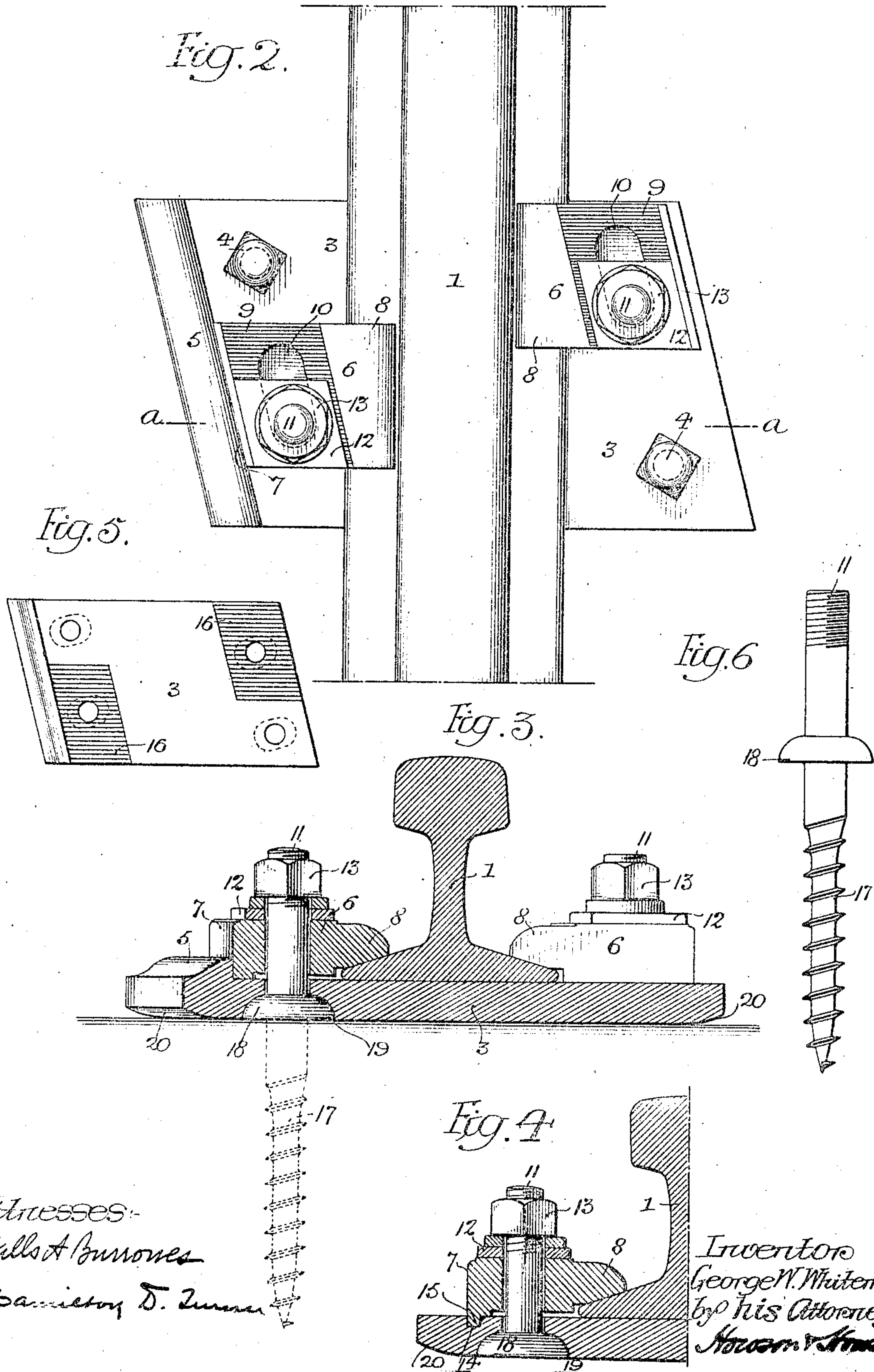
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2 SHEETS—SHEET 2



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UNITED STATES PATENT OFFICE.

GEORGE W. WHITEMAN, OF PHILADELPHIA, PENNSYLVANIA.

TIE-PLATE AND RAIL-FASTENING FOR USE THEREWITH.

No. 828,794.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed April 13, 1906. Serial No. 311,608.

To all whom it may concern:

Be it known that I, GEORGE W. WHITEMAN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Tie-Plates and Rail-Fastenings for use Therewith, of which the following is a specification.

My invention relates to tie-plates for supporting rails and rail-fastenings of the removable-clip type; and the object of my present invention is to provide a special form of tie-plate permanently fastened to the tie, with which is combined a fastening that will permit of lateral adjustment of the rails when owing to wear the same becomes necessary—such fastenings, for instance, as is shown in my application for patent filed January 15, 1906, Serial No. 296,115.

My invention is fully shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a rail and tie, showing my improved tie-plate and fastening in place. Fig. 2 is a plan view of the rail, tie-plate, and fastening. Fig. 3 is a sectional elevation of the tie-plate and fastening, taken on the line *a a*, Fig. 2. Fig. 4 is a sectional view of a modified form of tie-plate and clip. Fig. 5 is a plan view of a modified form of tie-plate. Fig. 6 is a view of a combination screw-bolt which I may employ in connection with my improved structure. Fig. 7 is an inverted plan view of a blank from which the tie-plates are formed; and Fig. 8 is a cross-section of such blank, taken on the line *b b*, Fig. 7.

As is well known, the usual method of securing rails to wooden ties is by means of headed spikes driven into the ties. The wear on the rails, however, necessitates a closer setting of the same at certain intervals in order to bring them back to the original gage. As the spikes are necessarily disposed in a fixed relation to the ties, the usual manner of setting up the track is to provide new spikes driven into a fresh portion of the tie and in some instances to replace the ties. This is a matter of very great nuisance, and I propose to overcome it by providing the wooden ties with tie-plates fixed thereto upon which the rails may rest, such tie-plates having anchors or abutments, between which and the flange of the rail the special form of adjustable securing-clip is placed.

In the drawing herewith, 1 represents the rail, 2 an ordinary wooden tie, and 3 a tie-

plate mounted on the tie and secured thereto, upon which the rail rests. As shown in Figs. 1 and 2, this plate is secured to the tie by the screw-bolts 4. The tie-plate is provided with an anchor or abutment 5, formed integral therewith and disposed at an angle with respect to the rail. A movable clip 6, having an angular face 7 bearing against the inner face of this anchor or abutment, a portion 8 overlapping and bearing against the flange of the rail, and a serrated or notched upper face 9 is provided to secure the rail to the tie-plate and tie. The clip 6 is slotted at 10 for the reception of a bolt 11, bearing a fixed relation to the tie-plate, being disposed in an aperture in the same, and said clip is capable of movement along the abutment 5 to take up the wear on the rail, amounting in practice to about one-quarter inch on the inner side of the head. A notched or serrated washer 12 is provided to engage the notched or serrated face of the clip 6, and the washer is held in this engagement by a nut 13. A clip similarly constructed is disposed on the other side of the rail; but the tie-plate is not necessarily provided with an abutment on this side.

When it is desired to take up wear, it is only necessary to release the nuts 13, raise the washers 12, release the inner clip, move the rail the desired distance laterally, and then move the outer clip 6 along until it is wedged between the rail in its new position and the anchor or abutment 5 and adjust the inner clip to the new position. After this has been done the washers are fastened down into engagement with the clips by the nuts 13, and said clips will be retained in the adjusted positions, firmly holding the rail in place.

In some instances I may form an abutment by grooving the tie-plate at 14, as shown in Fig. 4, instead of having the projecting anchor or abutment 5 and provide a clip with an overhanging lip 15 fitting such groove, the structure so made being substantially the same as that illustrated in the other figures of the drawings herewith.

Instead of having a notched or serrated washer the clips 6 may be notched or serrated on the bottom, and the tie-plate may be provided with a complementary notched or serrated portion 16 adjacent to the anchor or abutment 5 and the opposite edge, as shown in Fig. 5, and these notched or serrated portions of the tie-plate may be rolled therein.

The tie-plate is secured to the tie by means of the screw-bolts 4, which are preferably of some length and serve to hold said tie-plate rigidly in position. If desired, the bolts 11, securing the clips 6 in place, may be provided with a screw portion 17, as shown in Fig. 6, to be driven into the tie and afford additional securing means for said tie-plate. The heads 18 of the bolts are oval, fitting oval recesses 19 in the under side of the tie-plate to prevent turning when setting up the nuts 13.

The tie-plates which I propose to use are cut from a rolled blank, which is clearly shown in Fig. 7. This blank is rolled with the anchor or abutment 5 as an integral part thereof, and the recesses 19 on the under side for the heads of the several bolts are also formed at the same operation. These recesses are afterward punched for the passage of said bolts. The blank is rolled with the recesses disposed in the manner illustrated in Fig. 7, and then such plate is cut on the dotted lines *x* to form the independent tie-plates. The section Fig. 8 shows clearly the form of the recesses.

A further feature of my improved tie-plate consists in the slight rounding or beveling given the edges of the under side subject to lateral play on the upper surface of the ties. This arrangement prevents the plate cutting into the tie when oscillating or other movement is imparted to the same as a train is passing over the rails.

I claim—

1. The combination of a rail-supporting tie-plate adapted to be secured to a tie or other structure, an abutment carried by said tie-plate, an adjustable member disposed between said abutment and the flange of the rail and overlying the latter, and means fixed with relation to said tie-plate for confining said member in place in its adjusted positions.

2. The combination of a rail-supporting tie-plate adapted to be secured to a tie or other structure, an angular abutment carried by said tie-plate, an adjustable member disposed between said abutment and the flange of the rail and overlying the latter, said member having a notched or serrated face, complementary notched or serrated portions carried by the tie-plate, and means fixed with relation to the tie-plate for confining said notched or serrated portions in contact with each other.

3. The combination of a rail-supporting tie-plate adapted to be secured to a tie or other structure, an abutment carried by said tie-plate and having an engaging face disposed at an angle with respect to the rail, an adjustable member disposed between said abutment and the flange of the rail and overlying the latter, a series of ribs or projections carried by said member, a series of complementary ribs or projections carried by the tie-plate, and means fixed with relation to

the tie-plate for confining said ribbed portions in engagement with each other.

4. The combination of a rail-supporting tie-plate adapted to be secured to a tie or other structure, an abutment carried by said tie-plate, an adjustable member disposed between said abutment and the flange of the rail and overlying the latter, said member having one of its faces notched or serrated, a series of complementary notches or serrations carried by a portion of the tie-plate, and means fixed with relation to the tie-plate for confining said notched or serrated members in contact with each other.

5. The combination of a rail-supporting tie-plate adapted to be secured to a tie or other structure, an abutment carried by said tie-plate and formed integral therewith, an adjustable member disposed between said abutment and the flange of the rail and overlying the latter, said member having one of its faces notched or serrated, a washer for engagement therewith having a series of complementary notches or serrations, and means for confining said notched or serrated members in engagement with each other.

6. The combination of a rail-supporting tie-plate adapted to be secured to a tie or other structure, an abutment carried by said tie-plate and having an angular face, an adjustable member disposed between said abutment and the rail and overlying the flange of the latter, and means fixed with relation to said tie-plate for securing said member in its adjusted positions.

7. The combination of a rail-supporting tie, a tie-plate secured thereto, an anchor or abutment carried by said tie-plate and having a face disposed at an angle with respect to the rail, an adjustable member arranged between said anchor and the rail and overlying the flange of the latter, said member being slotted, a bolt carried by the tie-plate and extending through said slot, and means carried by said bolt for holding the rail-engaging member in its adjusted positions.

8. The combination of a rail-supporting tie, a tie-plate secured thereto, an anchor or abutment carried by said tie-plate having a face disposed at an angle with respect to the rail, an adjustable member arranged between said anchor and the rail and overlying the flange of the latter, said member being slotted, a series of ribs carried by the upper face of said member, a bolt carried by the tie-plate and extending through the slot of the rail-engaging member, a washer ribbed to engage the surface of said rail-engaging member, and means carried by the bolt for holding said parts together.

9. The combination of a rail-supporting tie, a tie-plate secured thereto, an anchor or abutment having a face disposed at an angle to the rail carried by said tie-plate, a clip disposed between said anchor and the rail and

overlying the flange of the latter, ribs or projections carried by said clip, said clip being slotted, a bolt carried by the tie-plate and passing said slot, and means carried by said bolt for engaging the ribbed surface of the clip to retain it in its adjusted positions.

10. The combination of a rail-supporting tie-plate adapted to be secured to a tie or other structure, said tie-plate being grooved at an angle with respect to the rail to form an abutment, an adjustable clip having a depending lip engaging said groove and a portion engaging and overlying the flange of the rail, and means fixed with respect to the tie-plate for confining said clip in its adjusted positions.

11. A rail-supporting tie-plate having a rhomboidal contour and adapted to be secured to a tie or other structure, said tie-plate having an integral flange or abutment on one end of the same disposed at an angle with respect to a rail mounted thereon and having beveled edges at opposite ends on the under side to prevent cutting of the tie due to lateral movement of said tie-plate.

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

GEORGE W. WHITEMAN.

Witnesses:

MURRAY C. BOYER,
JOS. H. KLEIN.