No. 747,806. PATENTED DEC. 22, 1903.

F. W. TOPLIFF.

TIE AND RAIL CLASP.

APPLICATION FILED MAY 1, 1903.

NO MODEL.

Fig. 1.

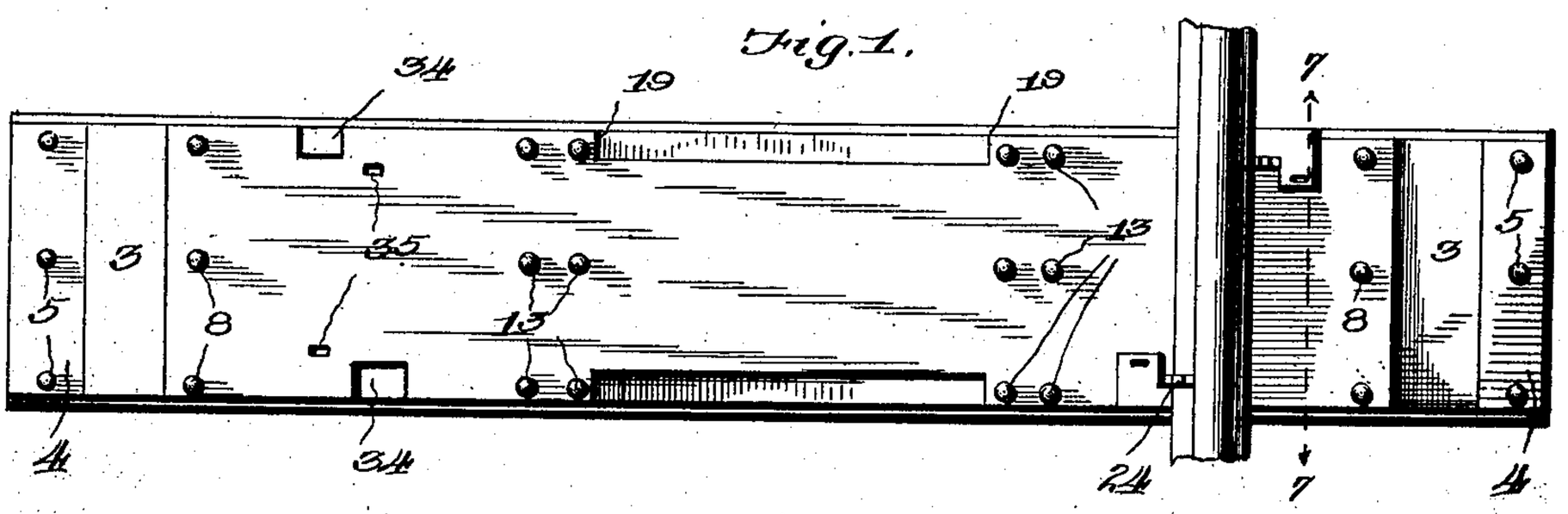


Fig. 2.

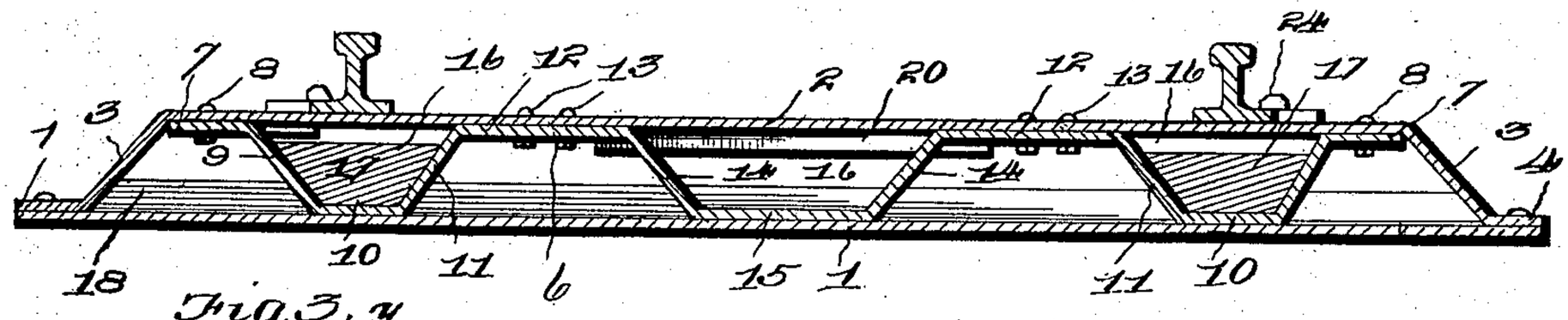


Fig. 3.

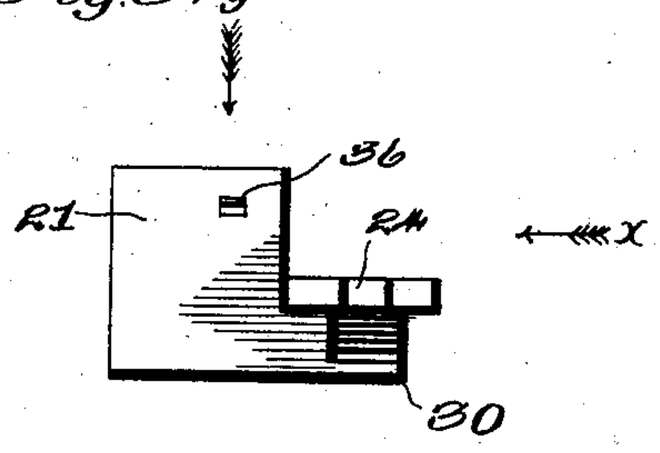


Fig. 4.

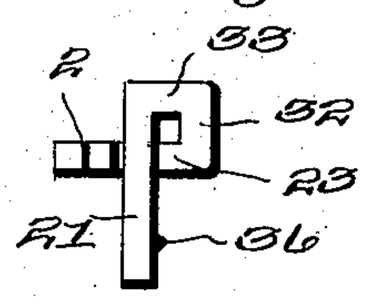


Fig. 5.

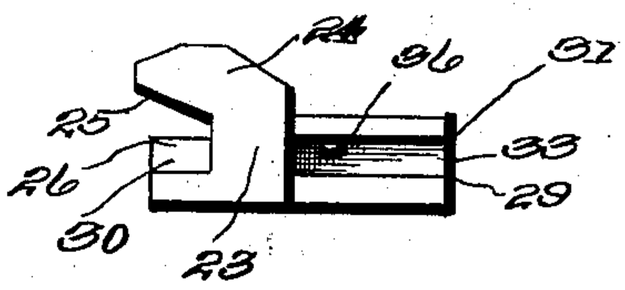


Fig. 6.

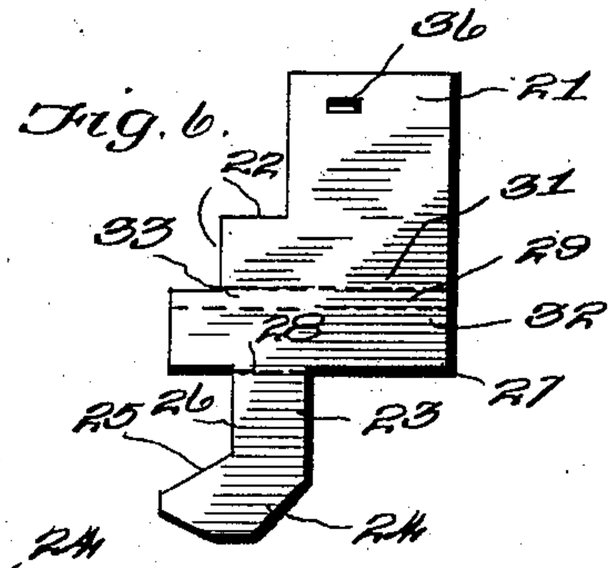
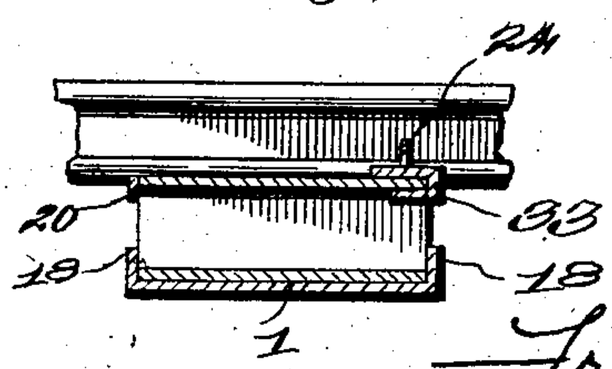


Fig. 7.



Witnesses

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No. 747,806. Patented December 22, 1903.

UNITED STATES PATENT OFFICE.

FRANCIS W. TOPLIFF, OF GREENLAND, NEW HAMPSHIRE.

TIE AND RAIL-CLASP.

SPECIFICATION forming part of Letters Patent No. 747,806, dated December 22, 1903.

Application filed May 1, 1903. Serial No. 155,190. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS W. TOPLIFF, a citizen of the United States of America, residing at Greenland, in the county of Rockingham and State of New Hampshire, have invented certain new and useful Improvements in Ties and Rail-Clasps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improved tie and the rail-clasp used in conjunction therewith, having more particular reference to that class of ties formed of metal.

The invention aims to produce a tie which will have the property of being resilient to a certain degree, while still possessing the necessary rigidity and strength to withstand the static pressure exerted by trains, whereby the above desideratum may be attained the mode of carrying into practice the principle of the invention being illustrated in the accompanying drawings, wherein—

Figure 1 illustrates a top plan view of the tie in its completed state, showing a rail secured thereon. Fig. 2 is a central longitudinal view of Fig. 1; and Figs. 3, 4, 5, and 6 illustrate the development of the rail-clasp, Fig. 3 illustrating a top plan view of the same in its completed state. Fig. 4 is an end view thereof looking toward arrow X, Fig. 3. Fig. 5 is a side elevation looking toward the arrow Y, Fig. 3. Fig. 6 is a plan of the shank as it is stamped in metal, and Fig. 7 is a section on line 7 7 of Fig. 1.

1 designates the base, which is formed of metal and which is of such size as to meet conditions as shown as being rectangular.

The upper face 2 of the tie is formed of metal of a width approximately that of the base, its ends being bent downwardly in a horizontal plane, as at 4, to engage with base 1, to which it is riveted through the medium of rivets 5. By this means of construction a space is provided between the base and the upper face of the tie, and in order to give the latter necessary strength and rigidity I impose between the base and the top of the tie supporting means which embrace a spring-metal member 6, which has a somewhat Z-shaped continuous form. The ends 7 of member 6 lie in a horizontal plane and are riveted to the upper face of the tie 2, as at 8, their inner portions being inclined downwardly, as at 9, and from thence being continued in a horizontal plane, as at 10, to engage with the base 1, and then extending upwardly at an incline, as at 11, to engage with the under side of the top 2 and from thence being extended in a horizontal plane, as at 12. These portions 12, as shown, are riveted to the top 2, as at 13, the inner portions of the horizontal members 12 being inclined downwardly, as at 14, and being connected by horizontal member 15, which engages with the upper face of base 1, as shown. It will be perceived that the spring member 6 is formed of a continuous length of metal, and by its arrangement, as previously described, I form pockets 16, which may receive the filling 17 either for ballasting purposes or for adding rigidity to the inclined supporting members 9 and 11. Preferably the base 1 is formed with upturned sides 18, which extend the length thereof and which may be either continuous of the base or may be independent strips of metal secured in any approved fashion. Likewise I may slit the top 2, as at 19, and turn the metal between such slits downwardly, as at 20, which serves to add rigidity to the tie and increase its stiffness. By locating the pockets directly beneath that portion of the tie which receives the rails a more resilient tie may be formed than otherwise, the top of the tie being supported on either side of the rail, and by means of the filling I may, if found desirable, decrease the resiliency to the necessary extent by placing a sufficiency thereof within said pockets 16 in order to completely fill the latter. For this purpose wood might be employed or other such material as will be found to have a certain degree of resilient properties.

As stated, I form a rail-clasp out of sheet metal, preferably by stamping the same, this clasp embracing, as seen in Fig. 6, a body portion 21, which along one of its sides is notched, as at 22, and which at its one end carries a shank 23, surmounted by a head 24, the latter being formed with an inclined face 25, adapted for engagement with the upper side of the rail-base, the side thereof engaging the side 26 of the head. As will be noted from Fig. 5 of the drawings, the shank 23 is turned upwardly at a substantial right angle

to the end 27 of the body 21 along the dotted lines 28. The portion 21 is then turned upwardly at a substantial right angle along the dotted line 29, which forms a flange 30, as seen in Fig. 5 of the drawings, the function of which will be referred to hereinafter. Portion 21 is now turned on the dotted line 31, so as to lie parallel with portion 32, being spaced therefrom by virtue of the vertical portion 33. This vertical portion 33 is of such height as will receive the upper face 2 of the tie in order that portions 32 and 21 will engage the lower and upper faces of the top of the tie, respectively. This can be seen from Fig. 7 of the drawings. The tie upon its upper face 2 is provided with cut-out portions 34 of a width equal to that of the shank 23 in order that the shank may be received within these openings 34, thereby permitting the vertical portion 33 and the flange 30 to engage with the side edges of the top 2. Adjacent openings 34 are small apertures or perforations 35, which are adapted to receive tongues 36, struck out from portion 21, which will effectually prevent disengagement of the clasp from the tie.

In operation it will be perceived that the clasp having been formed as set forth may be readily slid into engagement with the top 2, the shank 23 being received within the aperture 34, at which time the tongue 36 may be driven downwardly to enter apertures 35, when the clasp will assume its normal position in close contact with the base of the rail. The clasp, by virtue of having its base engage the tie on both sides thereof, will be in a secure position. The movement thereof will be prevented by reason of tongue 36 being secured as aforesaid.

It will be noted that the rail-clasps are located on opposing sides of the tie, as well as on opposing sides of the rail, there being, however, but two clasps employed in connection with each rail and tie, though it is permissible to employ two for each rail at each side of the tie.

The above illustrates a practical embodiment of the invention, though it will be observed that alterations and modifications may be resorted to without departing from the spirit and scope of the invention, and I therefore do not wish to be restricted to the details of construction herein set forth, which will be necessary to an operative disclosure of the invention.

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

1. A tie formed of a base and a top, the top having its ends connected to the base, and a spring member secured to the top and extending downwardly to engage the base at different points thereof, said spring member forming pockets and located in alinement with the rails.

2. A tie consisting of a base, a top having its ends bent downwardly to engage the base, and secured thereto, a spring member engaging the top of the base at points in staggered relation to one another, thereby forming pockets to receive the filling.

3. A tie consisting of a base and a top, a spring member interposed between the two, and clasps received by the top and engaging the opposing faces thereof, said clasps being secured on opposing sides of the rail at each side of the tie.

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

FRANCIS W. TOPLIFF.

Witnesses:
JOHN E. TOWLE,
M. J. LOWD.