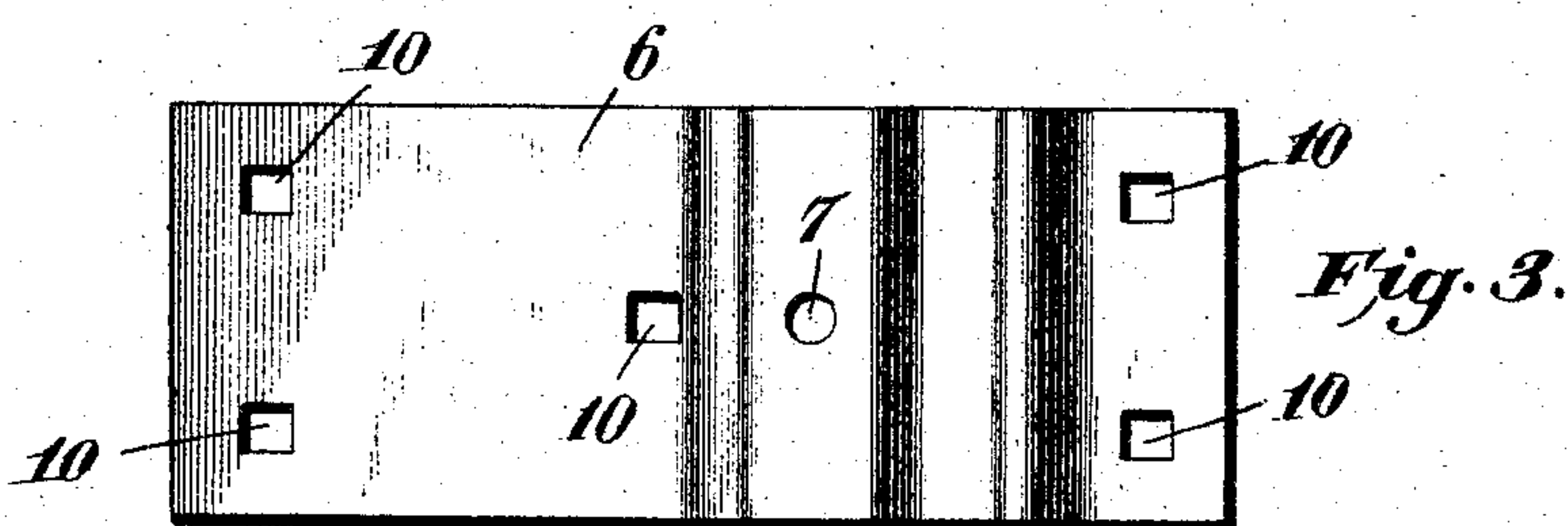
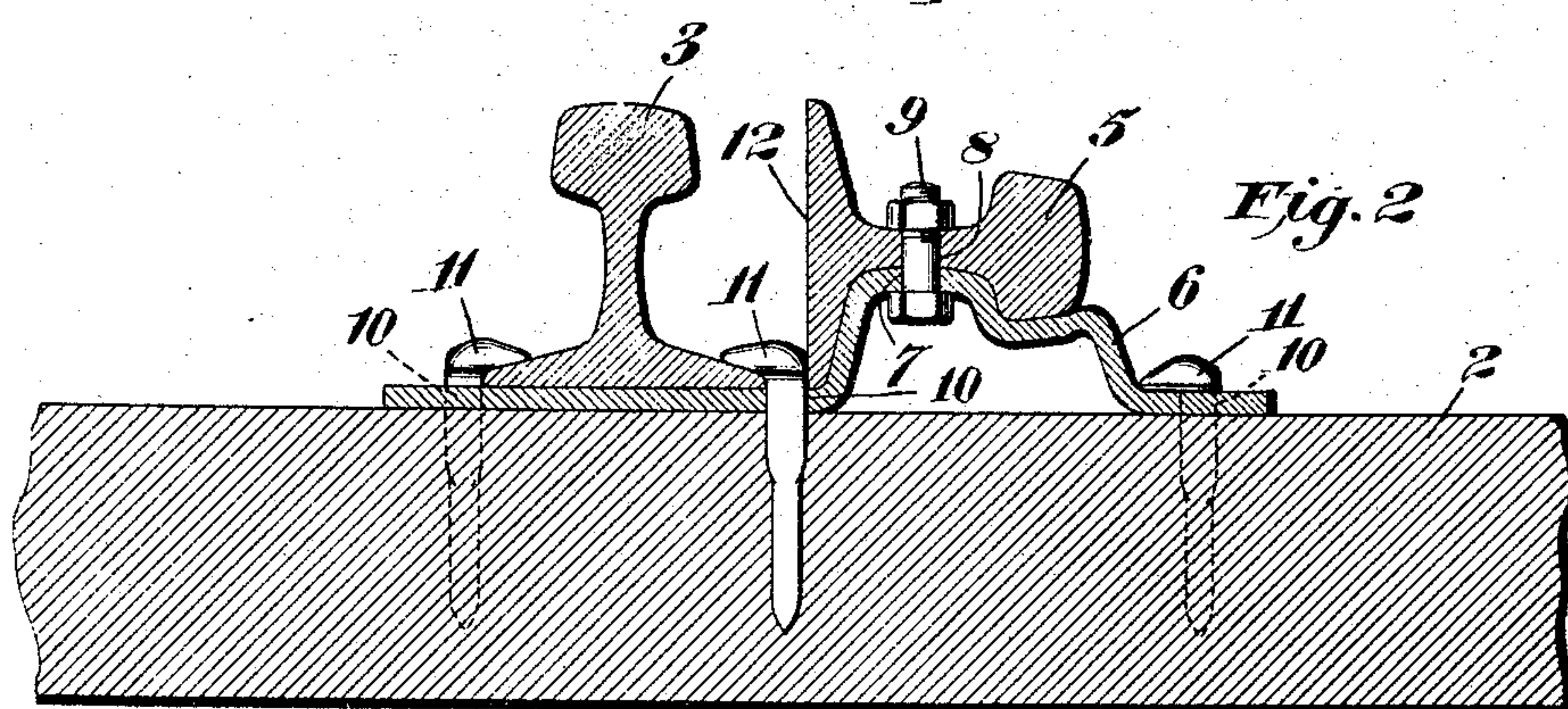
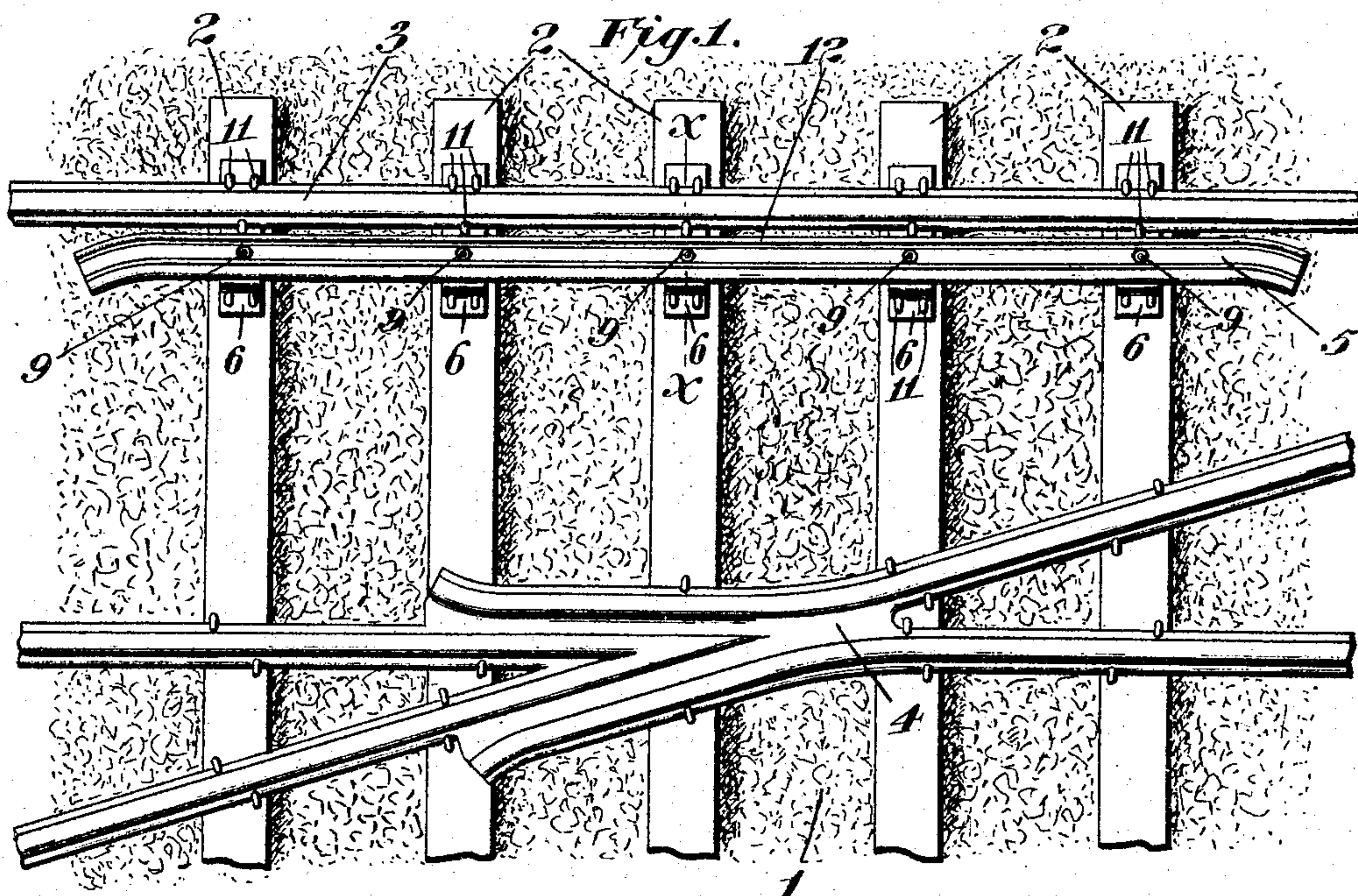


No. 782,443.

PATENTED FEB. 14, 1905.

J. FORD.
GUARD RAIL.

APPLICATION FILED NOV. 23, 1904.



WITNESSES,

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UNITED STATES PATENT OFFICE.

JAMES FORD, OF JOHNSTOWN, PENNSYLVANIA.

GUARD-RAIL.

SPECIFICATION forming part of Letters Patent No. 782,443, dated February 14, 1905.

Application filed November 23, 1904. Serial No. 233,961.

To all whom it may concern:

Be it known that I, JAMES FORD, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Guard-Rails; and I do hereby 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 ap-
 10 pertains to make and use the same.

My invention relates to a novel guard-rail and its supporting chair or bracket; and certain of the objects of my invention are to provide a convenient and substantial arrangement of
 15 a guard-rail and its supporting-chair and to avoid the expensive work of planing the flanges or bases of either or both the track-rail and the guard-rail. This planing is necessary when the usual form of upright T-rail guard
 20 is used in order to obtain the required small distance in the clear between their respective heads, as is well understood by those skilled in the art of railway construction.

A further object of my invention is to utilize
 25 old or scrap rails for guard-rails, and thereby avoid the inconveniences and expense attendant upon the use of specially-prepared and new rails. I accomplish this object by ar-
 30 ranging my improved T-rail guard with its flange upright and adjacent to the head of the track-rail at the proper distance therefrom, with the flange of my T-rail guard serving as the guiding portion thereof, so that it is im-
 35 material if the head of said guard-rail be worn from previous service.

For the purpose of simplifying the descrip-
 40 tion herein I have used the word "track-rail" to mean the usual rail upon which the wheels of railroad-cars rest and run as distinguished from the "guard-rail," which in this case serves to guide the wheels by means of side contact with them.

In general my invention consists of a T-rail placed on its side, with the base facing the
 45 track-rail and at the proper distance from it and supported by a suitably-formed chair, which affords a substantial seat and a rigid connection between said rail and the ties.

My chair may be formed from a bar of steel
 50 or iron rolled to the cross-section shown on

the drawings and afterward cut into suitable lengths and the holes punched in same, or it may be formed from a flat bar of iron or steel by pressing or shaping it, either hot or cold, under a drop-hammer or other form of metal-
 55 bending machine, and the holes therein may be punched either before or after the bending is performed.

Having given a general description of my invention, I will now, in order to make the
 60 same more clear, refer to the one sheet of drawings which forms part of this specification, and in which like figures refer to like parts.

Figure 1 is a plan view of a portion of a
 65 railroad-crossing, showing a railway-frog and my improved guard-rail located opposite said frog for the purpose of guiding the wheels therethrough. Fig. 2 is a cross-section, on an enlarged scale, taken on line X X of Fig. 1,
 70 showing the track-rail, my improved guard-rail, and its supports. Fig. 3 is an enlarged plan view of my improved guard-rail chair.

Referring now to the characters of reference on the drawings, 1 represents the railroad-bed.
 75 2 represents ties which constitute the supports for the track-rails 3 and my improved guard-rail chair 6 and also the railway-frog 4, while 5 represents my guard-rail having a base or flange 12, the flat side of said base or flange
 80 constituting the guiding-surface of my improved guard-rail.

6 represents the chair or support for the guard-rail 5.

7 is a hole in the chair 6. 8 is a correspond-
 85 ing hole in the rail 5. 9 is a bolt passed through said holes, thereby securing the rail 5 to the chair 6.

10 represents holes in the chair 6 for fasten-
 90 ing the same to the tie 2 by means of the rail-spikes 11.

With the aid of my novel arrangement of a guard-rail and its supporting-chair a railway-crossing can be installed by means of a regular track-laying outfit and without the employ-
 95 ment of specially-planed guard-rails.

Although I have shown my invention in considerable detail, I do not limit myself to the use of a T-rail only, nor to the exact and defi-
 100 nite construction of the chair shown, but re-

serve the right to use any suitable rolled or flanged section or equivalent thereof embraced within the scope of my invention as pointed out in the claims.

5 Having thus given a general description of my invention, what I claim, and desire to secure by Letters Patent, is—

1. A railway guard-rail comprising a T-rail resting on its side, with its base or flange facing
10 and adjacent to the head of the track-rail, and a chair or bracket secured to and supporting said T-rail.

2. A railway guard-rail comprising a T-rail resting on its side, with its base or flange facing
15 and adjacent to the head of the track-rail, said base or flange constituting the wearing-surface of said guard-rail, a chair or bracket secured to and forming a support for said T-rail, and means for securing said chair or bracket to
20 the ties.

3. A railway guard-rail, comprising a T-rail resting on its side with its base or flange adjacent to and facing the head of the track-rail, a chair having a seat which conforms to the
25 shape of the side of the rail which rests upon it, means for connecting the said T-rail to the chair, and means for securing the chair to the ties.

4. A railway guard-rail comprising a T-rail
30 resting on its side with its base or flange adjacent to and facing the track-rail and spaced the regular standard distance from the head thereof, a chair extending under and consti-

tuting a bearing-plate for the track-rail, said chair being provided with a seat formed in- 35 tegral therewith and shaped to fit the side of said guard-rail, and means for securing said chair to its supporting roadway-tie and to the aforesaid T-rail.

5. The combination with a guard-rail of the class described, of a chair provided with a seat formed integral therewith and projecting up- 40 wardly therefrom substantially adjacent to the head of the track-rail, said seat being shaped to conform to the outline of the side of said guard-rail resting thereon, a hole in the upper portion of said seat for securing said guard- 45 rail thereto, the lower portion of said chair being flat and adapted to rest upon a railway-tie, and means for securing said chair thereto. 50

6. The combination with a track-rail and a guard-rail of the class described, of a chair formed of a pressed or rolled plate provided with flat lower surfaces, one of which extends under the base flange of the track-rail, an up- 55 wardly-projecting seat formed integral with said chair and conforming to the outline of the side of the guard-rail resting thereon, and means for securing said chair to the roadway and to the guard-rail aforesaid. 60

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

JAMES FORD.

Witnesses:

GEO. BEATTY,
STONE EDELEN.