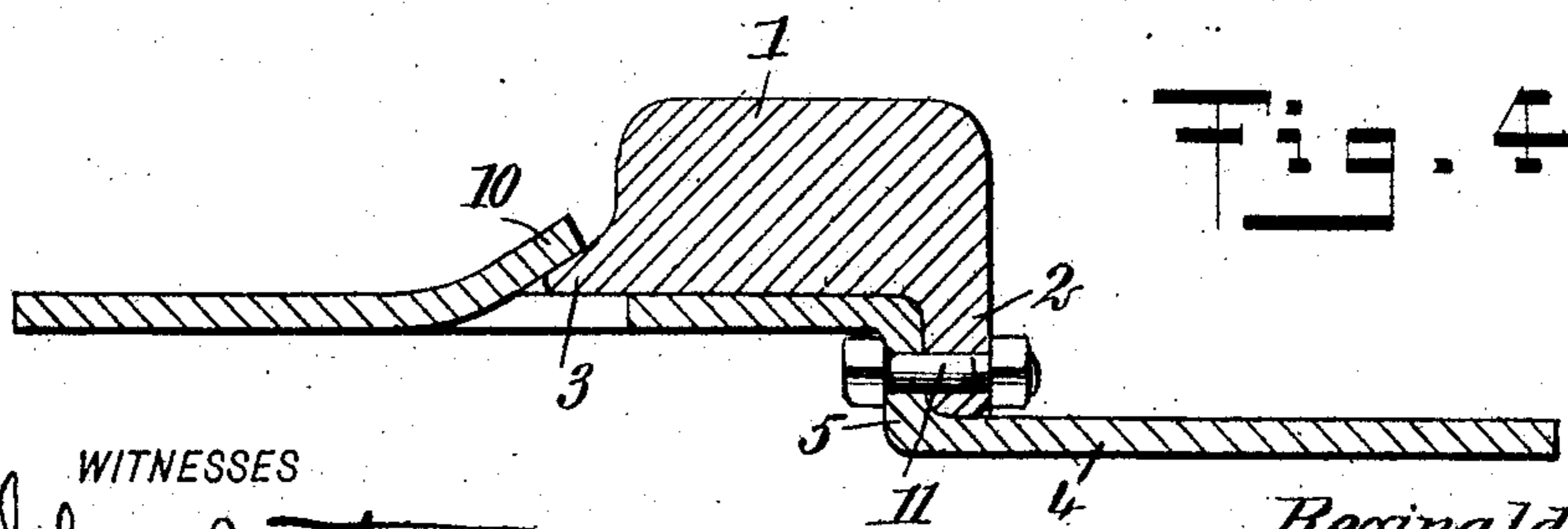
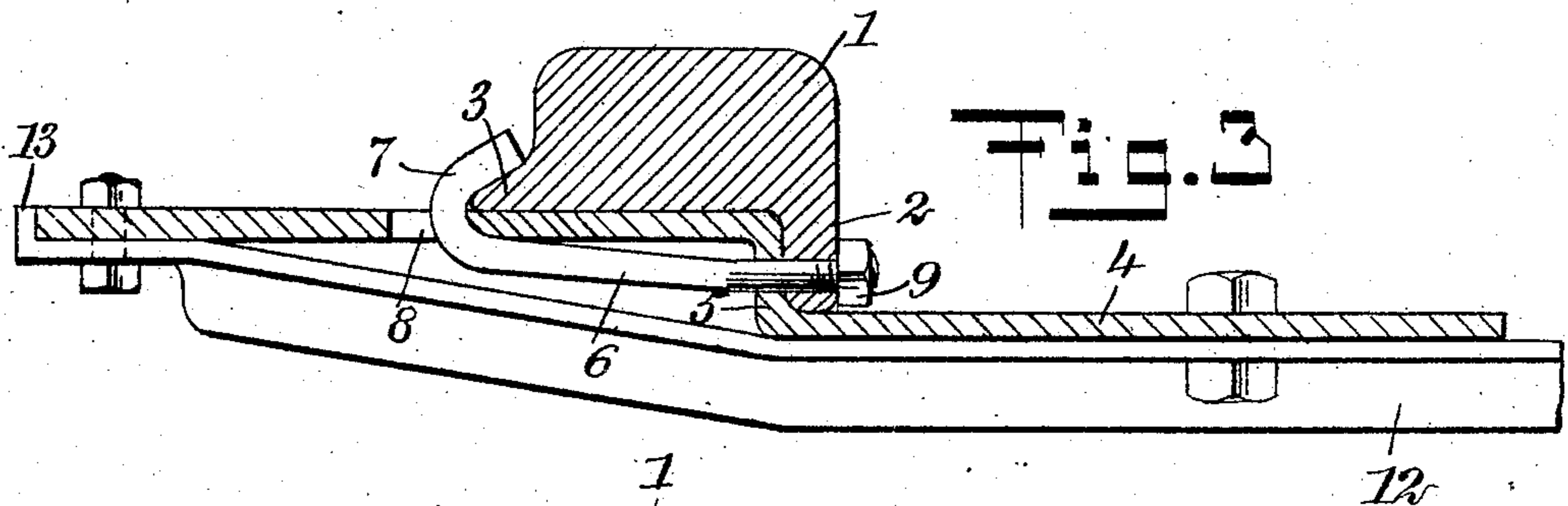
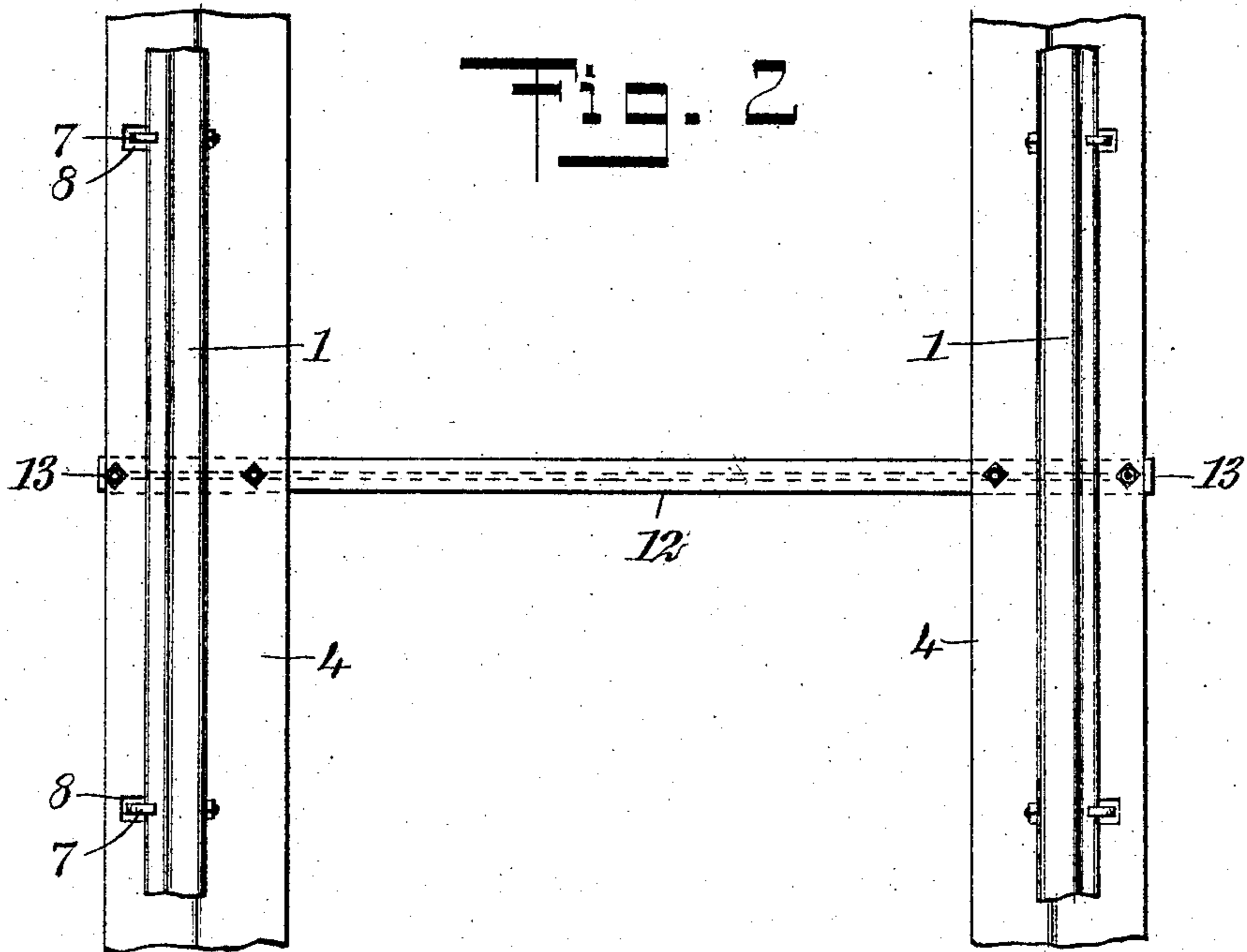
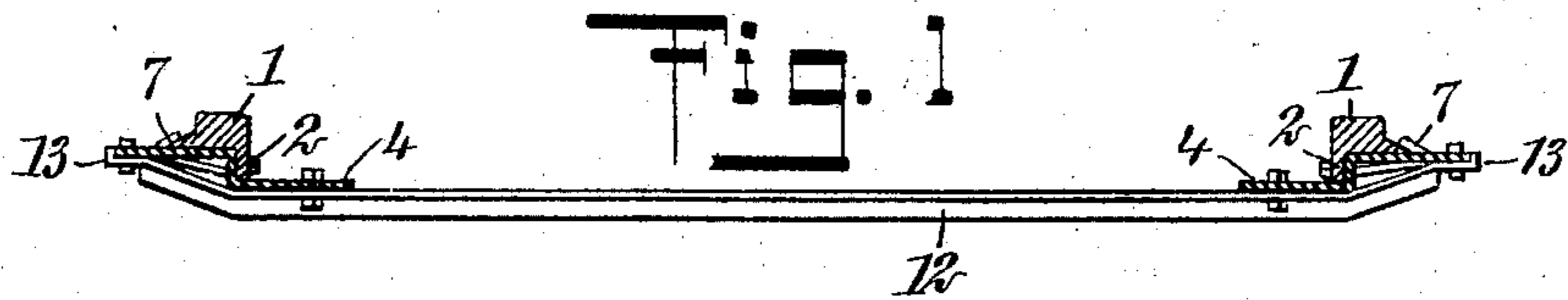


No. 850,759.

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R. JACKSON.
CAR RAIL AND BED.
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CAR-RAIL AND BED.

No. 850,759.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed October 12, 1906. Serial No. 338,584.

To all whom it may concern:

Be it known that I, REGINALD JACKSON, a citizen of the United States, and a resident of Kennett Square, in the county of Chester and State of Pennsylvania, have invented a new and Improved Car-Rail and Bed, of which the following is a full, clear, and exact description.

This invention relates to improvements in railroad-rails and to the substructure for supporting the same; and the objects of the invention are to provide a rail of special construction having the maximum amount of wearing-surface for the minimum weight and to provide a rail-bed which is not subject to decay and to which my special form of rail may be readily applied.

A further object of the invention is to provide a car-rail and bed in which additional parts for securing the ends of the rails together are entirely unnecessary and in which only the ordinary fastenings, as shown in the drawings, need be applied at the ends or into the intermediate portions of the rail.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, in which—

Figure 1 is a cross-section of a railroad-track provided with my improved construction. Fig. 2 is a plan view thereof. Fig. 3 is a cross-section through a rail and its bed; and Fig. 4 is a view similar to Fig. 3, but showing a slightly-modified means for securing the rail to the bed.

According to my invention I employ a rail 1 of such a construction that it has the maximum bearing-surface for the minimum weight and adapted to be firmly supported both in a vertical and a lateral direction.

The best form of rail known to me at present is that shown in the drawings, in which the body portion of the rail is of substantially the same size as the bearing portion of an ordinary rail above the web thereof. This body portion is provided with a dependent flange 2, lying in the same plane with one of the vertical sides of the rail, and this flange is of substantially the same thickness throughout its width. The body portion 1 is also provided with a second flange 3, extending from the body portion at right angles to the dependent flange 2 and the outer side of the rail. The lower side of this flange lies in the same plane as the lower side of the body of

the rail, and the upper edge of this flange is preferably inclined, so that as the flange is forced in a lateral direction the flange may come beneath any suitable form of lip or hold and be rigidly held in place. For supporting this improved form of rail various different means may be provided; but preferably I employ a plate 4, extending parallel to the rail and of a width somewhat greater than the rail. This plate is preferably bent at a point adjacent its center, so that it may exactly fit the lower side of the body of the rail and the inner and lower sides of the dependent flange. This gives the plate a staggered form somewhat approximating a Z-bar. The rail rests upon the bed-plate and extends parallel thereto, as clearly indicated in the drawings. The joints between the ends of two adjacent rails are placed intermediate the joints between the ends of the adjacent bed-plates, and as the rails and bed-plates are held together at intervals along their lengths it is evident that no joint-fastening of any kind need be provided.

The rail may be fastened to the bed-plate in any suitable manner, such securing means comprising clamps to hold the dependent flange 2 against the vertical portion 5 of the bed-plate and means for securing the lateral flange of the rail to the horizontal portion of the bed-plate. In Fig. 3 I have shown one form of clamping means, which comprises a bolt 6, having one end 7 thereof passing upward through an opening 8 in the bed-plate at a distance from the vertical portion 5 of the plate, so that when the end 7 is projected upward through the opening 8 the lateral flange of the rail may be moved beneath the hook end to prevent the upward movement of the rail. The body portion of the bolt 6 extends through an opening in the vertical portion 5 of the bed-plate and through the dependent flange 2 of the rail. By means of a suitable nut 9 the bolt may be drawn to the end of the slot 8, thus wedging the plate and the lateral flange 3 together, and the nut will at the same time force the dependent flange 2 against the vertical portion of the bed and rigidly secure these parts together.

In Fig. 4 a modified construction is illustrated in which the bed-plate 4 is provided with upwardly-bent tongues 10, inclined toward the vertical portion 5 of the plate. When the rail is forced in a lateral direction, the lateral flange 3 of the rail wedges beneath the inclined tongue 10 and holds this

portion of the rail, while a short bolt 11 of any suitable character serves to bind the dependent flange 2 of the rail to the vertical portion 5 of the plate. It is evident that various other forms of construction may be employed for securing the rail to the bed-plate to prevent the lateral as well as the vertical displacement thereof.

The two rails and their corresponding bed-plates are arranged parallel, and means are provided for holding the rails at the required distance to prevent spreading. This means preferably comprises an angle-iron of T-bar 12, extending across the track and beneath the bed-plates. The outer ends of the tie-rod are bent upwardly at points directly below the vertical portions 5 of the bed-plates, and the extremities of the tie-rods are bolted or otherwise rigidly secured to the outer flange of the bed-plate. If desired, the extreme end 13 may be bent upward to bear against the vertical edge of the bed-plate and form an additional bearing-surface to prevent the lateral displacement of the bed-plate.

The substructure, comprising the tie-rods and the bed-plates, is desired to be laid once for all and the railroad-rails replaced, as may be found necessary, due to the natural wear. As substantially the entire upper and vertical surface of the rail is in contact with the car-wheels, it will be seen that there is practically no waste material as far as the car-rail is concerned, and it is evident that the bed-plates need not be made of the same quality of steel as are the rails and that the high quality of steel required for the rails is used only upon the very surfaces upon which the normal wear occurs. Thus great economy may be perfected, and when the rail is worn out only the wearing-surface is removed, while all the substructure remains in place to receive the new rail.

For rounding corners the bed-plates may be provided with narrow slots extending in from the outer edges to the vertical portion 5, so that the inner edge of the plate may be contracted and the outer edge expanded. By placing these slots a short distance apart and at points intermediate the ends of the rails the plate is not materially weakened, but at the same time may be rigidly bent to the desired curve. The rails would be bent to the desired curve at the rolling-mill, as is common with ordinary rails now in use.

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

1. A substantially Z-shaped bed-plate having the side portions thereof lying in a horizontal plane and the intermediate portion thereof lying in a vertical plane, a railroad-rail adapted to be supported upon said bed-plate and having a body portion substantially rectangular in cross-section and a

dependent flange adapted to engage with the vertical portion of the bed-plate.

2. A bed-plate, substantially Z-shaped in cross-section and having the side portions thereof adapted to lie in a horizontal plane, and the intermediate portion thereof adapted to lie in a vertical plane, a railroad-rail adapted to be supported upon said bed-plate and having a dependent flange in engagement with the vertical portion of the bed-plate, and a lateral flange in engagement with one of the horizontal portions of the bed-plate, and means for securing the rail to the bed-plate to prevent lateral or vertical displacement.

3. A railroad-track, comprising longitudinal bed-plates, rails supported thereon, each of said bed-plates having substantially horizontal and substantially vertical portions, and each of said rails having a body portion substantially rectangular in cross-section, a dependent flange and a lateral flange in engagement with the corresponding bed-plate, means for securing said rails to said bed-plates, and tie-rods connecting said bed-plates.

4. In combination, a substantially Z-shaped bed-plate having the side portions lying in substantially horizontal planes and the intermediate portion thereof lying in a vertical plane, a railroad-rail adapted to be supported upon said bed-plate and having a dependent flange adapted to engage with the vertical portion of the bed-plate, a lateral flange adapted to be supported on said bed-plate, and means for securing the rail to the bed-plate, said means comprising a bolt having one end thereof passing through an opening in the bed-plate and in engagement with the lateral flange of the rail and having the opposite end thereof passing through the vertical portion of the bed-plate and the dependent flange of the rail.

5. In combination, a track composed of a plurality of railroad-rails each having a dependent flange and a lateral flange, a plurality of bed-plates substantially Z-shaped in cross-section, each having the end portions thereof lying in substantially horizontal planes and the intermediate portion thereof adapted to lie in a vertical plane, means for securing the rails to the bed-plates with the dependent flanges of the rails in engagement with the vertical portions of the bed-plates, and tie-rods connecting said bed-plates, said tie-rods comprising bars bolted thereto and extending beneath said bed-plates at right angles thereto and having upturned ends in engagement with the outer sides of the bed-plates.

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

REGINALD JACKSON.

Witnesses:

T. C. DAWSON,

ALFONSO FERNANDEZ.