No. 753,874. PATENTED MAR. 8, 1904.

J. R. GILBERT.

RAIL JOINT.

APPLICATION FILED APR. 15, 1903.

NO MODEL.

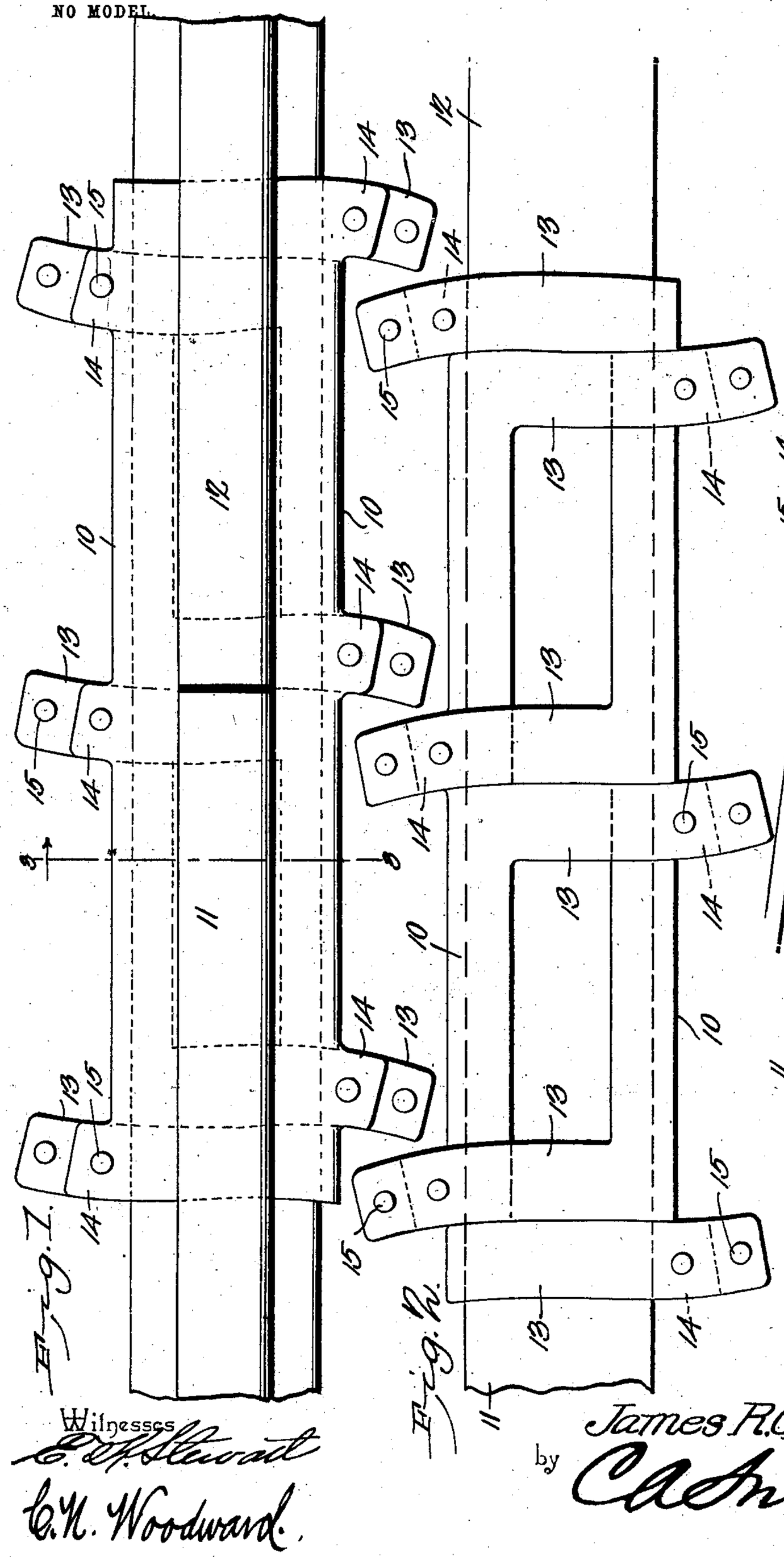

Fig. 1.



Fig. 2.

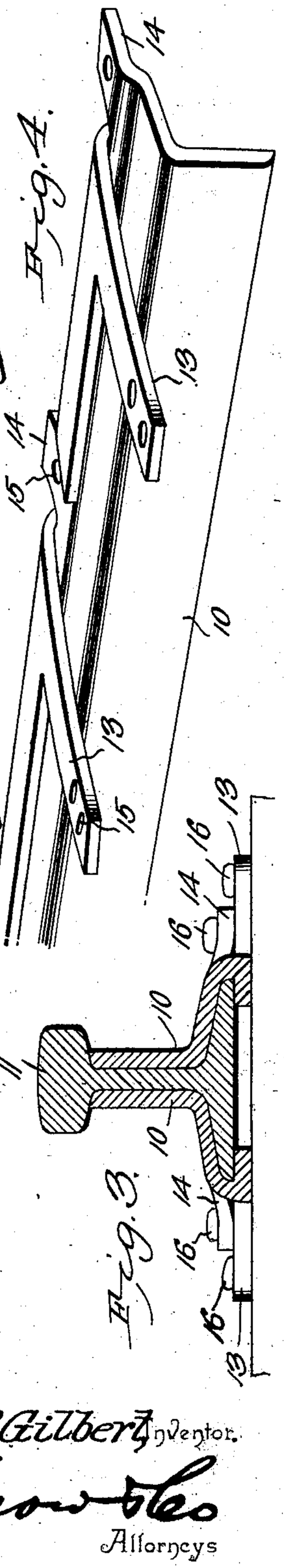

Fig. 4.



Fig. 3.

Witnesses
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No. 753,874. Patented March 8, 1904.

# UNITED STATES PATENT OFFICE.

JAMES R. GILBERT, OF KISSIMMEE, FLORIDA.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 753,874, dated March 8, 1904.

Application filed April 15, 1903. Serial No. 152,774. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES R. GILBERT, a citizen of the United States, residing at Kissimmee, in the county of Osceola and State of Florida, have invented a new and useful Rail-Joint, of which the following is a specification.

This invention relates to railway-rail joints, and has for its object to produce a device of this character wherein oppositely-disposed clamp-plates which are exact duplicates are employed to form the joint.

Another object of the invention is to simplify and improve the construction of such devices, whereby the opposite clamp-plates are secured by one set of holding-spikes and the necessity for transverse clamp-bolts dispensed with.

Other novel features of the invention will appear in the annexed description and be pointed out in the claims following.

In the drawings illustrative of the invention, in which corresponding parts are denoted by like designating characters, Figure 1 is a top plan view. Fig. 2 is a bottom plan view, and Fig. 3 is a transverse section of the improved joint applied. Fig. 4 is an inverted perspective view of a portion of one of the clamp-plates detached.

The improved device may be applied to any form or size of railway-rail and will require no change in the structure of the rails, and the latter will not require spike-cavities or transverse perforations for clamp-bolts, as none are employed in my improved joint.

The improved device consists of clamp-opposing plates adapted to embrace opposite sides of the vertical webs and the rail-flanges of the adjacent rail ends and are exact duplicates, so that any pair of the plates may be selected at random and placed in position upon the rails and fastened in place. The plates being exact duplicates, the corresponding parts will be denoted by like reference characters and the description of one will suffice for the other. The plates consist of longitudinal members 10, formed to closely engage the vertical web of the adjacent rail ends, (represented at 11 and 12,) and also extend partially beneath the rail-flanges, as shown in Figs. 2 and 3. Each plate is formed with clips 13, projecting laterally from the portion of the plates extending beneath the rail-flanges and preferably curving toward one end of the plate with which they are connected. Any number of the clips 13 may be employed, but generally three will be sufficient, as shown. One of the end clips 13 will be extended from one end of the plate while the other end clip will be spaced from the opposite end a distance equal to its own width, as shown, while the intermediate clips will be spaced at equal distances apart between the end clips. Extending from the opposite sides of the clamp-plates are similar clips 14 adjacent to the clips 13 and with one of the end clips 14 opposite the space between the clip 13, which is spaced from the end of the plate, and the end of the plate and the other end clip 14 spaced from the end of the plate a distance equal to its own width, and with the intermediate clips 14 spaced at equal distances apart between the end clips, the clips 14 being curved reversely to the clips 13, as shown. By this means the clips are arranged in pairs, and when two plates thus constructed are placed against opposite sides of the adjacent rail ends the clips 13 of one plate will underlie the clips 14 of the opposite plate, as shown. The clips are provided with spike-apertures 15, which register when the plates and clips are positioned upon the rail ends, so that the joint may be firmly attached to the ties by the usual spikes, (represented at 16.) If preferred, the clips 14 may be formed shorter than the clips 13, so that the latter will extend beyond the former when in position, and in that event two sets of spaced spike-apertures will be employed to provide for two sets of spikes to increase the holding power of the plates. By curving the clips, as shown, the holding-spikes will enter the ties substantially at their centers, which is a desirable feature in railway construction for obvious reasons.

By this simple arrangement a very firm joint is provided, which holds the rail ends with great rigidity and without the necessity of mutilating the rail ends either with recesses for the spikes in the rail-flanges or with transverse apertures for clamp-bolts in the vertical webs. This is a great advantage, as no necessity exists for forming apertures or

recesses in the rail ends, which is frequently a source of great annoyance when rails are encountered which have no apertures or when the apertures are wrongly spaced, requiring long, expensive, and annoying delays while new apertures are formed.

With the improved joint herein illustrated the plates can be clamped to the rail ends without regard to their condition relative to recesses or perforations, as will be obvious. Another important advantage gained by dispensing with clamp-bolts is that the rails are left free to independently expand and contract. Consequently there can be no cramping or jamming or a too-wide opening between the rail ends.

Having thus described the invention, what is claimed is—

1. As a new article of manufacture, a rail-joint plate consisting of a longitudinal portion adapted to embrace the vertical web and rail-flange and having alternating spaced clips extending laterally in opposite directions, one series of said clips being curved longitudinally of the plate and adapted to extend beneath the rail-flange, and the other series of said clips being reversely curved and adapted to extend over the ties in the opposite direction, substantially as described.

2. As a new article of manufacture, a rail-joint plate formed with a longitudinal portion conforming to the vertical web and one side of the rail-flange and with spaced clips alternately disposed and extending in opposite directions, the clips on one side of said plate being disposed in a different horizontal plane from those on the other side.

3. A rail-joint plate consisting of a longitudinal member adapted to embrace the vertical web and rail-flange and having alternately-disposed spaced clips extending laterally in opposite directions, the clips on each side of said plate being arranged in a common horizontal plane parallel with the plane occupied by the clips on the other side of said plate.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES R. GILBERT.

Witnesses:
GEO. T. PARKER,
C. L. BOUDY.