

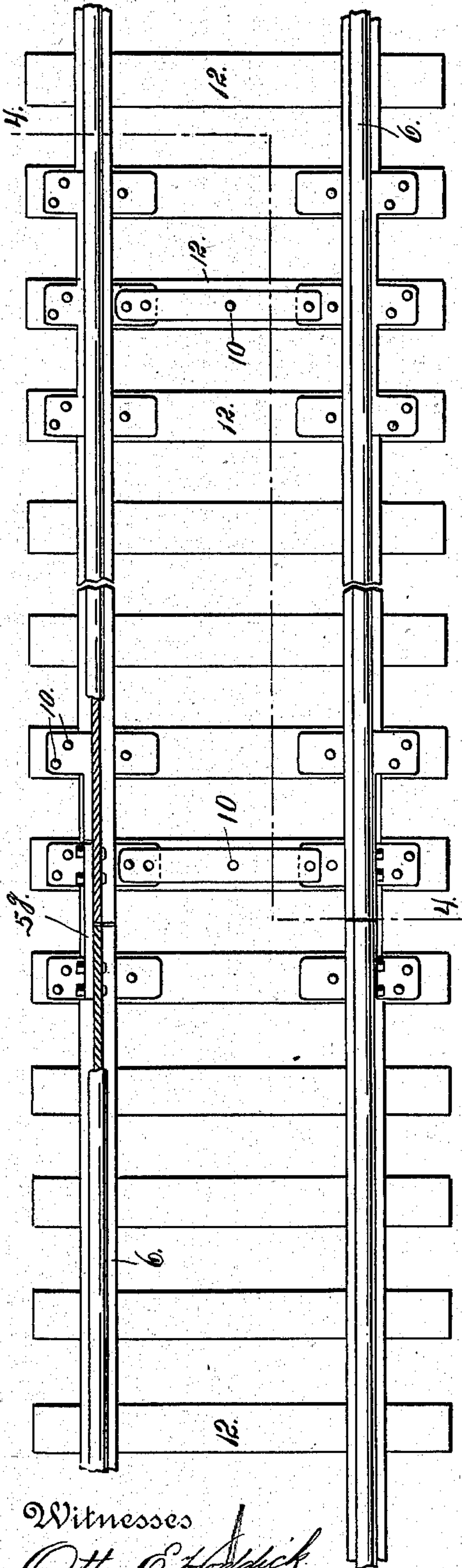
No. 723,214.

PATENTED MAR. 17, 1903.

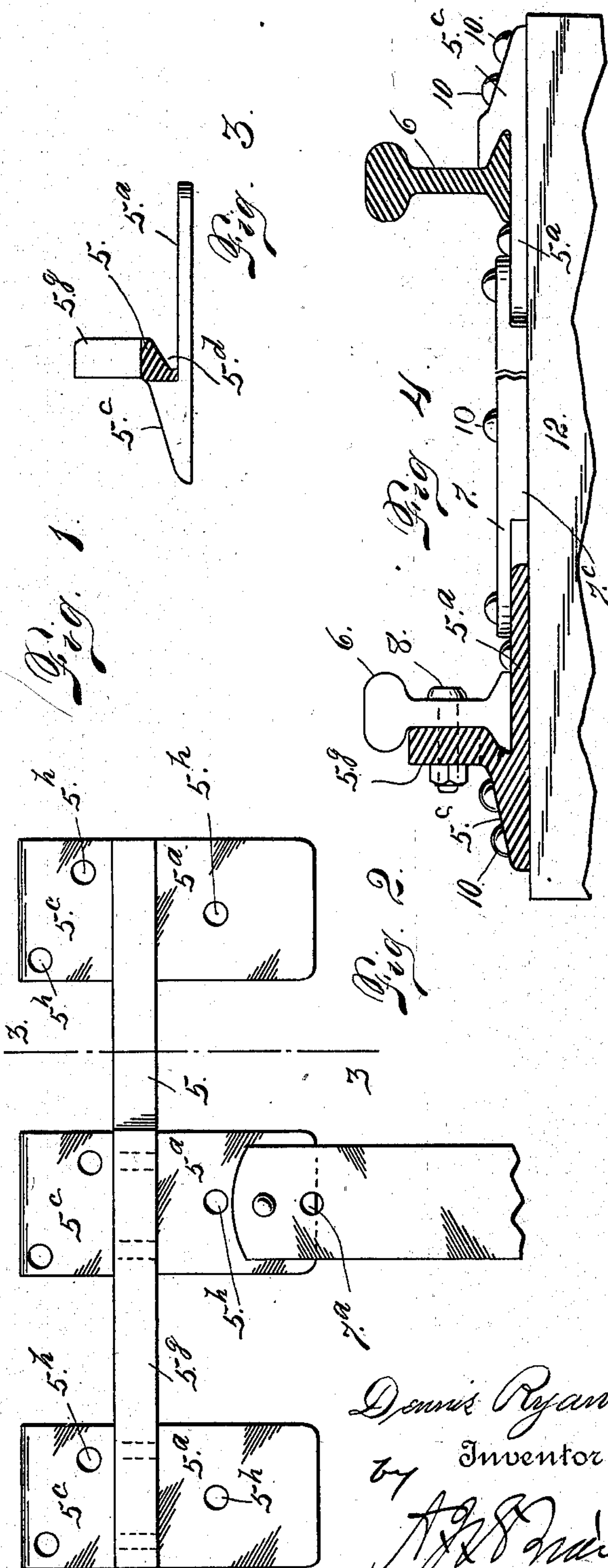
D. RYAN.
COMBINED RAIL BRACE AND TIE PLATE.

APPLICATION FILED NOV. 3, 1902.

NO MODEL.



Witnesses
Otto C. Haddick.
Dena Nelson.



Dennis Ryan.
Inventor
A. J. Ryan
Attorney

UNITED STATES PATENT OFFICE.

DENNIS RYAN, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO
THOMAS Q'DONNELL, OF DENVER, COLORADO.

COMBINED RAIL-BRACE AND TIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 723,214, dated March 17, 1903.

Application filed November 3, 1902. Serial No. 129,978. (No model.)

To all whom it may concern:

Be it known that I, DENNIS RYAN, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in a Combined Rail-Brace and Tie-Plate; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in means for connecting the ends of railroad-rails and preventing the rails from spreading. This device I term a "combined rail-brace and tie-plate." It consists of a bar provided with lateral projections extending therefrom in both directions. These projections pass beneath the rail and are made fast to the ties, the spaces between the projections being equal to the distance between the ties. The bar is undercut to receive the outer flange of the rail. A plate or bar connecting the two devices of the opposite rails prevents the latter from spreading. As many of these devices may be used intermediate the joints as desired. At the joints each device is provided with an upwardly-projecting plate, flange, or brace engaging the web of the rails and extending on opposite sides of their meeting ends. These braces engage the rails on the outside and are securely bolted thereto.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a top or plan view of a section of railroad-track equipped with my improvements. Fig. 2 is a top view of the device in detail, the transverse connecting-bar being partly broken away. Fig. 3 is a section taken on the line 3 3, Fig. 2. Fig. 4 is a section taken on the line 4 4, Fig. 1.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the central lon-

gitudinal part of my improved device, consisting of a bar which overlaps the outer flange of the rail and forms a rib which is continuous between the ties. As shown in the drawings, this bar 5 is of sufficient length to rest upon three ties. The parts of the bar which engage the ties are provided with inwardly-projecting plates 5^a and outwardly-projecting plates 5^c. At each tie the bar 5 overlaps the plate part 5^a and forms a recess 5^d, which the outer flange of the rail 6 enters. The projections 5^c are reinforced or made thicker than the parts 5^a, as best shown in Figs. 3 and 4, and are provided with openings 5^h to receive spikes 10, which are driven therethrough into the ties. The inwardly-projecting plates 5^a are also provided with spike-openings 5^h. The central plate 5^a is provided with two of these openings arranged to register with openings 7^a, formed in the bar 7, which extends transversely between the rails and connects the two devices of the opposite rails. The lower part of this connecting-bar is reinforced, as shown at 7^c, between the plates 5^a of the two devices in order that it may rest upon the tie between said plates. This reinforced part is provided with a central opening, through which the spike 10 may be passed into the tie. At curves, where the rails are laid farther apart, the connecting-bar is adjusted to harmonize with this arrangement, and only one of its openings and one of the openings in the central plate 5^a are utilized, since the end of the bar only overlaps the plate part 5^a sufficiently to permit this.

The devices to be used at the rail-joints are provided with an upwardly-projecting flange or brace part 5^g, which engages the web of the rails on the outside. This brace part is secured to the web of the rails by bolts 8, which pass through registering openings formed in the connected parts. The length of the part 5^g is such as to engage the rails at a suitable distance on opposite sides of their meeting ends.

From the foregoing description it will be understood that one of these devices having the part 5^g is placed at each joint, and several of the devices without the part 5^g are placed intermediate each rail extremity.

Having thus described my invention, what I claim is—

1. As an improved article of manufacture, a device of the class described comprising a central longitudinal bar having lateral projections in both directions, the outer part of the bar being reinforced and undercut to overlap the outer flange of the rail, the projections being arranged to engage the ties of the track and perforated to receive fastening devices.

2. As an improved article of manufacture, a device of the class described comprising a central longitudinal bar undercut to receive one flange of the rail, and provided with lateral projections at suitable intervals, spaced to engage the ties of the track and perforated to receive fastening devices, the bar having an upwardly-projecting, vertical flange or brace adapted to engage the web of the rail and perforated to receive fastening devices.

3. The combination of a pair of devices each consisting of a central longitudinal bar whose outer portion is reinforced and undercut to receive the outer flange of the rail, the said bar being provided with lateral projections in both directions, spaced to engage the ties of the track and perforated to receive fastening devices, and a transverse bar connecting

the two devices to prevent the rails from spreading.

4. The combination of a pair of devices each consisting of a central part undercut to receive the outer flange of a railroad-rail, and provided with lateral projections adapted to engage the ties of the track, each bar having an upwardly-projecting part adapted to engage the web of two meeting rail ends, and perforated to be bolted thereto, and a transverse bar connecting the two longitudinal rail-engaging bars, substantially as described.

5. The combination of two devices each consisting of a central longitudinal bar having lateral projections in both directions spaced to engage a number of ties of the track, the outer portion of each bar being reinforced and undercut to receive the outer flange of the rail, and suitable means for connecting the two devices intermediate their extremities to prevent the rails from spreading.

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

DENNIS RYAN.

Witnesses:

THOMAS O. DONNELL,
DENA NELSON.