

No. 773,775.

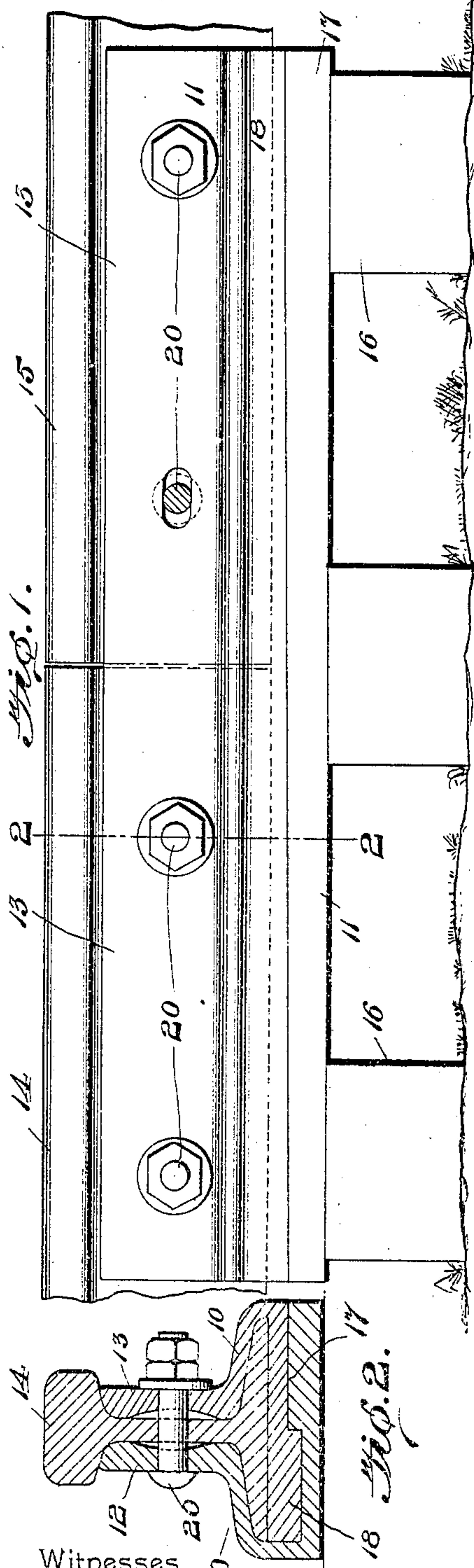
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Y. & J. G. ARNANDEZ & C. L. VOORHIES.

COMBINED RAIL JOINT AND CHAIR.

APPLICATION FILED JUNE 23, 1904.

NO MODEL.



Witnesses

E. V. Stewart
C. N. Woodward

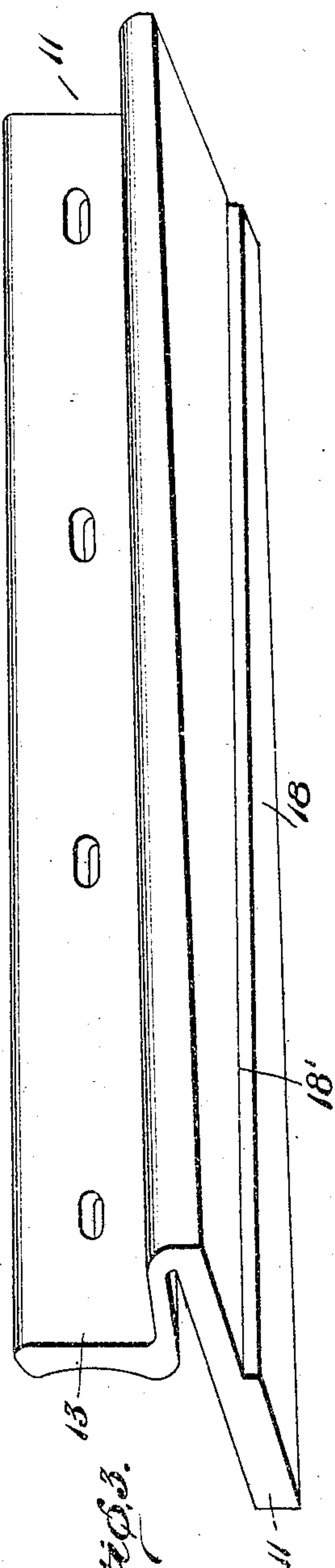


Fig. 3.

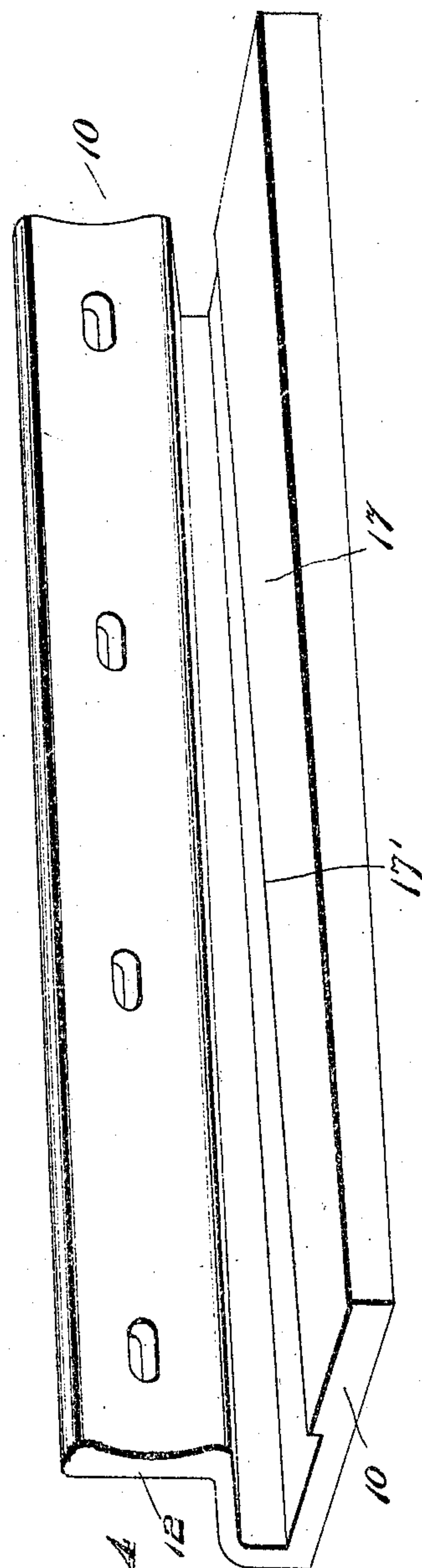


Fig. 4.

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UNITED STATES PATENT OFFICE.

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COMBINED RAIL JOINT AND CHAIR.

SPECIFICATION forming part of Letters Patent No. 773,775, dated November 1, 1904.

Application filed June 23, 1904. Serial No. 213,867. (No model.)

To all whom it may concern:

Be it known that we, YVES ARNANDEZ, JULES G. ARNANDEZ, and CHARLES L. VOORHIES, citizens of the United States, residing at New Iberia, in the parish of Iberia and State of Louisiana, have invented a new and useful Combined Railway Joint and Chair, of which the following is a specification.

This invention relates to combined railway joints and chairs, and has for its object to improve the construction and increase the efficiency and strength and produce a device of this character which will effectually lock the rail ends and prevent both vertical and lateral movement and displacement under the severe strains to which they are subjected.

With these and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that the invention is not necessarily limited thereto, as various changes in the shape, proportions, and general assemblage of the parts may be resorted to without departing from the principle of the invention or sacrificing any of its advantages, and the right is therefore reserved of making all the changes and modifications which fairly fall within the scope of the invention and the claims made therefor.

In the drawings thus employed, Figure 1 is a side elevation of a rail joint and chair constructed in accordance with the invention. Fig. 2 is a transverse sectional elevation of the same on the line 2 2 of Fig. 1. Figs. 3 and 4 are perspective views of the two clamp-plates detached.

The improved device may be applied to any of the various sizes and forms of railway-rails in use and consists of two clamp-plates represented as a whole, respectively, at 10 11 and provided with longitudinal webs 12 13 for

bearing against the vertical webs and also 50 beneath the "heads" of the rails 14 15, adjacent to their ends and underlapping beneath the same, one plate, 10, bearing upon the ties 16 and the other plate, 11, bearing against the foot portions of the rails 14 15. 55

The plates are long enough to extend over at least two of the ties 16 and are preferably of sufficient length to extend over three ties. The contiguous faces of the plates, transversely considered, are horizontal and are provided with inclined or wedge-shaped portions when viewed both in elevation and in plan. The plate 10 is thinner at one end than at the other, as will be seen on reference to Fig. 4, while the plate 11 tapers in the direction reverse of 65 the plate 10, so that when these two members are placed one on the other and one moved longitudinally the foot of the rail will be elevated, plate 11 being moved upward, while that portion of the plate 10 which embraces 70 the foot of the rail will be moved downward and will firmly clamp the foot portion of the rail in such manner as to prevent any vertical play whatever. The plates 10 and 11 are further provided with ribs 17 and 18, having 75 oppositely-inclined faces 17' 18', respectively, and when these inclined faces are in contact with each other and one of the plates moved longitudinally in the assemblage of the parts the two plates will be drawn closer together in a direction transverse of the rail 80 and will firmly clamp both the foot of the rail and the vertical web thereof, and thus prevent any lateral displacement. By this arrangement it is obvious that when the two 85 plates are placed in position upon opposite sides of the rails and the ribs interlocked and the plates forcibly moved in opposite direction, as under the blows of a hammer or sledge, the plates will be tightly engaged with the 90 rails and very effectually clamp all the parts together and prevent lateral or vertical movement under the severe pounding concussions to which they are subjected. The rail ends are thus incased in a rigid metal box-like structure, very firmly bound together and capable of being tightened at any time by a few blows of a hammer or sledge. 95

The usual holding-spikes will be employed to secure the rails and plates to the ties 16, and as a further means of security transverse clamp-bolts 20 will also be preferably employed through the webs 12 13 and vertical webs of the rails 14 15.

Rails united by this improved joint are fully as rigid at the joints as at intermediate points. Hence there will be no pounding where the rails are united, and consequently no brooming or flattening will result at the rail ends. Thus railway-lines equipped with the improved joint and chair will be more durable than those of the ordinary construction, while at the same time the cost will not be greater than the ordinary fish-plate joints.

The plates 10 11 will preferably be of malleable iron or steel, but may be of other metal if found suitable and of ample strength to withstand the strains to which they will be subjected.

It will be noted that the whole height of the rails is firmly and uniformly supported, as the plates bear constantly beneath the heads of the rails as well as beneath the lower sides or tie-flanges. Hence all tendency to sag or deflect under strains is obviated.

To attach the joint, the rail ends are elevated and the plate 11 is passed laterally beneath the rails, with the center of the plate opposite the juncture between the rails, and the plate 10 also inserted beneath the rails from the opposite side, with its thin end adjacent to the thin end of the plate 11. The plate 10 can then be moved lengthwise of the plate 11, with the ribs 17 18 interengaging, and then the plate 10 driven home by a sledge or hammer and any desired degree of rigidity imparted to the joint. The track and joint are then spiked and the joint bolted to complete it. If the joints work loose, a few blows of a hammer or sledge will quickly tighten them.

A railway-line equipped with this improved joint and chair and held rigidly thereby, and thus obviating deflection at the joints, will

require very much less attention from the track walkers and repairers and the retamping and reballasting labor and material will be greatly reduced, with a consequent saving in expense for maintenance and repairs.

Having thus described the invention, what is claimed is—

1. A rail-joint comprising a pair of slidably-engaging members adapted to engage the vertical web and foot of the rail, said members having interengaging inclined faces serving to rigidly clamp said members in a direction both vertical and transverse of the rail.

2. In a rail-joint, a pair of slidably-engaging members constructed to engage the vertical web and the upper and lower surfaces of the rail-foot, said members having inclined ribs which operate during the assembling of the parts to firmly clamp the foot of the rail in a vertical direction and the foot and web of the rail in a transverse direction.

3. The combination in a rail-joint, of a plate extending under the foot of the rail and having portions for engaging the upper face of the foot and one side of the vertical web of the rail, the bottom portion of the plate having an inclined rib and being gradually tapered in thickness from end to end, and a second plate extending under the first and also provided with portions for engaging the upper face of the foot of the rail and one side of the vertical web thereof, said second plate being gradually tapered from end to end and being provided on its upper face with an inclined rib for engaging the similar rib of the first plate.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

YVES ARNANDEZ.

JULES G. ARNANDEZ.

CHARLES L. VOORHIES.

Witnesses:

A. P. VOORHIES,

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