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L. T. STEPHENSON, DEC'D.

A. E. WADE, ADMINISTRATRIX.

RAIL JOINT.

APPLICATION FILED FEB. 16, 1907.

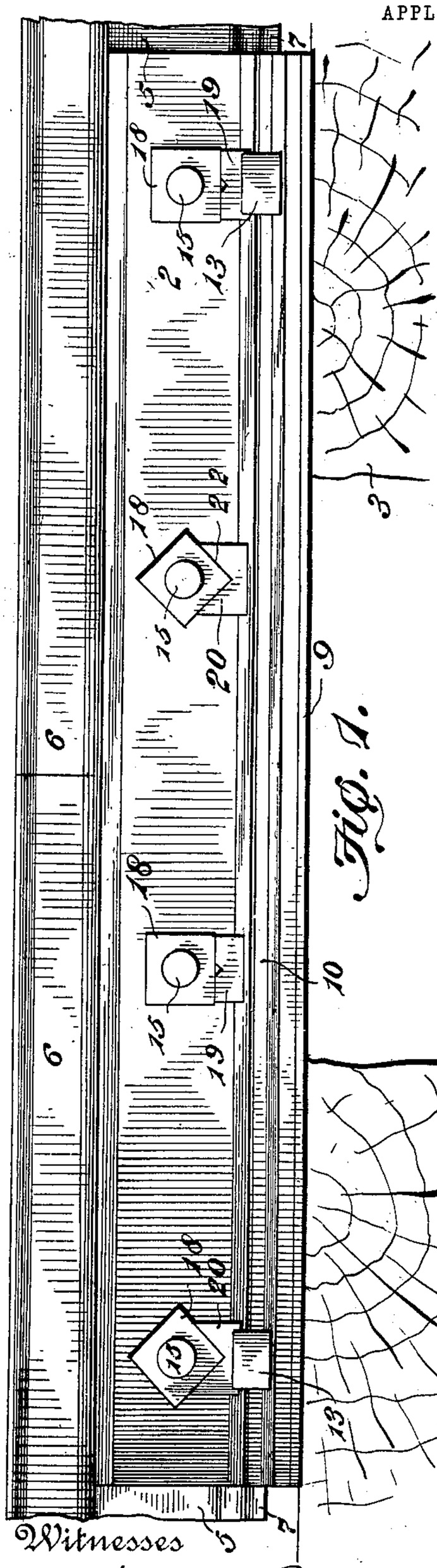

Fig. 1.

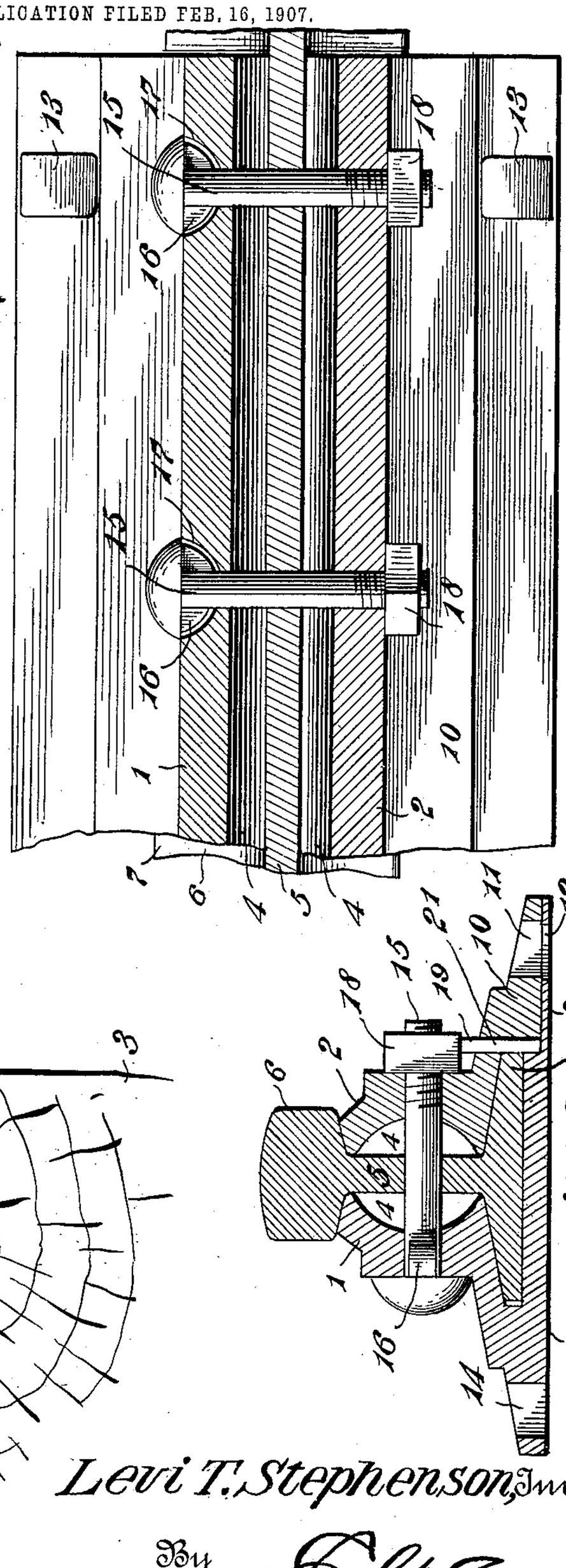

Fig. 3.

Fig. 2.

Witnesses

J. Howard Bishop.

S. Sturgis Tabb.

Levi T. Stephenson, Inventor.

By E. G. Siggers.

Attorney

UNITED STATES PATENT OFFICE.

LEVI T. STEPHENSON, OF TRINIDAD, COLORADO; ANNA E. WADE ADMINISTRATRIX OF SAID STEPHENSON, DECEASED.

RAIL-JOINT.

No. 897,172. Specification of Letters Patent. Patented Aug. 25, 1908.

Application filed February 16, 1907. Serial No. 357,695.

To all whom it may concern:

Be it known that I, LEVI T. STEPHENSON, a citizen of the United States, residing at Trinidad, in the county of Las Animas and State of Colorado, have invented a new and useful Rail-Joint, of which the following is a specification.

The invention relates to improvements in rail joints.

The object of the present invention is to improve the construction of rail joints, and to provide a simple, inexpensive and efficient one of great strength and durability, adapted to be supported upon and bridge the space between two cross ties, and capable of firmly gripping the rails.

A further object of the invention is to provide a rail joint of this character, having opposite fish plates and connecting bolts and provided with means for effectively locking the nuts of the bolts against accidental rotation.

Another object of the invention is to provide a rail joint, having fish plates adapted to be rolled and punched at the mill where they are manufactured, so that it will not be necessary to drill the opening after the rolling operation has been completed.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a side elevation of a rail joint, constructed in accordance with this invention. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a longitudinal sectional view of a portion of the rail joint.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 and 2 designate opposite fish plates or members, which may be of any desired length, but which are designed to be constructed of a length to rest upon two cross ties 3 and span the space between the same, as illustrated in Fig. 1 of the drawing. The fish plates are of angle form and are provided at the inner faces of the upwardly extending portions with recesses 4, the said upwardly extending portions being oppositely bowed and engaging the webs 5 of rails 6 at the lower faces of the heads of the rails 6, and at the upper faces of bottom flanges 7. The fish plate 1 is provided with an integral bottom or base plate 8, which receives a rail and which projects beyond the opposite side thereof, being provided with a reduced extension 9. The reduced extension 9 receives an enlargement 10 of the bottom flange or portion of the fish plate 2. The enlargement 10 and the extension 9 are provided with spiked openings 11 and 12, adapted to receive the ordinary railroad spikes, and the inner and outer walls of the opening 11 of the enlargement 10 are normally located a slight distance beyond the inner and outer walls of the opening 12 of the extension 9, whereby when a spike 13 is driven into the openings 11 and 12, the fish plates will be drawn together and will firmly grip the rails between them. The fish plate 1 is also provided with spike-receiving openings 14, which are located at the opposite side of the rails from that at which the said openings 11 and 12 are located.

The upwardly extending portions of the fish plates and the webs of the rails are pierced by transverse bolts 15, provided adjacent to the heads with enlargements 16, adapted to engage the adjacent fish plate 1, which is provided with an opening 17 to conform to the configuration of the bolts. The bolts may be square, or of any other polygonal shape contiguous to their heads to prevent them from rotating.

The threaded ends of the bolts receive nuts 18, which are located above the bottom portion or flange of the fish plate 2 and which are locked by plates or pieces 19 and 20. The locking plates, which are constructed of bendable material, are arranged in vertical openings 21 of the bottom flange or portion of the fish plate 2. They are driven into the openings 21 in slightly bent form, and are then bent backward beneath the bottoms of the nuts. The openings 21, which form sockets for the locking plates, are punched in the fish plate 2 adjacent to the enlargement 10 and through the contiguous thin part of metal. The extension 9 of the base plate 8 is arranged beneath and forms bottoms for the sockets or openings 21 of the fish plate 2.

This will enable the openings to be punched at the mill where the fish plates are rolled. The upper engaging edges of the locking plates 19 are horizontal, and are adapted to engage beneath the nuts, when the latter have their lower edges parallel with the bottom of the fish plates, and the other locking plate 20 is provided in its upper engaging edge with a recess 22 to receive one of the corners of a nut. In practice the nuts may be screwed to either of the two positions shown in Fig. 1 of the drawing.

The lower portion of the locking plate fits against the adjacent side edge of the bottom flanges of the rails and against the shoulder at the inner end of the extension 9 of the base plate 8.

It will be seen that the rail joint possesses great strength and durability, that it is adapted to be easily and cheaply manufactured, and that the fish plates will be forced into contact with the rails, when the spikes are driven through the openings 11 and 12, so that dirt or any other accumulation getting between the parts of the rail joint will not interfere with the locking operation thereof.

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

1. The combination with a rail joint embodying opposite fish plates, bolts having nuts and connecting the fish plates, said rail joint being provided below the nuts with sockets, and short vertical locking plates constructed of bendable material and arranged in said sockets and engaging the nuts.

2. In a rail joint, the combination with opposite fish plates, bolts having nuts and connecting the said fish plates, one of the fish plates being provided with vertical openings located beneath the nuts, and short vertical locking plates constructed of bendable material and arranged in the said openings and engaging the nuts.

3. In a rail joint, the combination of two fish plates, one of the fish plates having openings and the other fish plate being provided with an integral base plate extending beneath and closing the openings at the bottom thereof to form sockets, bolts connecting the fish plates and provided with nuts, and short vertical locking plates arranged in the said sockets and engaging the nuts.

4. In a rail joint, the combination of opposite fish plates, one of the fish plates being provided with a depending enlargement and having vertical openings, and the other fish plate being provided with an integral base plate and having an extension arranged beneath the said enlargement and forming bottoms for the said openings, bolts connecting the fish plates and provided with nuts, and short locking plates mounted in the said openings and supported by the said extension and engaging the nuts.

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

LEVI T. STEPHENSON.

Witnesses:
R. R. Ross,
J. W. Hawley.