No. 871,140. PATENTED NOV. 19, 1907.

A. T. PALMER.

RAIL JOINT.

APPLICATION FILED FEB. 1, 1907.

Fig. 1.

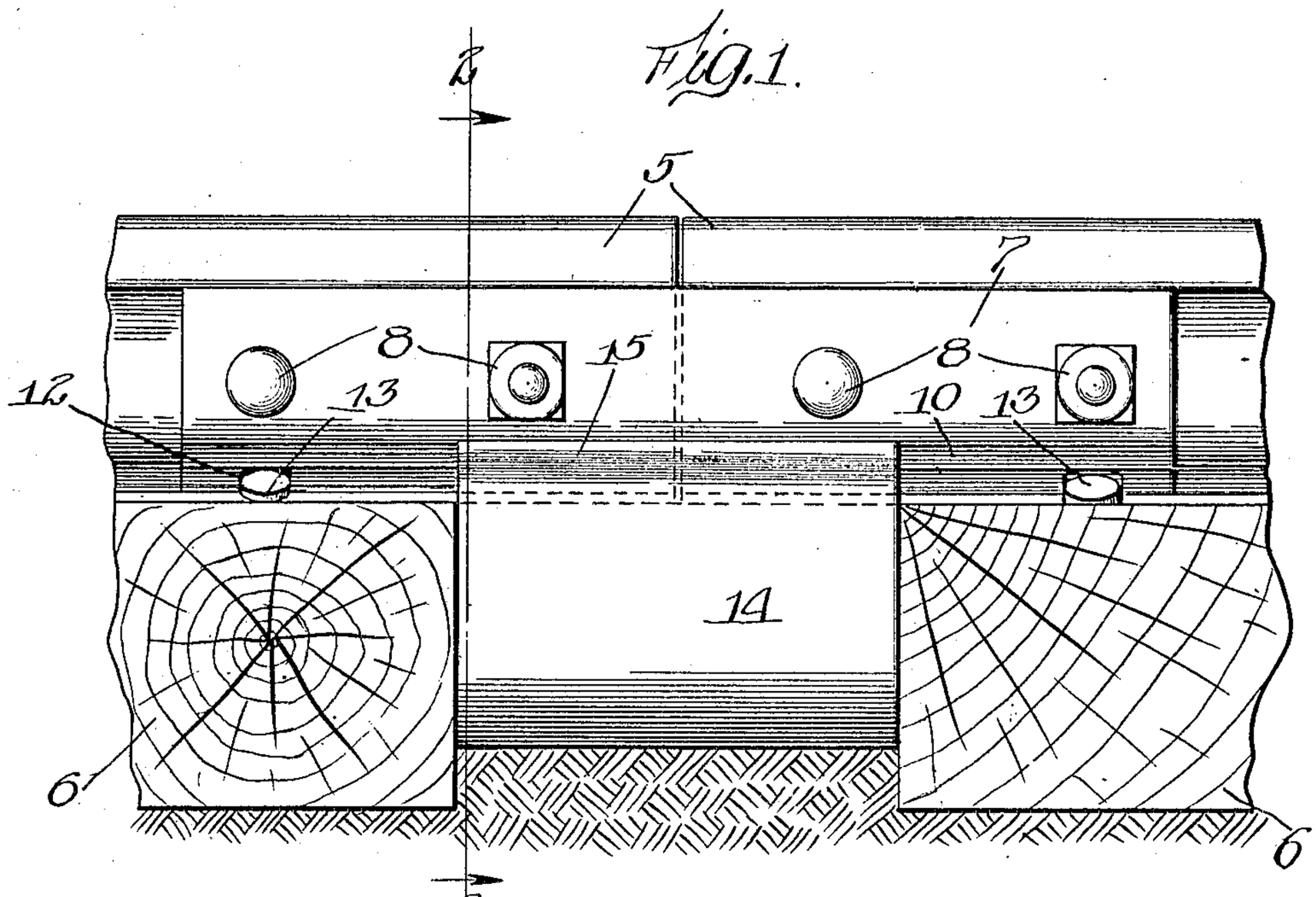


Fig. 3.

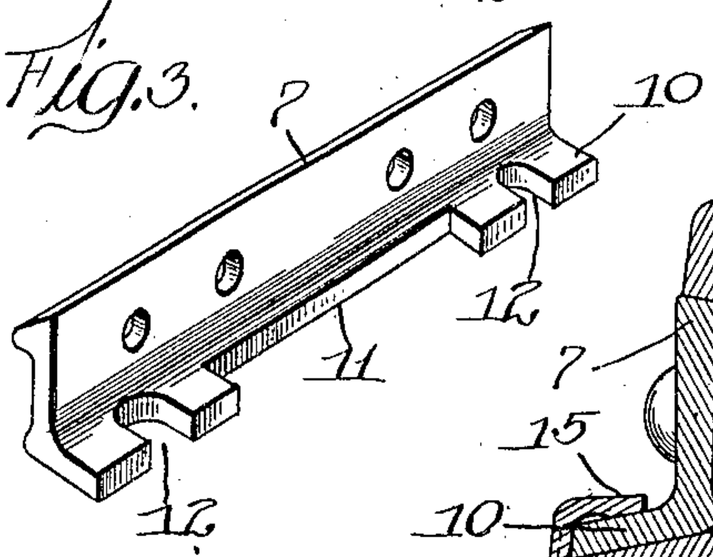
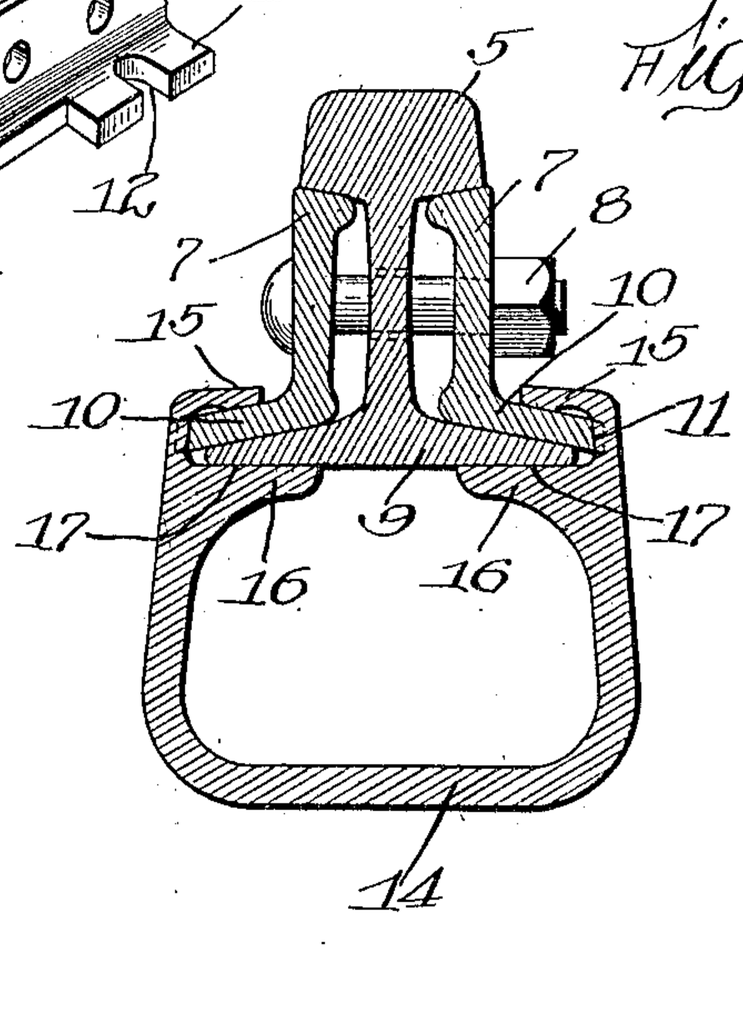


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALPHONSO T. PALMER, OF CLYDE, ILLINOIS.

RAIL-JOINT.

No. 871,140. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed February 1, 1907. Serial No. 355,232.

To all whom it may concern:

Be it known that I, ALPHONSO T. PALMER, a citizen of the United States, residing at Clyde, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to improvements in rail joints and more particularly to that class of joints in which the ends of the rails are held in alinement by means of fish-plates or splice bars, which are clamped and held in position between the head and base flange of the rails without necessarily relying upon the presence of bolts or other positive fastening means.

The primary object is to provide an improved form of clamp which will engage the fish-plate or splice bars on each side of the rail, the pressure thereof being due to its elasticity and which will serve to prevent a vertical movement of the rail.

A further object is to provide an improved clamp having an integral support for the rail.

A further object is to provide an improved elastic clamp provided with jaws having engagement with the rail on both sides of the web and which jaws are capable of independent yielding movement with relation to the elasticity of the body of the clamp.

To the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawing, illustrating an exemplification of the invention and in which—

Figure 1 is a side elevation of the meeting ends of two rails having a clamp constructed in accordance with the principles of this invention applied thereto. Fig. 2 is a sectional view on line 2—2 of Fig. 1. Fig. 3 is a perspective view of one of the fish-plates.

Referring more particularly to the drawing and in this exemplification of the invention, the numeral 5 designates the meeting ends of two rails, which are supported by the usual ties 6, and 7 designates fish-plates or splice bars, which may be secured in position to the rails by means of the bolts 8 which pass through the fish-plates and the web of the rail. These fish-plates are adapted to engage the lower face of the ball and the upper face of the base flange 9 of the rails and is provided with a laterally projecting flange portion 10 at the lower extremity thereof which rests upon the upper face of the base flange 9 of the rail. The flange 10 is preferably provided with a cut-away portion 11 located intermediate its ends and adjacent the center thereof and this cut-away portion is adapted to stand between the ties 6 when the fish-plate or splice bar is in position. The flange is also provided with cut-away or notched portions 12 on each side of the cut-away portion 11, which are adapted to receive the spikes 13, which are driven into the ties 6 for holding the rails against longitudinal movement.

A clamp 14, preferably of a C-shape having its open portion at the top thereof, is constructed of any suitable material and the ends of the clamp terminate in yielding extremities 15 which project inwardly to form jaws adapted to engage and rest upon the upper face of the base flange of the fish-plate or splice bars 7.

Projecting inwardly from the sides of the clamp 14 are projections or supports 16 which terminate short of each other and are preferably provided with flat upper faces 17, which coöperate with the yielding extremities or jaws 15 and serve as a support for the rail 5.

After the fish-plates or splice bars 7 have been applied to the rail, the clamp 14 may be placed in position in any suitable manner, the clamp may then be applied by spreading the jaws or extremities 15, together with the supports 16, in any suitable manner, preferably by means of a jack and the clamp then slipped onto the ends of the rail so that the body portion of the clamp will be spaced from the rail, and the base flange 9, together with the flange 10 of the fish-plate or splice bar 7, will stand between and respectively engage the support 16 and the yielding extremity or jaw 15 of the clamp. When in this position and the jack removed or the jaws released, the natural spring of the clamp 14 will cause the jaws to press the splice bars or fish-plates 7 toward the web of the rail, the upper and lower extremities of the fish-plates or bars being beveled or inclined to correspond respectively with the lower face of the ball and the upper face of the base flange of the rail, friction will be exerted between these parts and when in position and

thus released the vibration of the rails caused by the passage of a car thereover will tend to cause the clamp 14 to exert a greater strain upon the fish-plates or splice bars to force them closer together or towards the web of the rail and as the jaws or extremities 15 have a yielding movement independent of the spring action of the body of the clamp, it permits the clamp to exert a greater tension upon the fish-plates or splice bars. This clamp is located between the ties 6 and is preferably of such a length as to extend substantially the entire distance of the space between the ties and is of a height to terminate short of the base of the ties 6 so that dirt or ballast may be tamped under the base thereof to form a support directly upon the ground for the clamp.

When in position, the ends of the clamp adjacent the jaws or extremities 15 are adapted to stand in the cut-away portion 11 so as to hold the fish-plates or bars 7 against longitudinal movement with respect to the tie. It will thus be seen that the continual vibration of the rails will cause the clamp to force the fish-plates or splice bars towards the web and that the closer the fish-plates or splice bars are brought to the web the tighter the ends of the rail will be gripped.

In order that the invention might be fully understood by those skilled in the art, the details of the foregoing embodiment have been thus specifically described, but

What I claim as new and desire to secure by Letters Patent is—

1. In a rail joint, the combination of the rails, fish plates, an elastic clamp passing under the rails, said clamp being provided with jaws having engagement with the fish plates on each side of the web, and a support for the rail integral with the clamp.

2. In a rail joint, the combination of the rails, fish plates, a continuous elastic clamp passing under the rails, said clamp being provided with jaws having engagement with the fish plates on each side of the web, and a support for the rail integral with the clamp.

3. In a rail joint, the combination of the rails, fish plates, an elastic clamp, the body portion thereof passing under and being spaced from the rail, the ends of the clamp having engagement with the fish plates on each side of the web, and a support for the rail within the clamp, said support being integral with the clamp and located adjacent the end thereof.

4. In a rail joint, the combination of the rails, fish plates, an elastic clamp passing under and spaced from the rails, said clamp being provided with jaws, said jaws having engagement with the fish plates on each side of the web, and means integral with and located within the clamp for supporting the rail.

5. In a rail joint, the combination of the rails, fish plates, an elastic clamp passing under and spaced from the rails, said clamp being provided with integral inwardly projecting portions for supporting the rail, and elastic jaws on the clamp beyond the projecting portions, said jaws having engagement with the fish plates on each side of the web.

6. In a rail joint, the combination of the rails, fish plates, an elastic substantially C-shaped clamp passing under the rails, the ends of said clamp being formed into inwardly projecting portions adapted to support the rail, and independently yielding extremities substantially parallel to and cooperating with the respective projecting portions and adapted to clamp the base of the fish plates.

7. In a rail joint, the combination of the rails, fish plates, an elastic substantially C-shaped clamp passing under the rails, the ends of said clamp being formed into inwardly projecting portions terminating short of each other and adapted to support the rails, and independently yielding extremities substantially parallel with the projecting portions, said extremities coöperating with the respective projection to clamp the base of the fish plates therebetween and on each side of the web.

8. In a rail joint, the combination of the rails, fish plates, an elastic substantially C-shaped clamp, the body of which passes under and is spaced from the rails, the extremities of the clamp being formed into independently yielding jaws having engagement with the upper face of the base of the fish plates on each side of the web, and each side of the clamp being provided with an inwardly projecting portion integral therewith, said projections being adapted to support the rail and being located adjacent to and coöperating with the respective yielding extremity of the clamp to clamp the base of the fish plates.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 29th day of January A. D. 1907.

ALPHONSO T. PALMER.

Witnesses:
J. L. Jochum, Jr.,
M. W. Cantwell.