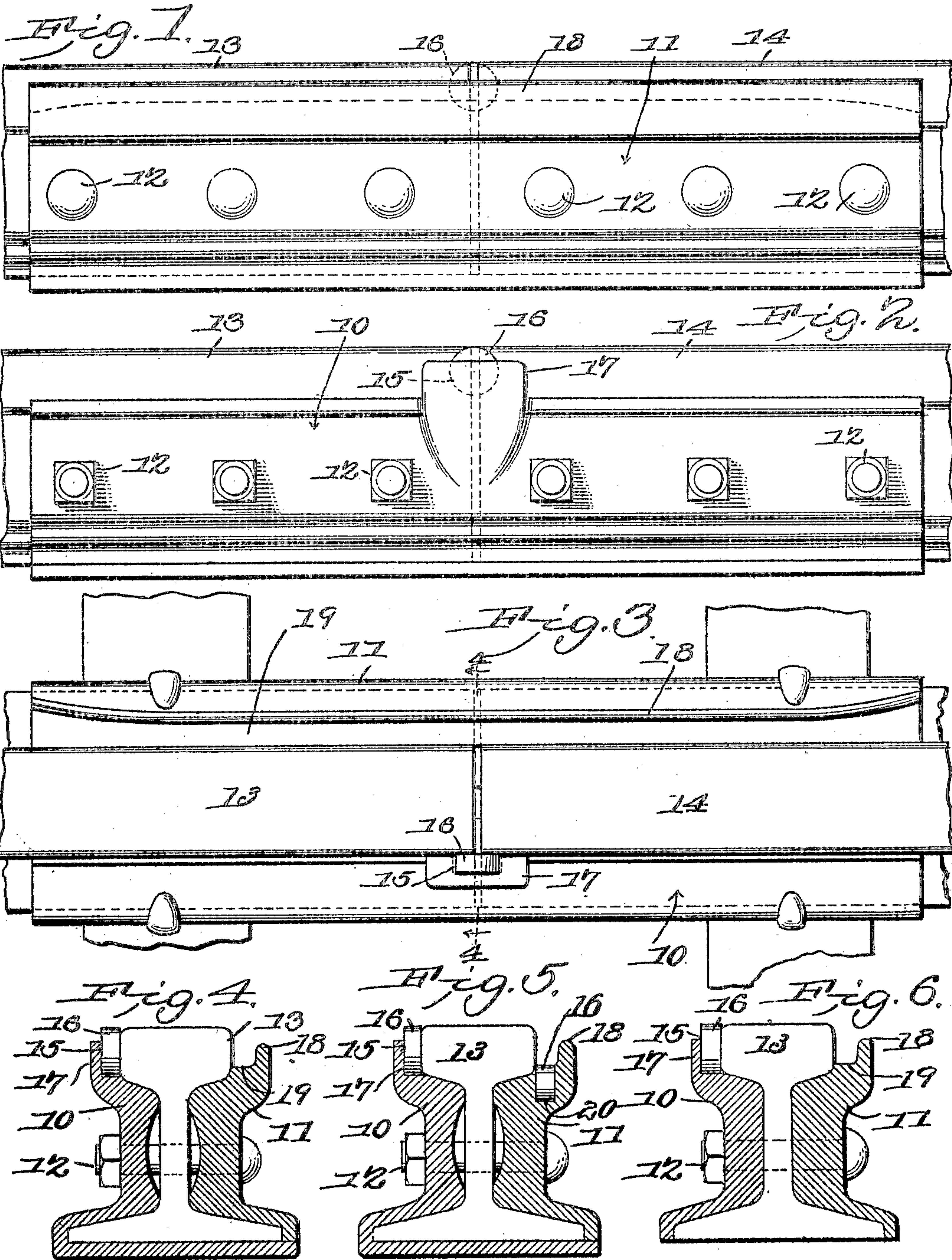


No. 797,821.

PATENTED AUG. 22, 1905.

J. QUINN.
RAILWAY RAIL JOINT.
APPLICATION FILED DEC. 31 1904.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN QUINN, OF HOUTZDALE, PENNSYLVANIA.

RAILWAY-RAIL JOINT.

No. 797,821.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed December 31, 1904. Serial No. 239,177.

To all whom it may concern:

Be it known that I, JOHN QUINN, a citizen of the United States, residing at Houtzdale, in the county of Clearfield and State of Pennsylvania, have invented a new and useful Railway-Rail Joint, of which the following is a specification.

This invention relates to railway-rail joints, and has for its object to improve the construction and increase the efficiency, and likewise increase the wear-resisting qualities of devices of this character.

Another object of the invention is to produce a simply-constructed and durable device of this character which will effectually protect the rail ends and prevent abrasion thereof by the impact of the passing wheels.

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 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.

In the drawings thus employed, Figure 1 is a side elevation of the improved joint as viewed from between the rails, and Fig. 2 is a similar view as viewed from outside the rails. Fig. 3 is a plan view. Fig. 4 is a transverse section on the line 4 4 of Fig. 3. Figs. 5 and 6 are transverse sections illustrating modified forms of the construction.

The improved device comprises two clamp-plates 10 11, adapted for clamping, as by transverse bolts 12, to the abutting ends of the rails 13 14. The outside clamp-plate 10 is provided centrally with a socket 15 to receive a bearing-roller 16, the socket being greater than one-half a circle in area and opening both upwardly and toward the rail side, so that when the roller is inserted and the plate clamped in position the roller will be irremovable while at the same time free to rotate in its socket. The roller thus projects a short distance above the surrounding surface of the plate and will be disposed op-

posite the joint between the abutting ends of the rails, so that the impact of the passing wheels will be borne by the roller. The roller will preferably be of hardened steel and may project slightly above the tread portions of the rails.

The plate 10 will preferably be provided with a central raised portion 17 to carry the socket 15, and thus avoid the necessity for unduly enlarging the clamp-plate.

The plate 11 is formed with a longitudinal rib 18 for bearing against the inner faces of the wheel-flanges as they pass the joint and the plate 11 will also be formed to receive the impact of the wheel-flanges upon its upper face 19, and thus relieve the rail ends largely from the impact of the wheel-treads as they pass the joints, and thus divide the strains between the treads and flanges. If preferred, also, one of the bearing-rollers 16 may be inserted for rotation into a socket 20 in the upper face of the plate 11, as shown in Fig. 5.

The lower portion of the plate 10 may be carried beneath the rails 13 14, as in Figs. 4 and 5, or arranged as in Fig. 6, as preferred.

The roller 16 may be of any suitable material, and three or more may be employed in each plate; but it will be noted that it is essential to the operation of the device that at least one roller be located opposite the joint between the rail ends or so close thereto as to prevent the passing wheels from coming in contact with the rail ends.

By this simple arrangement the tendency of the rail ends to undue wear or to become "broomed" by the constant and severe impact of the wheels is obviated and the uniform wear of the rails insured. The rails and rollers will thus wear down uniformly, and when one set of rollers is worn out they can be readily and cheaply replaced, as will be obvious.

Another great advantage of this device is to protect the abutting ends of the rails from the undue wear produced by "sliding," often produced when "braking" the trains, and when this occurs the sliding wheels in striking the rollers set said rollers in rotation, whereby the locked wheels are carried over the joint in a manner to prevent damage thereto.

Having thus described the invention, what is claimed is—

1. In a railway-joint, the combination of the rails, a bearing-roller, and means for sup-

porting said bearing-roller opposite the joint between the abutting ends of said rails in position to receive the impact of the wheels passing over the joint.

2. The combination with a railway-rail joint of a bearing-roller supported for rotation opposite the joint between the abutting ends of the rails in position to receive the impact of the wheels passing over the same.

3. As a new article, a clamp-plate for railway-rail joints having a bearing-socket provided with a bearing-roller so disposed that when the plate is clamped to the rails the roller will be opposite the joint between the abutting ends of the same in position to receive the impact of the passing wheels.

4. As a new article, a clamp-plate for railway-rail joints, having a socket opening upwardly and likewise through the side next the rail and of greater area than one-half a circle and adapted for supporting a bearing-roller and held in position in the socket by bearing against the adjacent face of the rail when the plate is clamped thereto.

5. As a new article, a clamp-plate for railway-rail joints, having a longitudinal rib for bearing against the wheel-flange and with a bearing-roller mounted for rotation in said plate in position opposite the joint between the abutting ends of the rails to receive the impact of the passing wheels.

6. A railway-rail joint comprising clamp-plates for bolting to the opposite sides of the rails at their abutting ends, one of said plates having a bearing-roller disposed opposite the joint between the rails for receiving the im-

act of the passing wheels and the other plate having a longitudinal rib for bearing against the wheel-flange.

7. A rail-joint having an antifriction-roller disposed in the path of wheels passing over the joint.

8. A rail-joint having antifriction-rollers respectively disposed in the path of the treads of wheels and the flanges of wheels passing over the joint.

9. A rail-joint having an antifriction-roller mounted at the outer side of the joint with its upper peripheral edge portion in the path of the treads of wheels passing over the joint, and another antifriction-roller located at the inner side of the joint below the top of the rails and in the path of wheel-flanges.

10. A rail-joint comprising opposite fish-plates, one of the fish-plates having a recess in the top thereof, an antifriction-roller mounted in the recess and projected above the top of the fish-plate, the other fish-plate having a longitudinal channel in its top for the reception of wheel-flanges, there being a recess in the bottom of the channel, and an antifriction-roller mounted in said recess with its upper peripheral portion at the bottom of the channel.

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

JOHN QUINN.

Witnesses:

JOHN S. COLLINS,
W. H. PATTERSON.