

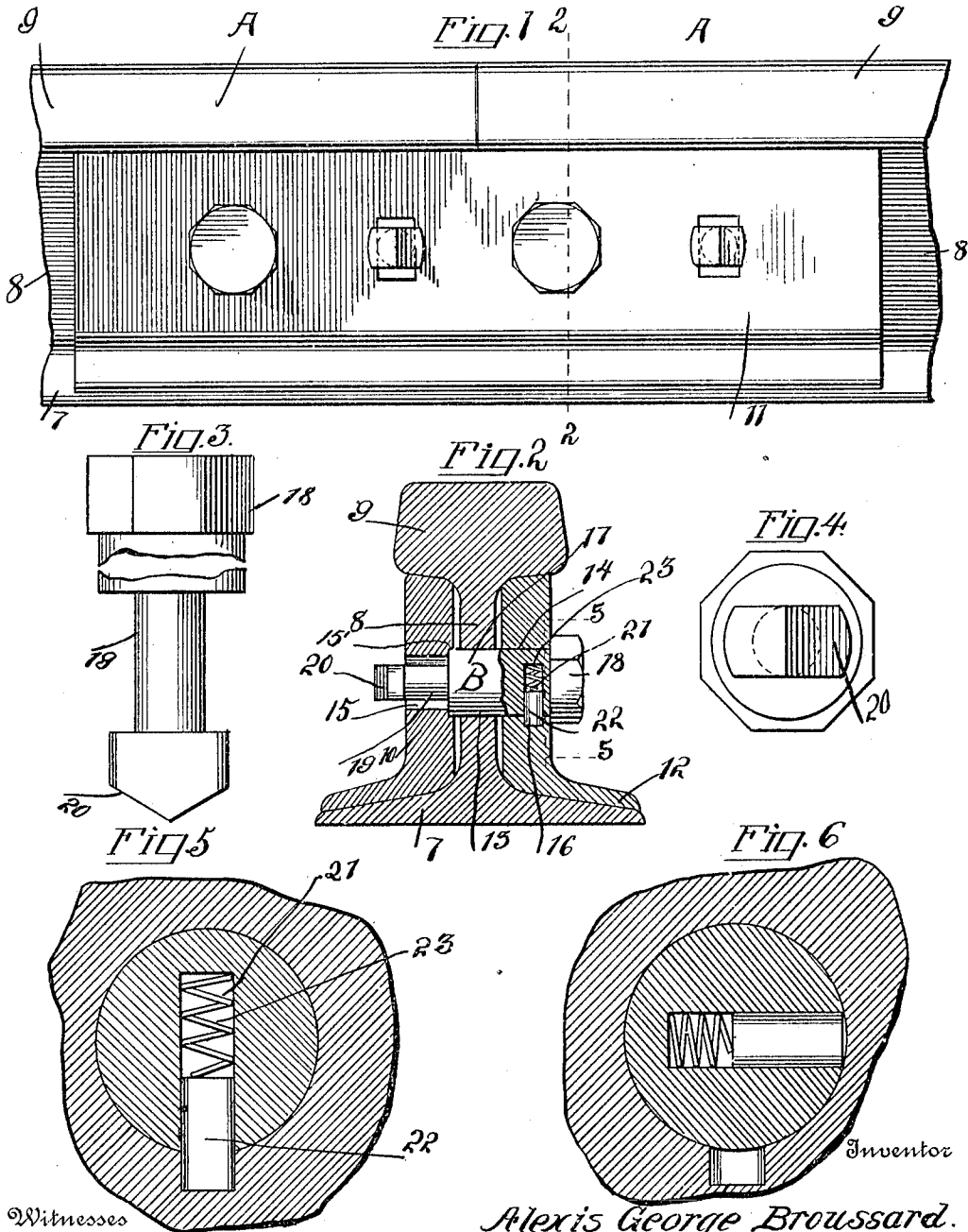
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RAIL JOINT.

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954,251.

Patented Apr. 5, 1910.



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UNITED STATES PATENT OFFICE.

ALEXIS GEORGE BROUSSARD, OF LA FAYETTE, LOUISIANA.

RAIL-JOINT.

954,251.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALEXIS GEORGE BROUSSARD, a citizen of the United States, residing at La Fayette, in the parish of Lafayette and State of Louisiana, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to joints for railroad rails and it has for its object to provide a device of this character which shall be simple, inexpensive, and thoroughly efficient in operation.

A further object of the invention is to provide a rail joint, the parts of which may not be readily separated without cutting or severing the connecting bolts.

A further object of the invention is to provide a rail joint which shall not be liable to become injuriously affected by the jarring and vibration to which a device of this character is usually subjected.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the drawings hereto annexed has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings: Figure 1 is a side elevation of a rail joint constructed in accordance with the invention. Fig. 2 is a vertical transverse sectional view taken on the plane indicated by the line 2—2 in Fig. 1. Fig. 3 is a side view of one of the connecting bolts employed in the construction of the improved joint. Fig. 4 is an end view of the bolt. Fig. 5 is a transverse sectional view of the bolt and a portion of one of the fish plates, taken on the plane indicated by the line 5—5 of Fig. 2 and showing the bolt in interlocking engagement with the fish plate. Fig. 6 is a view similar to Fig. 5 but showing the position of the bolt previous to being turned to locked position.

Corresponding parts in the several figures are denoted by like characters of reference.

The abutting ends of two rails A—A of

ordinary construction have been shown in Fig. 1 of the drawings, said rails comprising the foot flanges 7, webs 8 and heads 9. Fish plates 10—11 are placed adjacent to the opposite sides of the rail ends, said fish plates being provided with foot flanges 12 and said plates being made of such dimensions that their upper edges will abut upon the underside of the rail head which is thereby supported and reinforced. The webs of the rail ends are apertured as shown at 13 for the passage of the connecting bolts, and the fish plates are provided in registry with said bolt holes with apertures to accommodate said connecting bolts. The bolt aperture 14 in one fish plate is an ordinary circular opening of proper diameter, and the registering aperture 15 in the opposite fish plate consists of an oblong slot which is surrounded upon the inner side of the fish plate by a shallow recess 15'; and it is to be observed that in each fish plate, round apertures 14 preferably alternate with the oblong apertures 15, so that bolts may be inserted alternately from opposite sides of the rail. The particular arrangement, however, is optional and no limitation is intended in this respect. The round bolt apertures 14 are provided with radially extending recesses or pockets 16 the purpose of which will presently be made apparent. The bolt B which is used in connection with the improved rail joint, consists of a shank 17 of suitable diameter having at one end a head 18 and at the opposite end a reduced portion 19 upon the terminal end of which a transverse key portion or arrow head 20 is formed. The shank portion 17 is provided near the head 18 with a recess 21 wherein is seated a pin or plug 22 and a spring 23 whereby said plug or pin is forced in an outward direction beyond the perimeter of the shank portion 17. By pressure upon the outer end of the pin 22 the latter may be forced back into the recess 21.

In assembling the improved rail joint, the rail ends A—A are first placed in abutting position, and the fish-plates 10—11 are then applied to opposite sides thereof. The bolts B are now inserted through the registering apertures provided for their reception, the plug 22 of each bolt being meanwhile pushed back by the pressure of the finger of the operator until the shank 17 is seated in the recess 15' and the arrow head 20 of the bolt passes through the slot or aperture 15, which

latter is formed in longitudinal alinement with the recess or socket 16. A partial turn imparted to the bolt will now cause the arrow head 20 to assume a position transversely of the slot 15, thus preventing the withdrawal of the bolt, while the spring actuated pin or plug 22 will be forced into locking engagement with the socket 16, thus preventing the removal of the bolt. It will be readily seen that the plug 22 being inaccessible, removal of the rails will be positively prevented until the cross head or arrow head 20 is removed by chiseling or otherwise.

A rail joint of the improved construction herein described may be produced at no great expense, and the advantages resulting therefrom will be readily appreciated. The parts comprising the joint may be readily and quickly assembled and a joint constructed in accordance with the invention is safe against displacement of its parts by such jarring or vibration as will result from the passage of the rolling stock over the road-bed. The parts may not be disassembled without actually fracturing the bolts and the device will thus be safe against tampering with in an unlawful manner.

Having thus described the invention, what is claimed is—

1. In a rail joint of the character described, a pair of fish plates having round and elongated apertures, the round apertures of one fish plate being in registry with the elongated apertures of the other fish plate and the round apertures being pro-

vided with radially extending recesses or sockets, in combination with rail ends having bolt apertures in registry with the bolt apertures of the fish plates, and connecting bolts having reduced portions provided with cross heads at their terminal ends; the shanks of said bolts being provided with radially disposed recesses or sockets and with spring actuated pins seated in said sockets.

2. In a rail joint of the character described, a pair of fish plates having round and elongated apertures, the latter being surrounded by shallow recesses upon the inner sides of the fish plates, the round apertures of one fish plate being in registry with the elongated apertures of the other fish plate, and said round apertures being provided with radially extending recesses or sockets in combination with rail ends having bolt apertures in registry with the bolt apertures of the fish plates, and connecting bolts having reduced portions provided with cross heads at their terminal ends the shanks of said bolts being adapted to be seated in the recesses surrounding the elongated apertures, and said shanks being provided with radially disposed recesses or sockets and with spring actuated pins seated in said sockets.

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

ALEXIS GEORGE BROUSSARD.

Witnesses:

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