

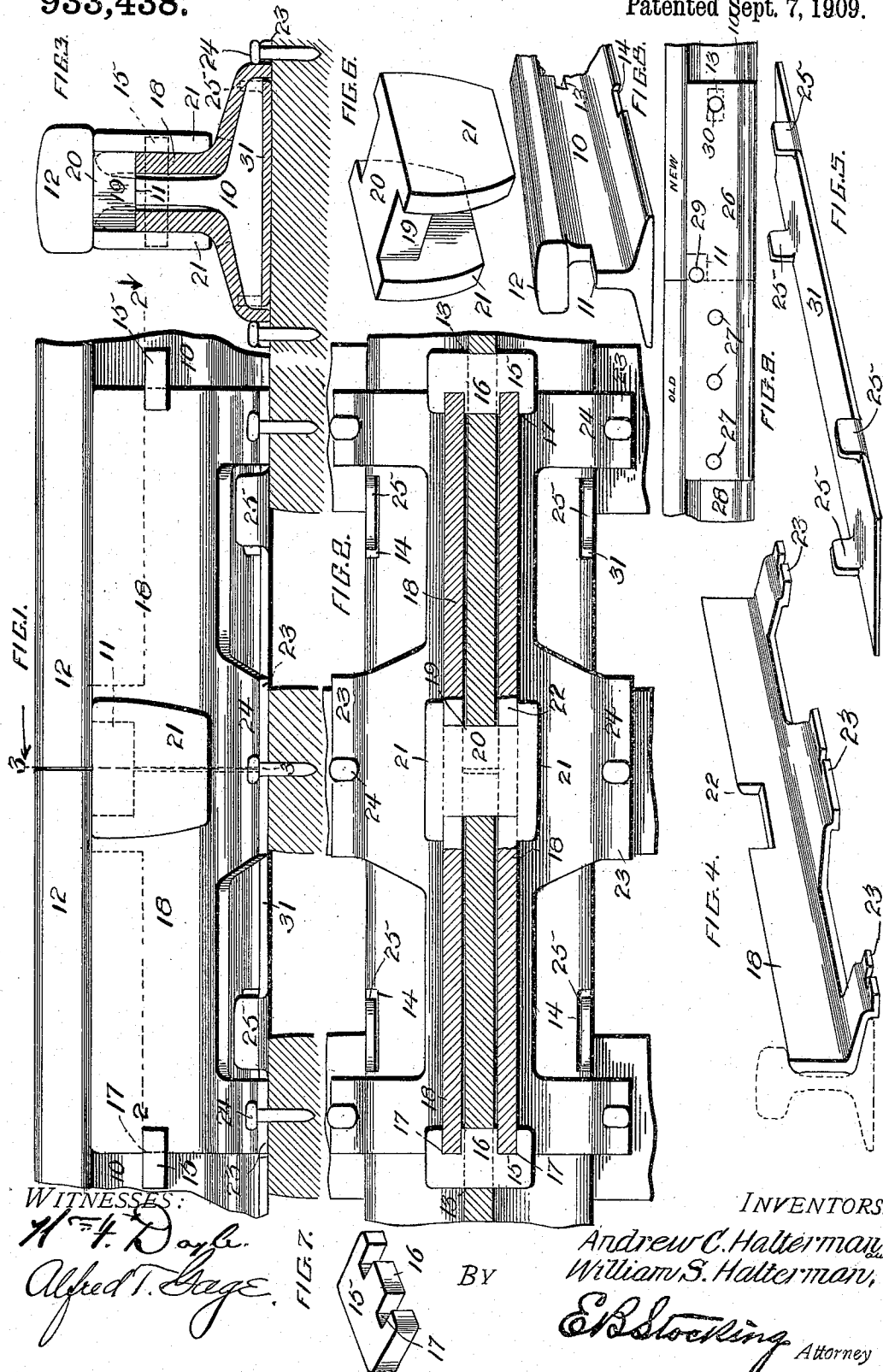
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RAIL JOINT.

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933,438.

Patented Sept. 7, 1909.



UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

933,438.

Specification of Letters Patent.

Patented Sept. 7, 1909.

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To all whom it may concern:

Be it known that we, ANDREW C. HALTERMAN and WILLIAM S. HALTERMAN, citizens of the United States, residing at Buckhannon, county of Upshur, and State of West Virginia, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a rail joint, and particularly to a structure in which the use of bolts extending through the fish plate is entirely avoided.

The invention has for an object to provide a joint in which the rails are connected by a web block which embraces the fish plates, and said plates are held against longitudinal movement by clasps carried by the rails at the opposite sides of the joint.

A further object of the invention is to provide a novel and improved construction of base plate adapted to cooperate with recesses in the rails in connection with the web block so as to prevent longitudinal movement of the rails relative to each other.

Other and further objects and advantages of the invention will be hereinafter fully set forth and the novel features thereof defined by the appended claims.

In the drawing:—Figure 1 is a side elevation of the joint; Fig. 2 is a longitudinal section on line 2—2, Fig. 1; Fig. 3 is a vertical section on the line 3—3 thereof; Fig. 4 is a detail perspective of the fish plate; Fig. 5 is a similar view of the base plate; Fig. 6 is a perspective of the web block; Fig. 7 is a similar view of the clasp carried by the rail; Fig. 8 is a perspective of the rail; Fig. 9 is an elevation of a form of plate adapted to connect the present invention to an ordinary rail.

Like numerals refer to like parts in the several views of the drawing.

The numeral 10 designates the rail which may be of any desired construction or configuration and is provided at its end with the recess 11 disposed directly beneath the tread or cap 12 thereof. This rail is also formed with a slot 13 therein at a point removed from the end and with a notch or recess 14 in its base flange which is adapted to cooperate with a base plate 31 as hereinafter described. The slot 13 in the rail web is provided with the clasp 15 which may be

formed integral with the rail, or simply secured thereto, as here shown. In the latter case the clasp block is formed with the body 16 adapted to tightly fit the slot 13 and at opposite sides with seats 17 adapted to receive the ends of the fish plates 18 and thereby prevents longitudinal movement thereof.

The web block 19 is formed with a flat or plane upper face 20 adapted to rest beneath and support the rail tread 12 and with depending plates 21 adapted to overlap the fish plates 18 and hold them in contact with the rail webs. This block 19 is adapted to enter the opposite recesses 11 in the rail ends and to seat therein while the plates 21 thereof extend downward over the fish plates. Cooperating with the web block the fish plate is provided with a recess or notch 22 which is adapted to receive the block 19 and thus hold the fish plates against longitudinal displacement. The fish plate is also formed with a series of extended lugs 23 which may be bifurcated, as shown in Fig. 4, so as to receive the securing means, for instance, the spikes 24, as shown in Figs. 1 and 2.

For the purpose of preventing longitudinal movement of the rails the base plate is provided with a series of lugs 25 which may be bent upward therefrom or cast thereon and are adapted to enter the recesses 14 in the rail base. This base plate is applied beneath the rail after the application of the web block and fish plates and serves to retain all of these parts in position.

Under some conditions it is desirable to attach this novel form of rail to one of ordinary construction, particularly in the temporary conditions present in replacing old rails or connecting new rails thereto, and for that purpose a form of fish plate 26 is shown in Fig. 9 which is provided with a series of bolt holes 27 by which it may be attached to any ordinary form of apertured rail 28. The opposite end of this plate is further provided with bolt holes 29 and 30 through which bolts may be applied, said bolts entering the recess 11 and slot 13 in the novel form of rail, as shown at 10.

In the application of the invention, the web block and fish plates are first assembled and the opposite rail ends slid longitudinally into position between the fish plates and embracing the web block. The rail joint is then slightly raised so as to apply the base plate beneath it and the lugs from

said base plate are then seated in the recesses upon the base of the rails so as to absolutely prevent any longitudinal movement thereof, while the opposite ends of the fish plate in
 5 contact with the web of the rail are held by the clasps carried by the rail to embrace the opposite fish plates. The invention therefore provides for securing the rail joint without the use of bolts or other similar fastenings which are liable to accidental loosening and displacement thus providing a
 10 joint simple and economical in construction and embracing both strength and convenience in assemblage. By providing the rail with the web block directly beneath the tread thereof a positive support is provided at the joint, and this web block has means for holding the fish plates in position against lateral displacement, while the rail
 15 itself carries devices preventing the longitudinal movement thereof and by the securing the lugs of the fish plates prevents any lateral movement of the joint.

Having described our invention and set forth its merits, what we claim and desire to secure by Letters Patent is:—

1. In a rail joint, rails having recesses beneath their tread, a web block seated in said recesses and provided with downwardly
 30 extending plates, side plates embraced by the plates of said block, means extending through slots in the rail web and having seats at opposite sides thereof to embrace the ends of the side plates, and means for preventing relative longitudinal movement of
 35 said rails.

2. In a rail joint, rails having recesses beneath their treads at the adjacent ends thereof, a web block seated in said recesses and
 40 provided with downwardly extending plates, side plates having recesses at their upper edges to receive said block, means for securing said plates to a road bed, and clasps extended through slots in the webs of said
 45 rails and formed with seats to embrace the ends of said side plates.

3. In a rail joint, rails having recesses beneath their treads at the adjacent ends thereof, a web block seated in said recesses and
 50 provided with downwardly extending plates, side plates having recesses at their upper edges to receive said block, means for securing said plates to a road bed, clasps carried by the webs of said rails to embrace the ends
 55 of said side plates, and a base plate having lugs engaging the recesses in the base of said rails.

4. In a rail joint, rails having recesses beneath their tread at the adjacent ends thereof, and a web block seated in said recesses and having a flat face disposed in contact

with the under face of the tread of the rails beyond the web thereof and downwardly extending plates at each side thereof.

5. In a rail joint, rails having recesses beneath their treads at adjacent ends thereof, a web block seated in said recesses and having a flat face disposed in contact with the under face of the tread of the rails beyond the web thereof and downwardly extending
 70 plates at each side, a base plate having projections to engage the base of said rails at opposite sides of the joint between them, and side plates embraced by the plates of said block.

6. In a rail joint, rails having recesses beneath their treads at the adjacent ends thereof, a web block seated in said recesses and having downwardly extending plates at each side thereof, side plates having recesses in their upper edges to receive said block, and securing lugs at the lower edges thereof, laterally disposed clasps extended from the web of said rails and formed with seats to embrace the ends of said side plates, and a
 85 base plate connected to said rails at opposite sides of the joint between them.

7. In a rail joint, rails having recesses beneath their treads at the adjacent ends thereof, a web block seated in said recesses and having a flat face disposed beneath the tread of the rails and downwardly extending plates at each side thereof, a side plate having a recess in its upper edge to receive said block and securing lugs at the lower
 95 edge thereof, a lateral projection from the web of said rails adapted to embrace the ends of said side plate, and a base plate having vertically disposed lugs at opposite sides of said rails and seated in recesses formed
 100 in the base thereof.

8. In a rail joint, rails provided with slots therein, clasps disposed in said slots and provided with laterally extending jaws at the opposite sides of the rail web, in combination with side plates embracing said rail joint and having their ends embraced by the jaws of said clasps.

9. In a rail joint, the combination with rails having recesses beneath their tread at the adjacent ends thereof, of a web block having a flat upper face and parallel depending flanges of greater width than said blocks, and side plates disposed between said flanges and the web of said rails.

In testimony whereof we affix our signatures in presence of two witnesses.

ANDREW C. HALTERMAN.
 WILLIAM S. HALTERMAN.

Witnesses:

JOHN L. HURST,
 T. G. FARNSWORTH.