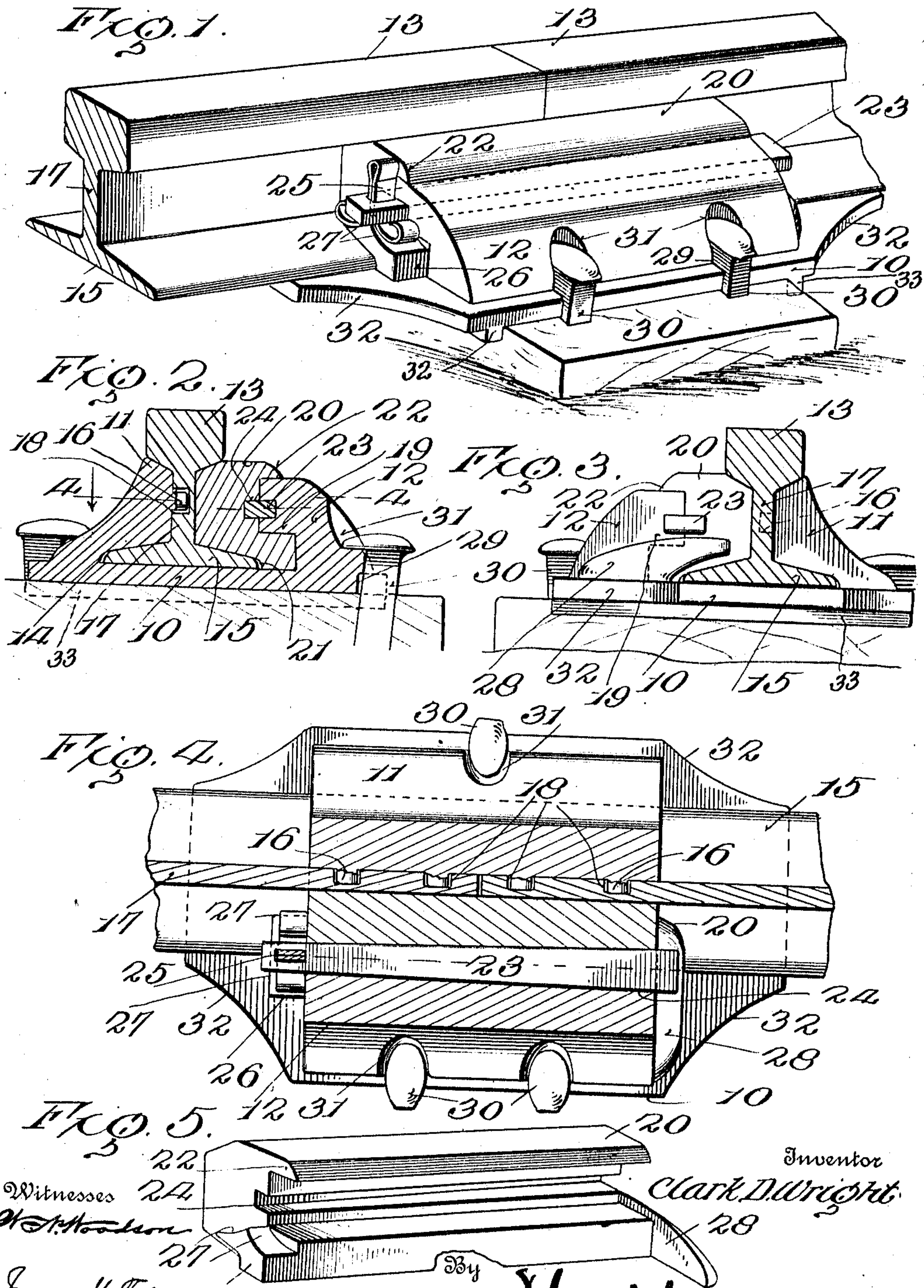


C. D. WRIGHT.
RAIL JOINT.
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989,317.

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CLARK D. WRIGHT, OF PALESTINE, ILLINOIS.

RAIL-JOINT.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CLARK D. WRIGHT, citizen of the United States, residing at Palestine, in the county of Crawford 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 railways, referring particularly to an improvement in that class of devices which are known as rail joints.

An object of this invention is to provide a joint of this nature with means for preventing the creeping of the rails through the joint and at the same time to allow for any contraction and expansion produced by changes in temperature.

The invention has for another object the provision of an attachment or projection upon a joint of this nature which automatically spreads the free ends of a cotter-pin in order to retain the pin in position and to thereby secure the joint rigidly in place, the pin being the only locking means employed.

A further object of this invention is to form a joint with a sliding block to bind against the sides of the rails adjacent their meeting ends and to provide the block with an abutment for limiting the movement of the block, the abutment also serving as a driving member to receive the blows of a hammer during the positioning of the block.

This invention still further aims at the production of a joint of this character possessing certain other advantages and improvements which will be hereinafter referred to in the description and accompanying drawing, in which:—

Figure 1 is a perspective view of one side of the joint having the ends of the rails secured thereto. Fig. 2 is a transverse section through the same. Fig. 3 is an end view of the joint opposite to that which is disclosed to advantage in Fig. 1. Fig. 4 is a horizontal section on the line 4—4 of Fig. 2, and Fig. 5 is a detailed perspective view of the sliding block employed.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

Referring to the drawing the numeral 10 designates a base-plate which is provided at its longitudinal edges with walls 11 and 12. The walls 11 and 12 extend substantially the entire length of the base-plate 10,

the wall 11 being of such contour as to snugly engage against one side of a rail 13, while the wall 12 is spaced from the opposite side of the rail 13. The wall 11 is provided with an undercut portion 11 to receive one side of the base 15 of the rail in order to prevent the upward movement of the rail incident to the passage of rolling stock thereover. To further secure the rail 13 in position, and especially to prevent the longitudinal creeping of the rail within the undercut portion 11, the wall 11 is provided at its inner face with a plurality of studs 16 which project partially through the web 17 of the rail. The web 17 of the rail is provided with apertures 18 which register with the studs 16, but which are enlarged for the purpose of admitting of a slight play of the studs 16 therein. The loose fitting of the stud 16 within the web 17 of the rail is for the purpose of adapting the joint to the expansion and contraction of the rails 13 under the action of the temperature. It will also be noted that the apertures 18 are not extended entirely through the web 17 of the rail. The wall 12 which is carried at the opposite edge of the base-plate 10 is formed with an undercut shoulder 19 to receive a sliding block 20 which is correspondingly formed to engage against the shoulder 19 for the purpose of preventing the upward movement of the block 20. The sliding block 20 is provided with an inner face having a contour conforming to the shape of the side of the rail 13 so as to snugly fit thereagainst and to prevent the upward movement of the rail therefrom. The block 20 is provided with an undercut portion 21 which receives the side of the base 15 of the rail.

It will be observed, particularly from Fig. 2 that the sliding block 20 extends slightly above the upper edge of the wall 12 and that the block 20 carries an overhanging flange 22 to engage upon the wall 12 and to close the opening between the adjacent faces of the block 20 and of the wall 12 incident to the inward movement of the block under the action of a key 23. The block 20 and the wall 12 are provided with corresponding registering grooves 24 in their adjacent faces to receive therein the tapered key 23. The reduced end of the key 23 is extended beyond one end of the block 20 and above the shouldered portion thereof to receive a cotter-pin 25 which is driven downwardly through an aperture formed in the key 23.

A projection 26 is formed upon the end of the block 20 and immediately below the reduced end of the key 23. The projection is formed with oppositely inclined faces 27 to receive the lower ends of the cotter-pin 25 and to separate the same during the downward movement of the cotter-pin through the key 23. It is thus observed that the projection 26 automatically opens the outer end of the cotter-pin to lock the same within the key 23, and, by reason of its rigid position upon the end of the block 20, hold the ends of the cotter-pin in such separated position. The opposite end of the sliding block 20 is provided with an abutment 28 which comprises a body of metal, preferably cast integrally with the block 20, extending beyond the edges of the block to engage against the end of the wall 12 when the block 20 is driven into position. From Fig. 4 it will be seen that the abutment 28 is flattened at its outer face, which flattened face is provided for the purpose of receiving blows from a hammer, or like implement for driving the block into position.

The opposite longitudinal edges of the base-plate 10 are recessed as at 29 to receive the shanks of spikes 30. The heads of the spikes 30, which are offset, extend into notches 31 formed in the outer faces of the walls 11 and 12. From Fig. 2 it will be noted that when the spike 30 is driven to the full extent of its downward movement that the head of the spike is spaced above the upper face of the base-plate 10 to provide a substantial support for the joint. The corners of the base-plate 10 are preferably beveled as is disclosed at 32 to eliminate all unnecessary corners in order to provide a joint which can be easily handled. The base plate 10 is provided with spaced transverse ribs 32 and 33 engaging against the opposite sides of the tie to hold the base plate 10 from longitudinal movement.

Having thus described the invention, what is claimed as new is:—

1. A rail joint including a base-plate, walls arranged along the longitudinal edges of said plate, one of said walls being conformed to receive a rail thereagainst, studs inwardly projected from said wall for engagement loosely in the web of the rail, a block slidably positioned against the oppo-

site side of the rail and against the inner face of the other of said walls, a tapered key arranged between said block and said wall to separate the same, an overhanging flange carried by the block to close the space between the block and the wall when separated, a projection having oppositely inclined faces positioned upon the end of said block, and a cotter-pin engaged downwardly through the reduced end of said key and having its free ends engaged over the cam faces of said projection.

2. A rail joint including a base for supporting a rail, walls carried by said base, a slidable block arranged between one of said walls and the rail, a tapered key positioned between said wall and said block for binding the rail against the opposite of said walls, an abutment formed upon one end of said block to engage against the adjacent wall when the block is driven in position, a cotter-pin engaged through said key, and an abutment formed upon said block beneath the cotter-pin and having inclined faces for separating the ends of the cotter-pin when driven in position.

3. A rail joint including a base-plate, walls longitudinally formed at the edges of said base-plate, a rail engaged against one of said walls, a sliding block disposed between the rail and the opposite of said walls, studs inwardly projected from the first of said walls to engage in the rail, said block and said second wall having registered grooves formed in the adjacent faces thereof, a tapered key slidably disposed in the grooves, a cotter-pin engaged through the reduced end of said key to retain the same in position, a projection carried by said block to separate the ends of said cotter-pin as the same is driven into position, an overhanging flange carried by the block to engage the upper edge of said second wall, and an abutment formed at the opposite end of said block to limit the inward movement of the block and to receive the blows of a hammer during the positioning of the block.

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

CLARK D. WRIGHT. [L. S.]

Witnesses:

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