

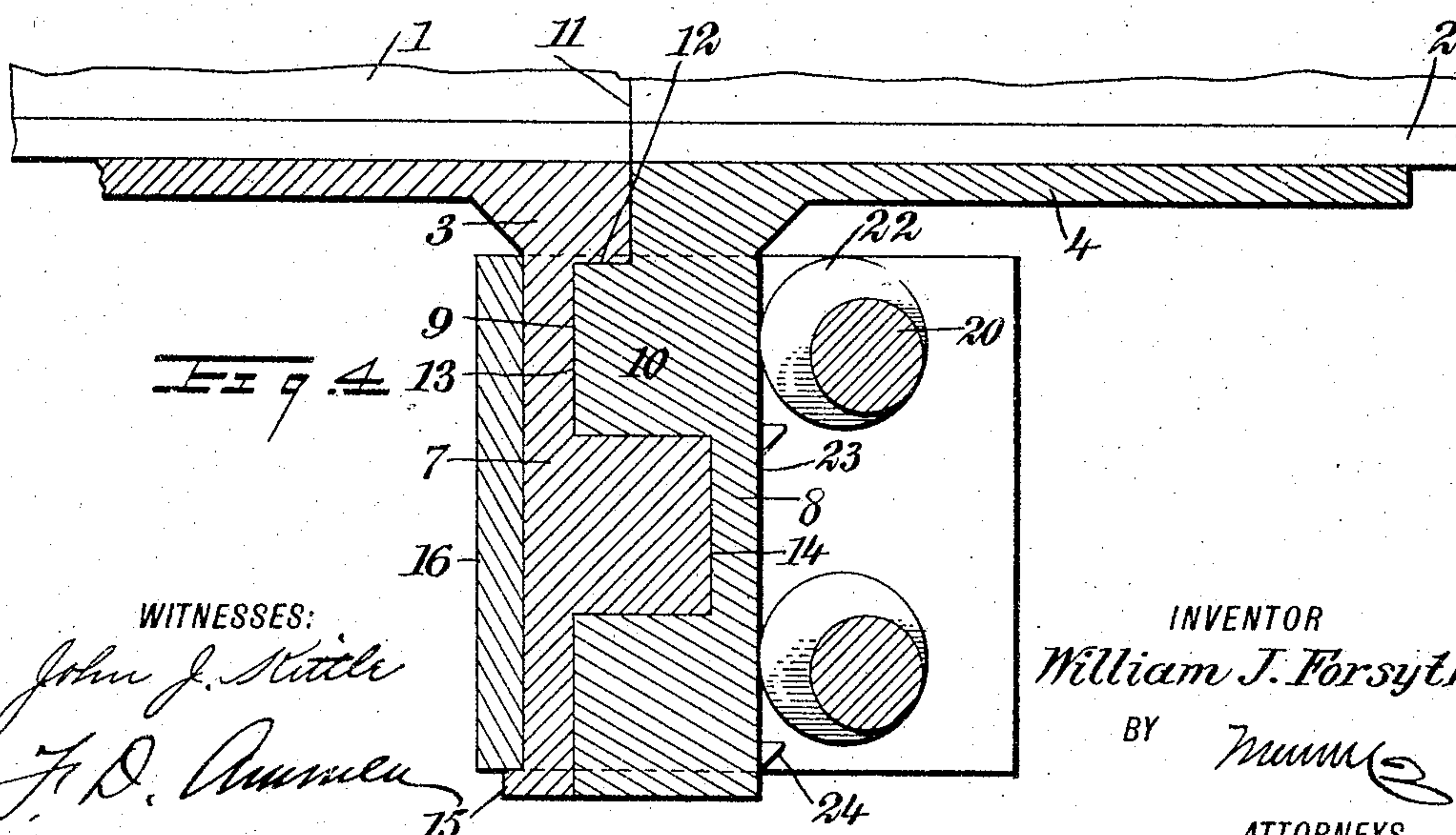
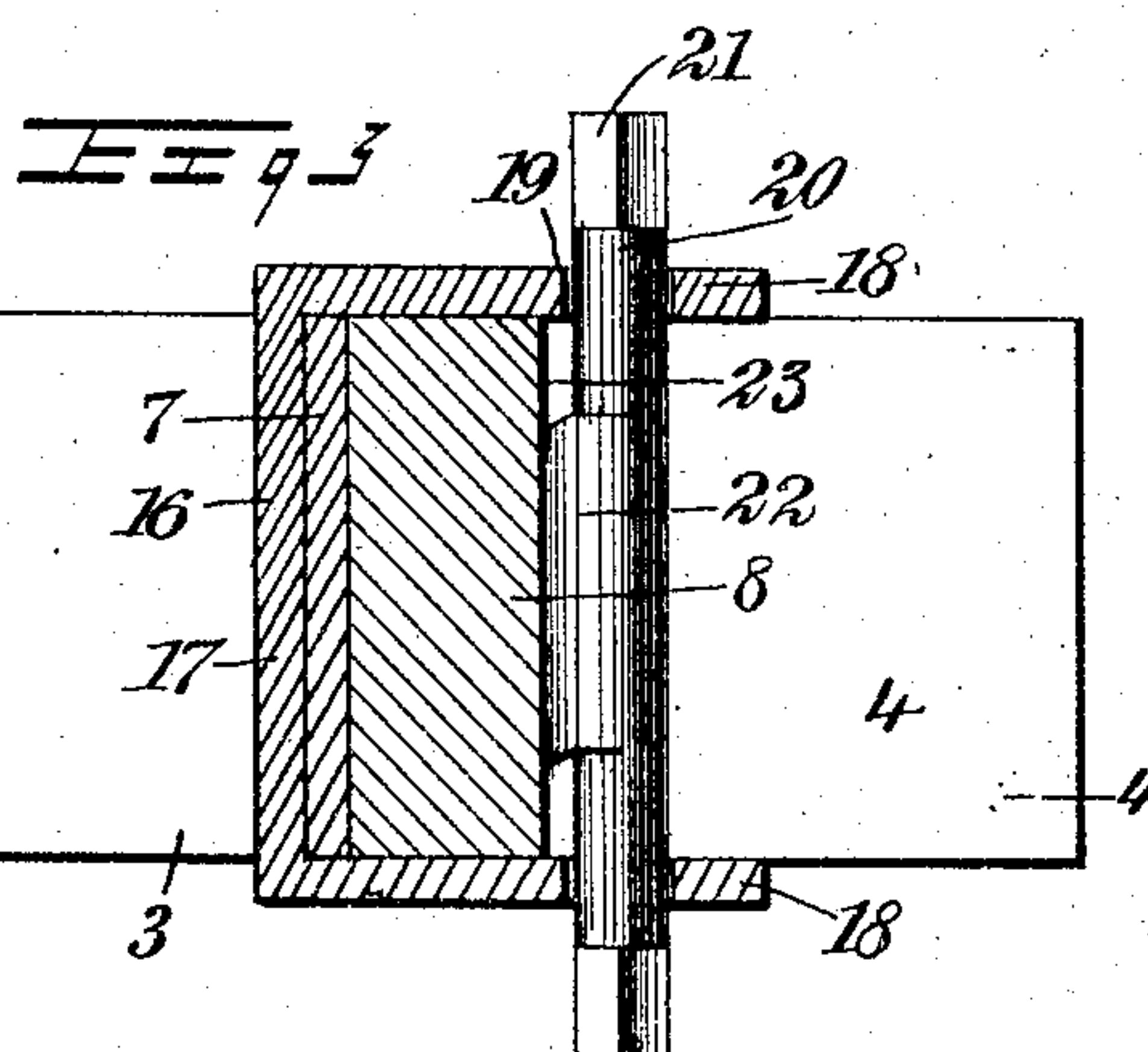
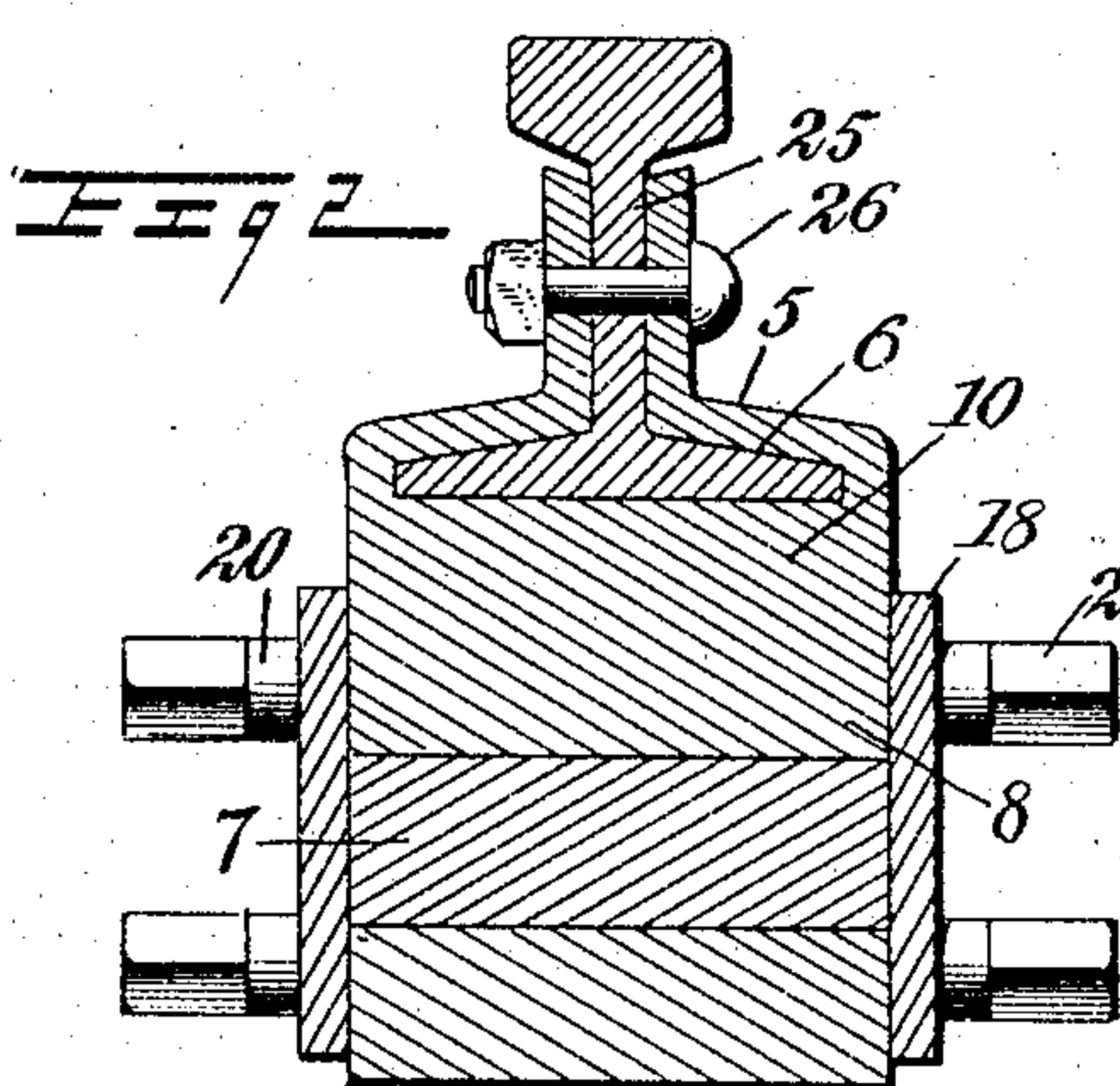
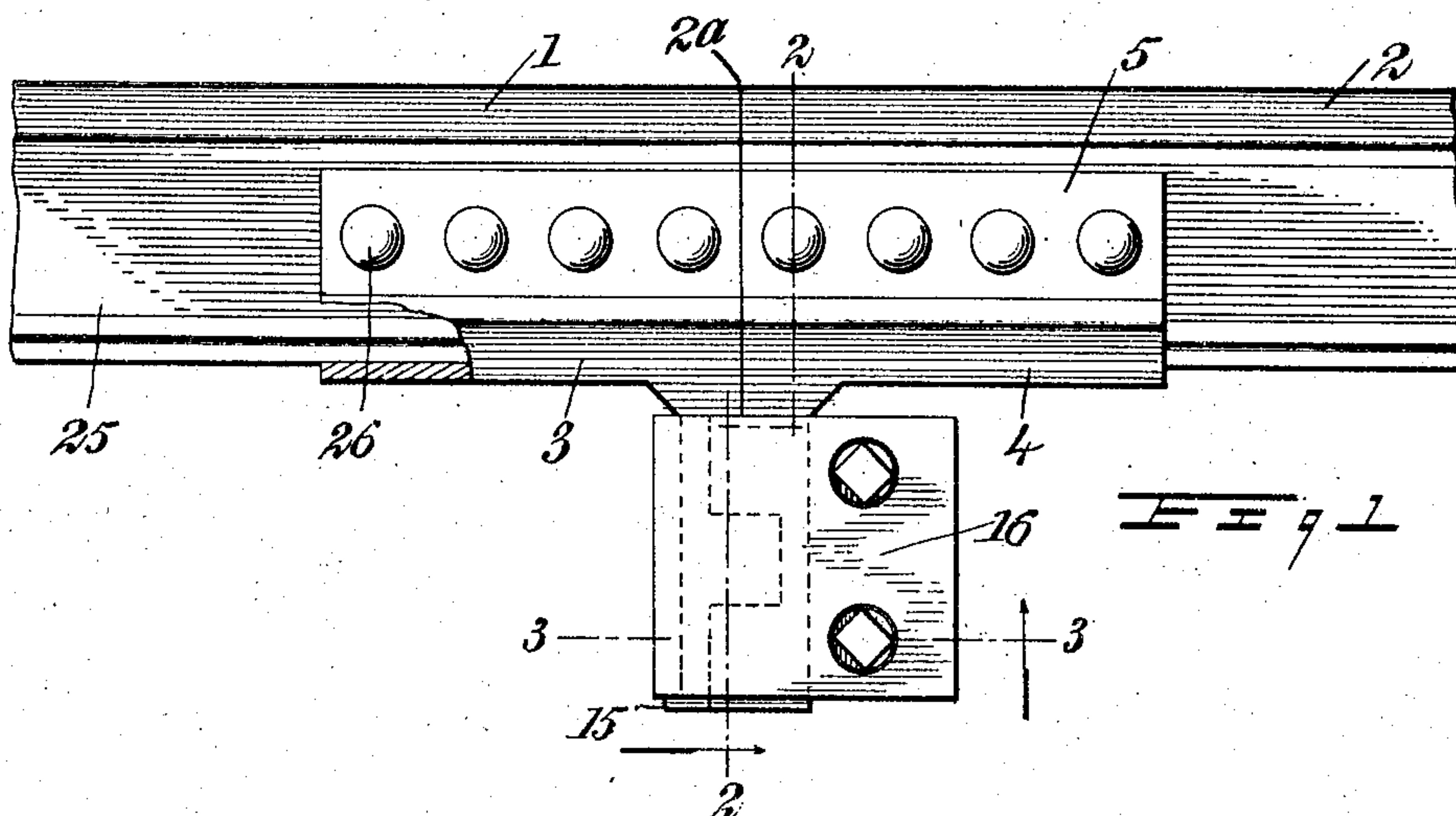
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W. J. FORSYTH.

RAIL JOINT.

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WILLIAM JOSEPH FORSYTH, OF NEW IBERIA, LOUISIANA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 780,878, dated January 24, 1905.

Application filed September 26, 1904. Serial No. 226,088.

To all whom it may concern:

Be it known that I, WILLIAM JOSEPH FORSYTH, a citizen of England, and a resident of New Iberia, in the parish of Iberia and State of Louisiana, have invented a new and Improved Rail-Joint, of which the following is a full, clear, and exact description.

My invention relates to railway construction, and especially to rail joints or unions.

The object of the invention is to provide a rail joint or union which will form a very substantial and secure connection between the abutting extremities of adjacent rails for the purpose of increasing rigidity and preventing the undesirable jars or shocks which may occur at rail-joints as the wheels pass over them.

A further object is to provide a joint which is very simple in construction and which will remain intact in spite of the vibrations to which the parts are subjected, the parts being durable and also readily disconnected.

The invention consists in the combination and construction of parts, to be more fully described hereinafter and definitely set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a rail-joint constructed according to my invention, a portion being broken away and shown in section. Fig. 2 is a cross-section taken substantially upon the line 2 2 of Fig. 1. Fig. 3 is a horizontal section taken substantially on the line 3 3 of Fig. 1, and Fig. 4 is a section taken substantially on the line 4 4 of Fig. 3.

Referring more particularly to the parts, 1 2 represent the abutting extremities of two adjacent rails which meet upon the line 2^a. In forming the joint 2^a oppositely-disposed blocks 3 4 are provided, the upper portions whereof are elongated longitudinally with respect to the rails, as shown, and provided with longitudinally-disposed flanges 5, which project inwardly from the side edges thereof, so as to form a jaw or recess 6, conforming substantially in outline to the section of the lower portion of the rail. These blocks are adapted to be slid upon the ends of the rails, as in-

dicated most clearly in Fig. 1. The bodies 7 8 of the blocks are formed at their adjacent extremities and depend from the arms 3 and 4, as shown. These blocks abut against each other, as illustrated most clearly in Fig. 4, and their faces are provided with transversely-disposed enlarged recesses or channels 9, which channels receive nicely-projecting tongues or shoulders 10, formed upon the opposite face. To describe this interlocking connection between the abutting faces more minutely, it should be stated that the end face 11 of the block 3 is preferably undercut below the level of the jaw thereof to form a projecting shoulder 12 and a depressed face 13. At substantially the middle point the depressed face 13 is provided with a transversely-disposed tongue 14, which is preferably of a width substantially equal to one-third the width of the face. The opposing face of the other block is correspondingly formed, but in a complementary manner, as will be readily understood, so that the parts will fit together, as indicated most clearly in Fig. 4.

Upon its rear face, preferably at its lower edge, the body 7 of the block 3 is provided with a projecting shoulder 15, the purpose of which will appear more fully hereinafter. Arrangement is made for firmly clamping the blocks 3 and 4 together. For this purpose a yoke or shackle 16 is provided, the same consisting of a plate 17, adapted to rest against the rear face of the body 7 of the block 3, and this plate is provided with integral flanges 18, which lie against the side faces of the blocks, as shown in Fig. 3, projecting beyond the same, as indicated. The projecting portions of these flanges 18 are provided with alining openings 19, which afford means for mounting locking-keys 20. These keys consist of bolts preferably having squared heads 21, as indicated, the bodies of the said bolts being enlarged by eccentrically-disposed heads 22. These heads are preferably of cylindrical outline, as indicated most clearly in Fig. 4, and the openings 19 are so placed that if the bolts are rotated in the proper direction the faces of the eccentric heads 22 will engage the rear face 23 of the body 8 in such a manner as to draw the bodies of the blocks toward each

other. If sufficient rotation is had, the parts will be firmly clamped together, as indicated. Anticipating the possibility that the constant vibration may have a tendency to shake the eccentric heads so that they will move downwardly and fall from engagement with the face 23, there are provided a pair of projections or nibs 24, which lie substantially below the eccentric heads, as indicated, and constitute stops for limiting the downward movement thereof. In order to make the joint additionally secure, the webs 25 of the rails 1 2 are connected, by means of through-bolts 26, with the flanges 5 of the blocks and the parts are connected in such position that when the blocks are drawn together the end faces of the rails will substantially abut against each other.

The projecting shoulder 15, referred to above, operates as a support for the lower edge of the yoke, as indicated most clearly in Fig. 4, and facilitates the assembling of the parts.

All of the parts which constitute the joint would preferably be made of steel, to which a small percentage, preferably three per cent., of nickel has been added to prevent rust or corrosion.

From the foregoing description it should be apparent that a very rigid and firm connection is made between the rails. This connection, however, can be instantly thrown out or broken by applying a wrench or suitable handle to rotate the keys. The rails may be recoupled again in an instant without the use of bolts, screws, keys, or anything that tends to jam. By reason of the very rigid interlocking connection between the faces of the blocks it should appear that there is no possibility for the ends of the rails to give or become depressed under the weight of a passing truck, and for this reason the joint operates very effectively to prevent the undesirable clicking and incidental shock which often occurs at rail-joints and becomes one long end-less bar of steel rail, being, as it were, a virtual girder resisting a vertical pressure.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A rail-joint comprising a pair of oppositely-disposed members presenting jaws receiving the ends of the abutting rails, and means for clamping said members together, said means operating to draw said jaws together longitudinally of the rails.

2. A rail-joint comprising in combination a pair of oppositely-disposed members presenting jaws adapted to receive adjacent extremities of two rails, means for attaching said members to said rails, and means for drawing said members together in the direction in which the rails extend.

3. A rail-joint comprising in combination a

pair of members adapted to receive the extremities of adjacent rails, said members having interlocking abutting faces, and means for clamping said members together in the direction in which the rails extend.

4. In a rail-joint in combination, a pair of oppositely-disposed blocks having longitudinally-disposed arms, said arms presenting jaws receiving the extremities of the rails, the adjacent faces of said blocks having channels formed therein and tongues received in said channels, and means for clamping said blocks together.

5. In a rail-joint in combination, a pair of blocks presenting arms adapted to receive the extremities of adjacent rails, said blocks having depending bodies disposed below said arms, said bodies having transverse channels and tongues received therein, a yoke passing about said bodies, and means for clamping said yoke to draw said bodies together.

6. In a rail-joint in combination, a pair of blocks having longitudinally-disposed arms presenting jaws receiving adjacent extremities of two rails, said blocks having bodies depending from said arms, said bodies having transversely-disposed channels and tongues receiving the same, a yoke adapted to press upon the outer face of one of said bodies, and clamping-keys carried by said yoke and engaging the outer face of the body of the opposite block.

7. In a rail-joint in combination, a pair of oppositely-disposed blocks presenting arms adapted to receive the adjacent extremities of two rails, said blocks comprising extensions disposed laterally with respect to said arms, said extensions having interlocking adjacent faces, a yoke surrounding said extensions and projecting therebeyond, and keys having eccentric heads rotatably mounted in said yoke and adapted to clamp said yoke upon said extensions.

8. In a rail-joint in combination, a pair of oppositely-disposed blocks presenting jaws adapted to receive the extremities of rails, said blocks having extensions depending below said rails, said extensions having interlocking adjacent faces, one of said extensions having a shoulder projecting outwardly from the rear face thereof, a yoke resting upon said rear face and said shoulder and having projecting extensions, and rotatable members mounted in said last extensions and having eccentric heads engaging one of said blocks.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM JOSEPH FORSYTH.

Witnesses:

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E. T. KING,