

No. 754,279.

PATENTED MAR. 8, 1904.

W. H. CASE.
RAILWAY JOINT FASTENING.
APPLICATION FILED SEPT. 22, 1903.

NO MODEL.

Fig. 2.

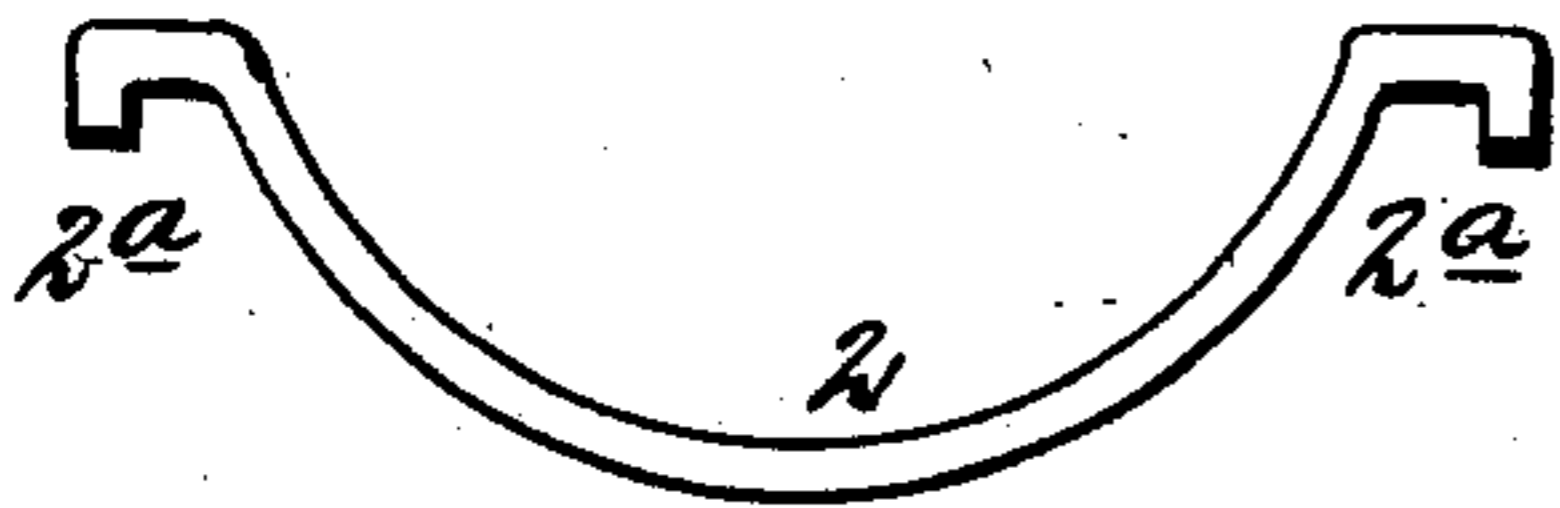
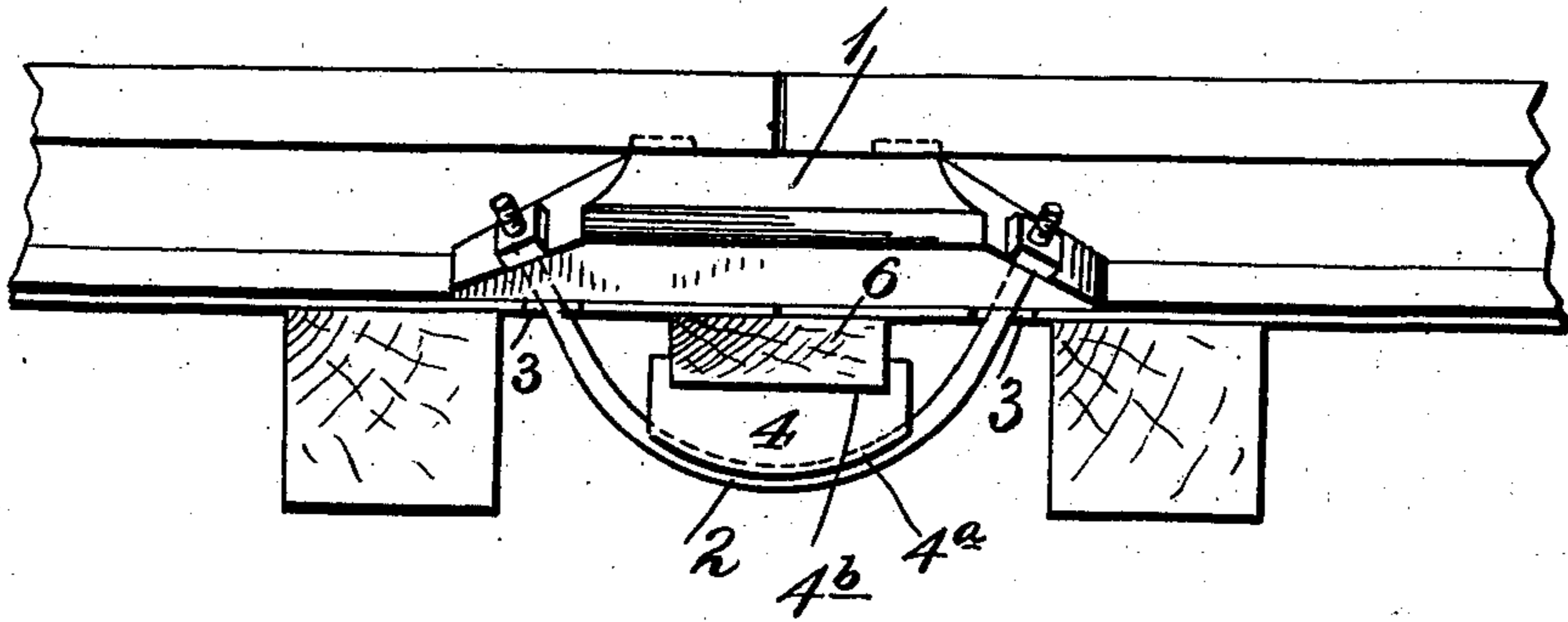


Fig. 5.

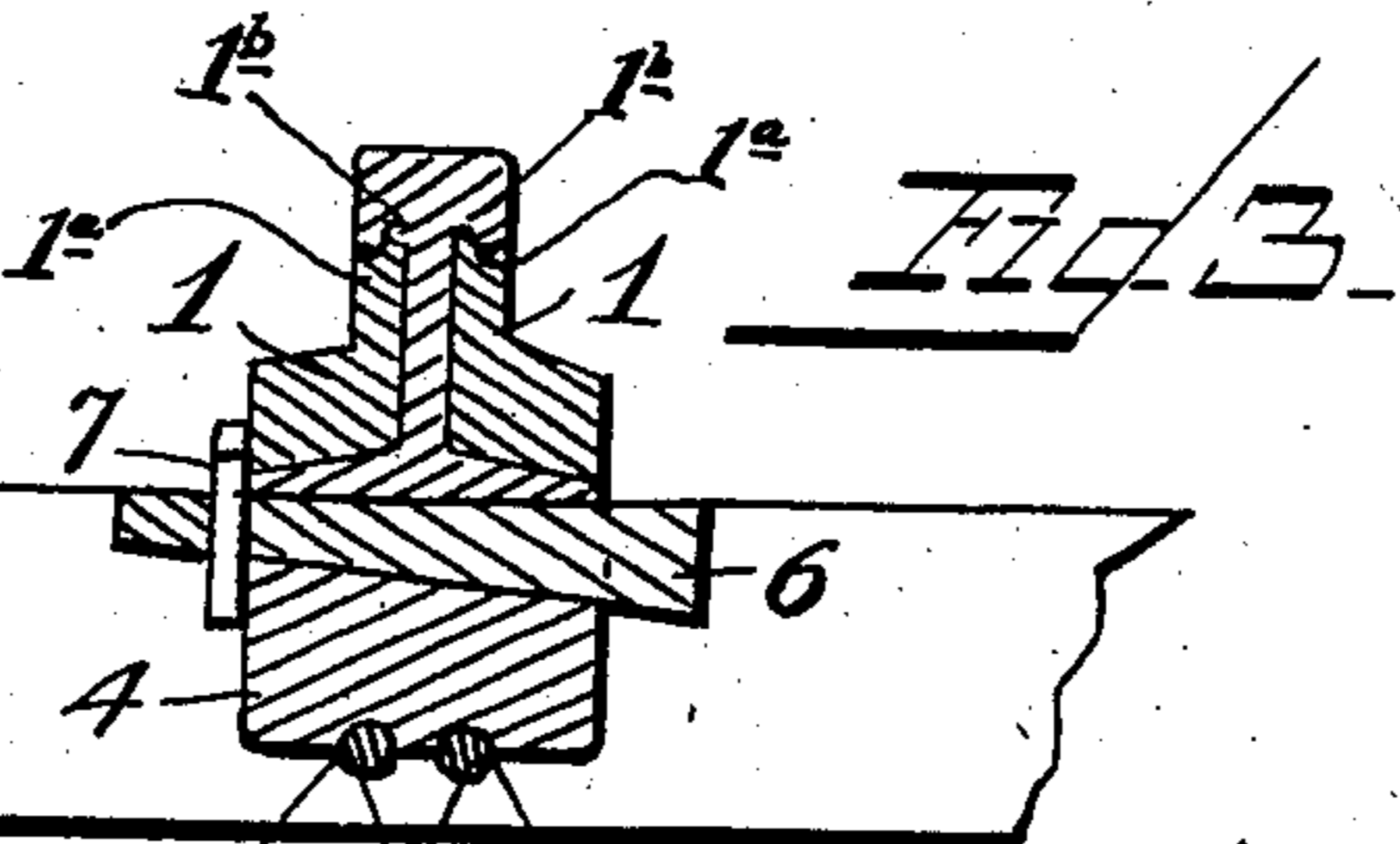


Fig. 3.

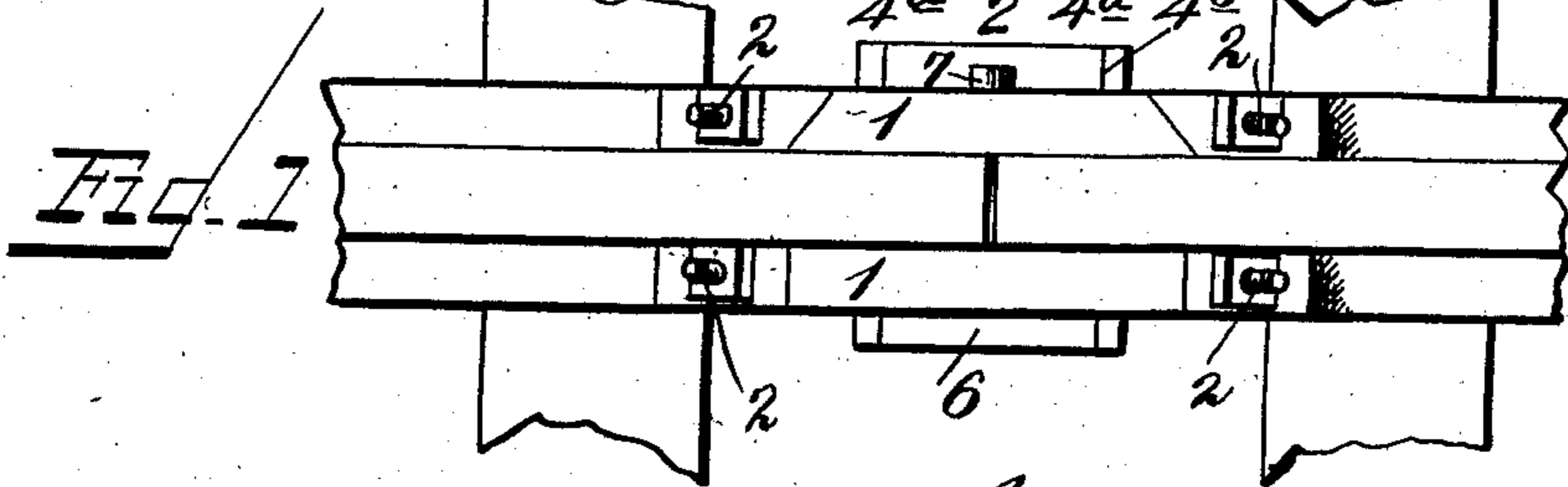


Fig. 1.

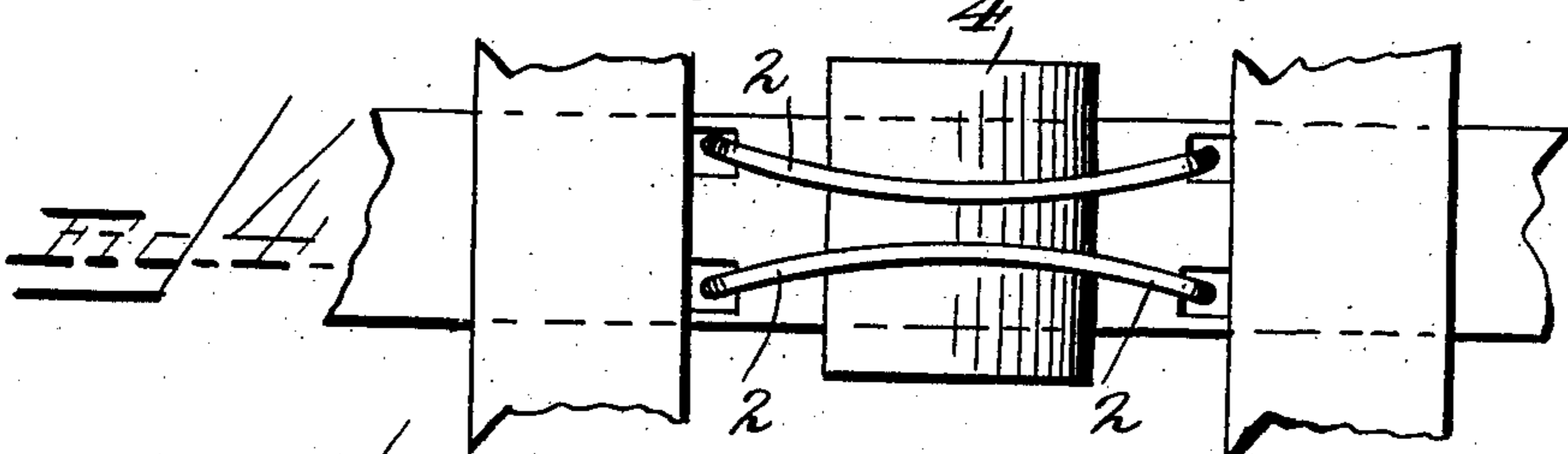


Fig. 4.

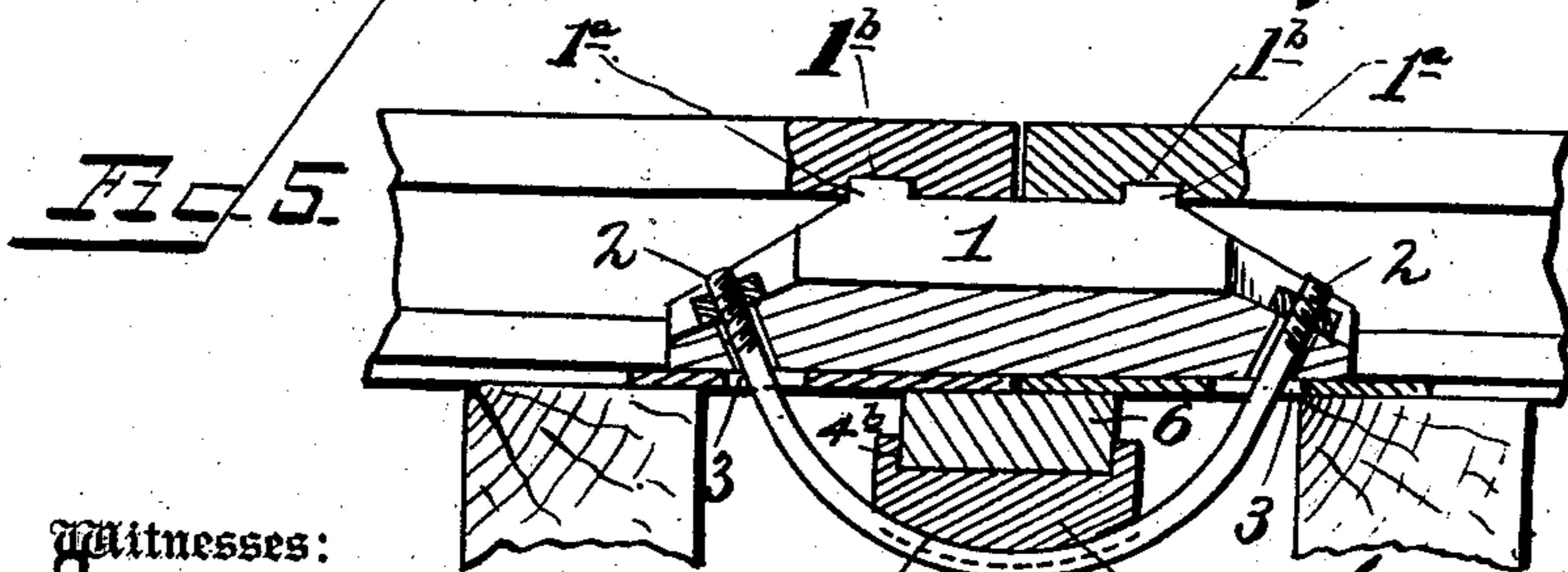


Fig. 5.

Witnesses:
Wm. H. Curand.

Inventor:
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UNITED STATES PATENT OFFICE.

WARREN H. CASE, OF MOUNT VERNON, OHIO.

RAILWAY-JOINT FASTENING.

SPECIFICATION forming part of Letters Patent No. 754,279, dated March 8, 1904.

Application filed September 22, 1903. Serial No. 174,176. (No model.)

To all whom it may concern:

Be it known that I, WARREN H. CASE, a citizen of the United States, residing at Mount Vernon, in the county of Knox and State of Ohio, have invented new and useful Improvements in Railway-Joint Fastenings, of which the following is a specification.

My invention relates to improvements in railway-joint fastenings.

It has for its object to provide for coupling or uniting rail-sections in an effective and simple manner as against springing unevenly upward or vertical displacement at the joints or meeting points, and yet permit of limited movement between the rail-sections incidental to expansion and contraction. Also it provides for bracing the parts in position from and within the plane of the rail-sections or their flanges, as distinguished from effecting this from the rail-ties as heretofore, wherein resides the effectiveness of this invention.

Said invention consists of the combination of parts, including their construction and arrangement, substantially as hereinafter more fully disclosed, and specifically pointed out by the claims concluding the following specification.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a plan view thereof. Fig. 2 is a side view. Fig. 3 is a central transverse section. Fig. 4 is an inverted or under side view; and Fig. 5 is a section taken transversely through the parts below the rail-sections, showing more especially their wedging action. Fig. 6 is a modification of a certain detail of said invention presently fully described.

In the carrying out of my invention I apply laterally to the rail-sections where they unite or meet duplicate lateral pieces or bars 1 1, arranged or held close to the web of the rail-sections, the same being seated upon the rail-flanges and resting below the tread of the rail-sections within the plane of the last noted. Said pieces or bars have upward-extending projections or lugs 1^a, preferably at their inner corner edges, engaging corresponding notches or sockets 1^b, produced in the under side of the laterally-extending treads of the rail-sections to prevent the possible lateral or

outward displacement of said bars at their upper edges. Said bars or pieces, whose ends are inclined or sloped, have passed or inserted through them at said sloping or inclined end portions truss rods or braces 2 2, also passing through elongated lateral recesses 3 in the rail-flanges and held upon said sloping end portions by nuts tapped upon said rods. Thus while said lateral or coupling bars bear upon the rail-flanges these, their securing rods or braces, do not contact with said flanges to provide for the movement of the rail-sections under the action of the law of expansion and contraction. Said rod or braces are thus bowed or looped downward through and under opposite rail-sections, and interposed or wedged within the loops, between said rods or braces and the bottoms of said rail-sections, is a bolster or block 4, having transverse grooves or depressions 4^a therein for the partial reception of said rods or braces. Said rods or braces have their looped or bowed portions inclined or converged toward each other or in a direction away from their points of connection with the coupling or joint bars to provide for stressing the latter, so as to cause them to bind or be forcibly held laterally against the webs of the rail-sections as well as against the flanges thereof below the tread. This, it is obvious, will have the effect to firmly or solidly hold or secure said rail-sections, especially at their meeting ends, as against springing or yielding upward as the car-truck wheels pass said points, as would otherwise be the case.

The bolster or block 4 is forced downward upon the rods or braces 2, and itself securely held or wedged in place by a wedge 6, driven or forced into position between said block or bolster and the under side of the rail-section in a plane immediately centrally of the joint, said wedge being held against endwise or longitudinal displacement preferably by a pin or key 7 inserted through the tapered end of said wedge at a point beyond said bolster. Said bolster or block, preferably rounded or convex on its lower surface, has a recess or depression 4^b in its upper surface to receive said wedge and retain it against lateral displacement. Said key or pin is preferably of

spring metal and formed by doubling or bending the initial piece upon itself and compressing and passing the members thus formed into an aperture in said wedge-tapered end, whereby the tendency of said members to regain their original position will hold said key automatically in locked position.

In Fig. 6 is disclosed a modified form of the truss rods or braces, wherein in lieu of the use of nuts, as above noted, said rods or braces are formed with rebent terminals or end portions 2^a, adapted to hold the same in place in the lateral coupling-bars. If said bars be made of cast metal, it is obvious that the truss bars or braces may be produced integral or in one piece therewith by properly disposing said end terminals with relation to said coupling-bars in the casting operation.

It will be understood that I do not limit myself to details herein, as they may be changed as circumstances suggest without departing from the spirit of my invention and the same yet be protected.

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

1. A railway-joint fastening embracing coupling-bars applied to the rail-sections, truss-rods secured to said coupling-bars, and means effective, with said truss-rods, to clamp said coupling-bars upon the flanges and webs of the rail-sections, whereby the use of fastening-bolts for that purpose is obviated.

2. The combination of lateral coupling-bars adapted to bind upon the webs of meeting rail-sections and resting upon the flanges thereof, truss-rods integral with means for securing the same in position, and means to effect such binding action.

3. The combination of lateral coupling-bars

adapted to engage the webs of meeting rail-sections and resting upon the flanges thereof, truss-braces having rebent end portions or terminals passing through, and bearing upon, said coupling-bars, and means for effecting a binding action between said coupling-bars and said webs via said truss-braces.

4. The combination of coupling-bars adapted to be applied to meeting rail-sections and engage the web and flange portions thereof, looped truss-braces adapted to be secured to said coupling-bars and relatively converged, and means interposed between said braces and the rail-sections to deliver the binding action of said coupling-bars upon said rail-sections.

5. The combination of coupling-bars adapted to be applied to meeting rail-sections and engage the web and flange portions thereof, looped truss-braces adapted to be secured to said coupling-bars and relatively converged toward each other, a bolster having grooves therein to receive said braces and means to retain said bolster in position.

6. The combination of coupling-bars, adapted to clamp the meeting ends of rail-sections and having inclined end portions, looped truss-braces relatively converging toward each other, means for securing said braces to said coupling-bars, a bolster having grooves therein to receive said truss-braces, a wedge let into a recess in said bolster and inserted below the rail-sections, and means for the retention of said wedge against displacement.

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

WARREN H. CASE.

Witnesses:

W. E. GRANT,
IDA UNDERWOOD.