

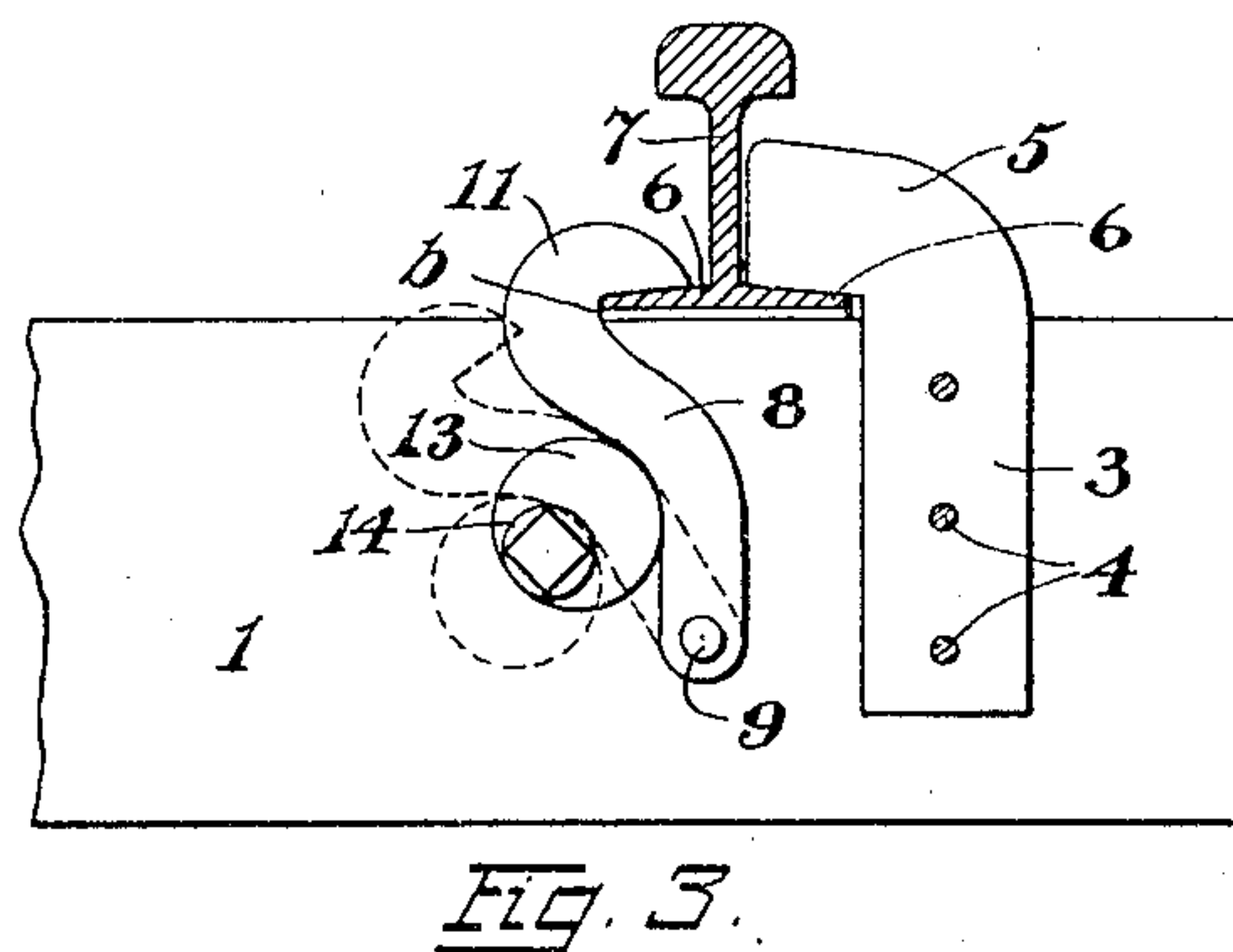
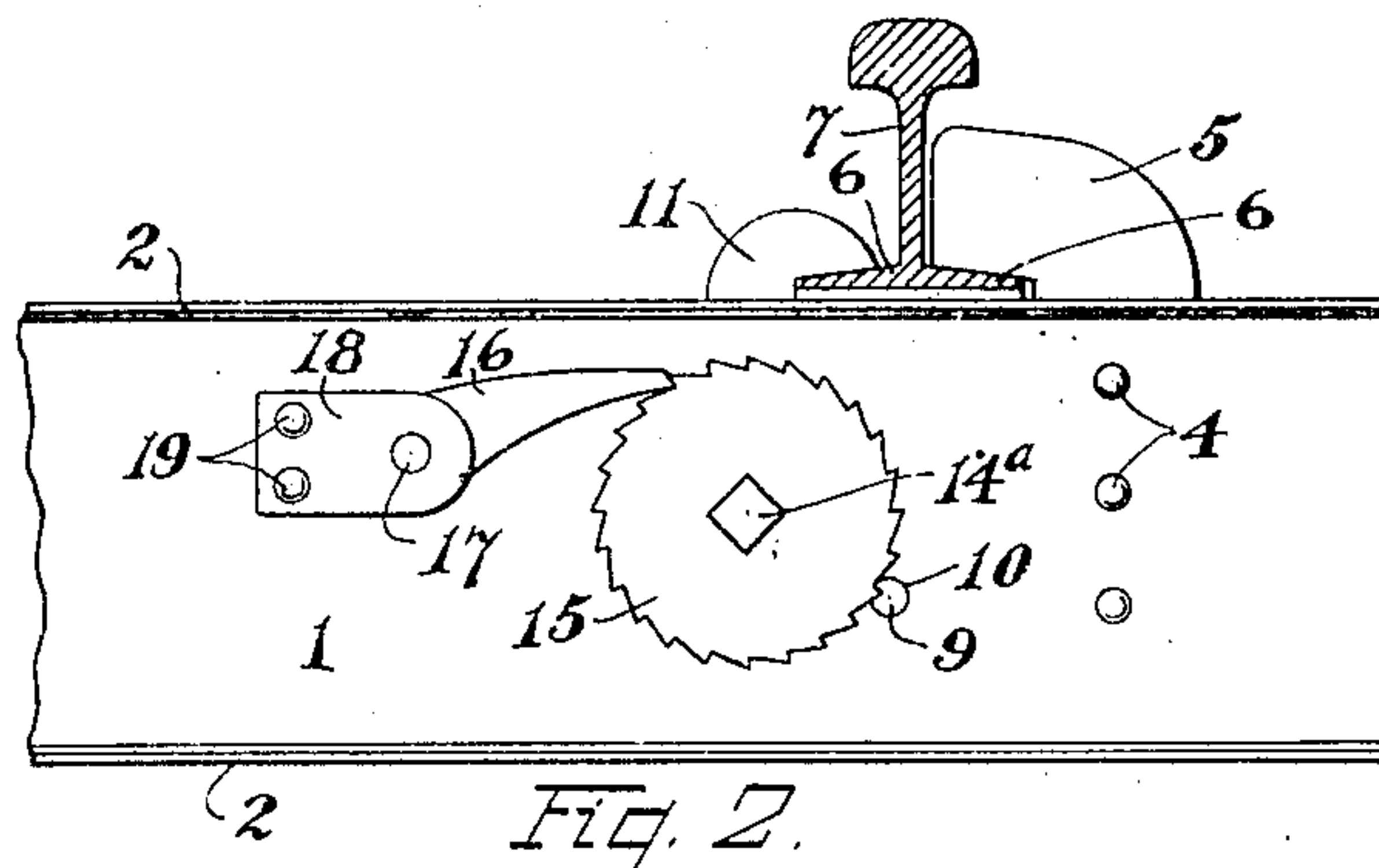
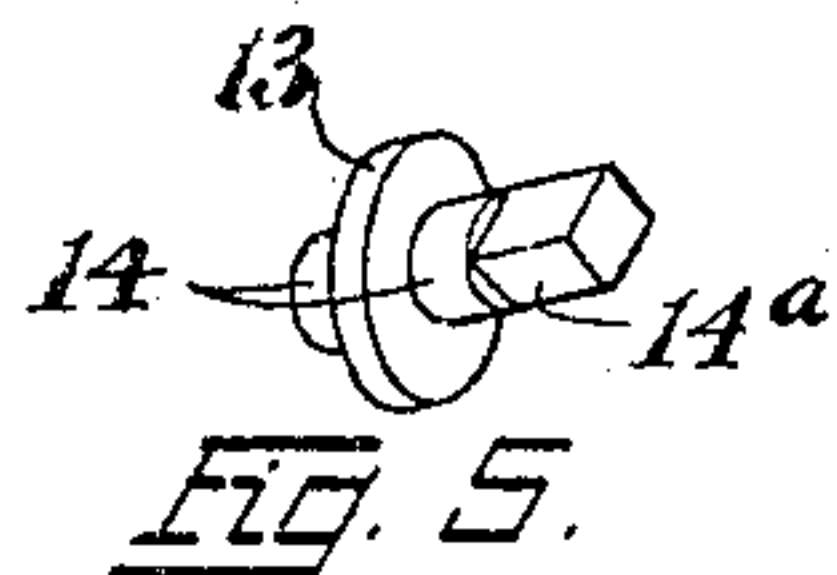
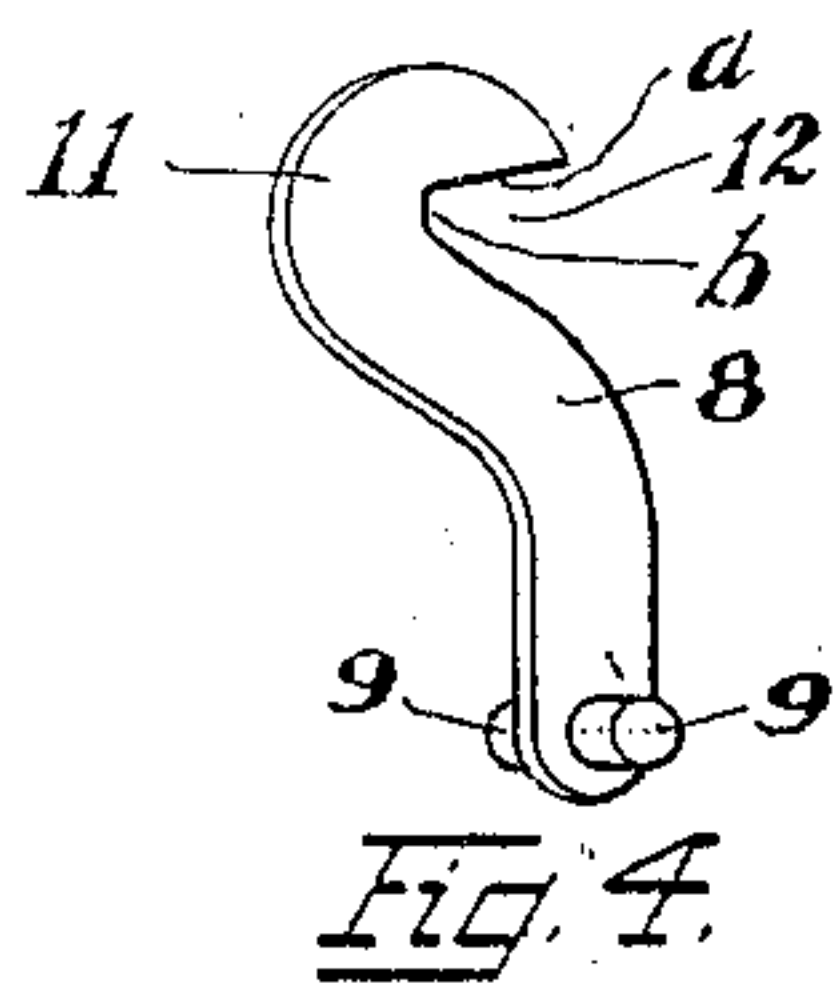
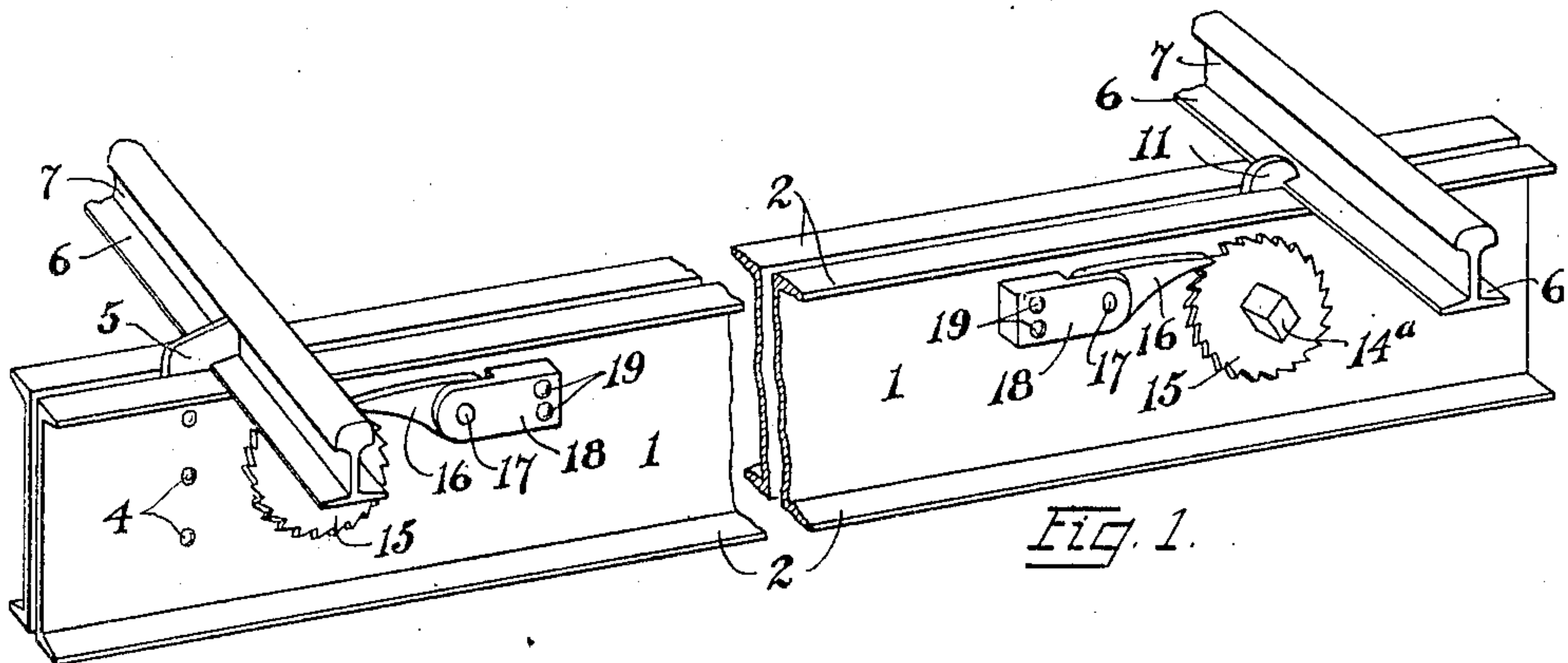
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PATENTED JULY 7, 1908.

G. H. & C. E. McCONVILL.

METALLIC RAILWAY TIE AND MEANS FOR SECURING THE RAILS THERETO.

APPLICATION FILED SEPT. 12, 1907.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE H. McCONVILL AND CHARLES E. McCONVILL, OF CLEVELAND, OHIO.

METALLIC RAILWAY-TIE AND MEANS FOR SECURING THE RAILS THERETO.

No. 892,541.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed September 12, 1907. Serial No. 392,470.

To all whom it may concern:

Be it known that we, GEORGE H. McCONVILL and CHARLES E. McCONVILL, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Metallic Railway - Ties and Means for Securing the Rails Thereto, of which the following is a specification.

Our invention relates to improvements in metallic railway-ties and means for securing the rails thereto, the primary object of the invention being to provide a generally - improved metallic cross-tie and means for connecting the rails thereto, and which will, at the same time, be exceedingly simple in construction, cheap of manufacture, and efficient in use.

The invention relates more particularly to the fastening device for fastening the rail to the metallic cross-tie, designed not only to securely hold and maintain the rail in proper position on the cross-tie, but providing means whereby the rails may be readily and quickly removed and replaced in their proper position in track construction work.

With these and other ends in view, the invention consists in the novel construction, arrangement and combination of parts, hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

Referring to the drawings, forming a part of this specification, Figure 1, is a perspective view of the improved metallic cross-tie showing rails securely held in proper position by means of the improved fastening device. Fig. 2, a side elevation of one end of the cross-tie, the rail being shown in cross section. Fig. 3, a central longitudinal view, one member or channel-bar of the cross-tie being removed, showing the members of the fastening device. Fig. 4, a perspective view of the movable cam-actuated rail fastening member. Fig. 5, a perspective view of the cam-head and revoluble bolt.

Similar characters of reference designate like parts throughout all the figures of the drawings.

The rail-fastening device is especially designed for use in connection with a metallic cross-tie preferably made up of two channel-bars the webs 1, thereof facing toward each other and forming the main body portion of the cross-tie, with the upper and lower later-

ally-extending flanges 2, forming the upper and lower faces or bearing-surfaces, respectively, of the cross-tie as shown.

A pair of standards 3, are interposed between the webs 1, of the channel-bars forming the cross-tie and secured thereto by means of rivet-bolts 4, which not only serve to secure the standards 3, but unite the channel-bar members forming the cross-tie.

The standards 3, terminate in hooked brace-heads 5, extending above the upper face of the cross-tie, and on the outer sides of the rails. The lower portion of the brace-heads take over the base flanges 6, of the rail and the sides of the brace-heads abut or impinge against the webs 7, thus securely bracing the rails and preventing their spreading.

Each rail is securely fastened in its proper position upon the upper face of the cross-tie and relative to the brace-head 5, impinging against its outer side, by means of a cam-actuated movable member 8, interposed between the webs 1, of the channel-bar members and pivotally-secured thereto by means of trunnions 9, at its lower or base end taking into bearing-openings 10, in the webs 1, of the channel-bars. The upper or free end of the movable member 8, terminates in a hooked head 11, adapted to normally take over the base flange 6, on the inner side of the rail, opposite the brace-head 5, the flat surface "a," of the recess 12, (see Fig. 4) adapted to impinge above the inner flange and the base or inner portion "b," of said recess, being adapted to receive and bear against the extreme edge of said inner flange in moving the rail firmly against the opposite brace-head and maintaining the same in proper position by the actuating and locking mechanism to be now described.

The movable member 8, is moved, and locked in its normal or engaging position with the rail, by means of a cam-head 13, at the rear of said member 8, and in operative relationship therewith between the webs 1, of the channel-bar members of the cross-tie by means of a bearing-bolt 14, mounted in suitable bearing-openings in said webs 1. One end of the bearing-bolt 14, projects beyond one side of the web of one of the channel-bar members, and is provided with a square head 14^a, carrying a ratchet-wheel 15. The bearing-bolt 14, carrying the cam-head 13, and ratchet-wheel 15, is adapted to be revolved, preferably by means of a wrench

taking over the projecting square end or head 14^a, whereby the movable member 8, may be manipulated.

The cam-head 13, is preferably formed integral with the bolt 14, and, together with the movable member 8, when in its normal engaging position with the rail, as shown in Figs. 1, 2, and 3, is locked by means of a pawl 16, pivotally-mounted in operative relationship with the ratchet-wheel 15, by means of a bearing-pin 17, and bracket 18, suitably secured to the face of one of the members of the cross-tie by means of rivets or pins 19.

When it is desired to remove or place a rail in position on the cross-tie, the pawl is raised and the movable parts are placed in the position indicated in the dotted lines of Fig. 3, of the drawings.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of our invention will be readily understood.

Having thus described our invention, without having attempted to set forth all the forms in which it may be made, or all the modes of its use, we declare that what we claim and desire to secure by Letters Patent, is,—

1. A railway-tie and rail fastener, comprising a pair of channel-bars, standards secured to and interposed between the webs of said channel-bars and terminating in brace-heads, pivotally-mounted members interposed between said webs and terminating in hooked-heads opposite said brace-heads, cam-heads revolubly-mounted in operative relationship with said pivotally-mounted members, and means for locking said cam-

heads in engagement with said movable members.

2. A rail-fastener for railway-ties, comprising a fixed standard secured to the tie and terminating in a brace-head, a movable member provided at its lower end with trunnions mounted in the body portion of said tie and terminating at its upper end in a hooked-head opposite said brace-head, and a revoluble cam impinging against said movable member and moving said hooked-head into and out of engagement with the rail.

3. A railway-tie and rail-fastener, comprising channel-bars, standards secured to the tie, movable members pivotally-mounted between said channel-bars and terminating in hooked-heads opposite said brace-heads, and actuating-cams mounted between said channel-bars and in operative relationship with said movable members.

4. A railway-tie and rail-fastener, comprising a pair of channel-bars having their webs facing toward each other, standards secured to the tie and terminating in brace-heads, movable members pivotally-mounted and interposed between the webs of said channel-bars and terminating in hooked-heads opposite said brace-heads, cams rotatably-mounted at the rear of said movable members, and means for locking said cams in engagement with said movable members.

In testimony whereof we have affixed our signatures, in presence of two witnesses.

GEORGE H. McCONVILL.
CHARLES E. McCONVILL.

Witnesses:

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