

(No Model.)

R. R. SHEPARD.

METALLIC RAILWAY TIE AND FASTENER.

No. 325,020.

Patented Aug. 25, 1885.

Fig. 1.

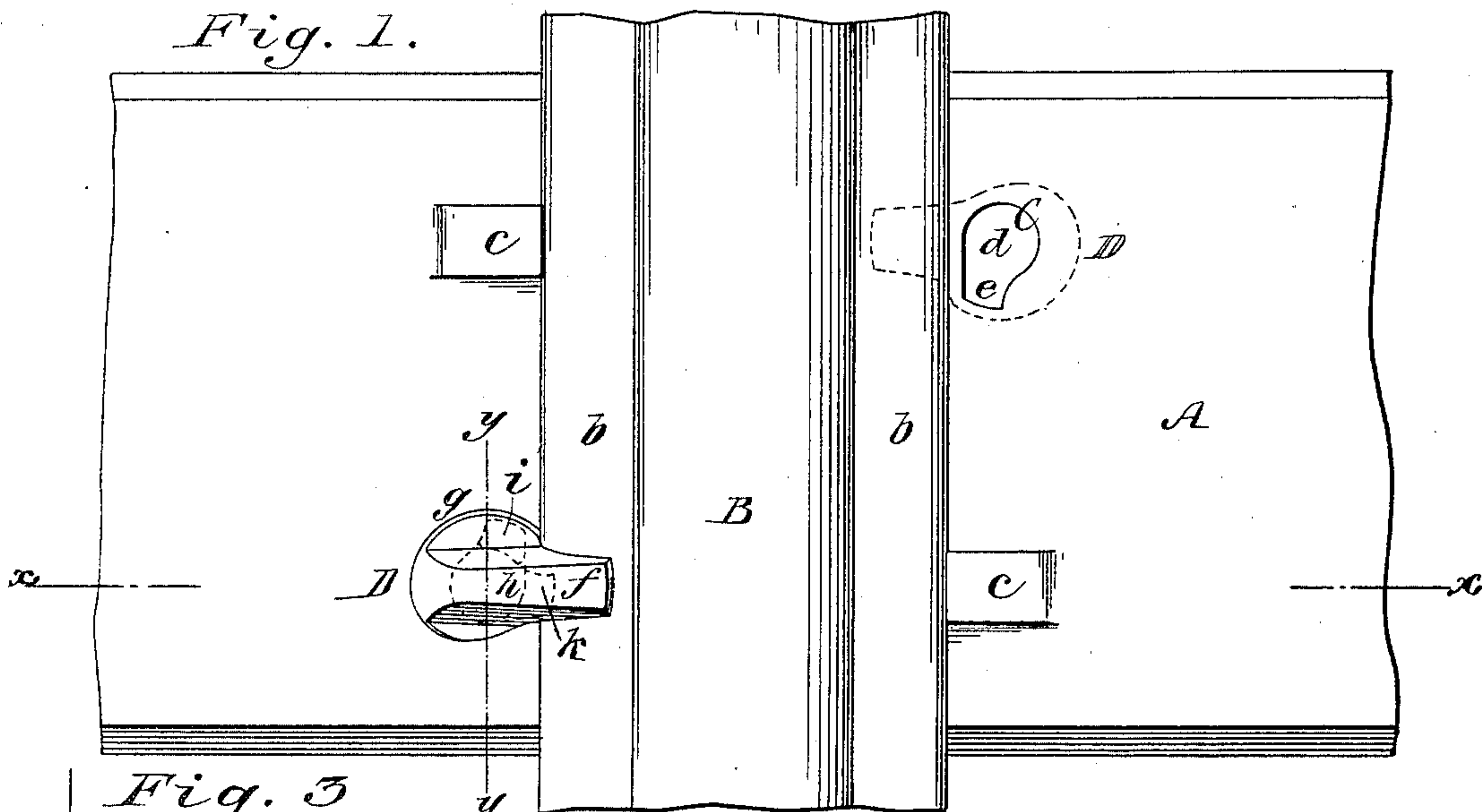


Fig. 3.

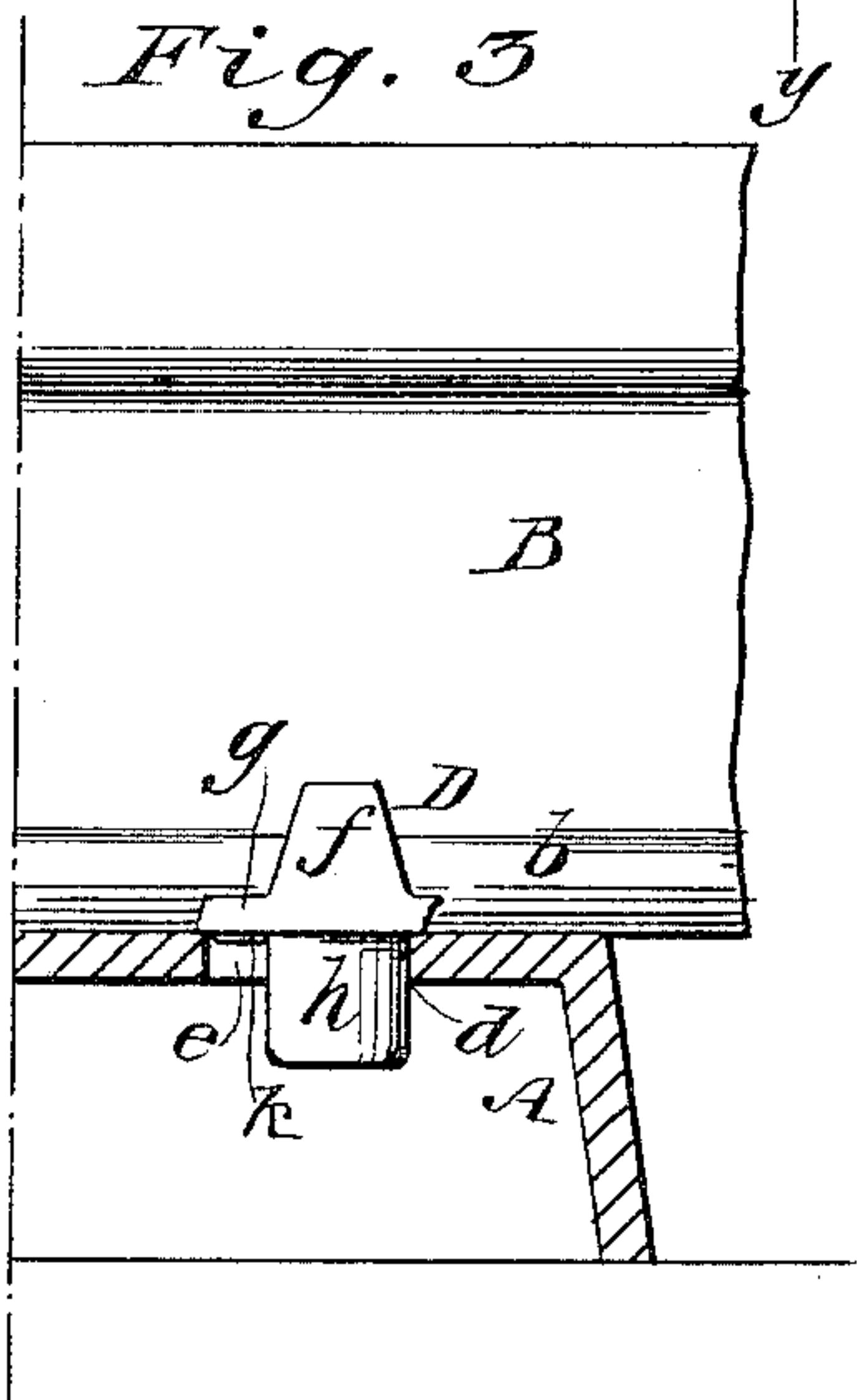


Fig. 2.

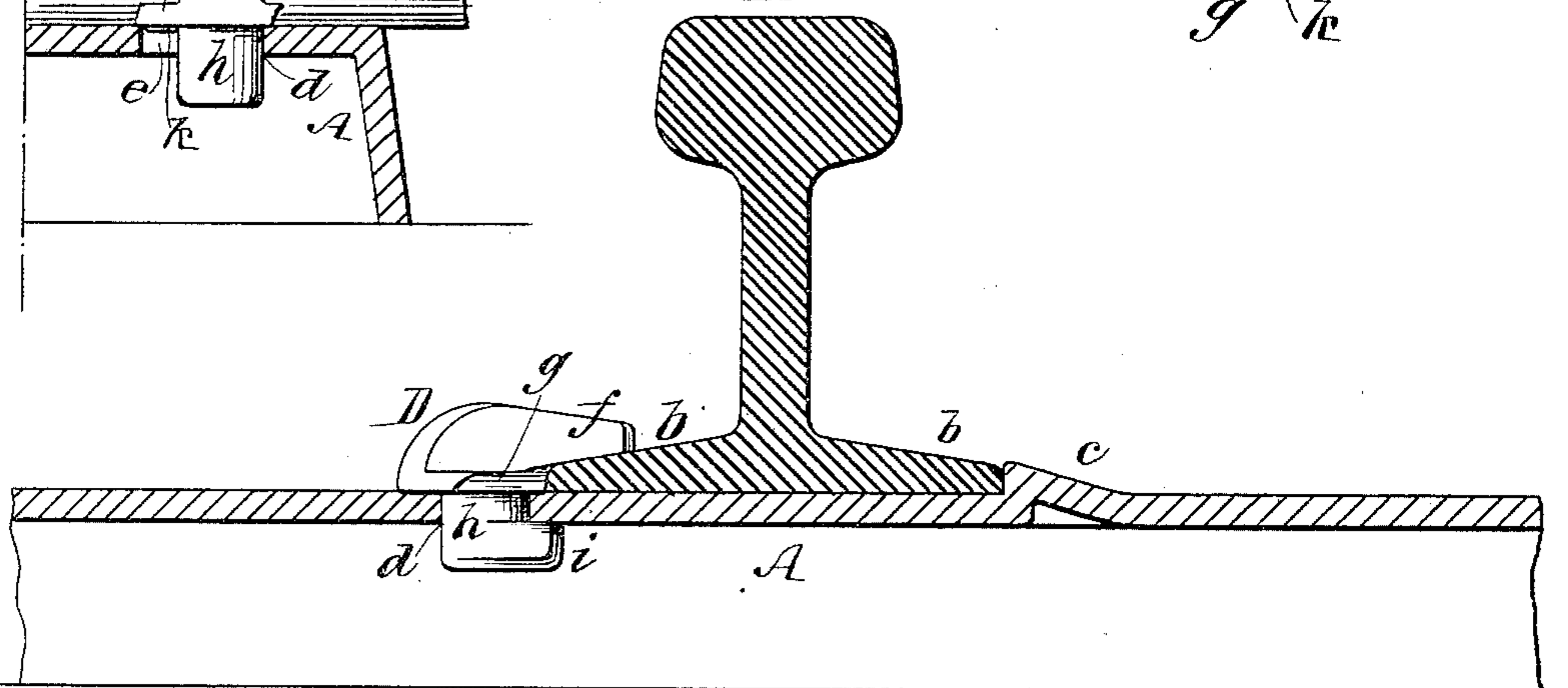
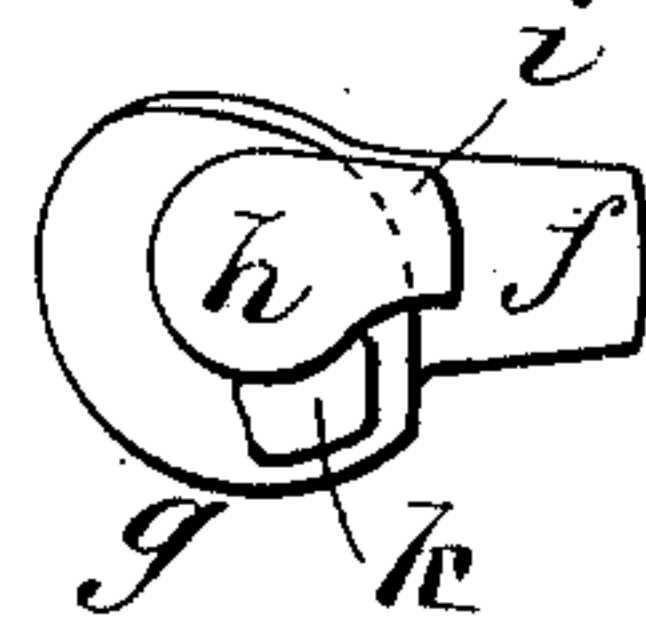


Fig. 4.



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METALLIC RAILWAY-TIE AND FASTENER.

SPECIFICATION forming part of Letters Patent No. 325,020, dated August 25, 1885.

Application filed June 15, 1885. (No model.)

To all whom it may concern:

Be it known that I, ROBERT R. SHEPARD, of the city, county, and State of New York, have invented certain new and useful Improvements in Metallic Railway Ties and Fastenings, of which the following is a full, clear, and exact description.

This invention more particularly relates to rail-fastenings for railway-rails in which metallic ties having fastenings that receive and lap over the flanges of the rails are used.

The invention consists in a novel construction of the tie and of the rail-fastenings applied thereto, substantially as hereinafter described, and pointed out in the claims.

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

Figure 1 represents a plan view of a metallic railway-tie in part and rail-fastenings applied thereto, embodying my invention, and with a portion of a rail in its place on the tie. Fig. 2 is a vertical section of the same on the line *x x*, Fig. 1; Fig. 3, a section thereof in part on the line *y y* in Fig. 1, and Fig. 4 an inverted view of one of the rail-fastenings.

A indicates the metallic tie, which may be made of wrought iron, and is of a hollow or inverted trough-like construction. B is the rail, which may be of ordinary T form.

Upon the upper surface of the tie, at suitable distances apart in direction of the length of the tie to receive the base-flanges *b b* of the rail in between them, and arranged out of line with each other on opposite sides of the rail in direction of the width of the tie, are raised lips *c c*, struck up from beneath the tie so as to form integral portions of the tie and serving to guide the rail to its place and to restrain it from moving laterally.

Opposite the lips *c c*, on opposite sides of the rail to said lips, key-hole-shaped apertures CC are made in and through the upper plate portion of the tie in close proximity to the base-flanges of the rail *d*, indicating the circular or shank-receiving portion of each of said key-hole openings, and *e* the bit-receiving portion thereof, preferably running in direction of the length of the rail.

Fitted to engage with each of these key-hole-shaped apertures C is a detachable locking key or button, D, that serves, when suitably turned for the purpose, to hold the rail down to its place on the tie by its lateral head *f* lapping over and bearing down on the base-flange of the rail. Said detachable button-fastening is constructed with a flange, *g*, at the base of its lateral head *f*, which flange covers the key-hole-shaped aperture C in the tie, and so forms a closing-guard to said aperture, excluding dirt, &c., as well as forming a working base for drawing the head *f* down on the base-flange of the rail and locking or holding the fastening in such position as will be hereinafter described. The shank *h* of the button is constructed to pass through and turn in the portion *d* of the aperture C, and has on it a lower laterally-projecting piece or bit, *i*, of a size that will admit of it passing through the portion *e* of the aperture C. Thus the lower portion of the button-fastening D is entered like a key in and through the aperture C, and afterward turned to bring its lateral head *f* down on the base-flange of the rail, and its bit or lower nose-piece, *i*, under the plate portion of the tie A, as seen in Figs. 1 and 2.

To make the button draw the rail down on the tie, and to lock or firmly hold said button in such position so that it cannot be accidentally detached or without peculiarly manipulating it and applying considerable force to bring its bit *i* in matching and releasing position with the portion *e* of the aperture C, the under side of the flange *g* of the button has a facing piece or projection, *k*, on it at the side of the shank and at right angles, or approximately so, out of line with the bit *i* of the button. This under surface projection, *k*, corresponds in shape, or nearly so, with the portion *e* of the aperture C in the tie, and it may be beveled on its edges to facilitate its riding over the upper surface of the plate portion of the tie when the button is suitably turned for the purpose.

The button-fastenings D are applied, as described, by entering their bits *i* down through the apertures C in the tie, and then said buttons turned to bring their heads *f* over the base-flanges of the rail. In thus turning the

button the under face projections, *k*, ride over the upper surface of the tie, and the bits *i* under the lower surface thereof, drawing the rail close down on the tie until the heads *f* of the buttons reach their required overlapping positions on the base-flanges of the rails, when the projections *k* on the button will arrive over the portions *e* of the apertures *C*, and the buttons, by the tension being thus taken off the tie, will cause the projections *k* to spring or snap into engagement with the portions *e* of the apertures *C*, and so lock or hold the buttons from being turned from their holding-down positions on the rail. When required to release the buttons, however, from their hold on the rails, this may be done by first prying up on the buttons to disengage the projections *k*, and then turning the buttons into their detaching positions from the tie and from their overlapping positions on the rail. In this way a secure locked hold is obtained for the fastenings on the rail, with facility for releasing them when required to take out the rail.

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

1. The combination, with the metal tie, having raised lips *e*, of button-fastenings arranged

to receive and hold the rails between them and the lips on opposite sides of the rail, essentially as described. 30

2. In a button-fastening for railway-rails, the button *D*, constructed with a lateral head, *f*, flange *g*, shank *h*, lower bit, *i*, and a locking projection or facing, *k*, on the under side of the flange and out of line with the bit of the button, substantially as specified. 35

3. The combination, with the metal tie having key-hole-shaped apertures *C*, of the buttons *D*, having lower bits, *i*, and upper locking projections, *k*, arranged out of line with the bits and constructed to engage with the bit-receiving portions of the apertures *C* in the tie, essentially as described. 40

4. The combination of the rail *B*, the metal tie *A*, having key-hole-shaped apertures *C* on one side of the rail, and lips *e* on the opposite side thereof, and the locking-buttons *D*, constructed to engage with and disengage from said apertures in the tie, substantially as specified. 50

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Witnesses:

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