

(No Model.)

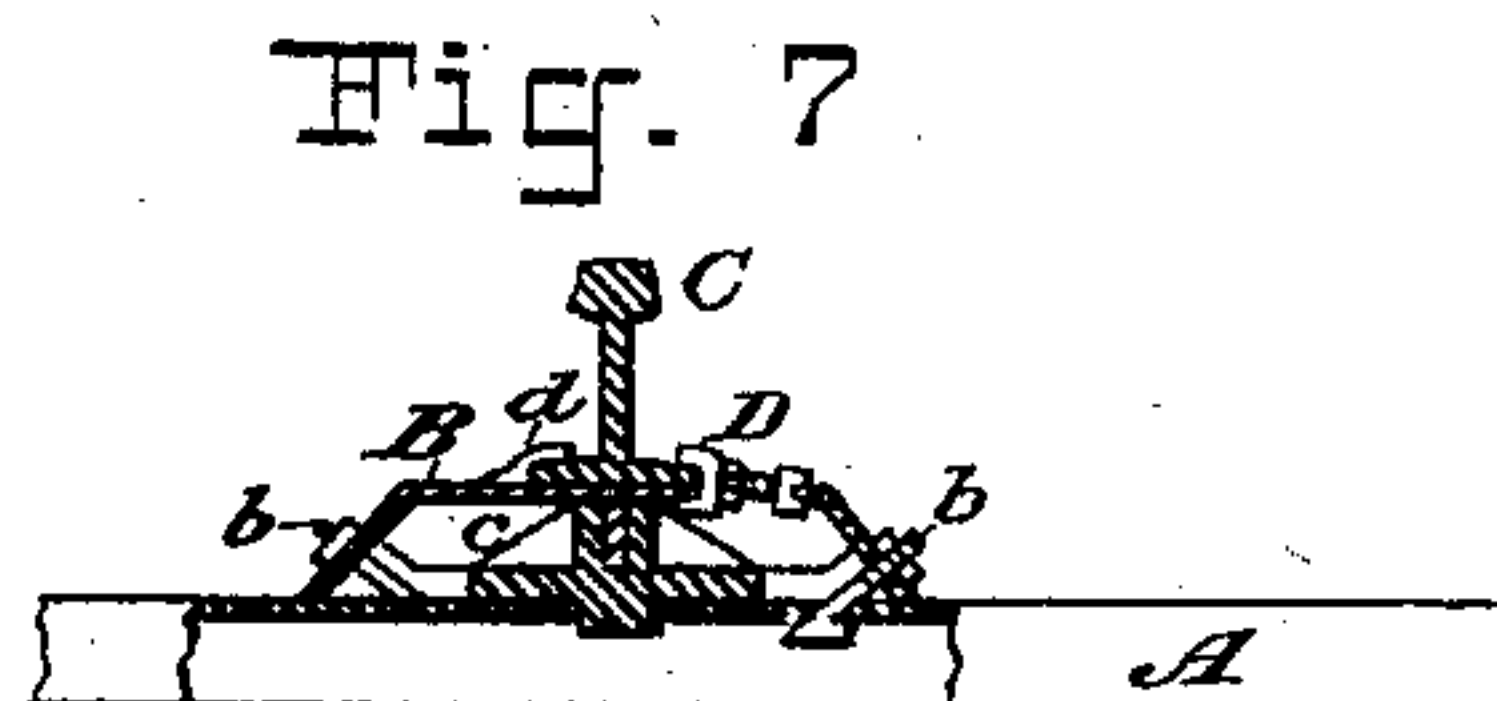
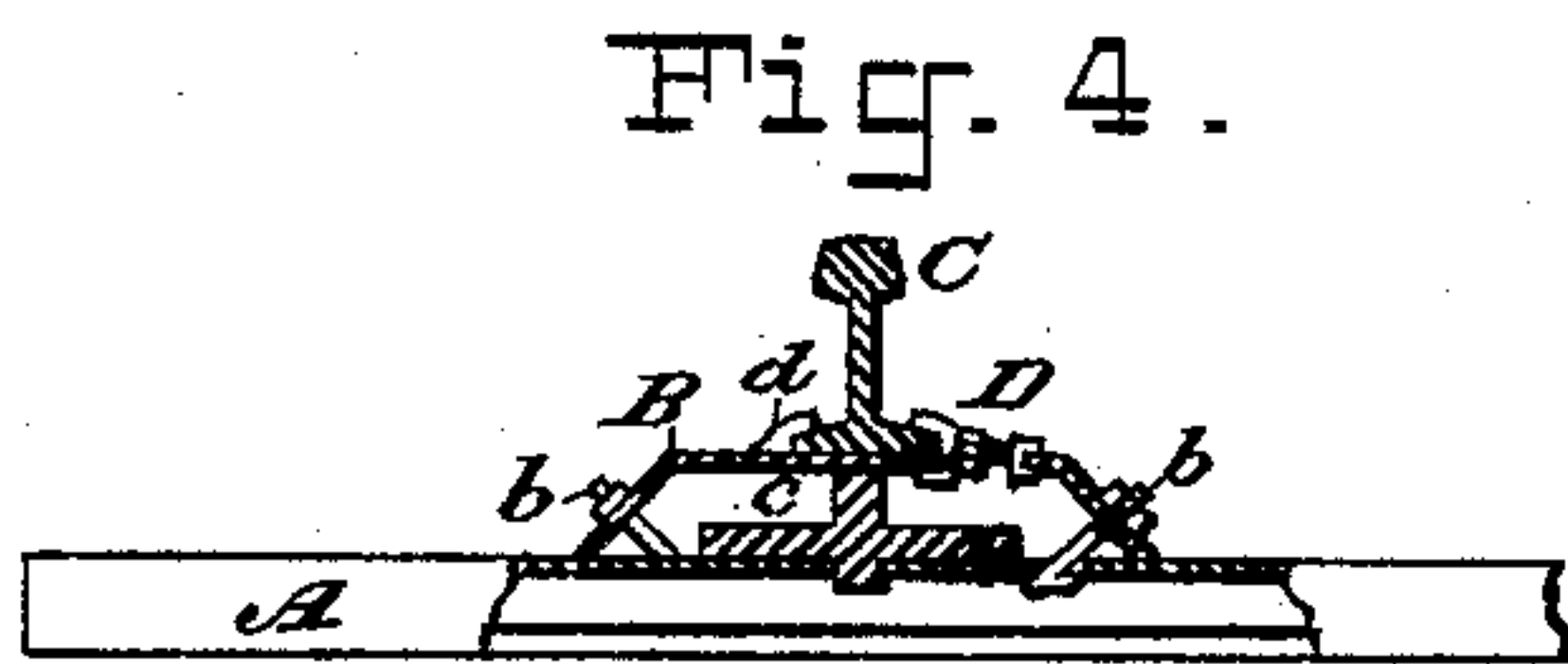
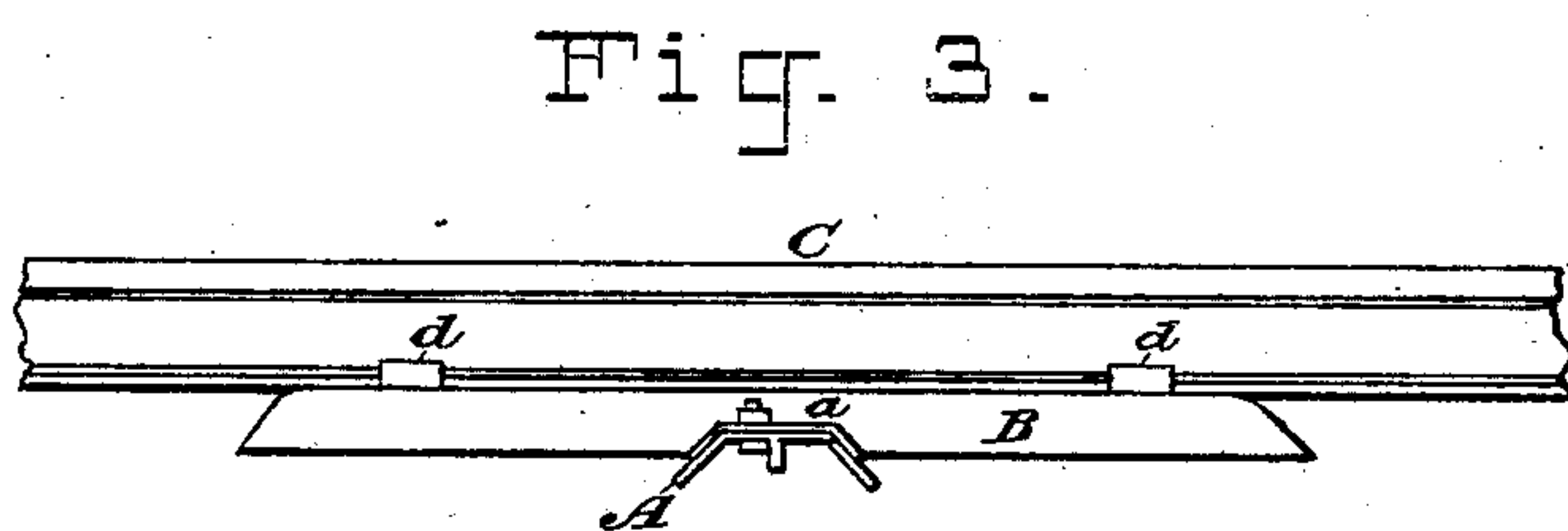
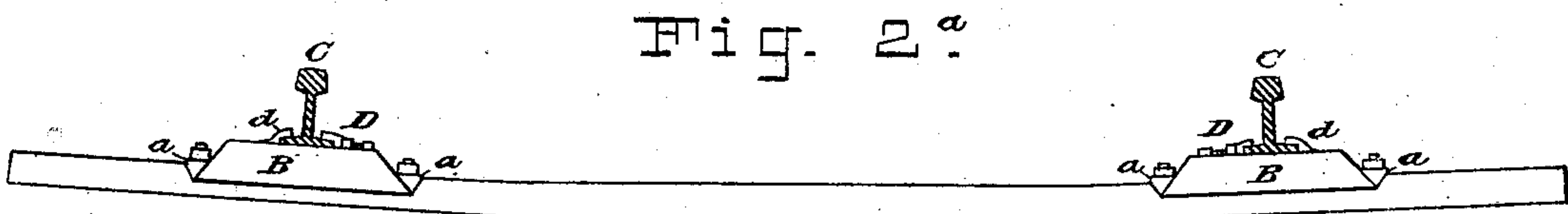
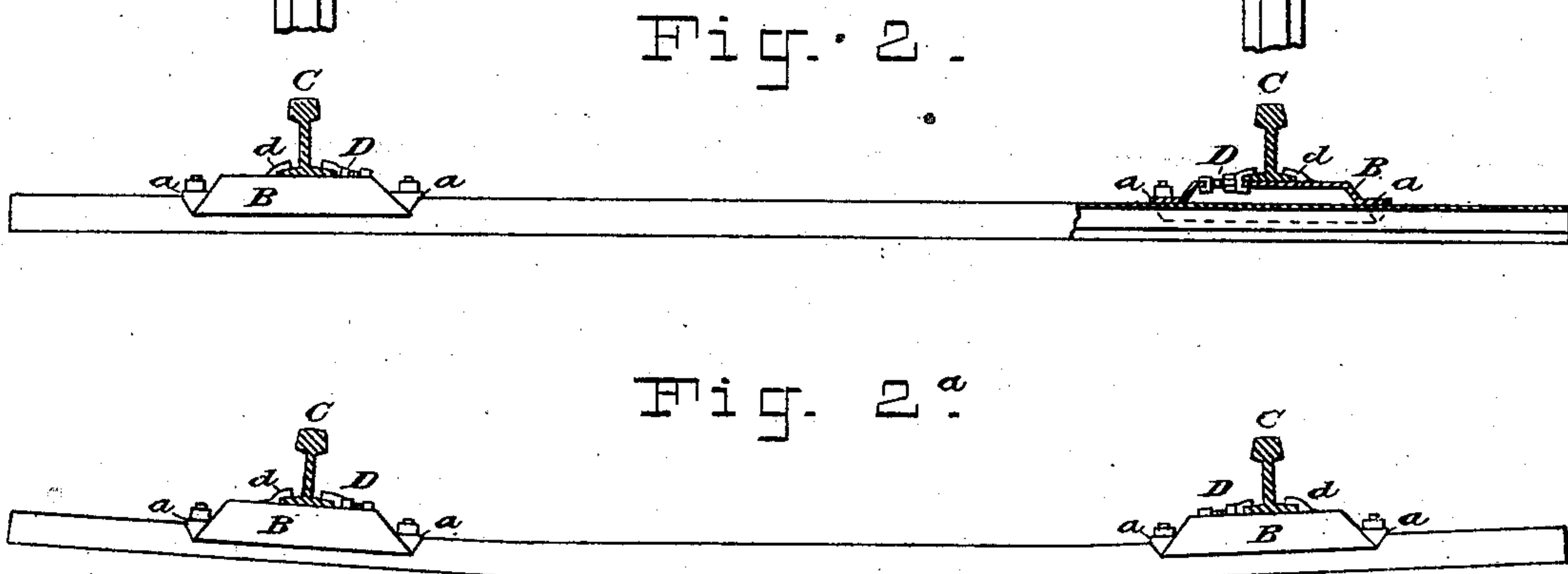
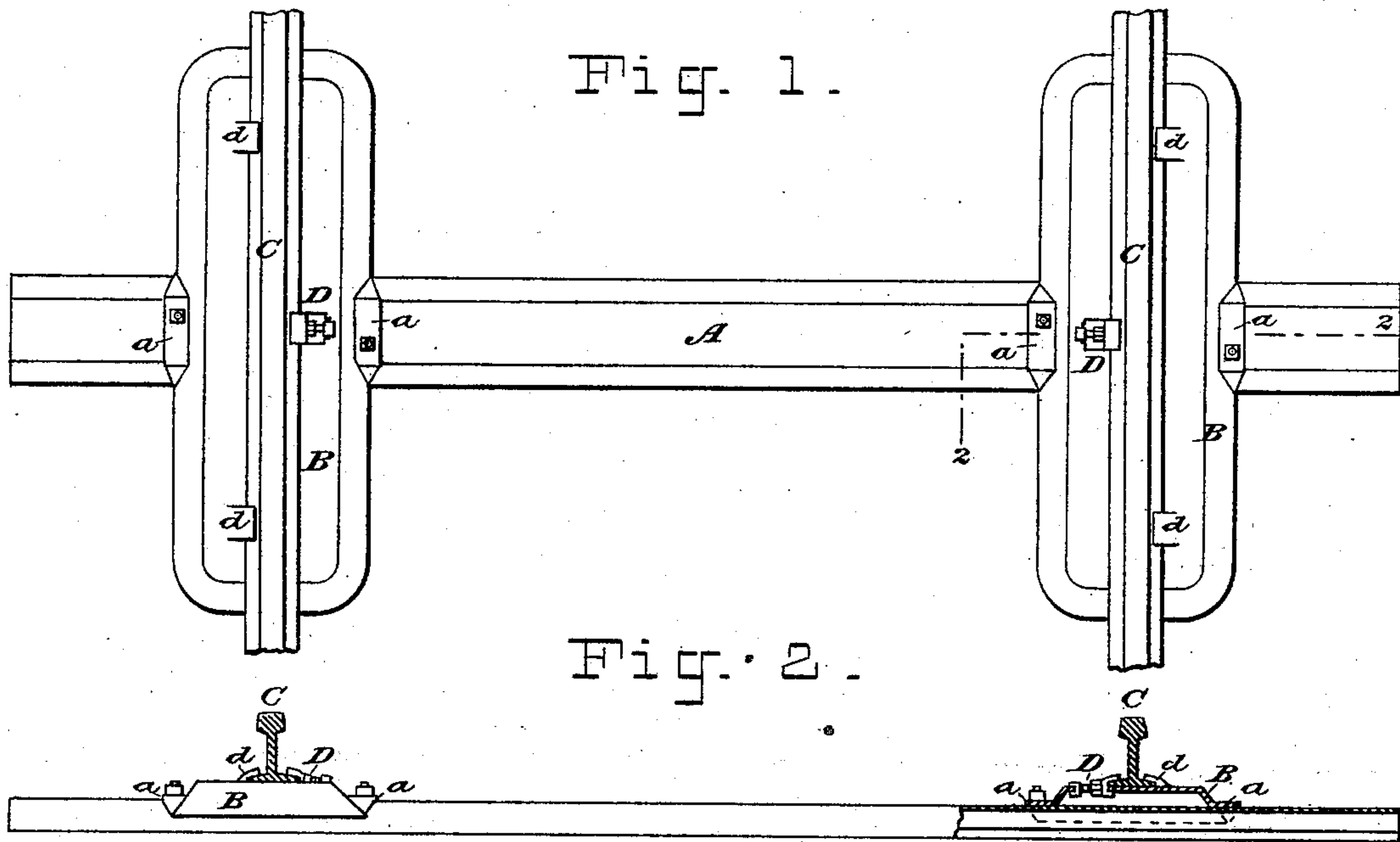
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H. REESE.

METALLIC SLEEPER FOR RAILWAYS.

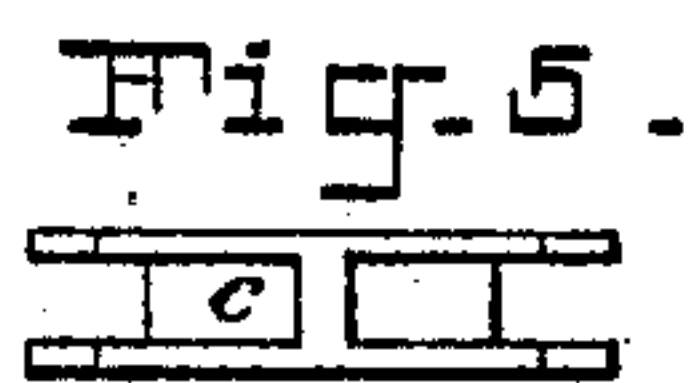
No. 272,477.

Patented Feb. 20, 1883.



WITNESSES:

*E. B. Bolton*  
*W. A. Jones*



INVENTOR:

*Henry Reese*  
By his Attorneys,  
*Burke, Isaac & Connors*

(No Model.)

2 Sheets—Sheet 2.

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Fig. 6.

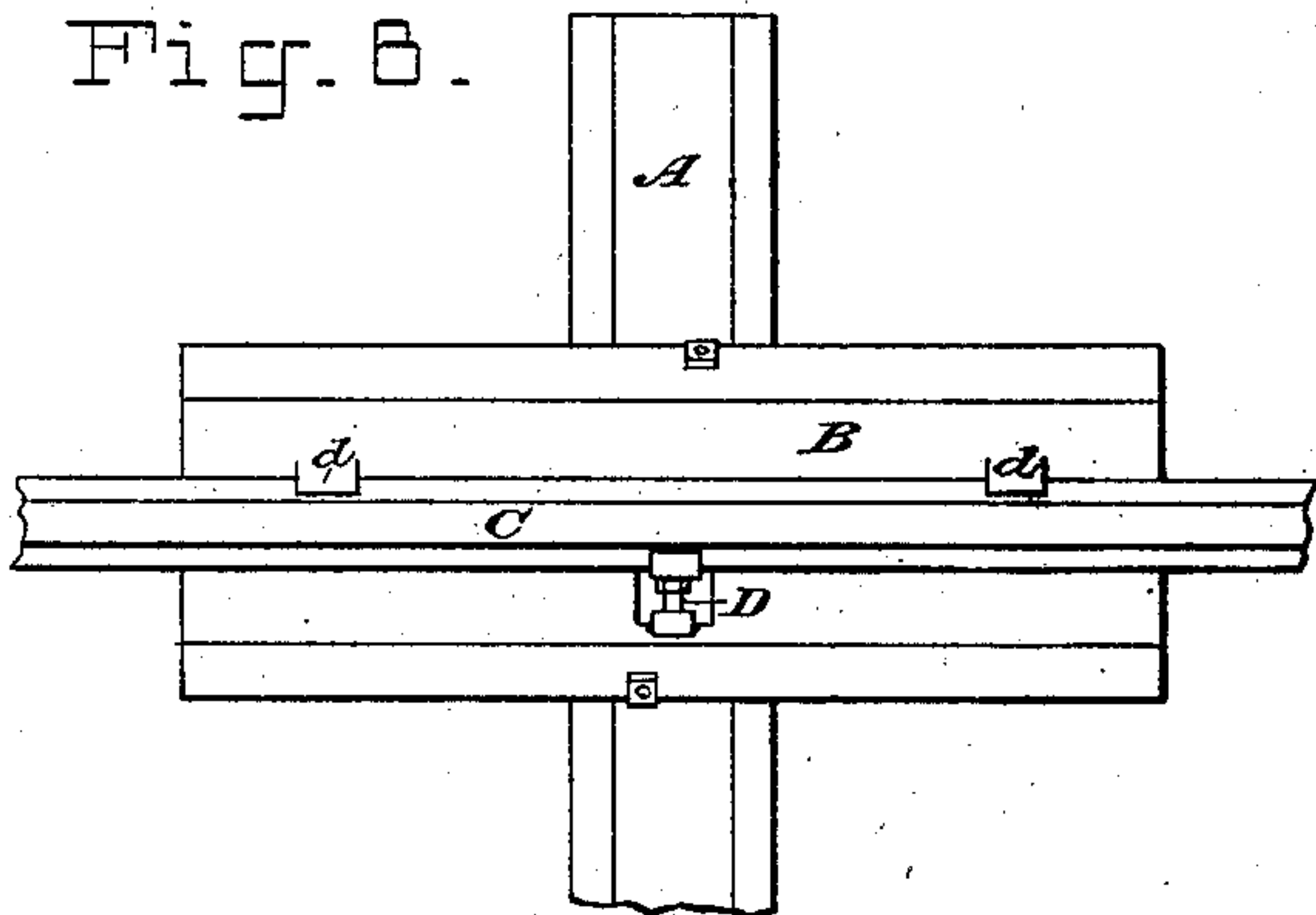


Fig. 7.

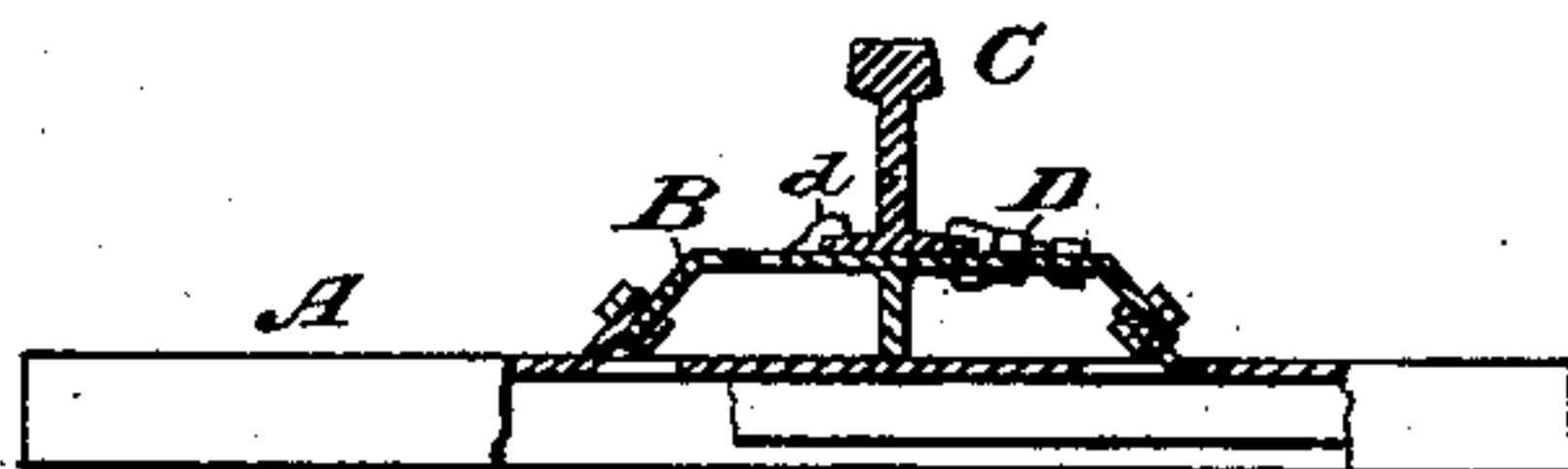


Fig. 6<sup>a</sup>.

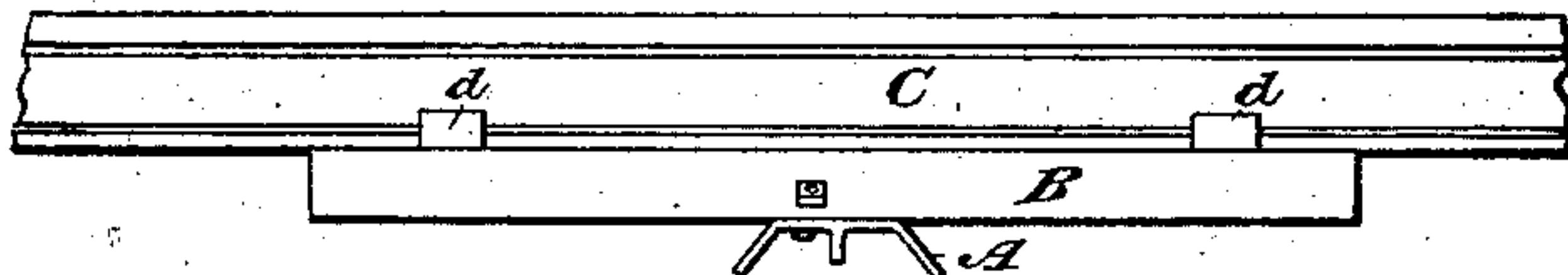


Fig. 10.

Fig. 8.

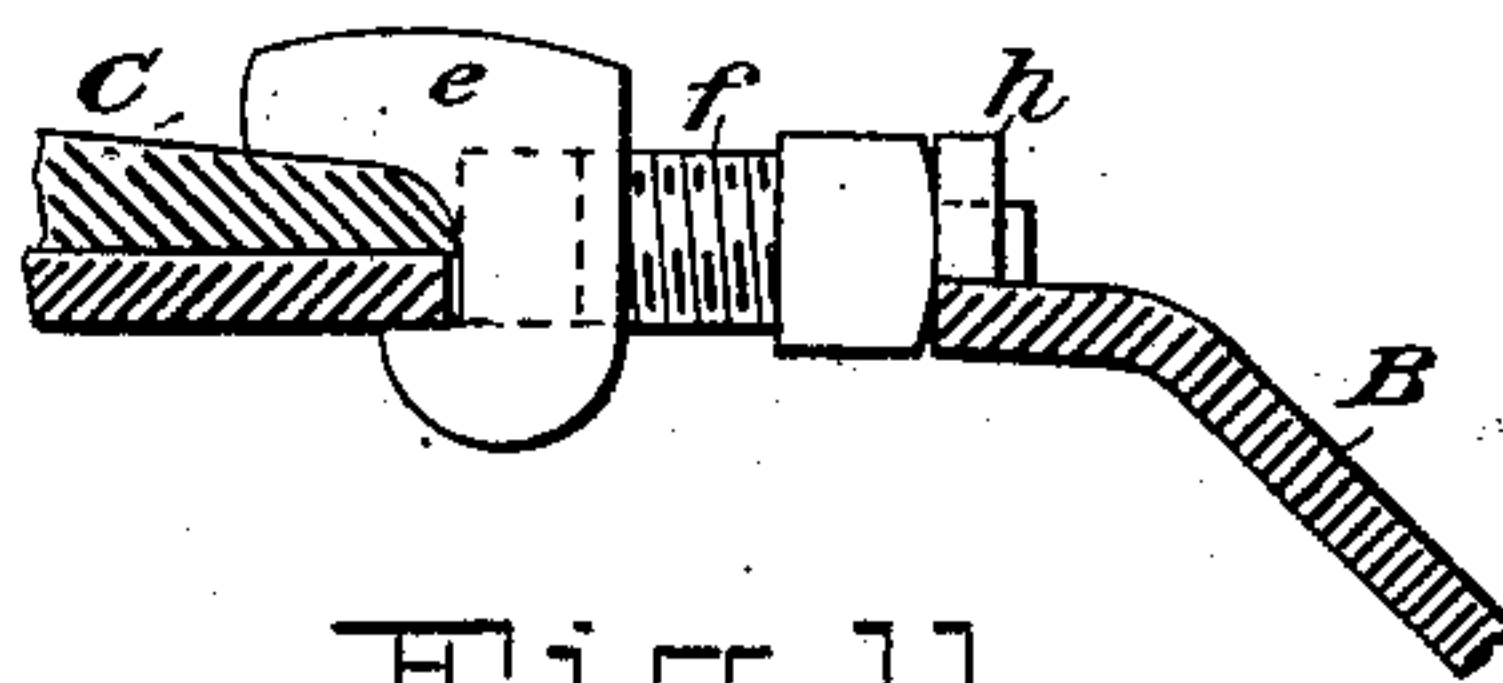
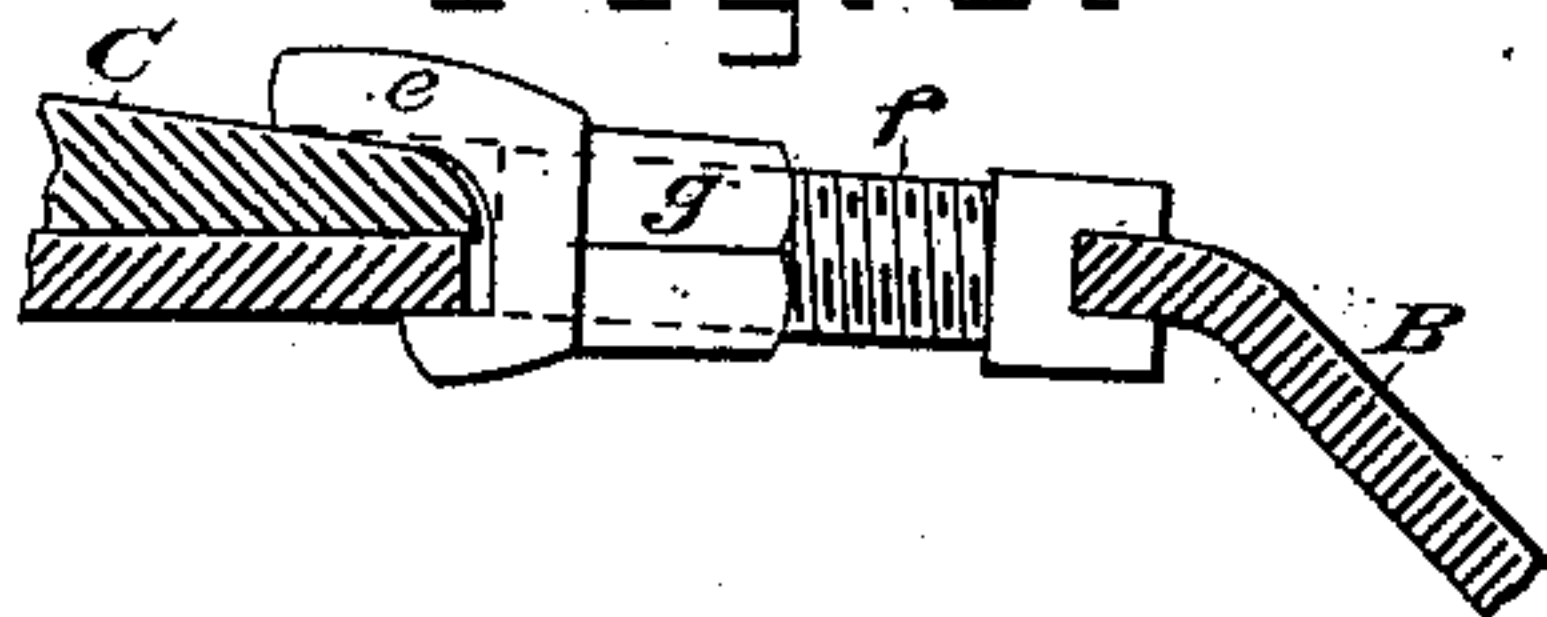


Fig. 9.

Fig. 11.

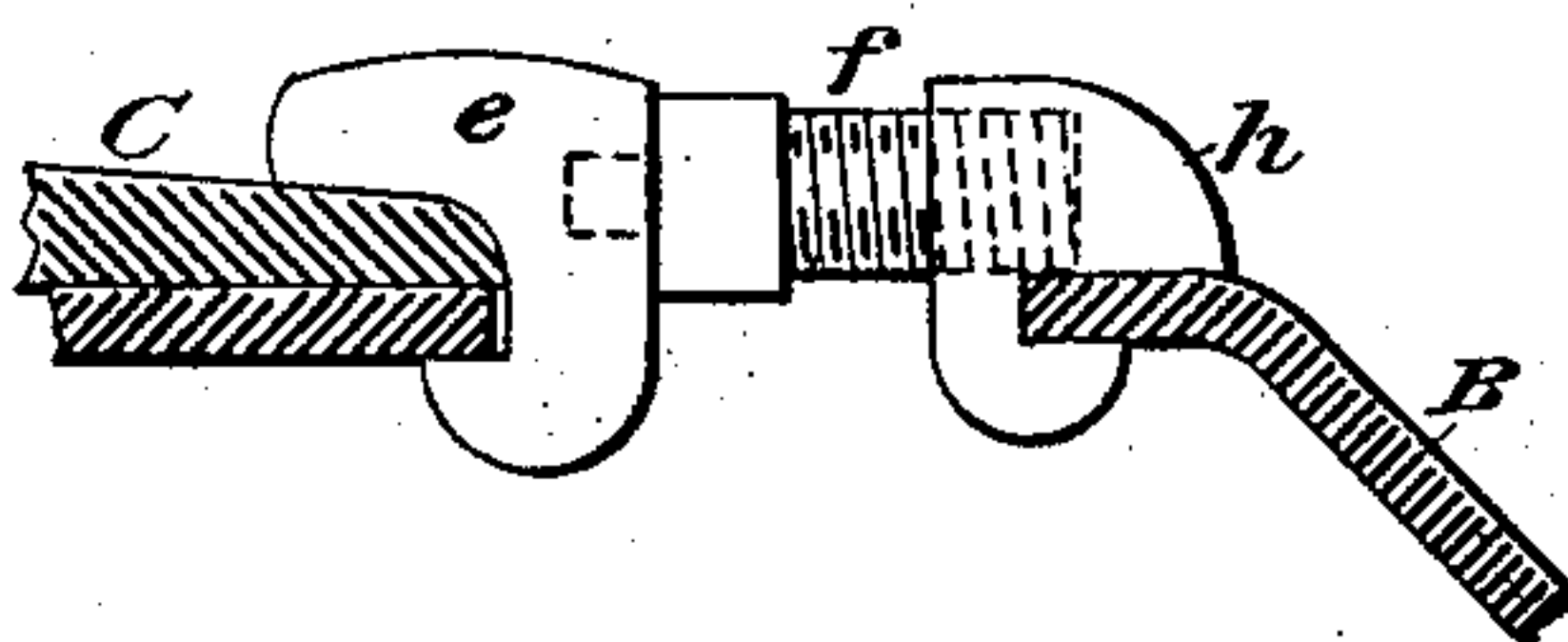
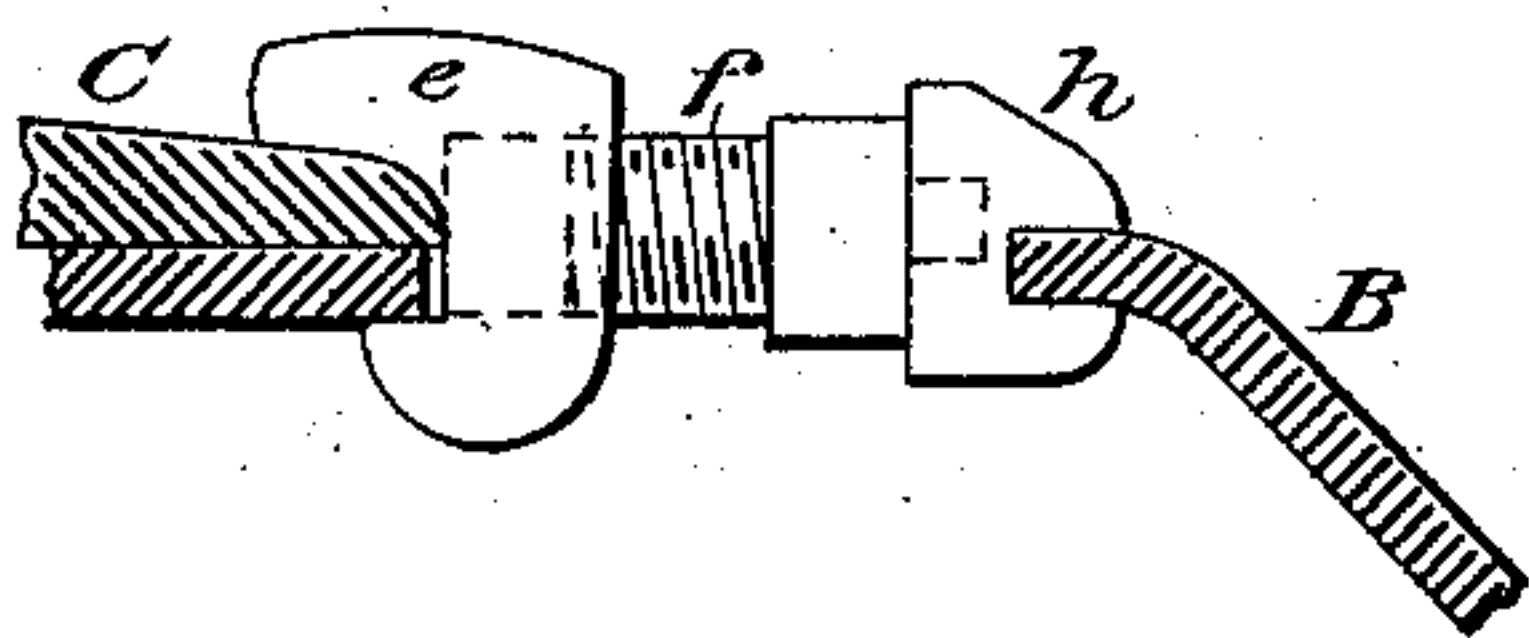
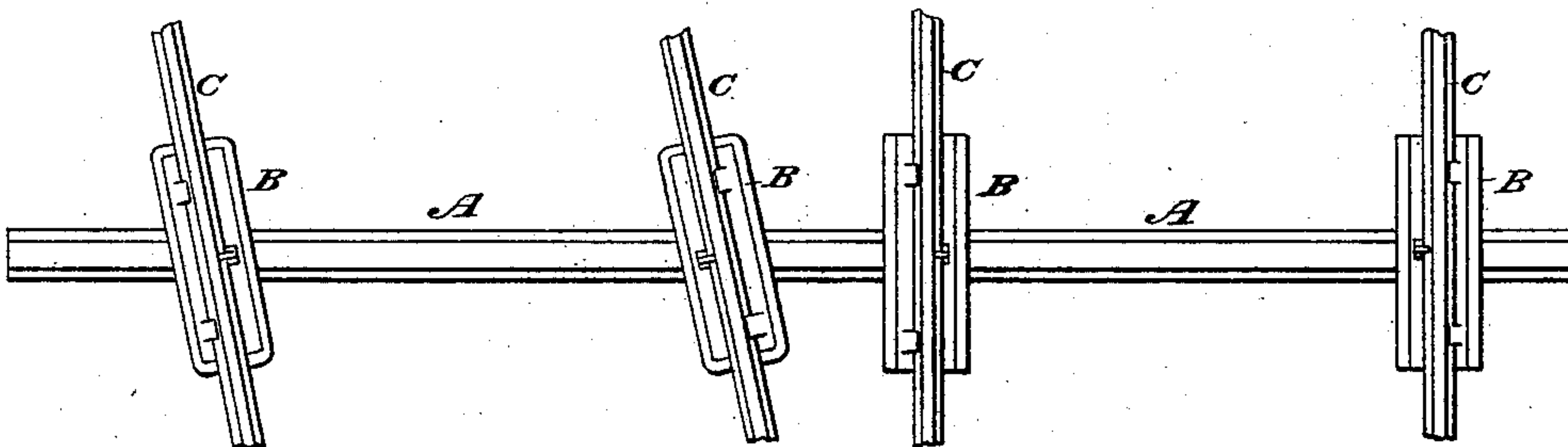


Fig. 12.



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# UNITED STATES PATENT OFFICE.

HENRY REESE, OF BALTIMORE, MARYLAND.

## METALLIC SLEEPER FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 272,477, dated February 20, 1883.

Application filed May 18, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY REESE, a citizen of the United States, residing at Baltimore, Maryland, have invented certain Improvements in Metallic Sleepers for Railways, of which the following is a specification.

My present invention relates in part to the construction of the sleeper and in part to the rail-fastenings. The sleeper is composed of three members—a transverse member in the nature of a tie and two longitudinal members secured rigidly to and upon the transverse member and arranged to receive and support the rails. The object is to provide a sleeper that will combine all of the advantages of the longitudinal and transverse sleeper systems with the maximum of strength and bearing-surface and the minimum of weight of metal. The fastening comprises fixed clips or shoulders, which may be formed on the sleeper, and a removable and extensible screw jack or clamp to hold the rail firmly up to the fixed shoulders or clips.

The novel features of the invention will be set forth in the claims.

In the drawings which serve to illustrate my invention, Figure 1 is a plan of the sleeper in its most approved form, and Fig. 2 is a side elevation of same. Fig. 2<sup>a</sup> is the same as Fig. 2, except that the transverse member is shown as bent to give an inward inclination to the rails. Fig. 3 is an end elevation of the sleeper. Figs. 4 and 5 are illustrations of modified forms of the means for securing the longitudinal to the transverse members. Fig. 6 is a plan, Fig. 6<sup>a</sup> an end elevation, and Fig. 7 a cross-section, illustrating a modified form of the longitudinal member. Fig. 7<sup>a</sup> also illustrates a modification of the means for securing the members together. Figs. 8, 9, 10, and 11 illustrate different forms of the extensible jack or clamp for fastening the rails, Fig. 8 showing the preferred form. Fig. 12 shows several longitudinal members arranged at different angles on the transverse member.

A is a transverse member or tie-piece, which is shown as cut from a rolled plate, bar, or beam, having sloping side flanges and a middle pendent rib on its under side.

The longitudinal member B, as shown in the preferred form, Figs. 1 to 5, is of an oblong-pan shape, having a sloping flange all around

and rounded corners. This member may be stamped out while hot from a plate of metal with dies. This longitudinal member does not extend to the member on the sleeper adjacent, the space between their ends being about equal to the ordinary spaces between wooden ties—that is to say, each sleeper is independent of the others, except as it is connected by the track-rails. A portion, *a*, of the sloping flange of the member B is made to stand out as a horizontal flange, which rests upon the crown-plate of the member A. The recesses thus formed in the sloping flange are made to fit the contour of the member A and give the member B a firm seat thereon. The two members are secured together by bolts, which pass through the flanges *a a* and the crown-plate of the member A, as clearly shown in Figs. 1 to 3. To better illustrate the seating of the member B on the member A, I have shown the parts at the right in Fig. 2 in section on line 2 2 in Fig. 1.

In lieu of forming the horizontal flanges *a* on the member B, I may mount the latter member on the top of member A and secure it in place by means of hook-bolts *b*, the heads of which pass through apertures in the crown of member A and engage the margin of its crown-plate, as clearly shown in Fig. 4; and in order to better support the crown-plate of member B, I may arrange under said plate a metal block or casting, *c*, (shown in cross-section in Fig. 4 and in plan and detached in Fig. 5.)

In Figs. 6 and 6<sup>a</sup> I have shown the member B as cut from a rolled bar and having substantially the same contour and section as the member A; or it may have a form different from the member A, if desired. In this modification the member B has of course no sloping flanges at its ends. Such a longitudinal member may be mounted on and secured to the transverse member in any of the various ways illustrated in the first five figures of the drawings. In this form the member B has a longitudinal pendent rib on its under side, which may fit into a recess or socket in the block *c*, where such block is employed, as shown in Fig. 7. In Fig. 7<sup>a</sup> I have shown this flange made deep enough to rest on the member A. In this figure I also show two flanges turned up on the member A, the outer one of which takes over the sloping flange of member B, and the inner



takes under the opposite flange. By means of these the two members are bolted securely together, as shown.

The means for fastening the rails to the longitudinal members B will be described with reference most particularly to Figs. 1 and 8. On the members B are formed or fixed clips *d d*, which are arranged to take over the base-flanges of the rails C C, preferably on the outside, as shown in the several figures. These may be formed out of the crown-plates of the said members B by bending up portions of the same, and this is the preferred mode; but they may also be made separately and affixed thereto. Fig. 8 shows the removable and extensible clamp D detached and on a larger scale. This clamp is arranged in an aperture in the crown-plate of the member B, at the inner side of the rail C, and comprises a recessed jaw-piece, *e*, which takes over the base-flange of the rail and the margin of the opening in the crown-plate of member B. This jaw *e* is bored to form a socket to receive the end of a screw, *f*, and a nick in the head of said screw engages the opposite edge or margin in the aperture in the crown-plate. On the screw *f* is a nut, *g*, which abuts against the jaw *e*, and when this nut is turned in one direction the jaw is forced against the rail-flange and presses the rail up firmly to the fixed clips *d*. The rail may be readily released by turning the nut back on the screw, or toward its head. In order that the jaw may not strike the margin of the aperture in the crown-plate before the rail is pressed against the fixed clips, I arrange the aperture with reference to the rail-flange in such a manner that the flange may extend over the aperture slightly when it is in place, as shown.

Fig. 9 shows a modification of the clamp D, in which the screw *f* screws into the jaw-piece as into a nut, and at its other end it is journaled in a nicked head-piece, *h*. Fig. 10 shows another modification, in which the screw is journaled in an upturned portion of the crown-plate itself to form a lug, which takes the place of the head-piece *h*. Fig. 11 is the same as Fig. 9, except that the screw is reversed in position and screws into the head-piece *h* instead of the jaw-piece *e*. Other modifications of the clamp D might be suggested; but these will serve to illustrate the many ways in which the clamp D may be constructed and made to operate. I have shown in Figs. 1 to 3 a sleeper provided for a single track with but two longitudinal members B; but it is obvious that in some cases three, four, or more of these members may be mounted on one member, A, as in the case of double tracks, switches, &c.; and in some cases it may be desirable to mount the members B at some other angle than a right angle with the member A. This arrangement is fully shown in Fig. 12.

I am aware that sleepers comprising two longitudinal members have been proposed; but in this case these members were laid directly upon the ground or road-bed, and were prevented from spreading apart by means of a stretcher rod or bar. This I do not claim. My sleeper comprises a flanged transverse member placed directly on the road-bed, and on this are mounted the longitudinal members. These latter do not rest upon the ground, but are raised above it, as shown.

Having thus described my invention, I claim—

1. A metallic sleeper for railways, comprising a transverse member formed with pendent marginal flanges, and arranged to rest on the road-bed, and longitudinal members formed with pendent marginal flanges, the longitudinal members being mounted on the transverse member and firmly secured thereto, substantially as shown and specified.

2. A metallic sleeper for railways, comprising a transverse member and longitudinal members secured rigidly together, the transverse member having sloping flanges at its sides, and the longitudinal members having sloping flanges at their sides and ends, as shown, and formed to take over and conform to the shape of the transverse member where they rest thereon, substantially as shown, and for the purposes set forth.

3. The combination, to form a fastening for a railway-track rail, of fixed clips on the sleeper and a removable and extensible screw clamp or jack arranged to take over the base-flange of the rail and a fixed part of the sleeper at one end and to abut against a fixed part of the sleeper at the other end, substantially as set forth.

4. An extensible clamp for securing a railway-track rail, comprising a jaw-piece recessed to take over the rail-flange and a fixed part of the sleeper, a screw socketed in said jaw-piece at one end and arranged to abut against a fixed part of the sleeper, and a nut on the screw, behind the jaw-piece, or their specified equivalents, substantially as set forth.

5. The combination, with the transverse member A, of the longitudinal members B B, provided with sloping flanges at their sides, horizontal attaching-flanges *a a* and clips *d d*, and the extensible clamps D, all arranged substantially as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY REESE.

Witnesses:

THOMAS F. MYERS,  
THOS. L. REESE.