

(No Model.)

J. HOWARD & E. T. BOUSFIELD.

RAILWAY SLEEPER AND CHAIR.

No. 335,523.

Fig. 1.

Patented Feb. 2, 1886.

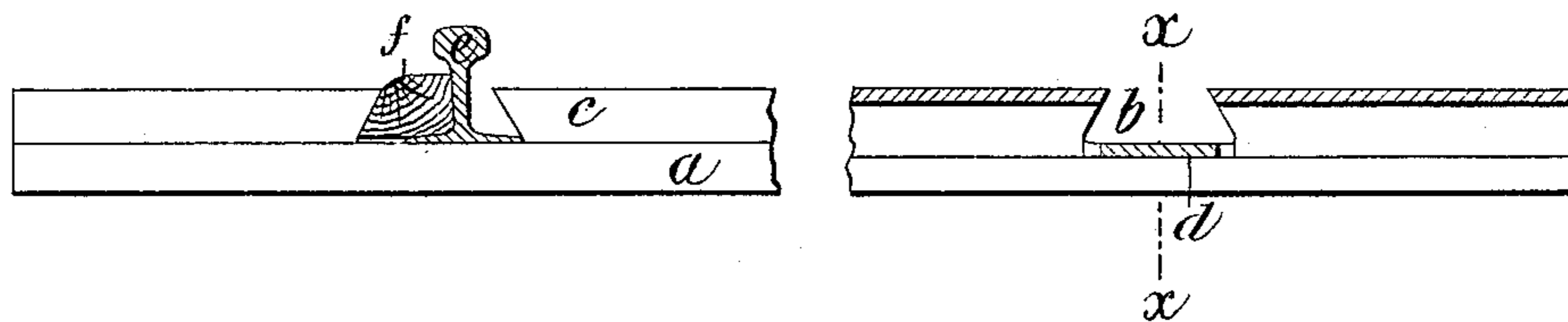


Fig. 2.

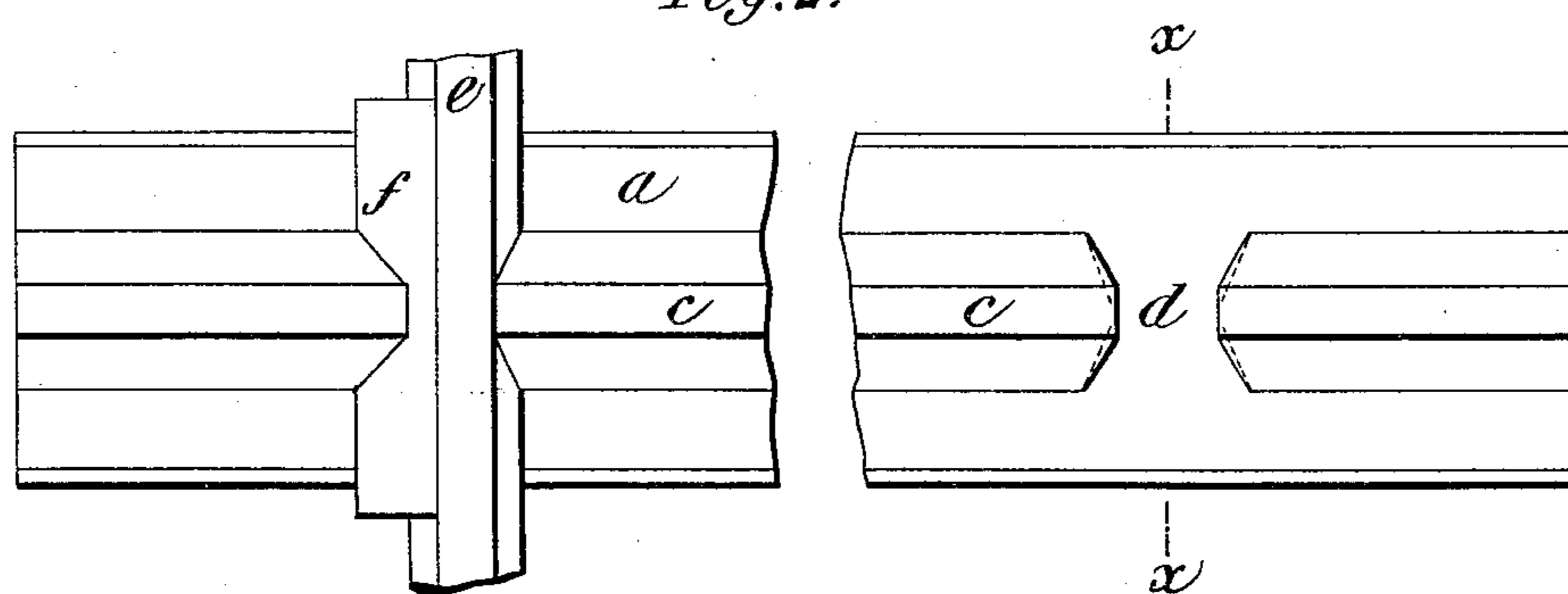


Fig. 5.

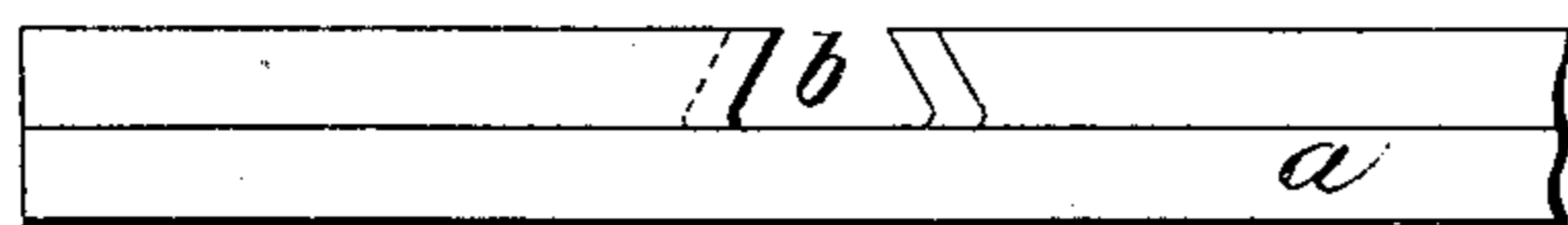


Fig. 3.



Fig. 6.

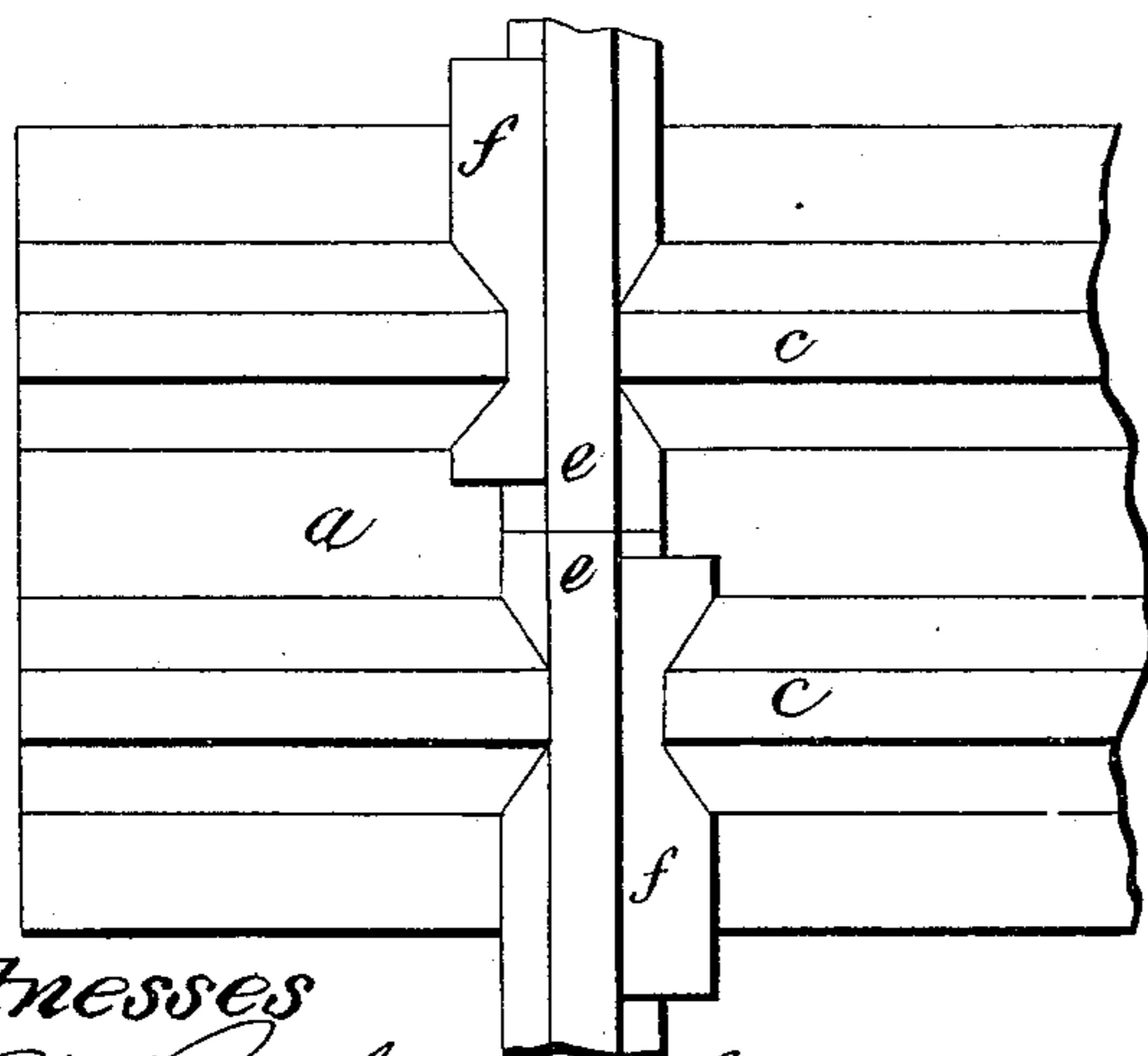


Fig. 4.



Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES HOWARD AND EDWARD TENNEY BOUSFIELD, OF BEDFORD,
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RAILWAY SLEEPER AND CHAIR.

SPECIFICATION forming part of Letters Patent No. 335,523, dated February 2, 1886.

Application filed August 12, 1885. Serial No. 174,203. (No model.)

To all whom it may concern:

Be it known that we, JAMES HOWARD and EDWARD TENNEY BOUSFIELD, engineers, subjects of the Queen of Great Britain, and both residents of Bedford, England, have invented new and useful Improvements in Railway Sleepers and Chairs, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to improvements in the manufacture of combined railway or tramway sleepers and chairs of that class in which the sleepers are formed from plates, strips, or sheets of metal having one or more longitudinal corrugations, the rail receptacles or chairs being formed by making suitable apertures in the said corrugations.

The objects of the said invention are to improve the construction and increase the durability of the said combined sleepers and chairs; and to this end it comprises the improvements hereinafter described, and specifically set forth in the claims.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a sleeper having a single longitudinal corrugation or crown, and constructed according to this invention. Fig. 2 is a plan of the same. Fig. 3 is an end view of the said sleeper. Fig. 4 is a section on the line $x\ x$, Figs. 1 and 2. Fig. 5 is a side elevation of a sleeper having a double corrugation or crown, and adapted for supporting and uniting or jointing two adjacent rail ends. Fig. 6 is a plan, and Fig. 7 is an end view of the same.

Similar letters of reference indicate the same parts throughout the drawings.

a indicates the corrugated sleeper, and b the rail receptacles or chairs.

In forming a receptacle or chair an opening, incision, or gap is made in the corrugation or crown c of the sleeper, as follows—that is to say, the metal is cut through or divided, so as to give to the sides of the said receptacle or chair the proper shape, and the part d of the metal between the said sides is worked into a horizontal position level with the main part or base of the sleeper, as shown in Fig. 4, so that the seating for the rail will extend across the entire width of the sleeper. The rail is

secured in this receptacle or chair by the block f . This construction of the rail receptacle or chair possesses a twofold advantage—that is to say, first, the piece d forms between the two sides of the sleeper a tie which prevents the bending or deflection of the sleeper along the corrugation under the weight of passing trains, thereby obviating the necessity of employing separately-made or auxiliary ties or braces for this purpose, as heretofore, with the attendant evils of rivets or bolts at these parts; and, secondly, the part d , being made level with the body portion of the sleeper, and thus enlarging the area of the bearing-surface, affords a better support for the rail, and one which will continue in good condition longer than if the metal at the part d were entirely removed, as heretofore.

When the sleeper is formed with a double longitudinal corrugation, crown, or rib, as shown in Figs. 6 and 7, the seating is of such a width as to afford adequate support to the adjacent or abutting ends of two rails. The said rails are secured in the chairs or receptacles by keys or wedges f , and we make provision for conveniently tightening the said keys or wedges by having one rail secured with the key on one side and the other rail with the key on the opposite side of the chair or receptacle b . For this purpose the chairs or receptacles on adjacent corrugations are placed out of line with each other a distance corresponding to the width of a wedge. The keys therefore will not interfere with or obstruct each other when driven home. Moreover, either key can be removed without disturbing the other key when the rails are to be disconnected.

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

1. A sleeper formed of a corrugated plate, strip, or sheet of metal with rail receptacles or chairs b , which have solid or undivided surfaces at d , level with the body of the sleeper, and extending across the same for the rails to rest upon, substantially as and for the purposes set forth.

2. A sleeper which in its transverse section has a continuous plane or flat surface across

the rail-seats, which are level with the body of the sleeper, the latter being corrugated in its intermediate and end portions, substantially as set forth.

5 3. A corrugated sleeper having solidly-formed or undivided seats or bottoms for the chairs, said seats being level with and extending across the body of the sleeper, and adapted to support and joint the rails, substantially as
10 described.

4. A corrugated metal sleeper having rail chairs or receptacles provided with solid or undivided bottoms *d*, which, in adjacent corrugations at each end of the sleeper, are slightly

out of alignment, in combination with a tightening key or wedge inserted in one chair on one side of the rail, and an adjacent key inserted on the opposite side, substantially as and for the purposes set forth. 15

In testimony whereof we have hereunto signed our names in the presence of two subscribing witnesses. 20

JAMES HOWARD.

EDWARD TENNEY BOUSFIELD.

Witnesses:

JOHN E. BOUSFIELD,

J. F. NUTTER.