

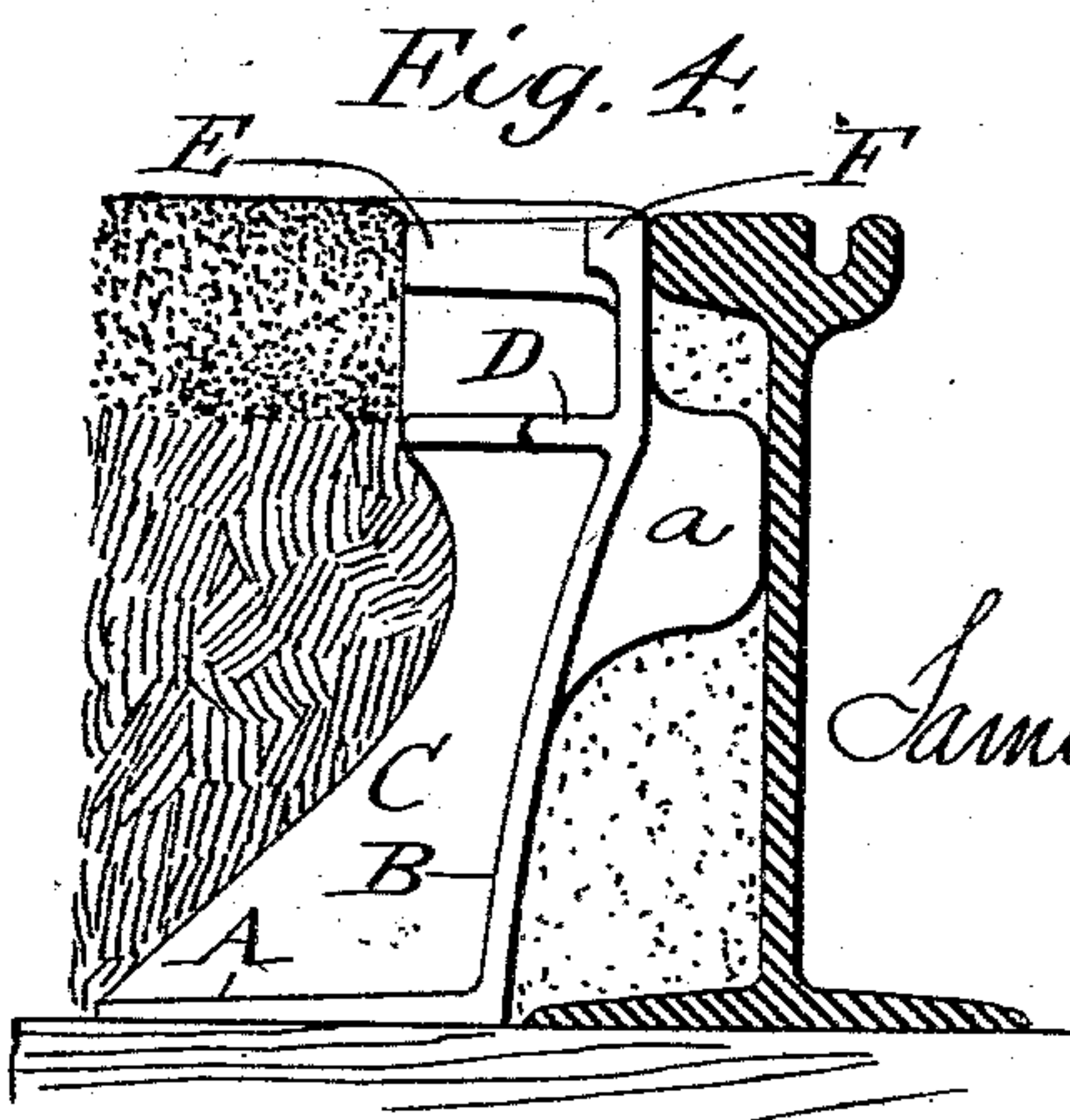
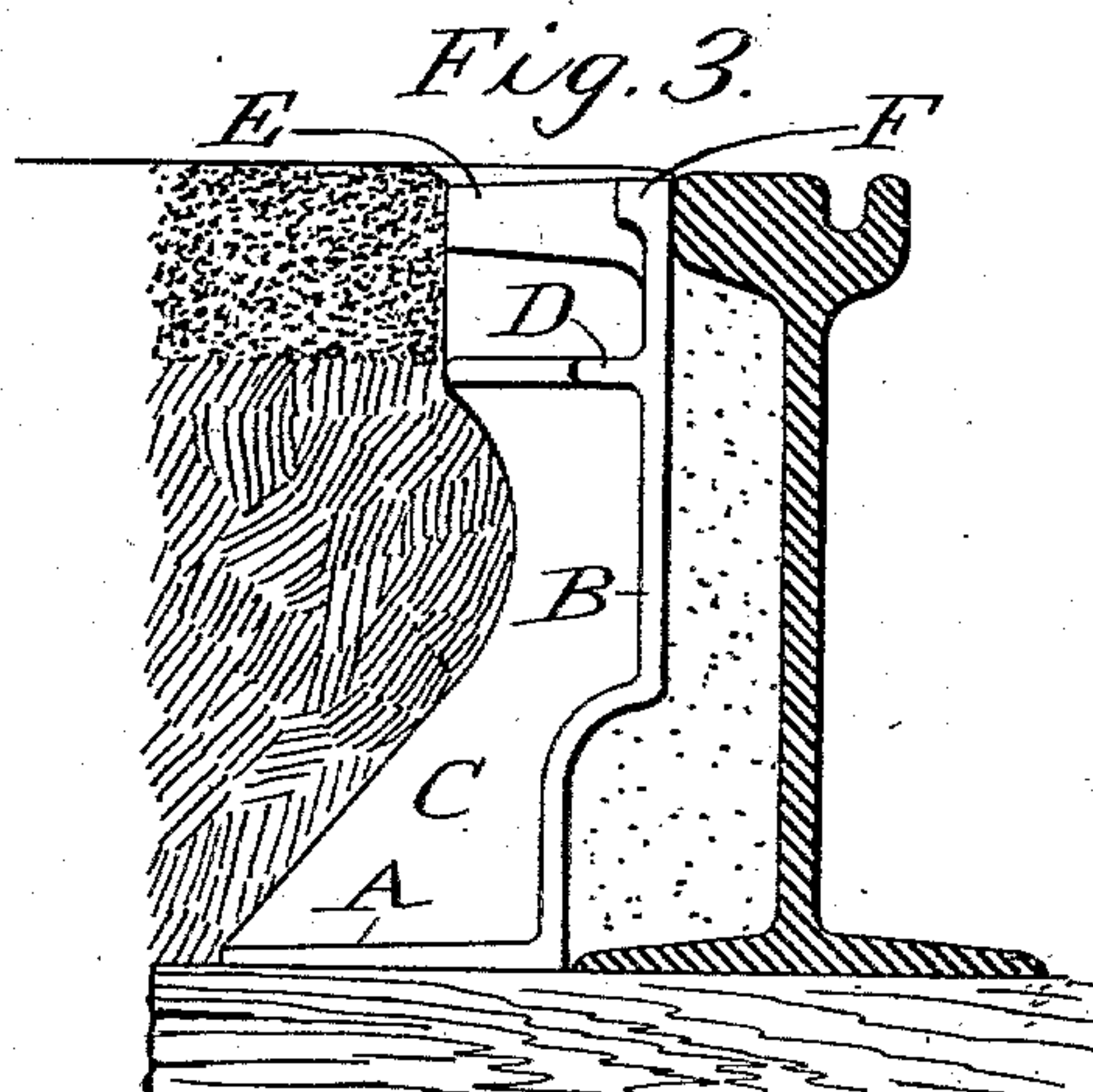
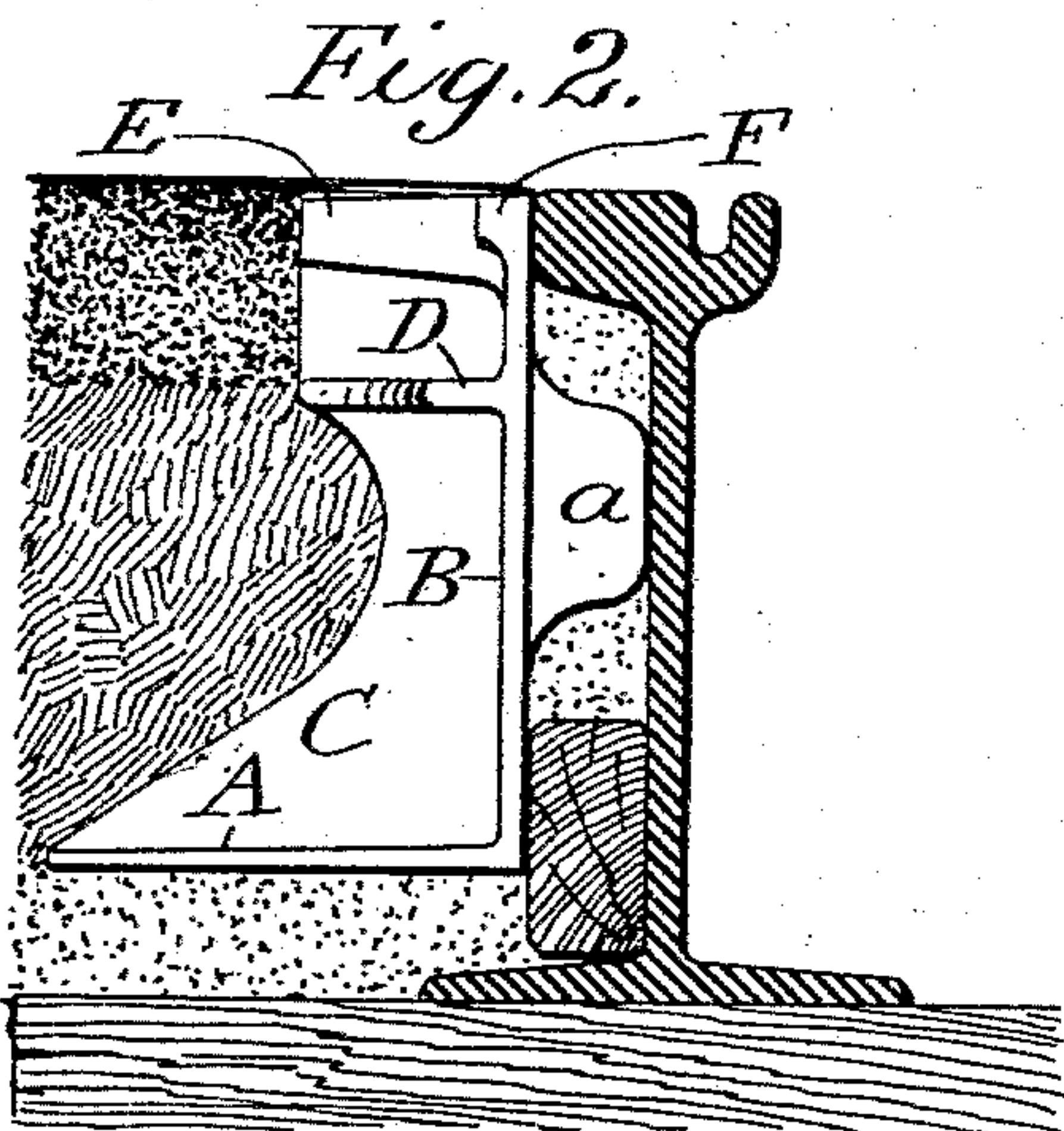
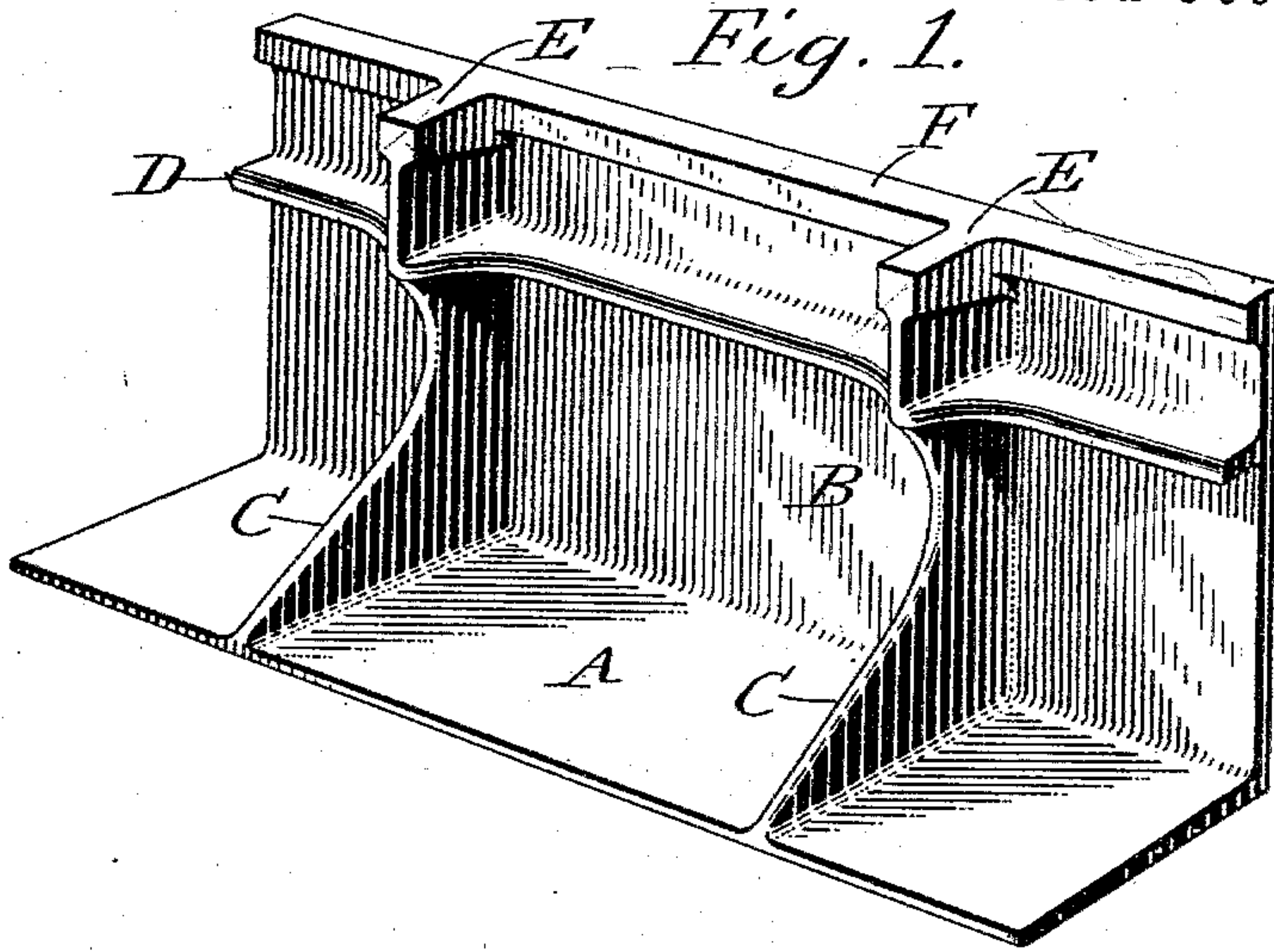
(No Model.)

2 Sheets—Sheet 1.

S. R. SCHARF.
RAILWAY TRACK.

No. 548,663.

Patented Oct. 29, 1895.



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

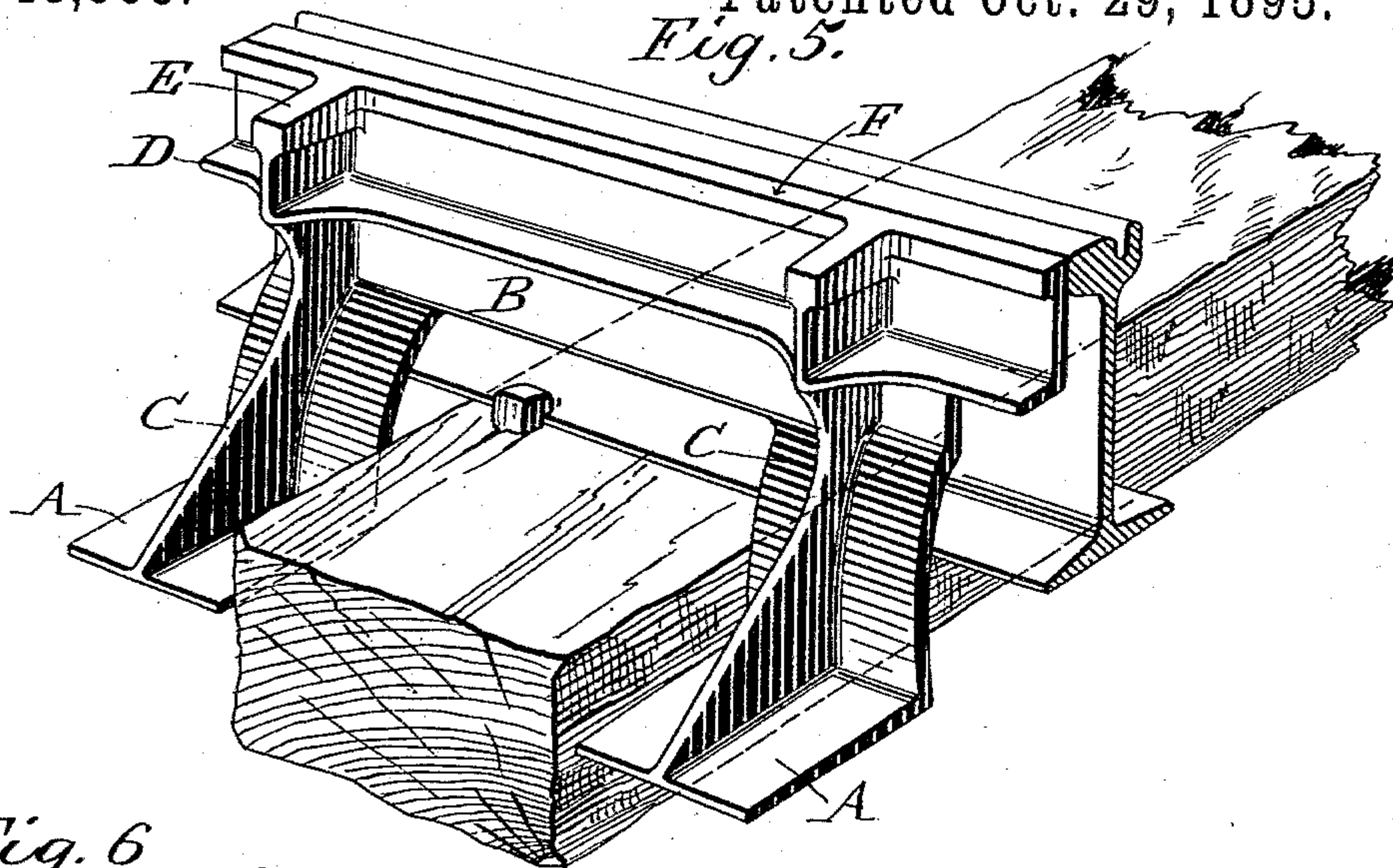


Fig. 6.

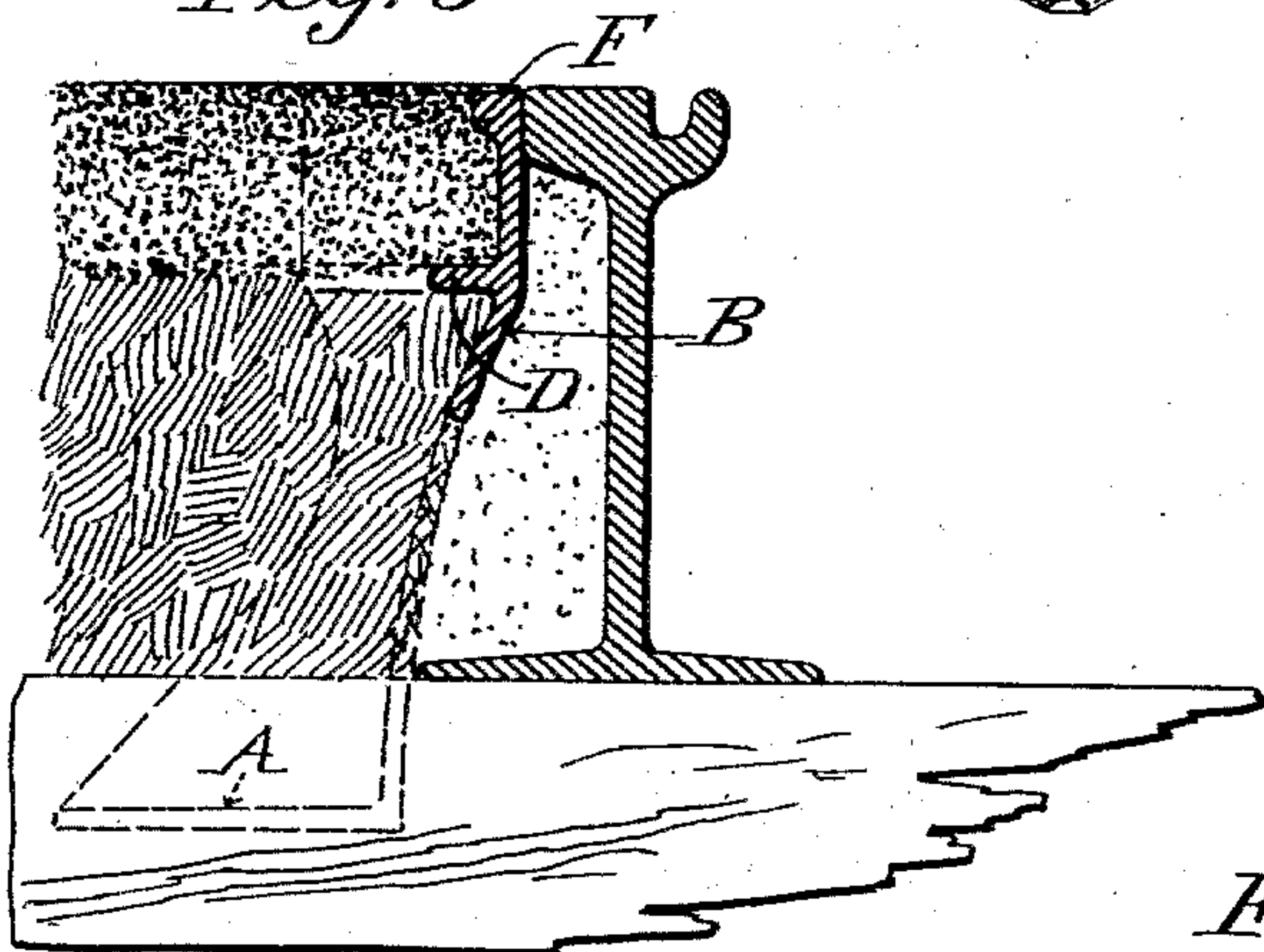
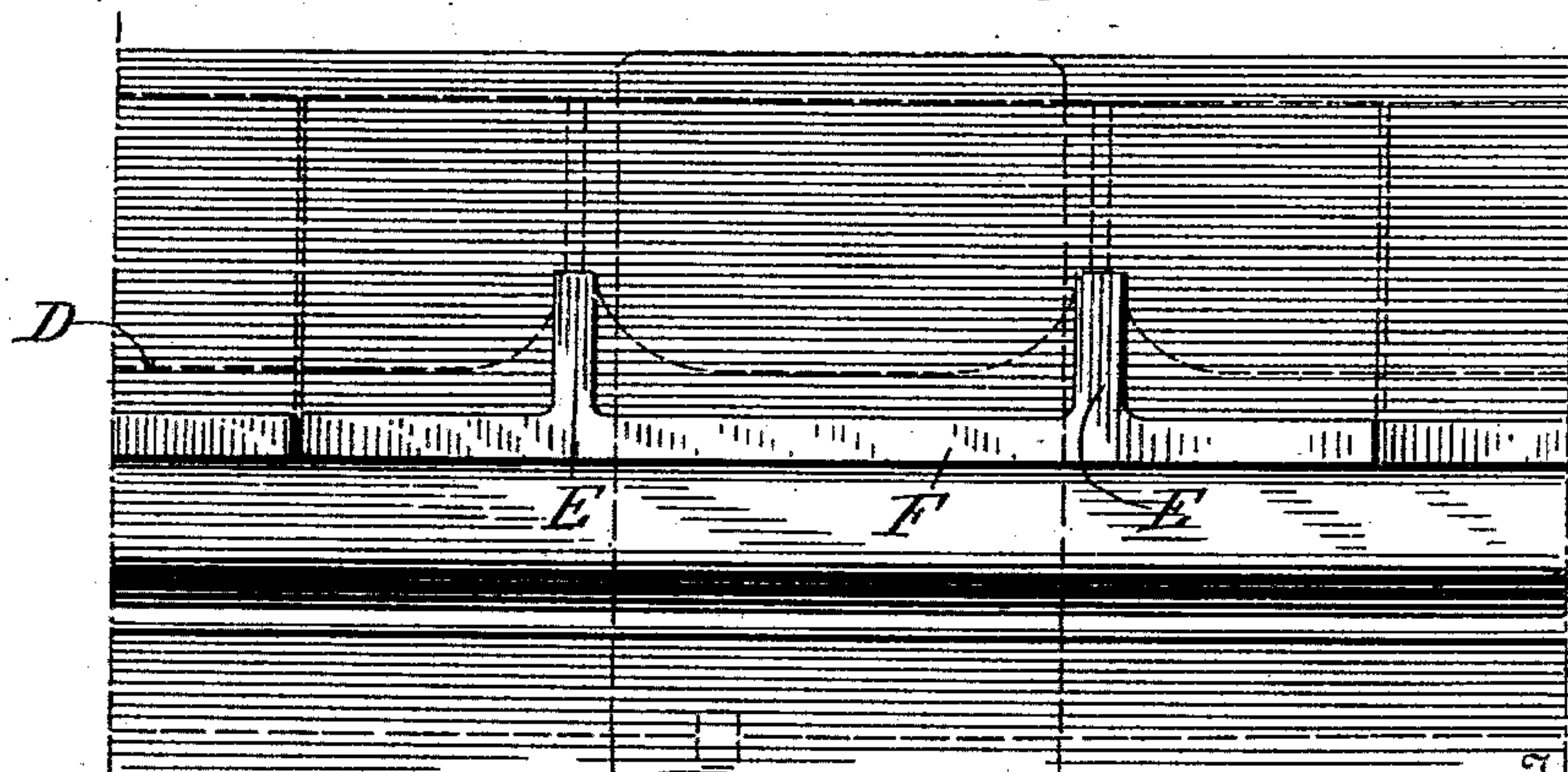


Fig. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL R. SCHARF, OF WASHINGTON, DISTRICT OF COLUMBIA.

RAILWAY-TRACK.

SPECIFICATION forming part of Letters Patent No. 548,663, dated October 29, 1895.

Application filed August 3, 1895. Serial No. 558,156. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL R. SCHARF, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Railway-Tracks, of which the following is a specification.

My invention relates to street-railway tracks, and is designed to prevent the vibration of the rails from loosening or destroying the abutting roadway or pavement.

A further object is to render the pavement and the track so far independent of each other that either may be taken up or repaired without disturbing the other.

The invention consists in a metallic "header and stretcher" designed to lie close against the tread of the railway-rail and to form a boundary for the pavement, separating the latter from the rail and freeing it from participation in the movements of the rail.

The invention and the structure in which it is embodied are to be clearly distinguished from the "rail-chair" commonly used to support the rails of steam-railway tracks, and form a combined chair and "slip" designed to effect a union or tying together of a railway-track and a roadway-pavement.

A distinctive feature of my construction is the entire absence of any connection between the header and stretcher on the one hand and the rails on the other hand, which might cause the two to rise and fall in unison.

In the case of conduit railway systems the conduit being extended below the frost-line is free from disturbance through alternate freezing and thawing of the earth, while frost commonly penetrates below the roadway-pavement and causes a rise and fall thereof, and the same conditions exist with other constructions. If, therefore, there be such connection of the roadway-pavement and the track as to render their movements interdependent, injury is almost sure to come to one or the other with changes of season, and repair of either involves disturbance of the other. While, therefore, my header and stretcher has a lateral bearing against the rail, it is devoid of any other support therefrom and gives no other support thereto; but each is unattached

to and is free to rise and fall independently of the other. It is in this sense that the term "wholly disconnected" is used in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved header and stretcher in a form which has proven quite satisfactory in use. Figs. 2, 3, and 4 are end views of slightly-varying forms of the same. Fig. 5 is a perspective view of the structure in a form for use with comparatively low or shallow rails, the feet or base-plates being arranged to straddle the ties or sleepers of the railway; Fig. 6, a transverse sectional view of the same; Fig. 7, a top plan view of a small section of a rail and roadway, showing the header and stretcher in place.

In the construction and operation of street-railways great difficulty has been experienced in maintaining the pavement or roadway in good condition along the track-rails. This difficulty arises from two causes, first, the vibration or play of the rails, both vertically and laterally, and, second, the driving of vehicles along the edge of the pavement close to the side of the rails. As the rails work up and down they tend to loosen the pavement and to form an opening between the rail and the pavement, which is widened by the lateral movement or slight spreading of the rails, for though the rails go back to their normal position the pavement does not. When a seam or joint is thus opened, water and dirt find their way beneath the edge of the pavement, and heavy vehicles running close alongside the rail produce depressions and elevations in the paving or break it away, leaving unsightly and dangerous holes. To obviate these difficulties it has been the custom in many places where concrete and asphalt pavements are used to require stretchers and headers of stone or brick to be laid at the edge of the pavement next the track-rail—that is to say, blocks of stones or bricks are abutted closely against the outer sides of the rails, but arranged alternately sidewise and endwise thereto.

In some places the stone or brick headers and stretchers have been discarded and the asphalt laid close against the rails because of the unsightly appearance they produced, but

the change results in considerable additional expense in maintaining a good pavement next to the rails.

My invention aims to overcome the objections incident to both the prior plans noted, and to insure the maintenance of the pavement in thoroughly good condition despite the movement of the rails, the passage of vehicles, or the entrance of water and dirt. With this purpose in view I construct a metallic header and stretcher in the form illustrated in the accompanying drawings, or in equivalent form, making such variations as the circumstances of particular situations may require or suggest.

As shown in the several figures, the structure comprises a horizontal bed or base plate A, an upright plate or body portion B, vertical braces C, a horizontal stiffening or strengthening rib D, lateral arms or projections E at the top level of the structure, and a rib, flange, or thickened portion F extending along the upper edge of the upright or body portion B. The lateral arms E constitute or take the place of headers, and the rib or flange F constitutes or serves the purpose of a stretcher—that is to say, the arms E prevent the wheels of vehicles from dropping down to any appreciable depth beside the rail and from either forming a groove or channel beside the track or forcing the asphalt or other paving or surfacing material forward to produce a ridge or hummock, while the stretcher portion or flange F forms a binding or border for the pavement and prevents it from coming into direct contact with the rails.

The form of the base plate or footing A will vary somewhat, according to the nature of the track construction. Thus where ties are used beneath the rails and the rails are of a height equal or about equal to the depth of the pavement, the bed or base plate may be a continuous plate adapted to rest directly upon the ties, as in Figs. 3 and 4, and the same form may be used where the pavement is of less depth than the rails, as in Fig. 2. Where shallow rails are employed, or where the pavement is very deep, it will frequently be found expedient to cut away the bed or base plate A, as shown in Figs. 5 and 6, so that the feet or bearing portions may pass down on opposite side of ties, or of the yokes employed with cable and other conduit railways.

In Figs. 1 and 2 the upright plate or body B is represented as a straight vertical plate, and this form may be employed where neither ties nor rail-flanges extend outward beneath the bearing-plates, or where the pavement is comparatively shallow and a yielding body of earth intervenes between the bearing-plates and the rail-flange. It is, however, deemed advisable, ordinarily, to offset or to curve the plate B, as in Figs. 3, 4, 5, and 6, so that the rail-flanges may rise and fall with-

out in any manner affecting the header and stretcher members.

Where the tread of the rail is of considerable depth, it will afford sufficient bearing for the plate B to prevent the latter falling inward under any possible relative movement of the two; but where the tread is of slight depth, and in fact generally, it will be found best to provide plate B with inwardly-projecting lugs *a* to bear against the web of the rail and thus maintain the plate B in proper position.

The rib D is preferably placed at a height coincident with the dividing-line between the asphaltum or top dressing of pavements of that class and serves as a convenient guide for the workmen in laying the foundation of the pavement.

In setting the metallic header and stretcher care is taken to ram the paving materials close against plate B and well under, over, and around the rib D and beneath and against the arms or projections E, which form the headers.

In Fig. 6 the manner of filling in the paving material is indicated; but in the other figures the section of the pavement is intentionally taken directly in line with a brace C, in order to better show the form of the device itself.

The forms illustrated contemplate the use of cast metal, which will ordinarily be used, being first rendered malleable, if deemed advisable; but I do not restrict myself to the use of cast metal, as rolled or pressed steel, iron, or other metal may be used, and the structure may be made in sections, each formed in one integral piece, or each section may be composed of separately-formed parts riveted, bolted, or otherwise fastened together.

As above stated, the form may be considerably varied, as circumstances require, and while the braces C, the rib D, and the arms E are considered desirable they may one or all be omitted, as may also the lugs *a*. In such case, however, the use of quite heavy plates would be necessary. The length of the sections may vary and will ordinarily depend in a measure upon the spacing and the character of the rail-supports. Eighteen inches is regarded as a good length for ordinary purposes; but I do not mean to restrict myself to any precise measurements or proportions.

Having thus described my invention, what I claim is—

1. In combination with a railway rail and with a roadway pavement, an interposed metallic header-and-stretcher wholly disconnected from but in close proximity to the rail, substantially as set forth.

2. As a new article of manufacture, a combined header-and-stretcher for use beside railway rails, the same being formed of metal and comprising a horizontal bed or supporting plate and an upright plate, said plates being

of such form, and so related in position that the upright plate may bear against the side of the rail tread but that the supporting plate shall clear the base or flange of the rail, substantially as set forth.

5 3. The herein-described header and stretcher, comprising a base or bearing plate A, an upright curved or offset plate B to bear against the side of the rail, and lateral arms
10 E, substantially as described.

15 4. A combined header and stretcher, comprising a base or bearing plate A, upright plate B, braces C, horizontal stiffening rib D, arms E, and rib or flange F, all substantially as shown and described.

5. A combined header and stretcher comprising base or bearing plate A, and upright plate B, and provided with one or more lugs

a, adapted to bear against the vertical web of the rail but to clear its tread and base, as and 20 for the purpose explained.

6. In combination with the rail of a railway track, a metallic header and stretcher substantially such as described and shown, located beside the rail but wholly independent thereof except as to lateral support, said header and stretcher having portions projecting into the roadway pavement, whereby it is firmly retained in place.

In witness whereof I hereunto set my hand 30 in the presence of two witnesses.

SAMUEL R. SCHARF.

Witnesses:

HORACE A. DODGE,
WALTER S. DODGE.