

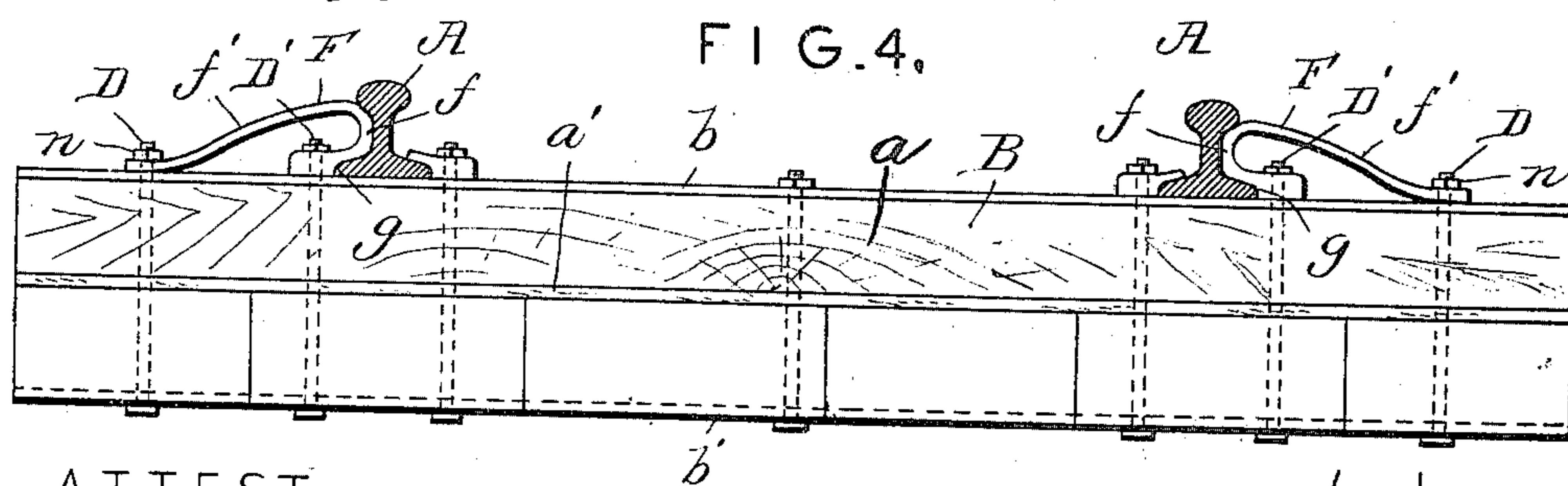
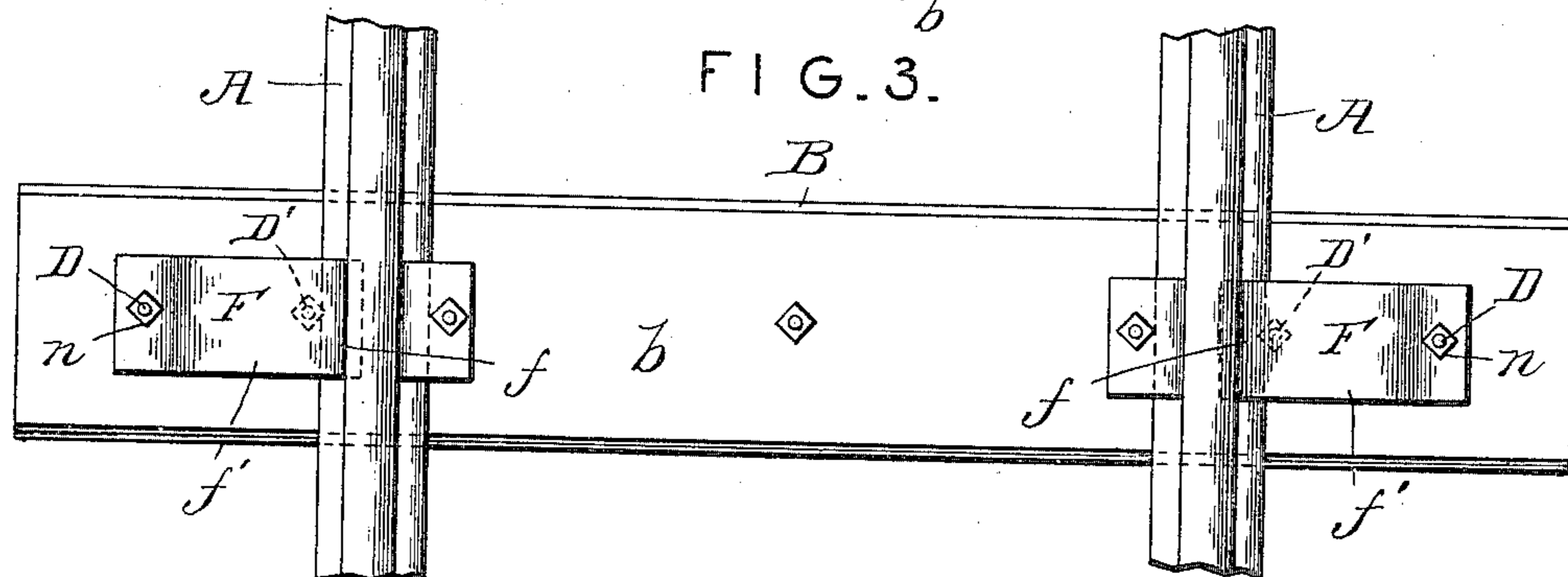
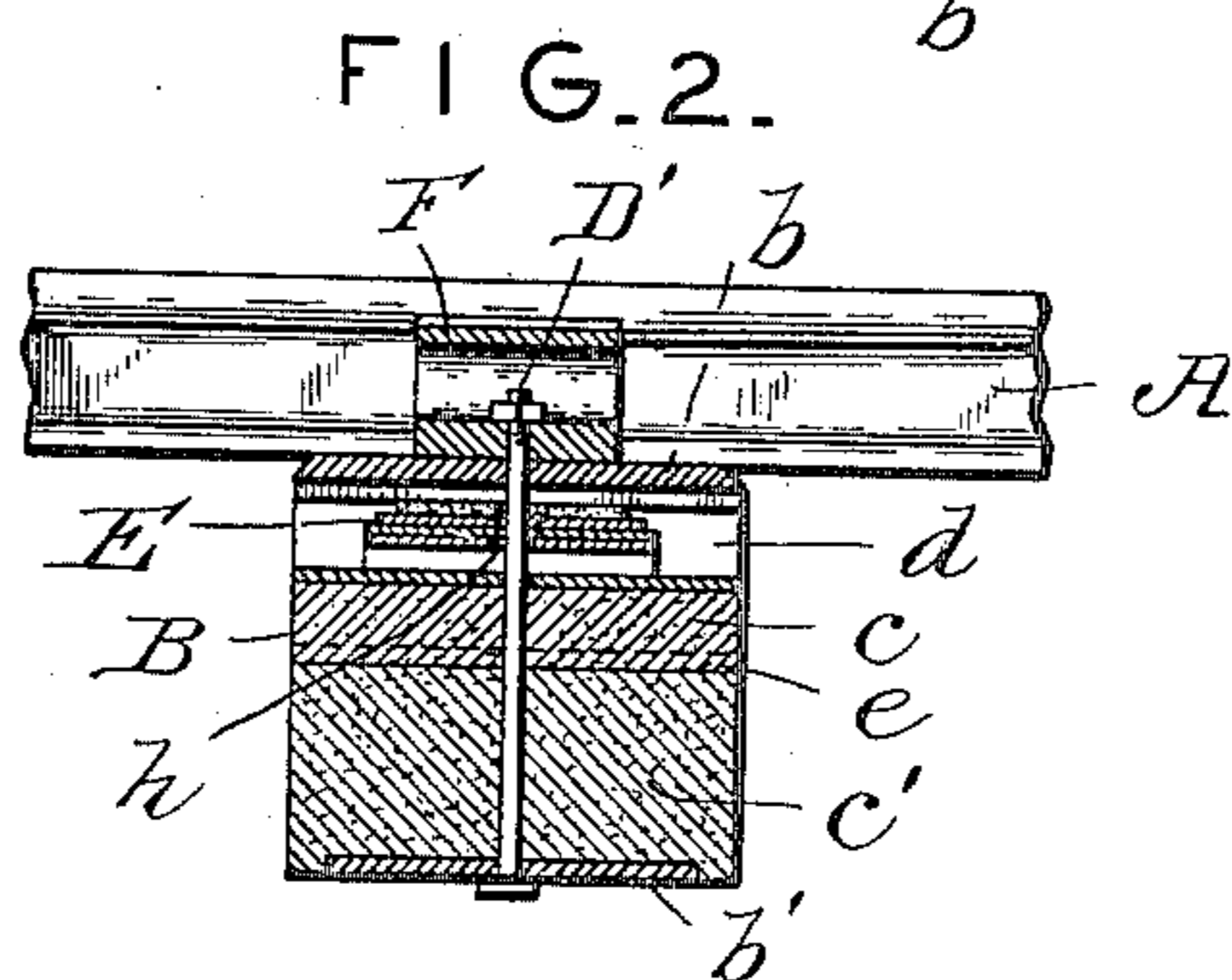
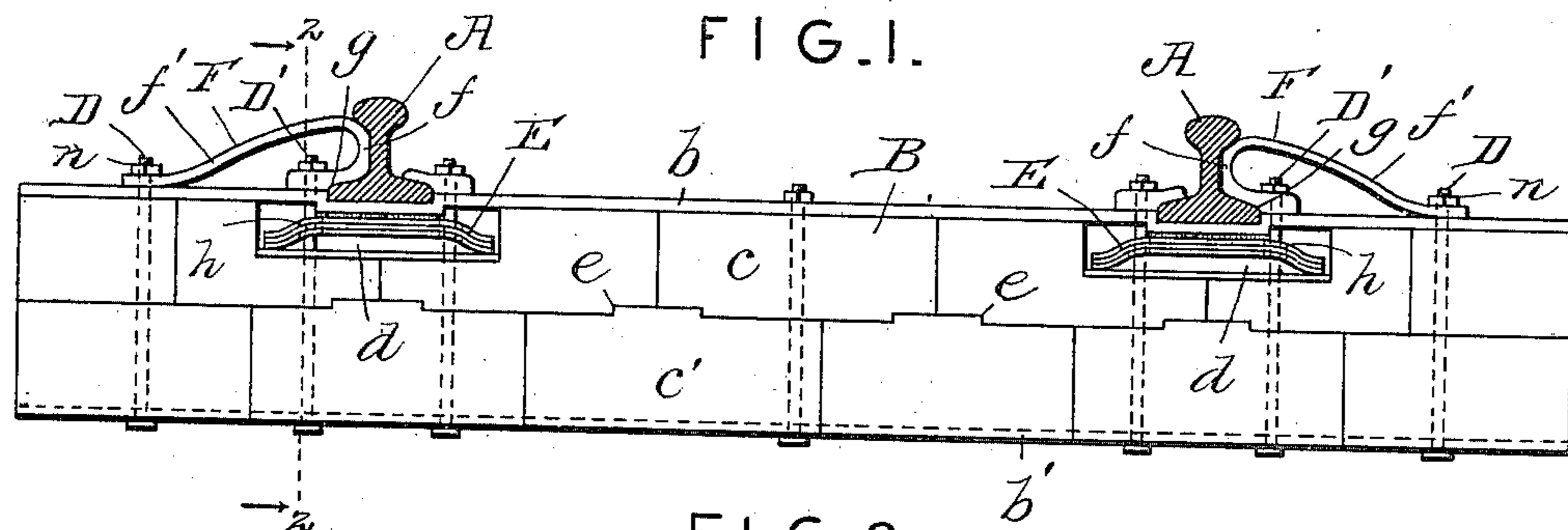
No. 679,211.

Patented July 23, 1901.

J. BOOTH.
RAILROAD TIE.

(Application filed Apr. 11, 1901.)

(No Model.)



ATTEST-

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UNITED STATES PATENT OFFICE.

JACOB BOOTH, OF REYNOLDSVILLE, PENNSYLVANIA.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 679,211, dated July 23, 1901.

Application filed April 11, 1901. Serial No. 55,351. (No model.)

To all whom it may concern:

Be it known that I, JACOB BOOTH, a citizen of the United States, and a resident of Reynolds-
ville, in the county of Jefferson and
5 State of Pennsylvania, have made a certain new and useful Invention in Railroad-Ties; and I declare the following to be a full, clear, and exact description of the same, such as
10 it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

15 Figure 1 is a side elevation of my invention as applied. Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is a plan view of my device as applied. Fig. 4 is a side elevation of a modified form of my device as applied.

20 The invention relates to compound ties for railroad-rails; and it consists in the novel construction and combinations of parts, as hereinafter set forth.

25 In the accompanying drawings the letter A designates a railroad-rail, and B the compound tie.

D D' indicate vertical bolts, and E represents a spring.

30 F is a cap-plate or brace-plate which is bolted to the tie and engages the concave side of the rail with its convex bearing-face, this being shaped to conform thereto.

The compound tie B consists of a surface-plate *b*, of iron, and a bottom plate *b'*, also of
35 iron. Between these plates is the body portion, which consists mainly of brick or cement. Sometimes the upper part of the body portion may consist of wood, as at *a*, and a thin layer of wood may be introduced between the upper
40 thick wooden part *a* and the lower brick or cement portion. This thin layer is indicated at *a'*. When wood is used, it serves as an elastic cushion to ease the track. When the body layers are composed of brick *c c'*, the
45 upper brick part is recessed, as at *d*, to receive a spring or springs E, preferably of arched form, over which the surface-plate *b* extends, engaging the same, the rail being
50 seated centrally over the spring and recess on the bridge portion of the surface-plate.

The bricks of the lower part of the tie are recessed in their bottoms longitudinally of

the tie to receive the bottom plate *b'*, which is let in flush with the bottoms of the bricks, so that the tie will have a level seat. The
55 bricks are designed to break joints in the two courses and are formed with slight tongue-and-groove engagements, as indicated at *e*.

The cap-plate or brace-plate F has a convex bearing-head *f* to engage the concave side
60 of the rail. Usually the brace-arm *f'* extends over and back in raised-loop form to the outer bolt D', the inner bolt D passing through under the bent head, which is shouldered at *g* to engage the edge of the rail-
65 flange. This brace-plate, while firm, is somewhat yielding on account of its form, having an elastic quality which is designed to assist the under cushion in easing the track. The bolts D D' pass through the surface and base
70 plates and the various layers which compose the tie and are secured by nuts *n* on their upper ends, the heads of the bolts being underneath engaging the base-plate. The inner bolts D pass through holes *h* in the spring,
75 which are made large or in slot form to give play to the springs. Sometimes the bolts may be arranged to pass between two springs side by side. In this manner it is designed to provide a very durable and serviceable railroad-
80 tie, requiring but little wood. If wood is not easily had, the upper layer part of the body of the tie may be made of brick, as hereinbefore mentioned. A pad or gum-cork or like
85 spring material may be located between the iron surface-plate and the spring-bearing beneath the rails.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—
90

1. A compound railroad-tie, consisting of an upper layer part, having a yielding or elastic bearing, a metallic surface-plate extending over the same, a lower layer composed of brick or cement, longitudinally recessed in its bottom, and a base-plate seated
95 flush therein, and connected to the surface-plate by means of bolts, substantially as specified.

2. A compound railroad-tie, consisting of
100 a lower layer part of brick or cement, longitudinally recessed in its bottom, a base-plate engaging the recess in a flush manner, an upper layer part recessed under the rail-seats,

springs in the recessed portions, and a metallic surface-plate bridging the recessed portions, the parts being securely held together by vertical bolts, substantially as specified.

- 5 3. The combination with the recessed layer portions of body, and the arched inlet-springs and inlet base-plate, of the metallic surface-plate engaging the springs, the rail and brace-

plate, and the vertical bolts securing the parts together, substantially as specified. 10

In testimony whereof I affix my signature in presence of two witnesses.

JACOB BOOTH.

Witnesses:

J. C. KING,

M. M. DAVIS.