

No. 846,901.

PATENTED MAR. 12, 1907.

W. F. BOSSERT.
INSULATED RAIL JOINT.
APPLICATION FILED NOV. 30, 1906.

3 SHEETS—SHEET 1.

Fig. 1.

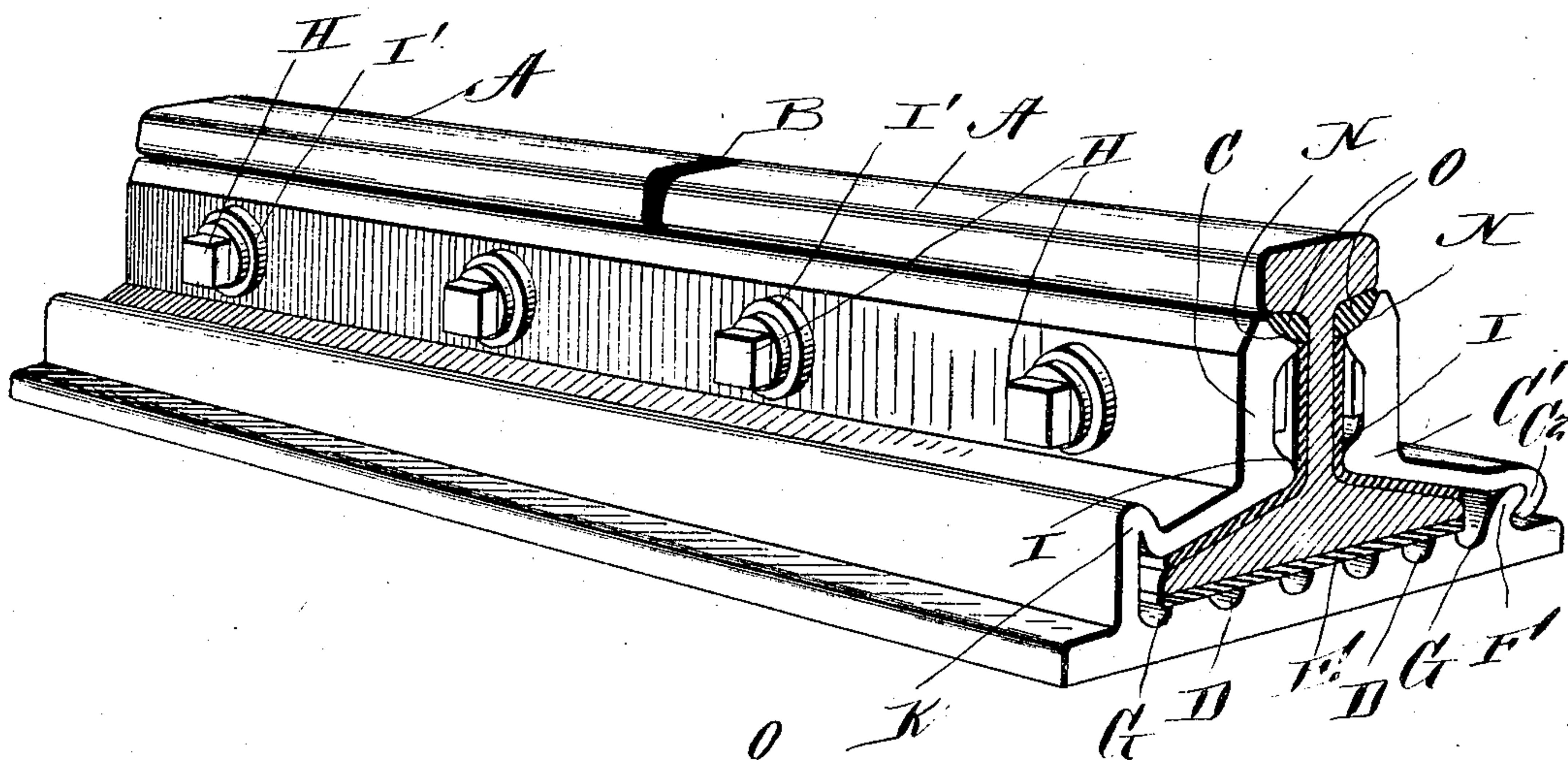
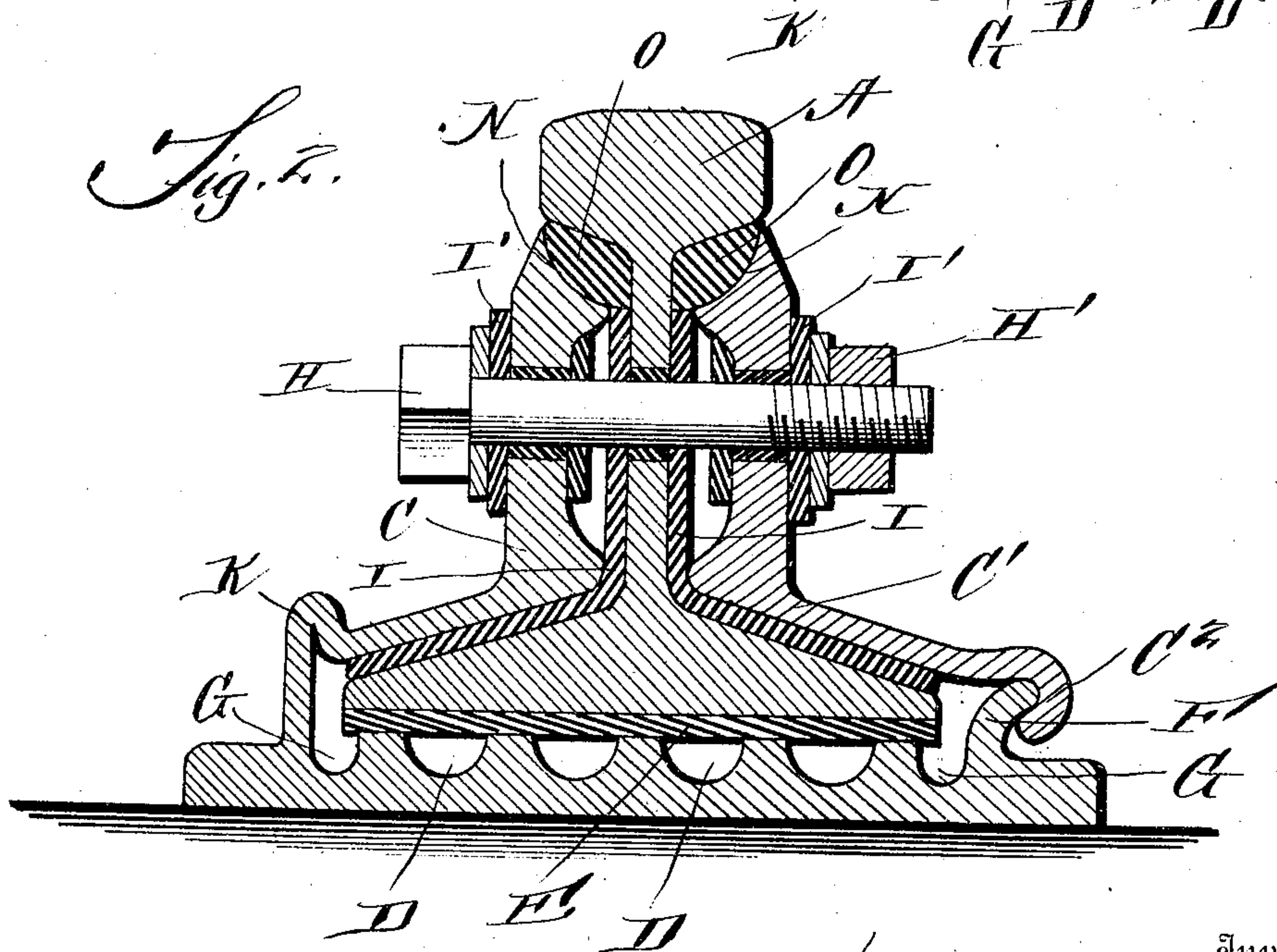


Fig. 2.



Witnesses

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3 SHEETS—SHEET 2.

Fig. 3.

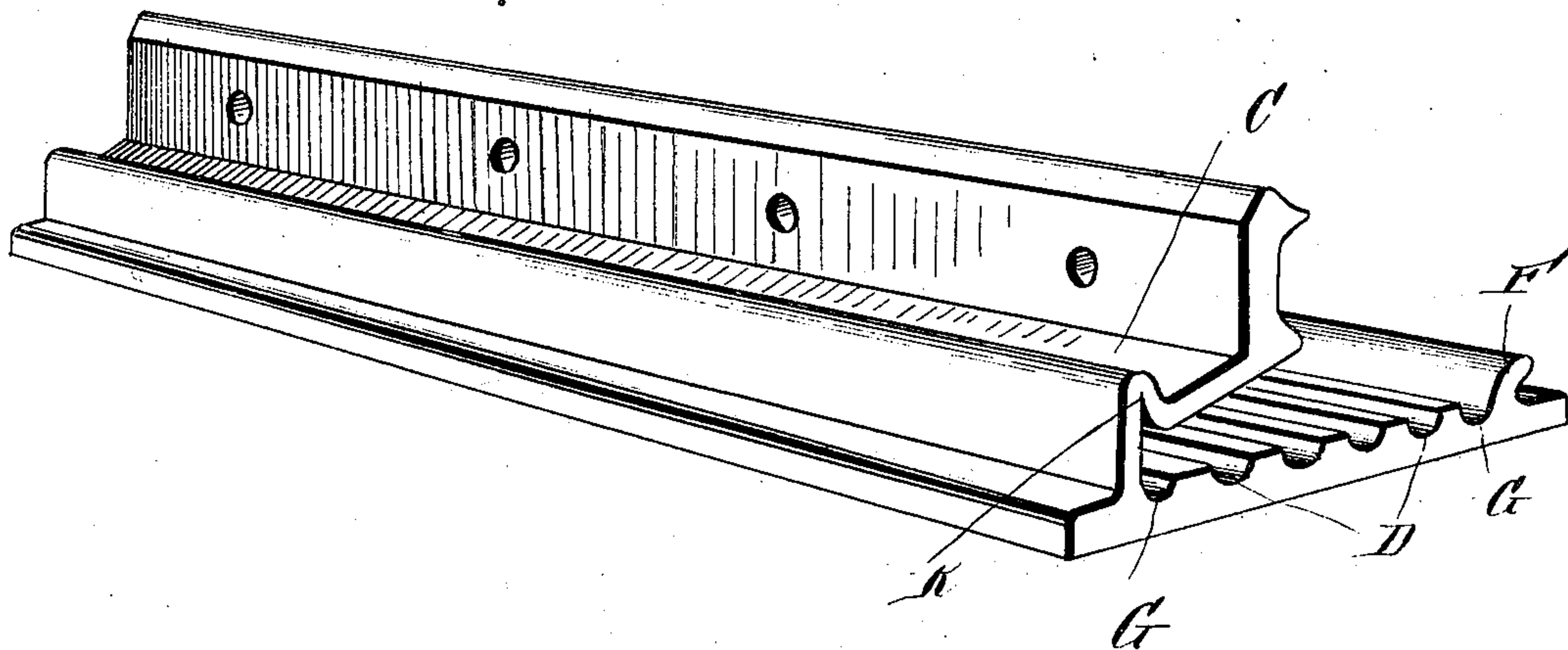
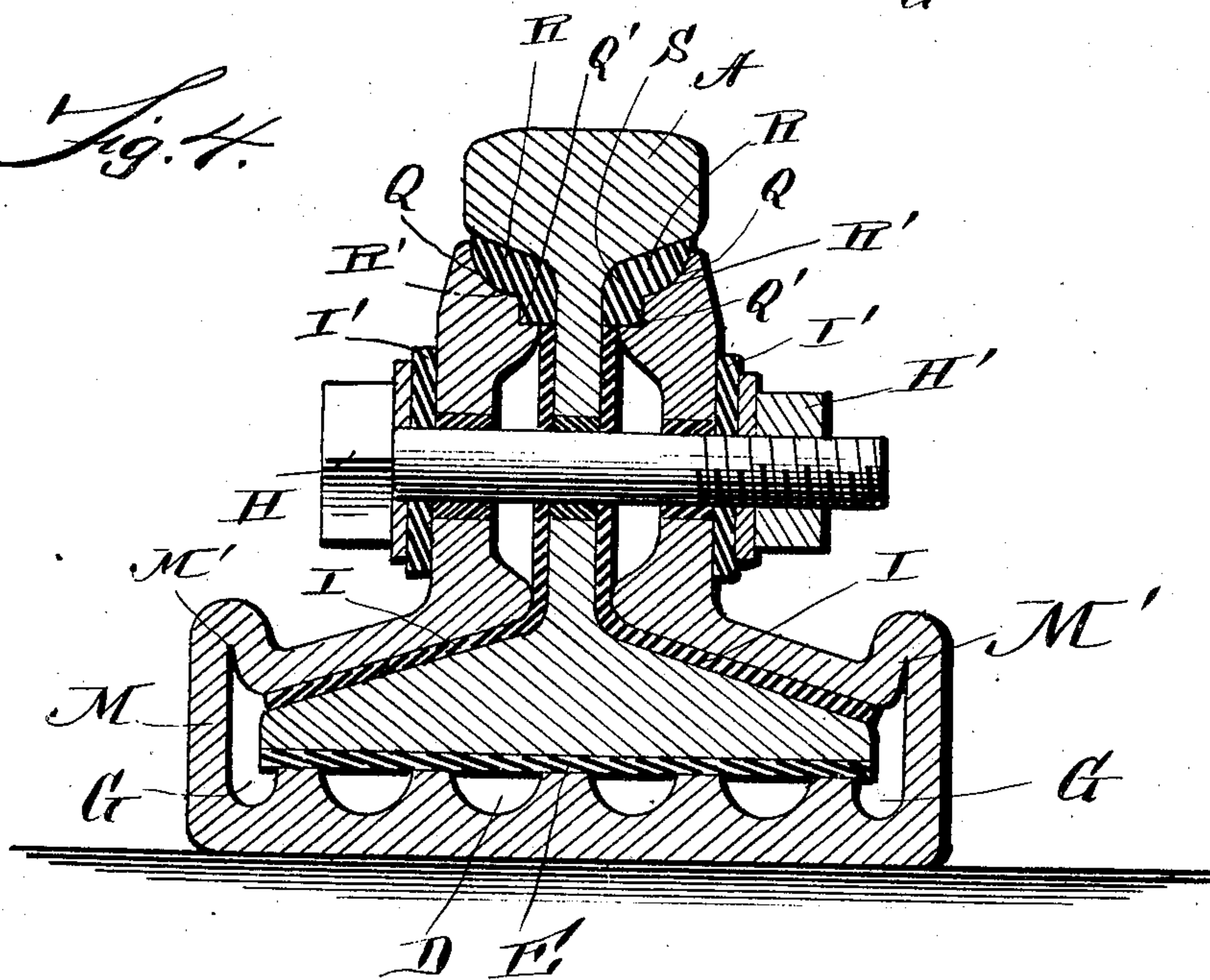


Fig. 4.



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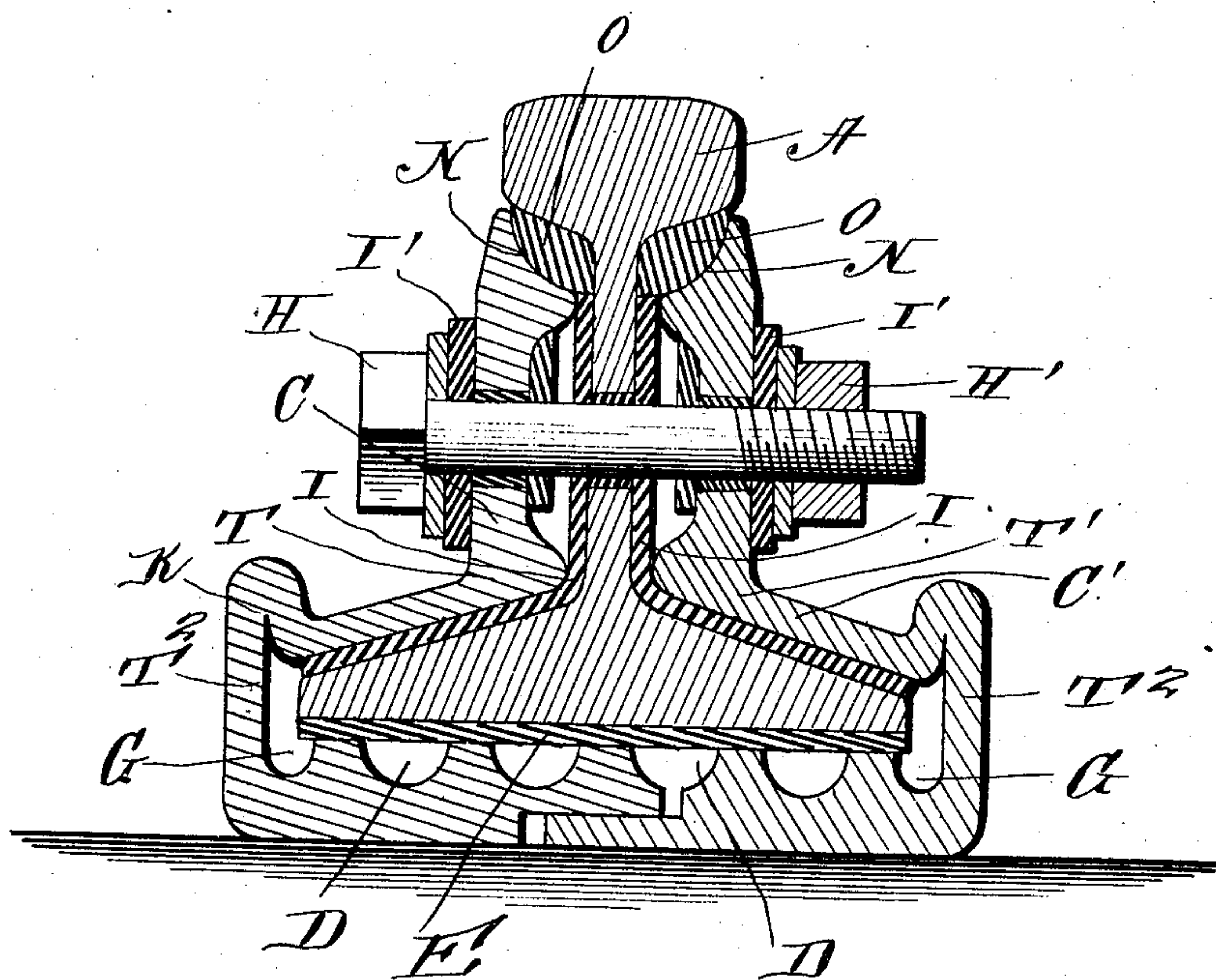
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3 SHEETS—SHEET 3.

Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM F. BOSSERT, OF UTICA, NEW YORK.

INSULATED RAIL-JOINT.

No. 846,901.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed November 30, 1906. Serial No. 345,717.

To all whom it may concern:

Be it known that I, WILLIAM F. BOSSERT, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Insulated Rail-Joints; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in rail-joints; and the object of the invention is to produce a simple and efficient apparatus of this nature so arranged that any wear coming upon the parts may be easily taken up and in the provision of means whereby the insulating material upon which the rail rests may be ventilated and prevented from becoming injured by accumulation of moisture.

The invention consists, further, in the provision in a rail-joint of means whereby the wear upon the chairs may be taken up, thereby causing removable insulating-strips interposed between inclined portions of the chair and the under surfaces of the tread and the fillet of the rail to be adjusted automatically.

The invention comprises other details of construction and combinations and arrangements of parts, which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which—

Figure 1 is a perspective view of the meeting ends of two rails fastened together by my improved rail-joint apparatus. Fig. 2 is a sectional view transversely through a rail, chairs, and insulating-strips. Fig. 3 is a detail perspective view of a portion of one of the chairs, showing the grooves formed in the upper surface of the bottom thereof. Fig. 4 is a sectional view showing a slight modification of the invention, and Fig. 5 is a detail view of another modification.

Reference now being had to the details of the drawings by letter, A A designate the meeting ends of two rails, between which a suitable insulating material B (shown clearly in Fig. 1) is interposed.

Referring to Fig. 2 of the drawings will be seen the chair, made up of two sections, (desig-

nated, respectively, by letters C and C',) the former of which has a laterally-projecting portion, upon which the rail is adapted to rest, and in the upper surface of which extension are formed the longitudinal grooves D, adapted to form ventilating means to avoid impairing the efficiency of the insulating material E, which is interposed between the flange of the lower portion of a rail and the upper surface of the portion of the chair C upon which the rail is supported.

In the form shown in Fig. 2 of the drawings a curved extension F of the chair-section C is formed to receive the hooked portion C' of the chair-section C', engaging the same preferably in the manner shown in Fig. 2, whereby water falling upon the chair-section C' may be prevented from running between the joints of the two sections.

Near the ends of the lateral extension of the chair-section C are formed the grooves G, through which any moisture which might happen to get inside the chairs may make exit and drain away from the insulating material upon which the rail rests. Bolts H are passed through registering apertures in the upright portions of the chairs, and nuts H' upon the bolts serve to clamp tightly the insulating material I against the upper surfaces of the flanges of the rails and also against the web portions thereof, suitable insulating material I' being provided to insulate the bolt and nut, as shown. Said chair-section C is bent upon itself, as at K, for the purpose of allowing any suitable instrument to be applied thereto in the event of it being desired to take up any wear upon the chair-sections, causing the latter to clamp more securely the insulating material I against the flanges and web-surfaces of the rails. The upper portion of the chair-sections each is cut away, forming a concaved inclined seat, (designated in the drawings by letter N,) which seats when the chair-sections are fastened to the webs of the rails are upon the arc of the same cylinder and adapted to receive the removable insulating-strips O, each having its under surface formed upon the arc of a cylinder conforming to the seats upon which they rest, while their upper surfaces conform to the under surfaces of the treads of the rail and the fillet intermediate the tread and the web portion of the rail. By this peculiar construction it will be noted that when the rail-chairs are tightened to take up the wear incident to the parts be-

coming loosened said insulating-strips O will adjust themselves automatically to the rail and fillet, thereby affording the most efficient contact and support for the upper tread portion of the rail.

Referring to Fig. 4 of the drawings will be seen a slight modification of my invention in which the chair-section M is made of a single piece of metal having two portions M', which are bent upon themselves for the purpose of taking up wear upon either side of the chair. In said modified form the upright portions of the chair each is provided with the concaved seat Q, which is at an inclination and terminates in an angled shoulder Q', formed upon the inner surface of the upright portions of the chair, and in said modified form the removable insulating-strips R have their under surfaces convexed, as at R', and also angular, as at S, to conform to the seats upon which they are held. The upper surface of each insulating-strip R is similar in outline to the shape of the upper surfaces of the insulating-strips O, before referred to, and are adapted to conform to the curvature of the under surface of the tread and fillet of the rail.

In Fig. 5 of the drawings I have shown a slight modification of my invention in which the chair is made up of two sections, (designated, respectively, by letters T and T'), each of which is bent upon itself at T', providing means whereby wear upon the chair-sections may be taken up, and the meeting ends of the two chair-sections overlap each other, as shown, slight spaces intervening between the ends which overlap to allow for expansion and shrinkage of the metal incident to variations in the weather.

From the foregoing it will be noted that by the provision of a rail-joint made in accordance with my invention a simple and efficient apparatus is afforded, whereby a thorough ventilation is afforded to the insulation upon which the rail rests, thereby preventing moisture from deteriorating and rendering useless the insulating material, and any looseness incident to wear upon any parts of the joint may be readily taken up by the peculiar construction of the chair or chair-sections, the removable insulating-strips automatically conforming to the contact-surface of the rail, thereby forming a secure support and insulation for the rails, and so arranged that when desired the removable strips may be easily replaced without removing the chair or chair-sections.

What I claim is—

1. An insulated rail-joint comprising a chair having a lateral extension adapted to receive the flange of a rail, an insulating material intermediate the bottom of the flange and said lateral extension of the chair, the rail-supporting surface of the chair underneath said insulation being provided with

longitudinal grooves, whereby the insulating material may be properly ventilated, removable insulating-strips supported by the upright portions of the chair, the latter having a portion thereof bent upon itself forming means whereby wear may be taken up and said insulating-strips held in contact with the under surface of the tread portion of the rail and the fillet thereof, and insulated means for holding the chair-sections in clamping relation with the rail, as set forth.

2. An insulated rail-joint comprising a chair having a lateral extension adapted to receive the flange of a rail, an insulating material intermediate the bottom of the flange and said lateral extension of the chair, the rail-supporting surface of the chair underneath said insulation being provided with longitudinal grooves, whereby the insulating material may be properly ventilated a portion of the chair being bent upon itself adjacent to one edge of the flange of the rail, removable insulating-strips mounted one upon each upright portion of the chair and so arranged that they will automatically adjust themselves to the under surface of the tread portion of the rail and the fillet, when the wear is taken up, and insulated means for holding the chair to the rail, as set forth.

3. An insulated rail-joint comprising a chair having a lateral extension adapted to receive the flange of a rail, an insulating material intermediate the bottom of the flange and said lateral extension of the chair, the rail-supporting surface of the chair underneath said insulation being provided with longitudinal grooves, whereby the insulating material may be properly ventilated, a portion of the chair being bent upon itself adjacent to one edge of the flange of the rail, the upright portion of each chair having an inclined concaved seat underneath the tread of the rails to which the chair is applied, removable insulating-strips having their under surfaces convexed and conforming to the surfaces of the seats upon which they are adapted to rest, their upper surfaces conforming to the under surfaces of the tread portions of the rails and the fillet thereof against which they are adapted to be held by the upright portions of the chair, and insulated means for holding the chair to the rail, as set forth.

4. An insulating rail-joint comprising a chair having a lateral extension grooved upon its upper surface and ungrooved upon its bottom, an insulating material placed over said grooved surface and upon which the flange of a rail is adapted to bear, said lateral extension of the rail-joint having grooves in the upper surface thereof beyond the ends of said insulating material and the longitudinal edges of the flange of the rail, the upright portions of the chair having inclined concaved seats, removable insulating-strips having their under surfaces convexed

adapted to rest upon said seats, their upper surfaces conforming to the under surface of the tread portion of the rail and the fillet thereof, means for taking up the wear upon the chair, and insulated means for holding the chair to the rail, as set forth.

5 5. An insulated rail-joint comprising a chair made up of two sections, one of which is provided with a lateral extension which is grooved upon its upper surface, an insulating material covering said grooves and upon which the flange of a rail is adapted to rest, a portion of the lateral extension of said rail-section being provided with an upwardly and outwardly curved flange, the other chair-section being provided with a hook adapted to engage over said curved flange, the rail-sup-

porting chair-section having a portion thereof bent upon itself forming means for taking up wear, the upper ends of the chair-sections having inclined concaved seats, removable insulating-strips resting upon said seats and having their upper surfaces conforming to the under surfaces of the rail and fillet against which they are adapted to adjust themselves as the wear upon the chair-sections is taken up, and insulated means for holding the chair to the rail, as set forth.

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

WILLIAM F. BOSSERT.

Witnesses:

A. B. MERRIHEW,

CLARENCE C. BOFF.