

No. 835,132.

PATENTED NOV. 6, 1906

H. G. GILLMOR.
RAIL JOINT.

APPLICATION FILED MAR. 25, 1905.

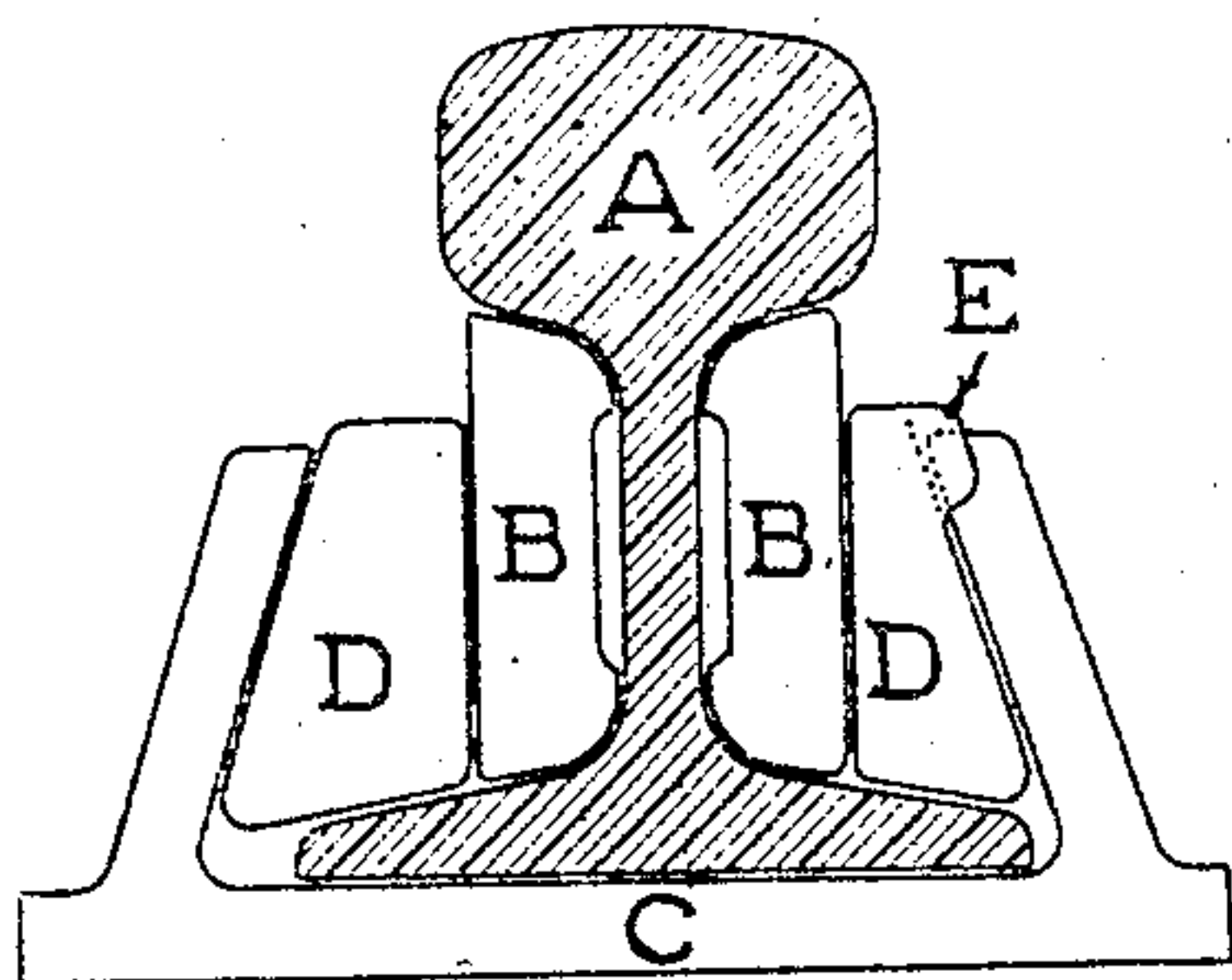


FIG. 1

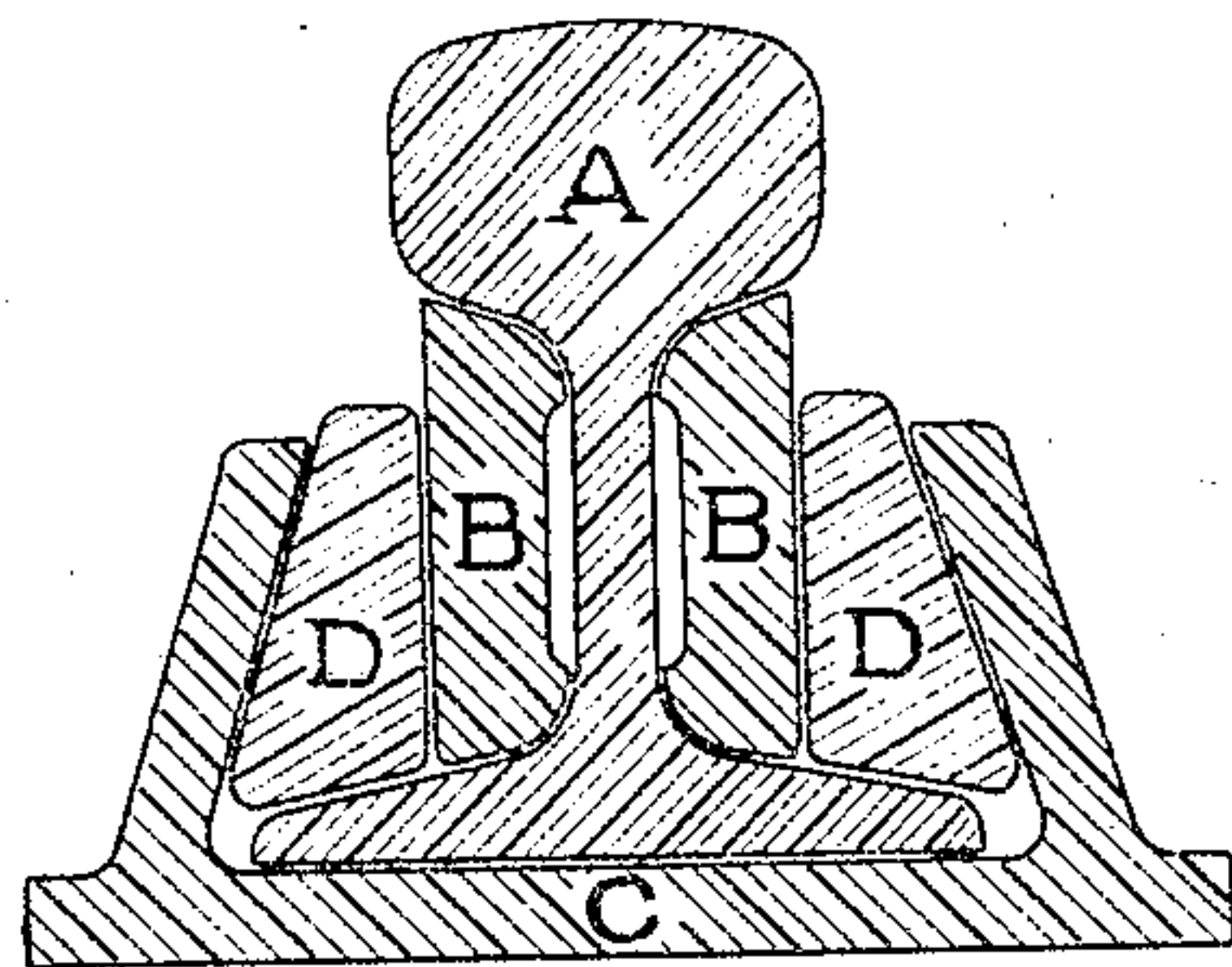


FIG. 4

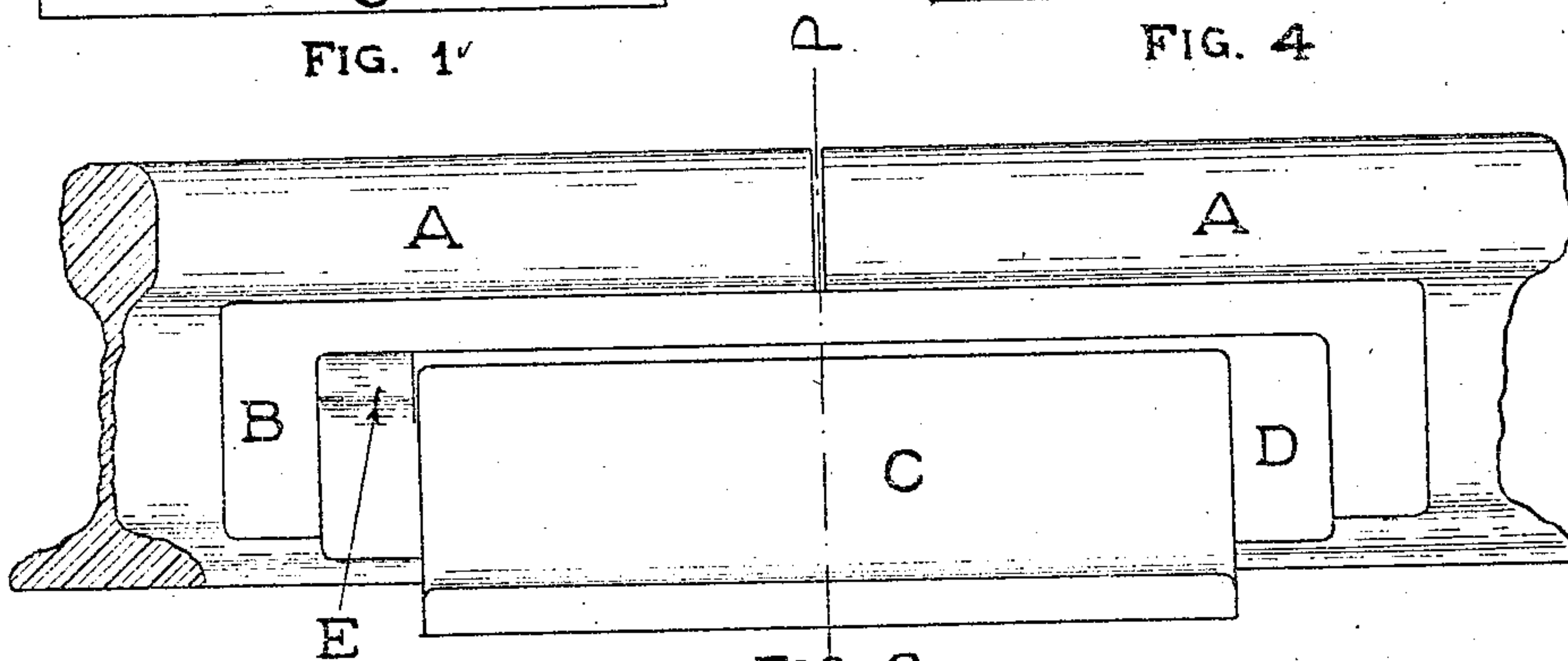


FIG. 2

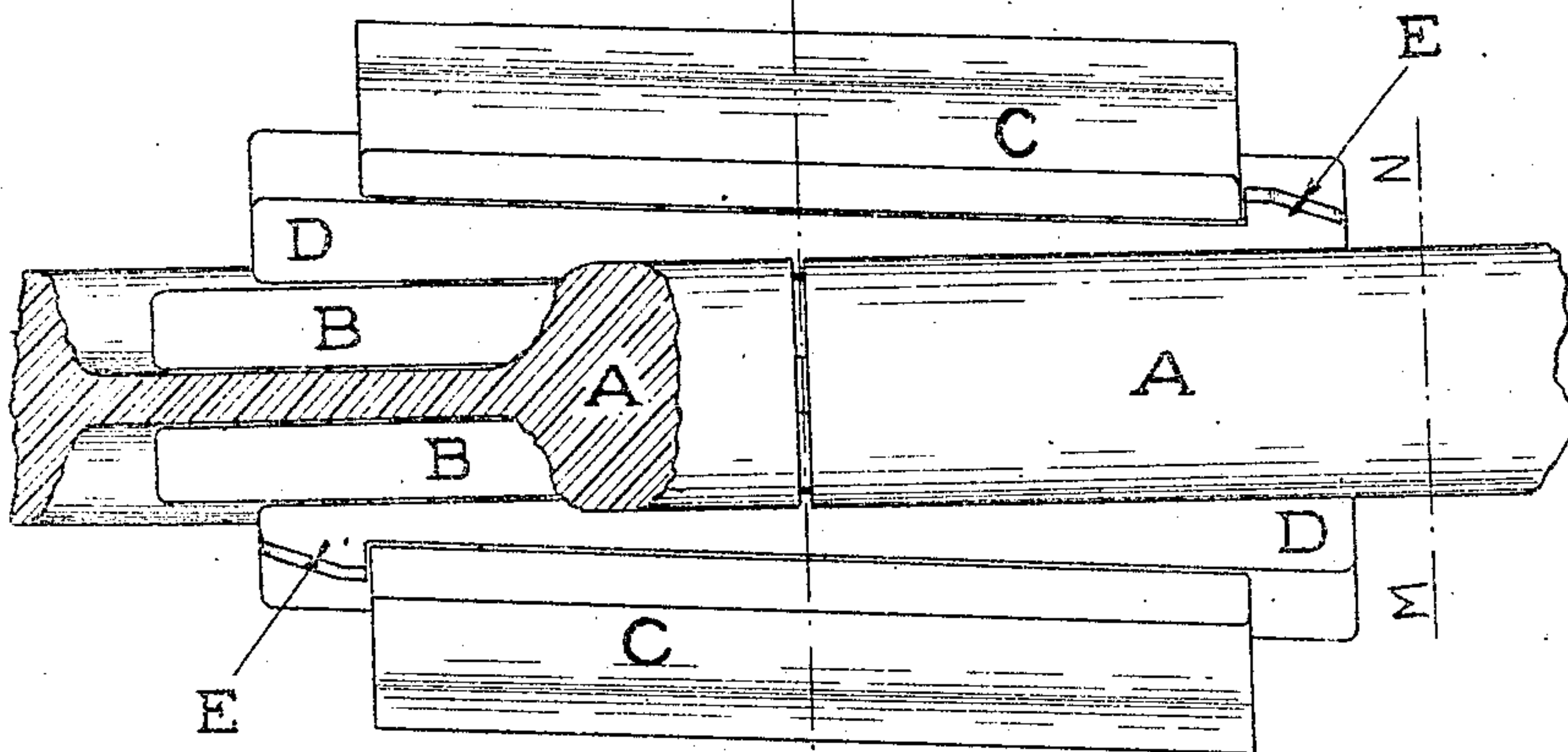


FIG. 3

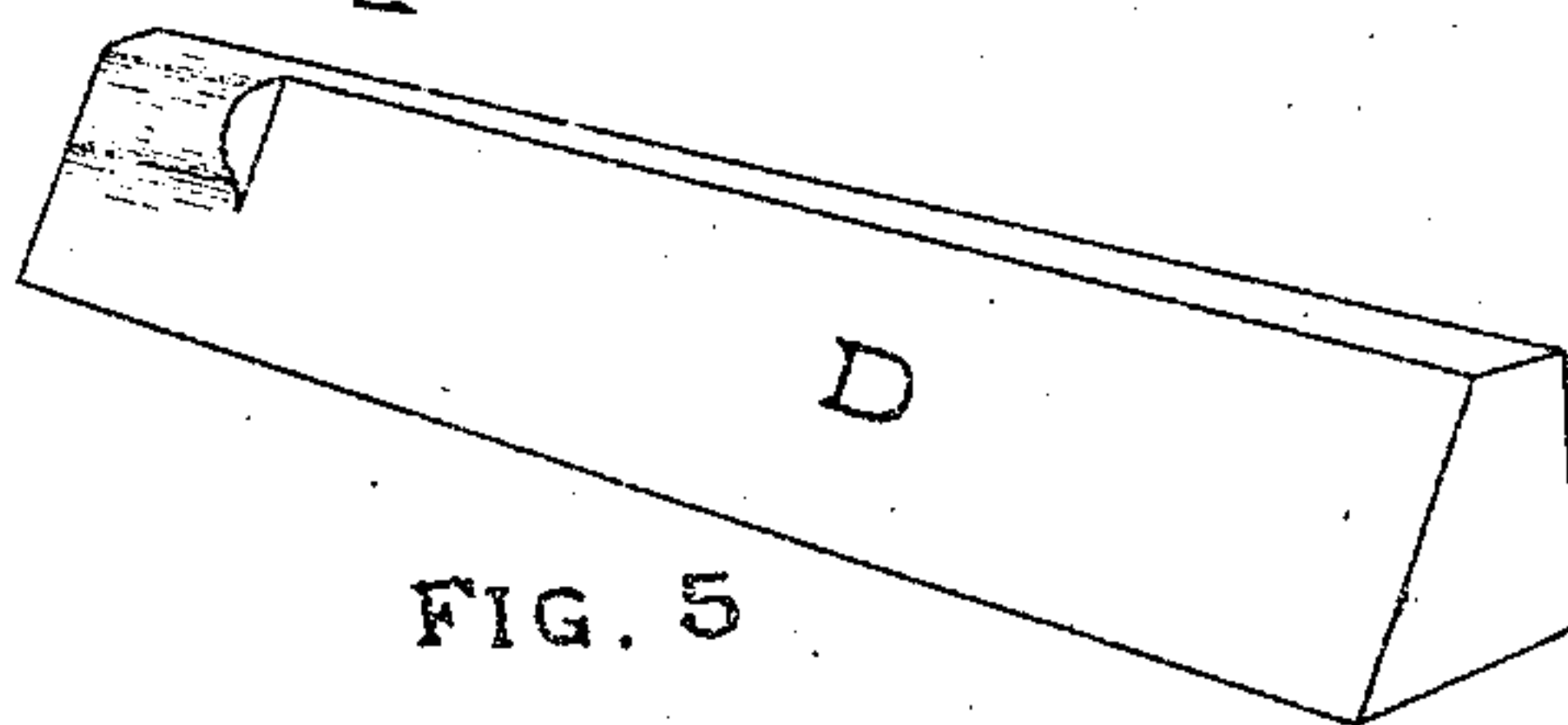


FIG. 5

2 Witnesses
H. H. Bonennot
Jas. Sorman

H. G. Gillmor,
Inventor

UNITED STATES PATENT OFFICE.

HORATIO G. GILLMOR, OF BATH, MAINE.

RAIL-JOIN

No. 335,132.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed March 25, 1905. Serial No. 251,998.

To all whom it may concern:

Be it known that I, HORATIO G. GILLMOR, a citizen of the United States, residing at Bath, county of Sagadahoc, State of Maine, have invented an Improvement in the Means of Forming Joints in Rails, of which the following is a specification.

The objects of my invention are, first, to provide an efficient means of joining rails which shall be free from parts which are liable to work loose after having once been properly placed, and, second, in case the rail is used as a portion of an electrical circuit which shall have an electrical conductivity through the joint more nearly equal to the electrical conductivity of the unjointed portion of the rail than is the case with the forms of joint at present in use.

I attain these results in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section through the unjointed portion of the rail at M N, looking at the end of a made-up joint. Figs. 2 and 3 are a side elevation and plan, respectively, of the joint. Fig. 4 is a vertical section through the joint at O P. Fig. 5 is a view of a locking-wedge used in making up the joint.

Similar letters refer to similar parts throughout the several views.

A A are the rails to be joined.

B B are fish-bars or splice-bars.

C is a chair.

D D are locking-wedges, each having a projection or catch E, the purpose of which is to engage with a surface of the end of a flange of the chair when the wedge is in place and prevent it from working loose.

The joint is made up by placing the rail ends in the chair in the position shown, placing the splice-bars B B as shown, and inserting the wedges and driving them until the catch projection E has reached the position shown in the drawings, so as to engage with the edge of the end of a flange of the chair and prevent any withdrawal or slackening of the wedge. The chair C is made of elastic materials, and the dimensions of the wedge, the catch projection E, and the chair are such that the flanges of the chair C when the wedge is being driven into place are sprung sufficiently to permit the passage of the projection E without permanent distortion of the chair, so that when the wedge has reached its final position these flanges by their elasticity

spring back to approximately their original form and bring the edge of the end of the flange of the chair into engagement with the catch E and prevent any backward movement of the wedge. The dimensions of the wedge and chair are such that with the wedge in its final position there will be an appreciable pressure exerted upon the splice-bars B B to hold them in position and upon the chair C to hold it in intimate contact with the bottoms of the rails joined. The forms of the wedges D and the chair C are such as to give a double wedging action, so that there is exerted a horizontal pressure upon the splice-bars B B to hold them in position and at the same time a vertical pressure upon the beveled flanges of the chair, drawing it into intimate contact with the bottoms of the rails at the joint.

The surfaces of contact of the splice-bars B B and the chair C with the rails are in area several times the area of any right section of the unjointed portion of the rail, and these surfaces by the pressure exerted upon them are brought into and retained in intimate contact, so that where the rails form a part of an electrical circuit should the conductivity per unit of area at the surface of contact between the rails, the splice-bars, and the chair be less than the conductivity per unit of sectional area of the continuous portion of the rail the total conductivity through the surfaces of contact (on account of the greater area of these surfaces) and through the sectional area of the material of the chairs, splice-bars, and wedges at the joint will still be at least equal to the conductivity of the continuous unjointed portion of the rail.

It will be understood that the form of the joint may be modified materially without effect upon the principle involved. For instance, the wedges might be driven from the same direction, or a single wedge might be used instead of the two shown, or two wedges on the same side of the rails driven from opposite directions might be employed, or the locking-wedges might be formed integral with the fish-bars. It will be understood also that the forms of the rails to be joined will vary considerably and that the forms of the chair, fish-bars, and wedges will necessarily be varied to suit the conditions presented. I wish these, my specifications, to cover such modifications in form.

Having thus described my invention, what

I claim as new, and desire to secure Letters Patent for, is—

1. In a rail-joint, a locking-wedge or locking-wedges, having a projection E constructed to automatically engage with a surface of a member of such joint when driven to position, substantially as and for the purpose described.

2. In a rail-joint, the combination of a chair having upwardly-projecting elastic flanges, and a locking-wedge constructed to engage in wedging contact between a member of such joint and a flange or flanges of said chair and having a projection upon one of its faces adapted to automatically engage with a surface of a flange of said chair when driven into position to prevent slackening of the wedge, substantially as and for the purpose described.

3. In a rail-joint, the combination of a chair having upwardly-projecting flanges and locking-wedges, each having a projection upon one of its faces adapted to engage with a surface of a flange of the said chair, substantially as and for the purpose described.

4. In a rail-joint, the combination of a chair of substantially uniform sectional area, having upwardly-projecting flanges, and two substantially like locking-wedges, each having a projection on one face adapted to engage with a surface at one end of a flange of the said chair, substantially as and for the purpose described.

5. In a rail-joint, the combination of the meeting ends of the rails, a chair having upwardly-projecting flanges, and a locking-wedge having a projection upon one of its faces adapted to engage with a surface of a flange of the said chair to prevent slackening of the wedge when driven into position, substantially as and for the purposes described.

6. In a rail-joint, the combination of the meeting ends of the rails, a chair having upwardly-projecting flanges, and locking-wedges, each having a projection upon one of its faces adapted to engage with surfaces of the flanges of the said chair to prevent slackening of the wedges when driven into position, substantially as and for the purposes described.

7. In a rail-joint, the combination of rails;

a fish-bar, a chair having upwardly-projecting flanges, and a locking-wedge having a projection upon one of its faces, adapted to engage with an end of a flange of the said chair, substantially as and for the purpose described.

8. In a rail-joint, the combination of rails, a fish-bar, a chair having upwardly-projecting flanges, and locking-wedges each having a projection upon one of its faces, adapted to engage with an end of a flange of said chair, substantially as and for the purpose described.

9. In a rail-joint, the combination of rails, a fish-bar, of substantially uniform section, a chair of substantially uniform section having upwardly-projecting flanges and locking-wedges, each having a projection upon one of its faces, adapted to engage with an end of a flange of said chair, substantially as and for the purpose described.

10. In a rail-joint, the combination of rails fish-bars, a chair having upwardly-projecting flanges; and a locking-wedge, having a projection upon one of its faces adapted to engage with an end of a flange of the said chair, substantially as and for the purpose described.

11. In a rail-joint, a combination of rails, fish-bars, a chair having upwardly-projecting flanges, locking-wedges each having a projection upon one of its faces adapted to engage with an end of a flange of the said chair, substantially as and for the purpose described.

12. In a rail-joint, the combination of rails, two fish-bars of substantially uniform section, a chair of substantially uniform section having upwardly-projecting flanges, and two substantially like locking-wedges, each having a projection upon one of its faces adapted to engage with an end of a flange of the said chair, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

H. G. GILLMOR.

Witnesses:

JAS. GORMAN,

H. H. BONNEMORT.