

No. 782,645.

PATENTED FEB. 14, 1905.

O. M. DEEMER.

RAIL JOINT.

APPLICATION FILED APR. 19, 1902.

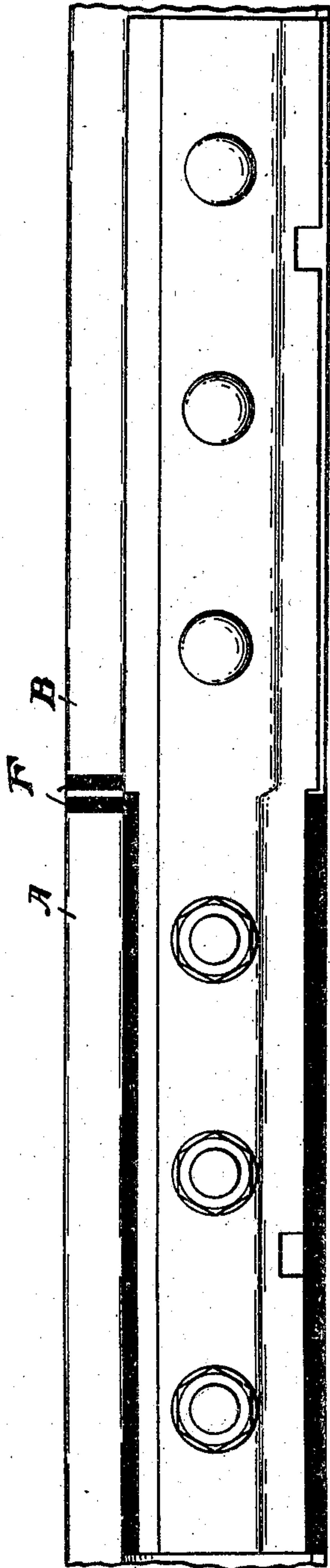


Fig. 1.

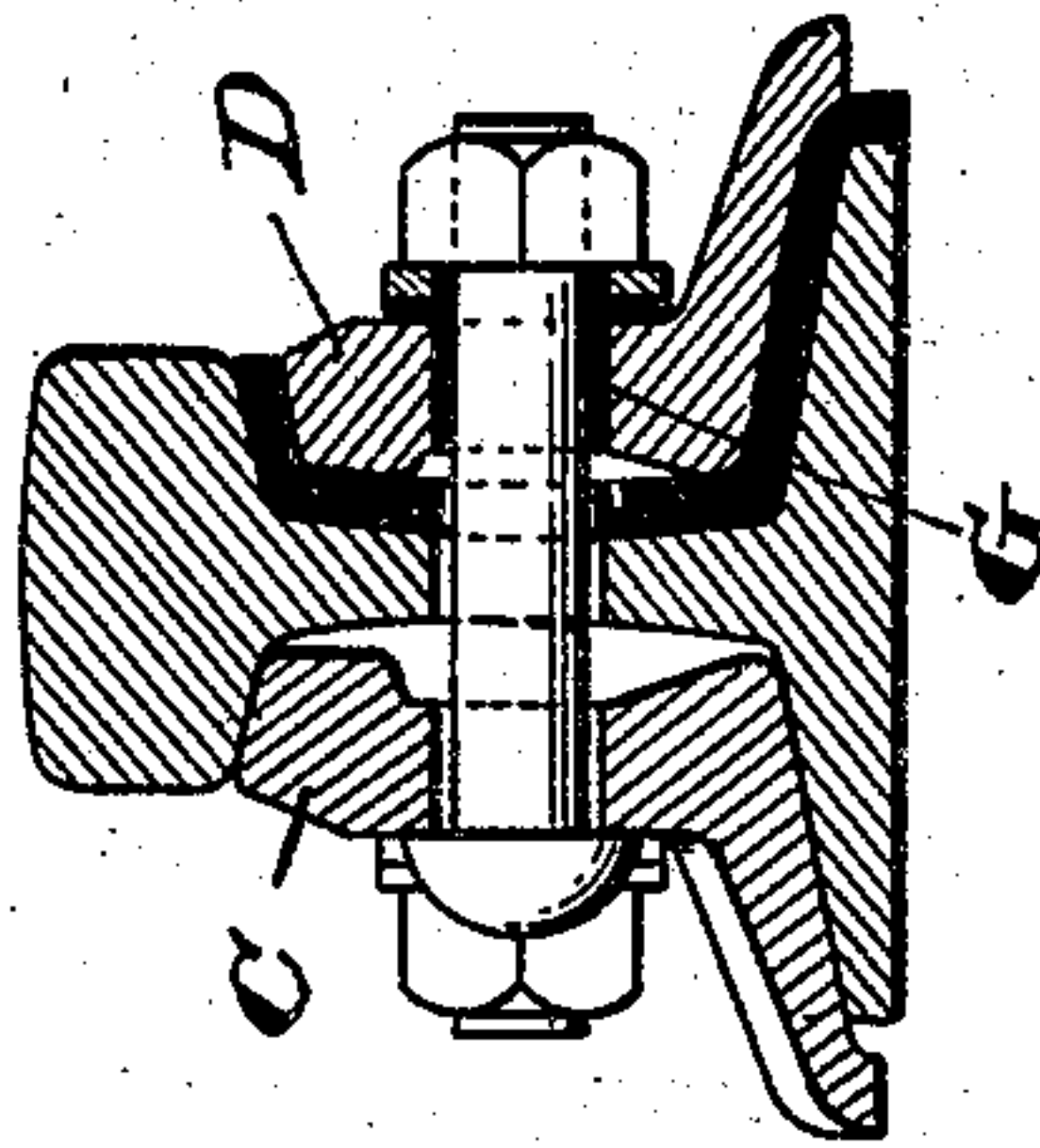


Fig. 2.

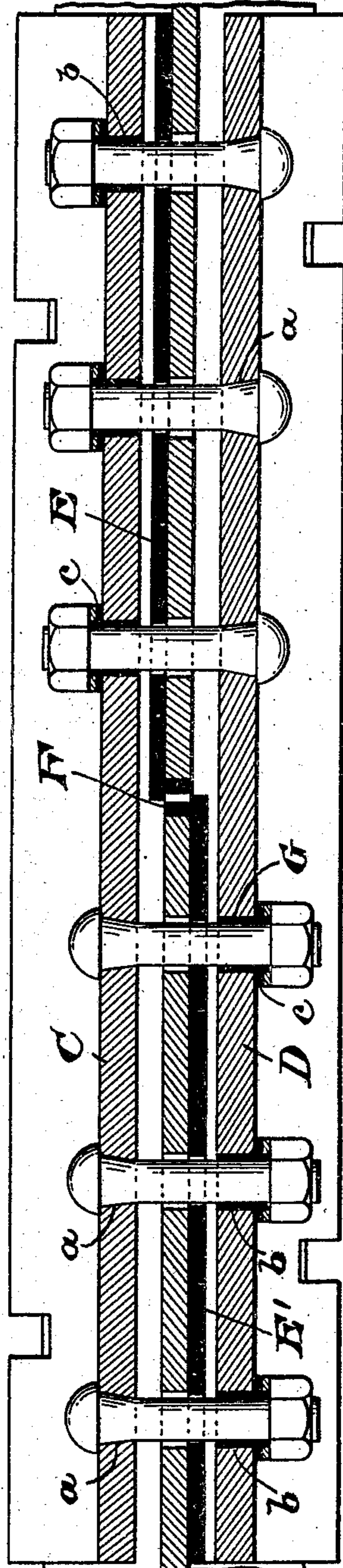


Fig. 3.

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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 782,645, dated February 14, 1905.

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To all whom it may concern:

Be it known that I, ORA M. DEEMER, a citizen of the United States, residing at Gilmore, Sarpy county, Nebraska, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to rail-joints, and more particularly to that class of rail-joints wherein the rails are electrically insulated one from the other.

The object of my invention is to provide a rail-joint that will be perfectly insulated and that will be durable and easily set up.

To these ends my invention consists of the construction hereinafter described, and more fully set forth in the claims.

In the accompanying drawings, Figure 1 is a side elevation of the rail-joint. Fig. 2 is a longitudinal section. Fig. 3 is a vertical section.

A and B are the adjoining ends of the rails connected by the fish-plates C and D, these fish-plates having their opposite ends depressed on the inner side for one-half their length for the reception of the insulating-strips E and E', which cover the entire inner surface of each fish-plate for one-half its length. This strip may be of any suitable insulating material. An insulating-block F, of the same material, is fitted between the abutting ends of the rails A and B. When the joint is assembled, the depressed portions of the fish-plates with the insulating-strip contained in said depression are on opposite sides of the joint and on opposite sides of the rails.

The fish-plates C and D are provided with the usual bolt-holes *a* and *b*. In one end of the plate the holes *a* are elongated for receiving the bolt and holding the same from turning. In the other or depressed end of the fish-plate the holes *b* are circular and are sufficiently large to allow the insulating-sleeve G to be placed around the bolt. An insulating-washer *c* is placed between the iron washer *d* and the fish-plate, thus thoroughly insulating the bolt from the plate. A separate sleeve G and washer *c* may be used for insulating the bolt, or they may be made in one piece, as

shown in Fig. 3. This construction completely insulates the rails, the fish-plates C being separated from the rail B by the insulating-strip E. The ends of the rails are separated by the insulating-block F, and the fish-plate D is separated from the rail A by the insulating-strip E', and the bolts are separated from the fish-plates by insulating-sleeves G and washers *c*, as hereinbefore described.

The fish-plates are made exactly alike and both of them will fit on either side of the rails, rendering it impossible to set the joint up wrong. One side of each rail comes in direct contact with and is supported by one of the fish-plates, the under side of the head of the rail and the top of the base-flange of the same bearing directly against the top of the fish-plate and the bottom thereof, respectively, which prevents all slipping and cutting of the insulation and makes a firm and durable joint which is not liable to break or become distorted.

Having thus described my invention, what I desire to claim is—

1. In a rail-joint, the combination with the rails, of the fish-plates having depressions in one end thereof, insulating material adapted to fit into said depressions, insulating means for the ends of said rails, connecting-bolts and means for insulating the same, substantially as described.

2. In a rail-joint, the combination with the rails, of the fish-plates having depressions formed in one end thereof and insulating-strips adapted to fit into said depressions, enlarged bolt-holes in said fish-plates, adapted to receive insulating-sleeves for the bolts, substantially as described.

3. In a rail-joint, the combination with the rails, of fish-plates on either side thereof and connecting means for said fish-plates, each of said rails being in contact with one of said fish-plates and insulated from the other of the said fish-plates, substantially as described.

4. In a rail-joint, the combination with the rails, of the fish-plates on either side thereof and connecting means for said fish-plates, one of said fish-plates being insulated from one

side of one rail and the second of said fish-plates being insulated from the opposite side of the second rail, substantially as described.

5 5. An insulated rail-joint having opposite splice-bars, each bar having its inner face recessed for one half its length, and insulating material seated in the recesses, substantially as described.

10 6. A splice-bar having an inner recess extending for one half its length and arranged to receive a layer of insulating material, substantially as described.

15 7. An insulated rail-joint having splice-bars, one half only of each splice-bar being insulated, substantially as described.

8. An insulated rail-joint having a splice-bar, one half of which is insulated, the remaining half bearing directly against the head of the rail, substantially as described.

20 9. An insulated rail-joint having one splice-bar insulated on one side only of the rail-joint, and the other bar insulated on the other side only of said joint, the remaining half of said bars being in metallic contact with the rails, 25 substantially as described.

30 10. In a railway rail-joint, fish-plates adapted to embrace the rails, said plates having countersunk or recessed portions, and insulating material between the rails and such portions of the plates.

35 11. In a railway rail-joint, fish-plates adapted to embrace the rails, said plates having countersunk portions, and insulating-shields arranged in said countersunk portions, the thickness of the shields being substantially

the same as the depth of the countersunk portions of the plates.

12. In a railway rail-joint, fish-plates adapted to embrace the rails, said plates having recessed portions, such portion of one plate 40 being non-coincident with the corresponding portion of the complementary plate, and insulator-shields arranged between the recessed portions of the plates and the contiguous portions of the rails. 45

13. In a railway rail-joint, fish-plates adapted to embrace the rails, said plates being recessed for a portion of their length, insulator-shields arranged between said recessed portions and the rails, and means for securing 50 the fish-plates and shields to the rails, said means being insulated from the rails and fish-plates.

14. The combination of the rails, electrical insulation and connecting-plates, each of said 55 connecting-plates bearing directly against one rail and insulated from the other, substantially as set forth.

15. An insulated rail-joint comprising two opposing shoe-angles, means for insulating 60 one of the rail ends from one of the shoe-angles and the other of the rail ends from the other of the shoe-angles, and means for holding the rail ends in proper alinement.

In testimony whereof I affix my signature in 65 presence of two witnesses.

ORA M. DEEMER.

Witnesses:

GEORGE KERR,
JOHN BALDWIN.