No. 790,886. PATENTED MAY 30, 1905.

S. S. DEEMER.

INSULATED RAIL JOINT.

APPLICATION FILED AUG. 15, 1904.

2 SHEETS—SHEET 1.

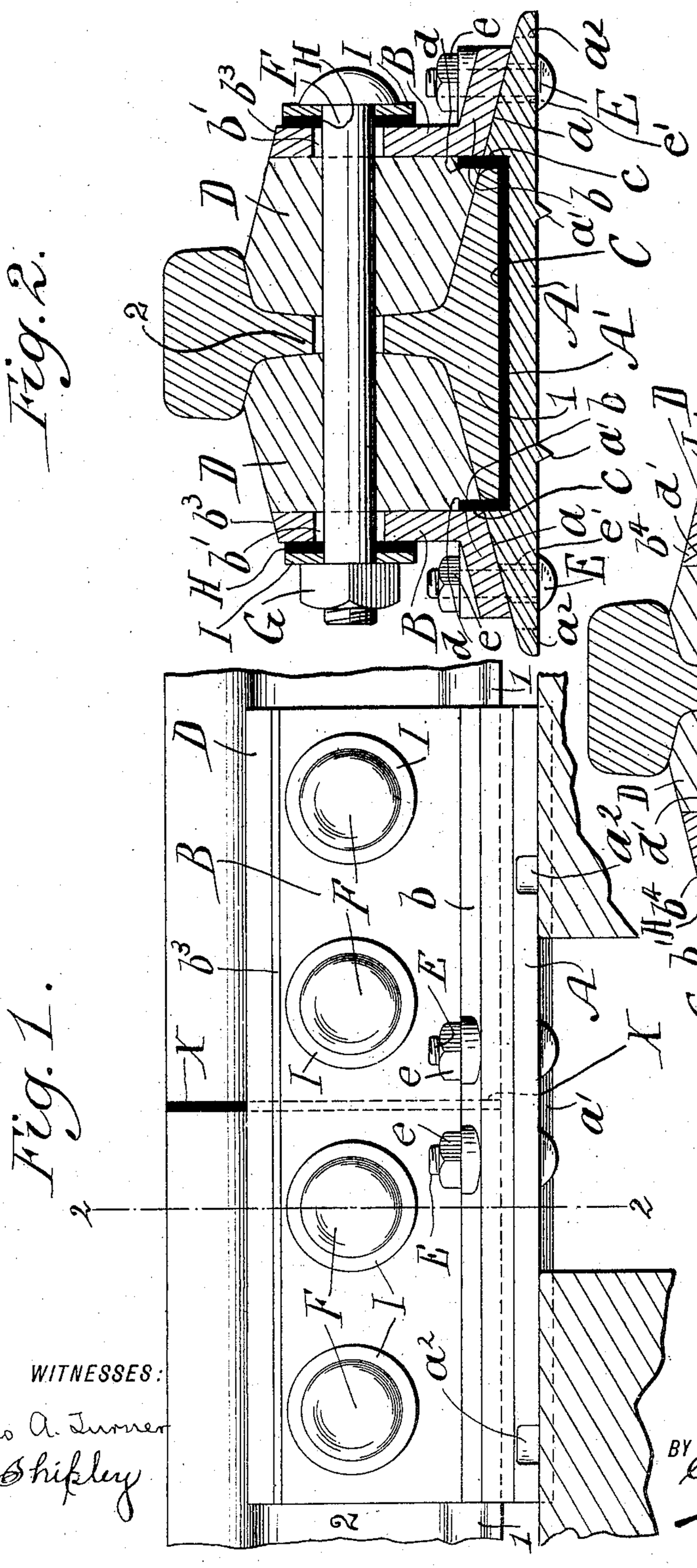

Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES:

Philo A. Turner

M. Shipley

INVENTOR

S. S. Deemer

BY Clark & Deemer & C

ATTORNEYS.

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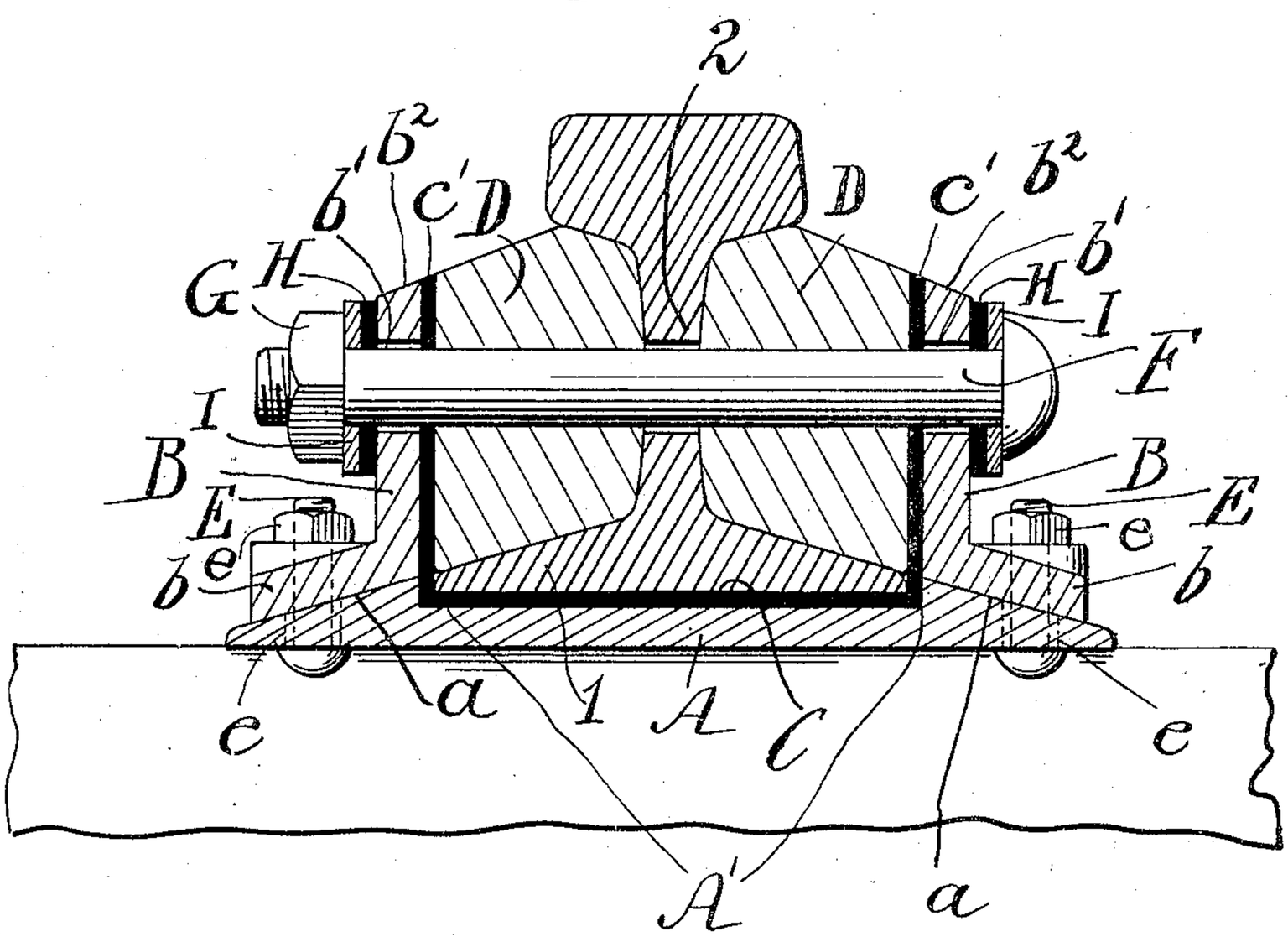
2 SHEETS—SHEET 2.

Fig. 4.



WITNESSES:

Wm. Shipley

G. G. Hladd,

INVENTOR

S. S. Deemer

BY

Clark, Deemer & Co

ATTORNEYS.

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UNITED STATES PATENT OFFICE.

SELDEN SCRANTON DEEMER, OF READING, PENNSYLVANIA.

INSULATED RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 790,886, dated May 30, 1905.

Application filed August 15, 1904. Serial No. 220,872.

To all whom it may concern:

Be it known that I, SELDEN SCRANTON DEEMER, a citizen of the United States, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Insulated Rail-Joints, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar characters of reference indicate corresponding parts.

This invention relates to insulated rail-joints, the object thereof being to effectually insulate the rail-sections from the metallic coupling device in such manner that the insulating material employed is protected from and not subject to the deleterious effects of moisture.

The invention will be hereinafter fully described, and specifically set forth in the annexed claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side view of my improved rail-joint and the adjacent end parts of two rail-sections. Fig. 2 is a cross-sectional elevation taken on the line 2 2 of Fig. 1. Fig. 3 is a cross-sectional elevation illustrating a slight modification, and Fig. 4 is a cross-sectional view showing a further modification.

In the practice of my invention I provide, primarily, a metallic base or bed plate A, which has top surface parts which upwardly and centrally converge by the angles *a* and register with the flanges *b* of the fish-plates B, which plates are pierced by the customary bolt-openings *b'*. The base A has edge notches a^2 for engaging spikes, and located centrally of the base A is a shallow longitudinal groove A'. Within this groove is a plate C, composed of suitable insulating material, as compression fiber, and having the upwardly-extended flanges *c c*, which extend beyond the upper surface of the base-plate and contact with the side edges of the rail-base 1, and thereby completely insulate said rail-base 1 from the base-plate of the coupling device. The bottom of the base-plate A is provided with V-shaped ribs *a'* to engage with the tie to prevent spreading and strengthen the structure.

A wooden block D is located on each side of the rail-stem 2, and each of these blocks is provided at its lower outer edge with a corner groove or recess *d*. These grooves are adapted for engagement with the upper ends of the flanges *c* of the insulator C. The bottom surface of each block D is described by an angle parallel to and registering with the angle of the upper surface of the rail-base adjacent thereto, and each top surface also describes a downwardly-extended angle whereby water will be readily carried off. These angles are approximately parallel with the angles of the top and adjacent surfaces of the blocks D and fish-plates B, so that when the said fish-plates are tightly clamped against the blocks D the beveled edge b^3 of the fish-plate registers with the top surface of the block D adjacent thereto, whereby water will not be permitted to accumulate and penetrate to the insulator C.

As a means for insulating the abutting ends of the rail-sections a plate X, of insulating material, is placed between said rail-sections, which plate is of the same contour as the cross-section of the rail.

The fish-plates B are secured to the base-plate A by means of the bolts E and nuts *e*, said bolts passing through slots *e'* in the base-plate to admit of the necessary lateral adjustment of the fish-plates.

In the modification illustrated by Fig. 3 of the drawings the flanges b^x of the fish-plates extend to the edges of the base-plate A and have notches b^y, which register with the notches 7 of the base-plate. These notches conjointly engage an ordinary railway-spike, which may be employed to simultaneously fasten the plate A to the tie and fish-plate. In this structure each fish-plate is provided with an inwardly and upwardly extended flange b^4, which engages a groove *d'* of the block D.

In the operation and use of the invention it is obvious that having connected the base-plate and its insulator C said parts may be readily placed beneath the adjacent base parts

of the two rail-sections to be joined. The blocks D are then placed into position, and the rail-sections, fish-plates, and said blocks are securely clamped together by means of the bolts F and nuts G. Washers H, of insulating material, and metallic washers I are employed to thoroughly close the openings *b'* of the fish-plates. The base-plate A is then securely attached by means of the bolts E and nuts *c*.

I do not confine myself to the specific construction and proportion of the parts as herein shown and described, as it is obvious that under the scope of my invention I am entitled to slight variations.

In the form of my invention illustrated by Fig. 4 of the drawings the insulator C is provided with elongated flanges *c'*, which are pierced to engage the bolts F, whereby when said bolts are fastened the said insulator, rail-sections, blocks D, and fish-plates are all in secure connection.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A rail-joint comprising a base-plate having a central groove and a lining of insulating material within said groove, and fish-plates adjustably connected to said base-plate, substantially as shown and described.

2. A rail-joint comprising the base-plate having central groove, insulator having upwardly-extended flanges, and the adjustable fish-plates and means for attaching them, and the wooden blocks, substantially as shown and described.

3. In a rail-joint, the combination with the base-plate having the top angles and the longitudinal groove, and the insulator within said groove, of the detachable fish-plates embodying the upright plates and obliquely-extended flanges, and means fastening the said fish-plates to the base-plate, and the wooden blocks and connecting-bolts and nuts, and washers, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 19th day of July, 1904.

SELDEN SCRANTON DEEMER.

Witnesses:
E. B. WELDER,
WILLIAM RICK.