

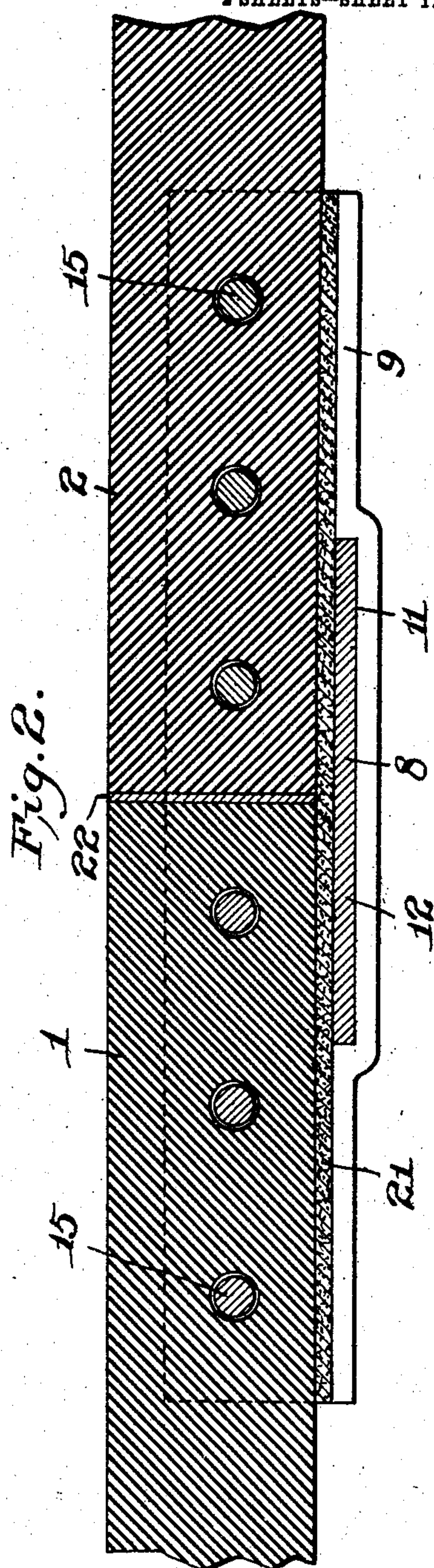
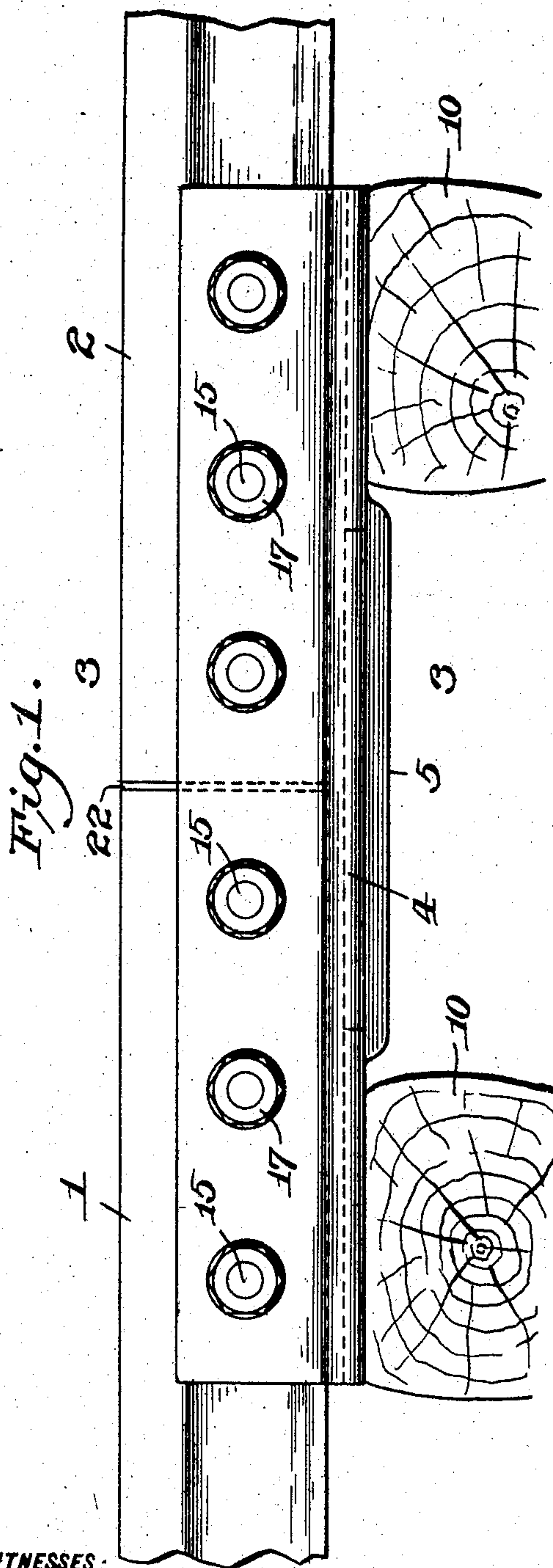
No. 781,402.

PATENTED JAN. 31, 1905.

E. J. CLARK.  
RAIL JOINT.

APPLICATION FILED AUG. 29, 1904.

2 SHEETS--SHEET 1.



**WITNESSES:**

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***INVENTOR***

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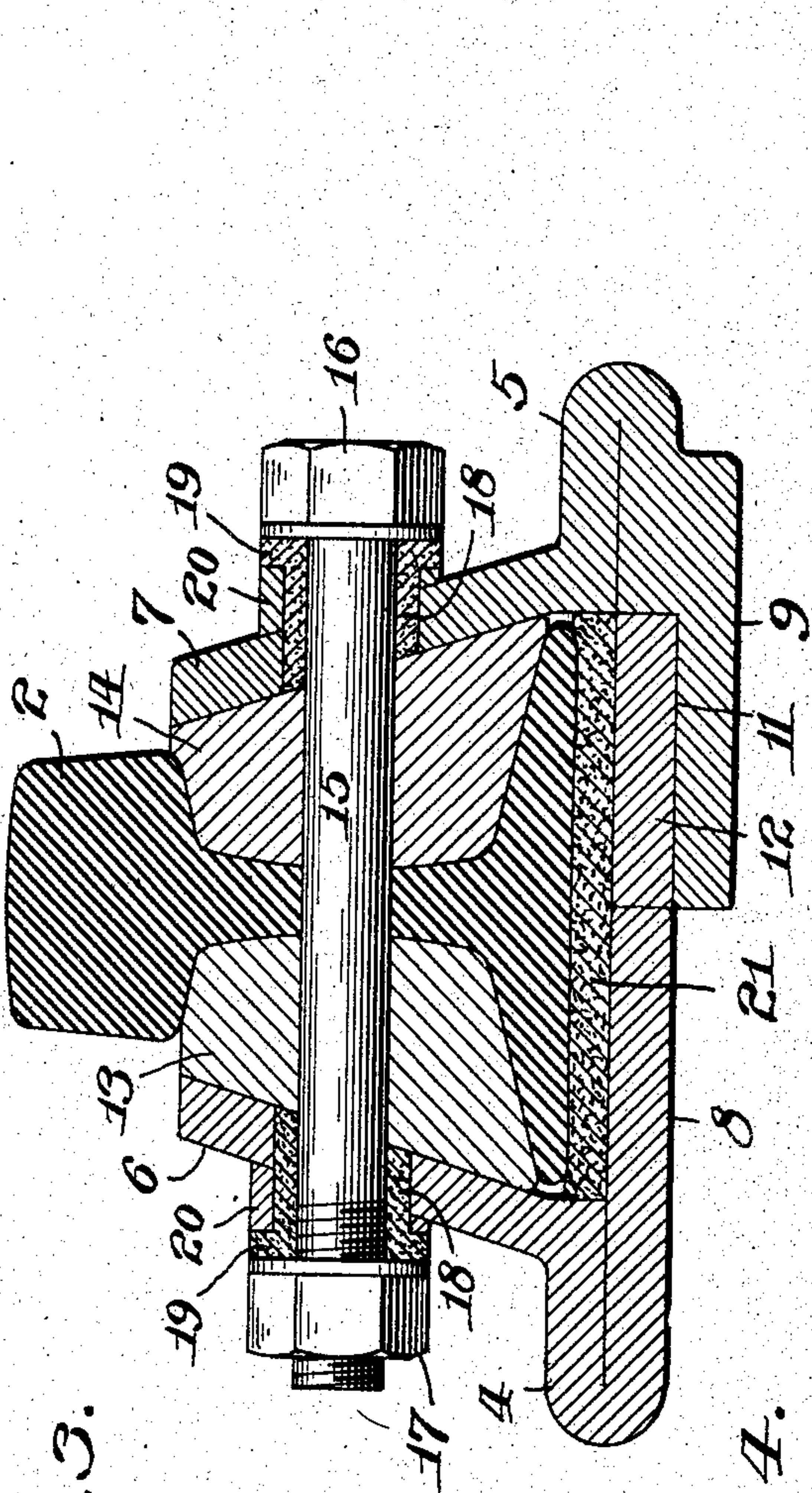


Fig. 3.

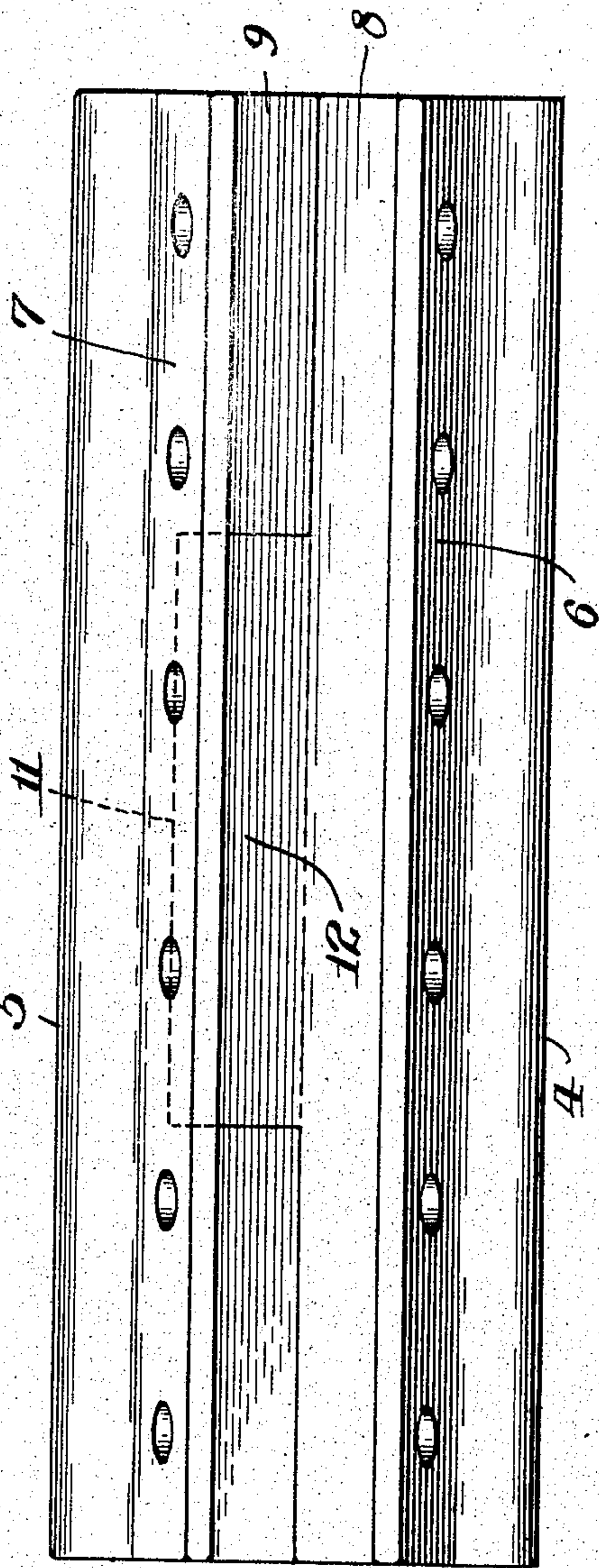


Fig. 4.

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# UNITED STATES PATENT OFFICE.

EDWARD J. CLARK, OF CAMDEN, NEW JERSEY.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 781,402, dated January 31, 1905.

Application filed August 29, 1904. Serial No. 222,546.

*To all whom it may concern:*

Be it known that I, EDWARD J. CLARK, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail-joints, and particularly to that class of rail-joints by means of which the adjacent ends of two rail-sections are not only maintained in alinement, but also insulated from each other.

It is a well-known fact that the wheels of a railway-car in passing along a trackway comprising a series of rail-sections causes a slight vertical movement of adjacent ends of rail-sections with respect to each other, owing to the great weight carried by the wheels, and it is also a well-known fact that if the rail-joint which holds the meeting ends of the rail-sections relatively to each other does not permit this slight vertical movement break-ages between the parts will occur on account of the great strain upon the rails. Heretofore great difficulty has been experienced in maintaining the adjacent ends of rail-sections in alinement in a manner to permit the slight vertical movement thereof above referred to. Particularly is this the case in connection with electrically-insulated rail-joints.

The object of my invention is to overcome this difficulty by providing a construction which will normally maintain the adjacent ends of rail-sections in alinement and yet permit a slight vertical movement thereof relatively to each other and in addition to this feature to provide a rail-joint which will electrically insulate the rail-sections from each other.

With this object in view the invention consists in the novel construction and combinations of parts, which will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a side elevation of my improved rail-joint. Fig. 2 is a longitudinal vertical section thereof. Fig. 3 is a transverse section, as on the line 3-3 of Fig. 1. Fig. 4 is a plan view of two members of the joint.

1 and 2 designate the adjacent ends of two

rail-sections which are jointed together by my improved rail-joint, whereof 4 and 5 designate two members which extend between said sections. These members 4 and 5 comprise upper plates 6 and 7, respectively, arranged adjacent to the sides of rail-sections, and lower plates 8 and 9, respectively, arranged beneath the sections. The lower plates 8 and 9 extend to meet each other about midway of the rail-sections, and the respective ends of the plates 8 and 9 are adapted to rest upon ties or sleepers 10 to support the rail-sections. The plate 9 is provided with an offset 11 about midway of its ends, and the plate 8 is provided with a projection 12, fitted to and extending into the offset 11 in a manner to reinforce or strengthen that portion of the plates 8 and 9 which extends between the ties 10.

Arranged between the plates 6 and 7 and the sides of the rail-sections 1 and 2 are blocks 13 and 14, preferably of wood, and extending through the plates 6 and 7, blocks 13 and 14, and rail-sections 1 and 2 is a series of bolts 15, each bolt being provided with a head 16 and clamping-nut 17. 18 designates a series of bushings of resilient material which are interposed between the bolts 15 and plates 6 and 7. The outer end of each bushing 18 is provided with a collar 19, against which the heads 16 and clamping-nuts 17 are adapted to bear, and between the inner faces of the collars 19 and outer faces of the plates 6 and 7 are metal collars 20.

Interposed between the bottom of the rail-sections 1 and 2 and the plates 8 and 9 is a strip or layer of compressed cork 21. The bushings 18 are also made, preferably, of compressed cork. I have found that the employment of compressed cork between the bottom of the rail-sections and the metal member which holds the rail-sections together overcomes many objections heretofore present in rail-joints, for the reason that the compressed cork will stand the great strain which rail-joints are subjected to and will permit under great strain the slight vertical movement of the adjacent ends of the rails with respect to each other and always return the ends of the rail-sections into alinement after the strain is removed therefrom. In carry-



ing out my invention the cork is first compressed by any suitable means. The compressed cork is then fitted to and assembled with the other parts of the joint and the whole fastened together by the bolts 15.

By the employment of the construction hereinbefore described and providing a plate of compressed cork 22 or other insulating material between the adjacent ends of the rail-sections a very effective insulating-joint having the advantages hereinbefore mentioned is attained.

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

1. In a rail-joint, the combination with two rail-sections, and the support for the adjacent ends thereof, of a layer of compressed cork interposed between said sections and the support therefor.

2. In a rail-joint, the combination with two rail-sections, of a member extending beneath and to one side of said sections and adapted to support the adjacent ends thereof, compressed cork interposed between said member and sections, and means for securing said member and sections together.

3. In a rail-joint, the combination with two rail-sections, of a member extending beneath and to one side of said sections and adapted to support the adjacent ends thereof, com-

pressed cork interposed between said member and sections, bolts to secure said member and sections together, and compressed cork interposed between said bolts and member.

4. In a rail-joint, the combination with two rail-sections, a member extending beneath and to one side of said sections and adapted to support the adjacent ends thereof, a layer of resilient material interposed between the bottom of said rail-sections and said member, bolts extending through said member and rail-sections to secure them together, and a bushing of resilient material interposed between each bolt and said member.

5. In a rail-joint, the combination with two rail-sections, a member extending beneath and to one side of said sections and adapted to support the adjacent ends thereof, a layer of compressed cork interposed between the bottom of said rail-sections and said member, bolts extending through said member and said sections to secure them together, and a bushing of compressed cork interposed between each bolt and said member.

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

EDWARD J. CLARK.

Witnesses:

A. V. GROUPE,  
RALPH H. GAMBLE.