

No. 777,882.

PATENTED DEC. 20, 1904.

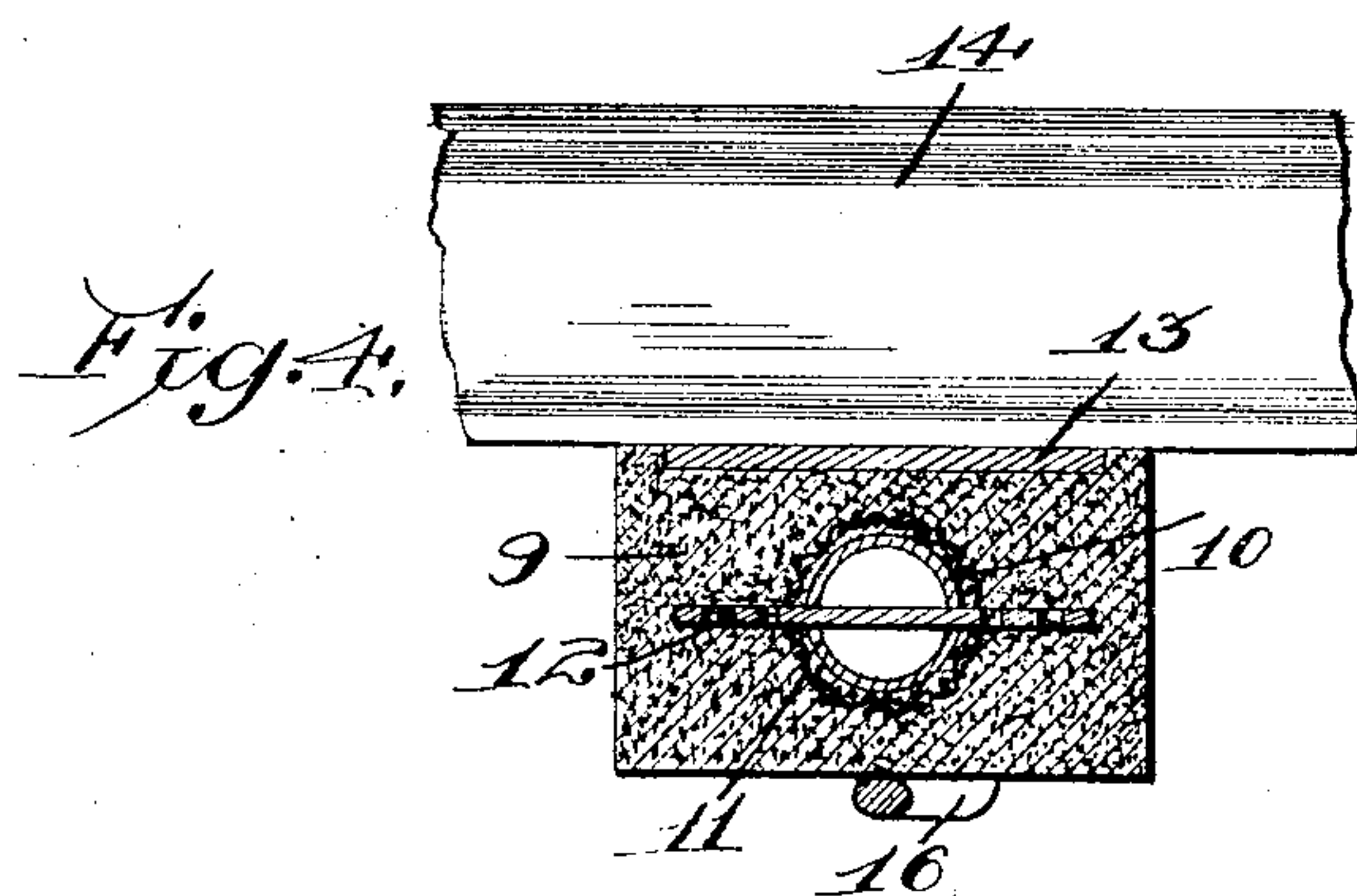
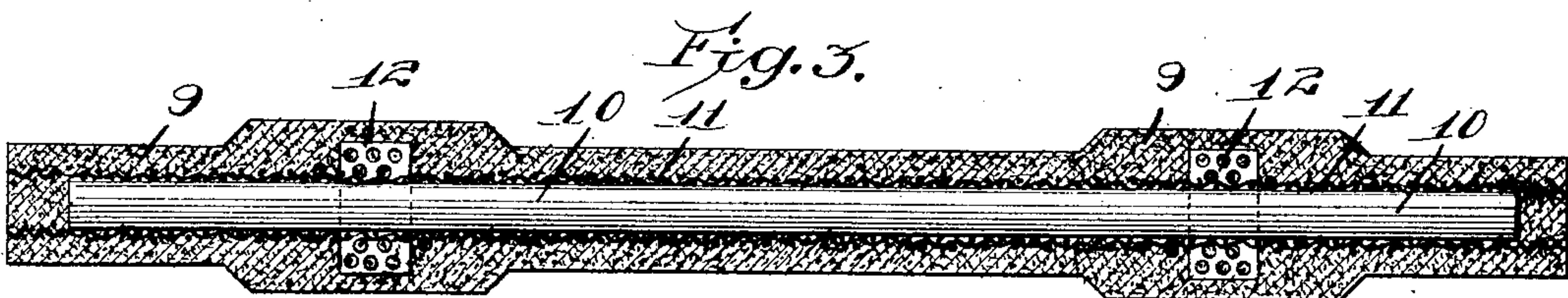
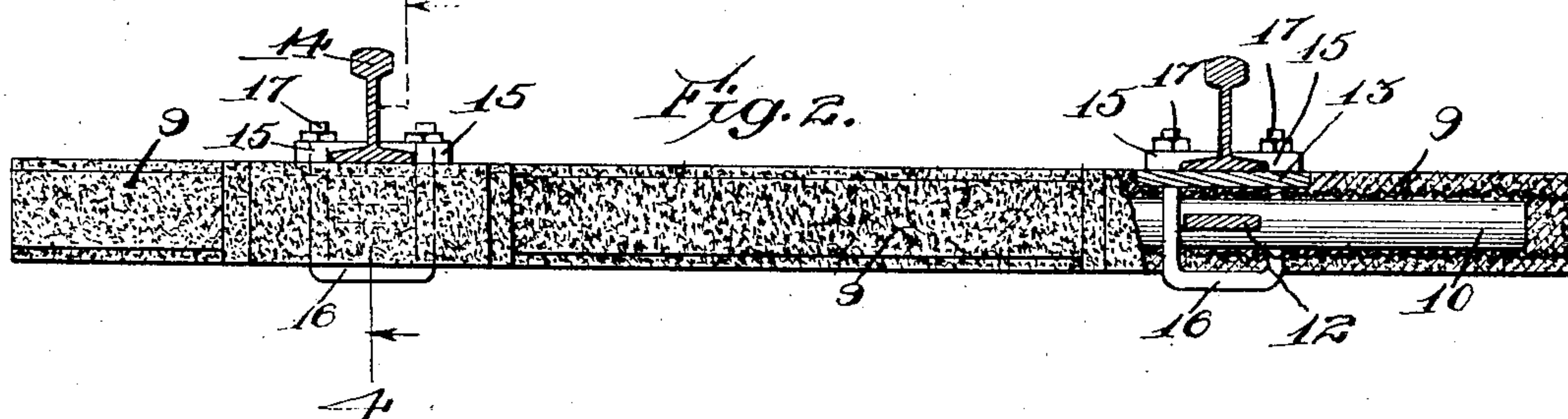
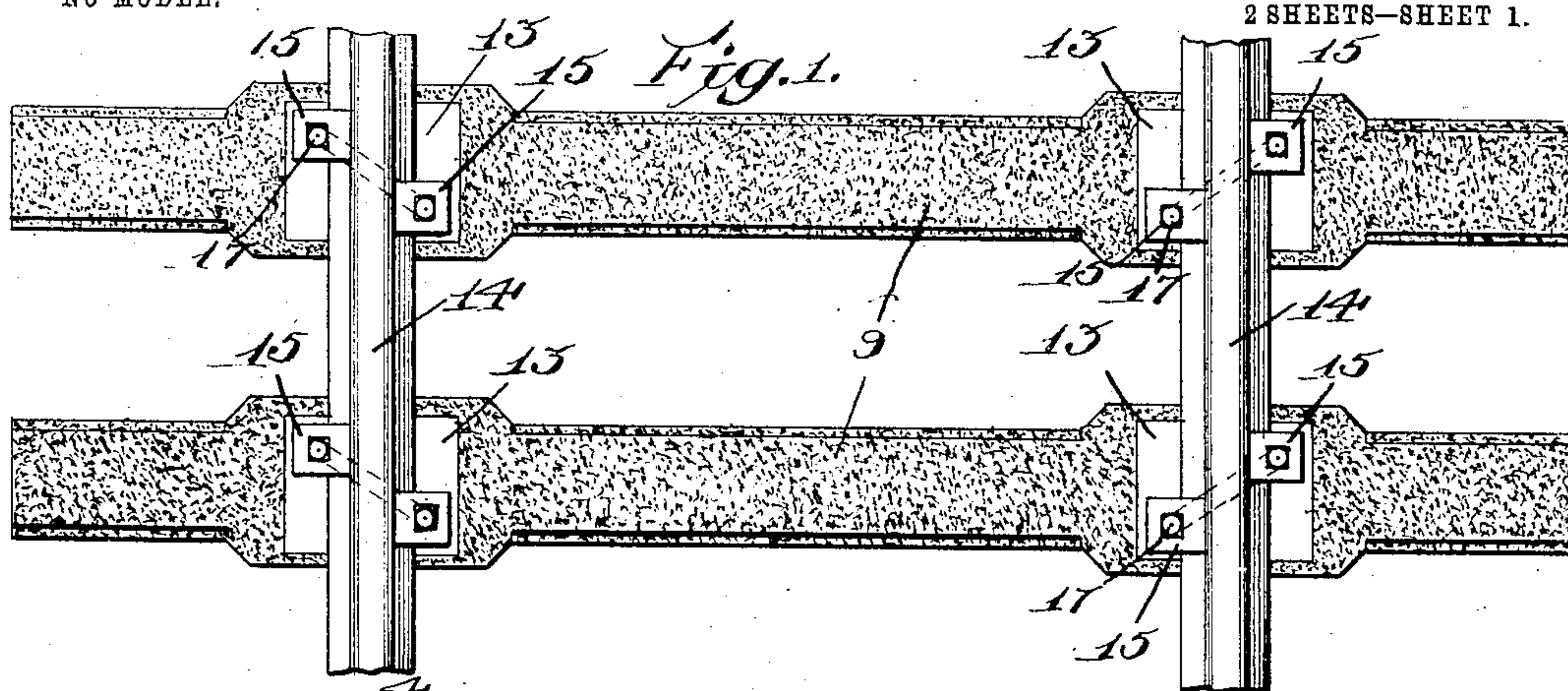
R. B. CAMPBELL.

RAILROAD TIE.

APPLICATION FILED JUNE 20, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
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G. V. Donarum

Inventor:
Robert B. Campbell
By R. B. Campbell
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No. 777,882.

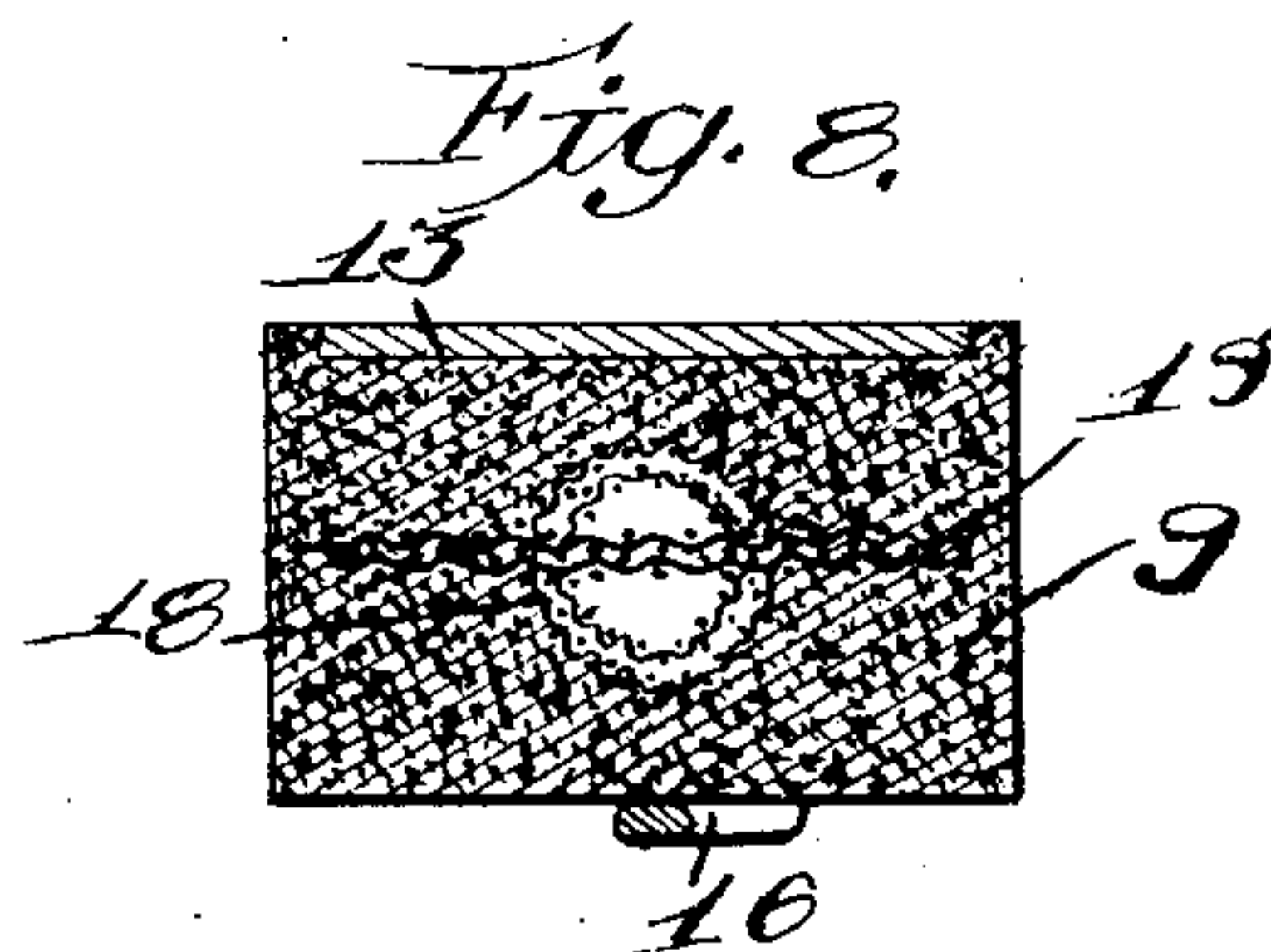
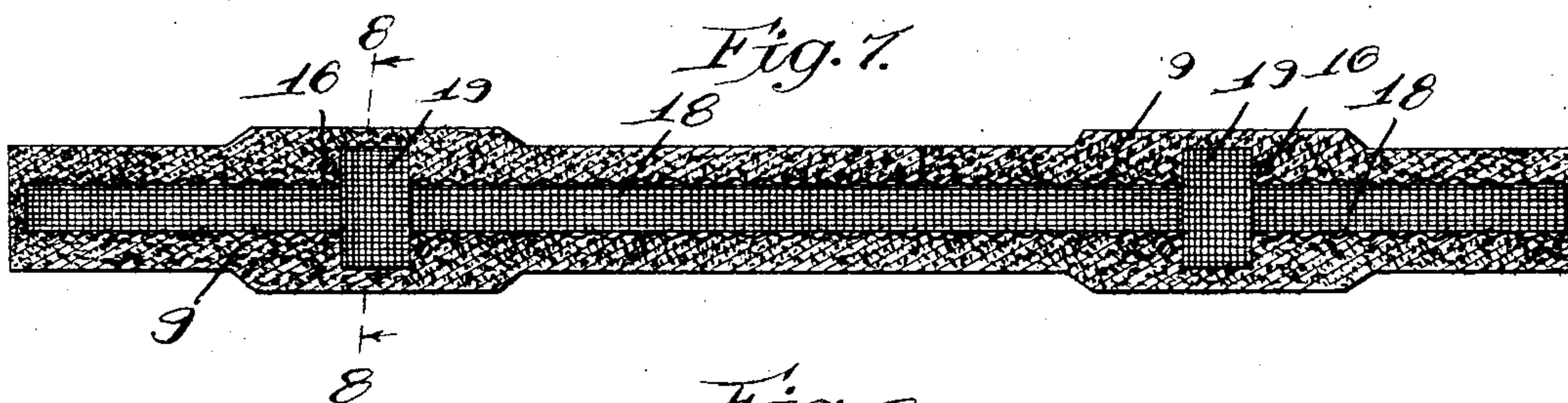
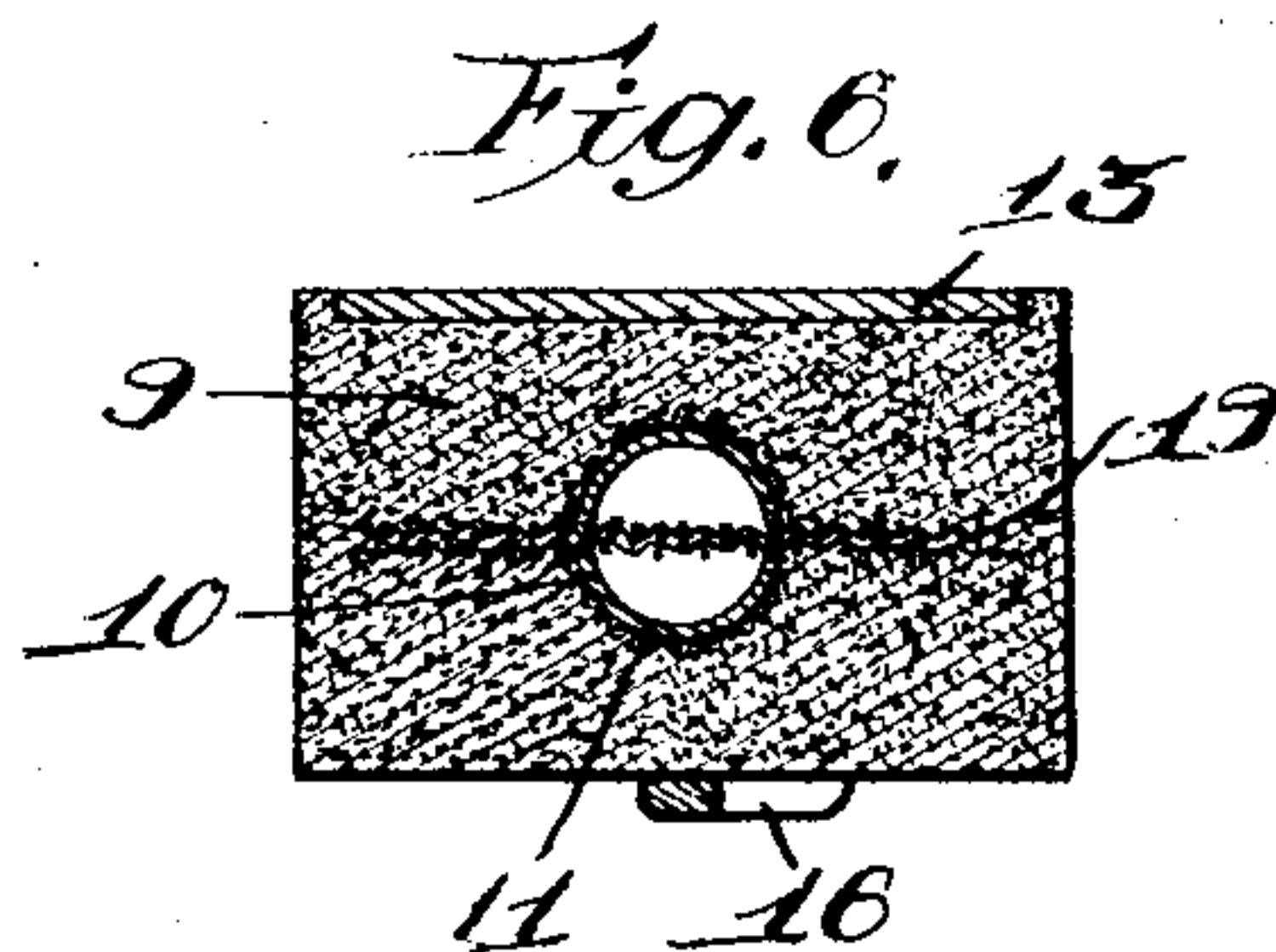
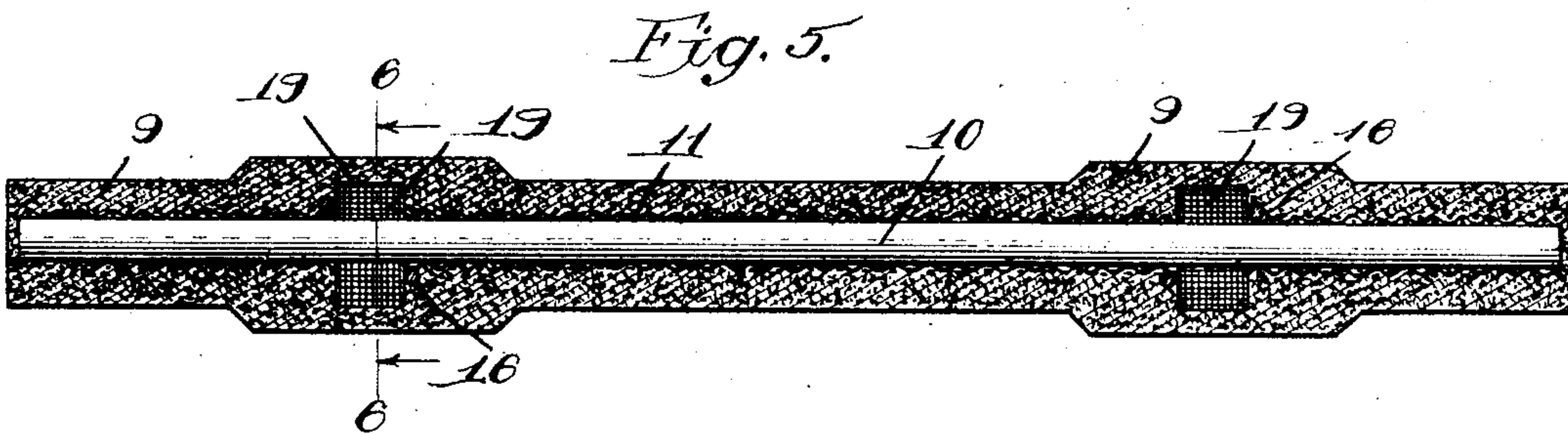
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R. B. CAMPBELL.
RAILROAD TIE.

APPLICATION FILED JUNE 20, 1904.

NO MODEL.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ROBERT B. CAMPBELL, OF JOLIET, ILLINOIS, ASSIGNOR OF ONE-HALF TO
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RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 777,882, dated December 20, 1904.

Application filed June 20, 1904. Serial No. 213,309.

To all whom it may concern:

Be it known that I, ROBERT B. CAMPBELL, a citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to railroad-ties; and its object is to provide a new and improved combined metal and cement or concrete tie.

In the drawings, Figure 1 is a top or plan view of two of the ties, showing rails supported thereon. Fig. 2 is a side elevation of one of the ties, partially in vertical section. Fig. 3 is a top or plan view of a horizontal longitudinal section of the tie. Fig. 4 is an enlarged detail, being a section on line 4 4 of Fig. 2. Fig. 5 is a horizontal longitudinal section showing wire-netting cross-plates instead of ordinary perforated metal plates. Fig. 6 is a cross-section on line 6 6 of Fig. 5. Fig. 7 is a modification, being a longitudinal horizontal section and showing a wire-netting strengthening-tube with wire-netting cross-plates; and Fig. 8 is a modification, being a section on line 8 8 of Fig. 7.

Referring to the drawings, 9 indicates the cement or concrete body of the tie. 10 indicates a cylindrical metal tube, preferably of steel, which is surrounded by a meshed tube 11, which is preferably formed of steel-wire netting. The steel tube 10 and meshed tube 11 are slotted horizontally to provide for the insertion of perforated plates 12, which are separated from one another substantially the width of the track. The meshed tube 11 being placed around the tube 10 and the perforated plates 12 being placed in position, the concrete body 9 is formed around the central core, composed of the tube 10, meshed tube 11, and plates 12. The object and purpose of the meshed tubing and of the perforated plates is to provide a firm binding for the cement, the cement entering the meshes of the netting and perforations of the plates and binding the whole firmly together.

The top surface of the tie is provided with suitable recesses separated from one another

the width of the track, into which are inserted metal plates 13, the upper surface of which is preferably flush with the surface of the concrete 9. The plates 13 are provided with suitable openings for the passage of the bolts hereinafter described.

14 indicates rails, which are laid upon the surface of the tie, resting upon the plates 13 and held in position by clips 15 and bolts 16, which are, as best shown in Fig. 2, U-shaped and secured by nuts 17 upon their upper ends. The rails, however, may be secured to the track in any other appropriate manner. As the object of using the meshed cylindrical tube and the perforated plates is, as has been said, to cause the cement to enter the meshes and perforations and to bind the structure together, instead of an imperforate tube 10, surrounded by a meshed tube, a strong tube composed of meshed wire-netting alone may be used, and this form I have illustrated in the modification shown in Figs. 7 and 8, in which 9 indicates the concrete body of the tie.

18 indicates a tube formed of strong wire-netting, preferably of steel wire, and perforated to receive plates 19, which extend through the tube 18 horizontally a distance apart equal to the width of the track and which are composed of strong wire-netting, preferably formed of steel wire. In Figs. 5 and 6 I have shown such plates used with the steel tube 10 and surrounded by a wire-netting 11 in place of the ordinary perforated plates shown in Figs. 2, 3, and 4.

I have described the body of the tie as composed of concrete or cement, and it is preferable to so construct it; but I of course do not confine myself to the use of concrete or cement strictly, as any equivalent plastic material could be used without departing from my invention.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. A railroad-tie, composed of a body of plastic material, an interior strengthening-core extending longitudinally of said body and adapted to engage and bind said body, and perforated cross-plates passing through said core transversely thereof and set apart sub-

stantially the width of the track, substantially as described.

2. A railroad-tie, composed of a body of plastic material, an interior strengthening-
5 core extending longitudinally of said body and adapted to engage and bind said body, perforated cross-plates passing through said core transversely thereof and set apart substantially the width of the track, and rail-support-
10 ing tie-plates sunk in the upper surface of said body, substantially as described.

3. A railroad-tie, composed of an interior metallic core, as a steel tube, a wire-mesh tube surrounding said core, and a body of plastic
15 material, substantially as described.

4. A railroad-tie, composed of an interior metallic core, as a steel tube, a wire-mesh tube surrounding said core, perforated cross-plates

passing through said core and said wire-mesh tube transversely thereof and set apart sub-
stantially the width of a railroad-tie, and a
body of plastic material, substantially as de-
scribed. 20

5. A railroad-tie, composed of an interior metallic core, as a steel tube, provided with
25 transverse slots separated by substantially the width of the track, a wire-mesh tube surrounding said metallic core, perforated cross-plates passing transversely through said slots, a body
of plastic material, and rail-supporting tie-
30 plates in the upper surface of said body, substantially as described.

ROBERT B. CAMPBELL.

Witnesses:

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