

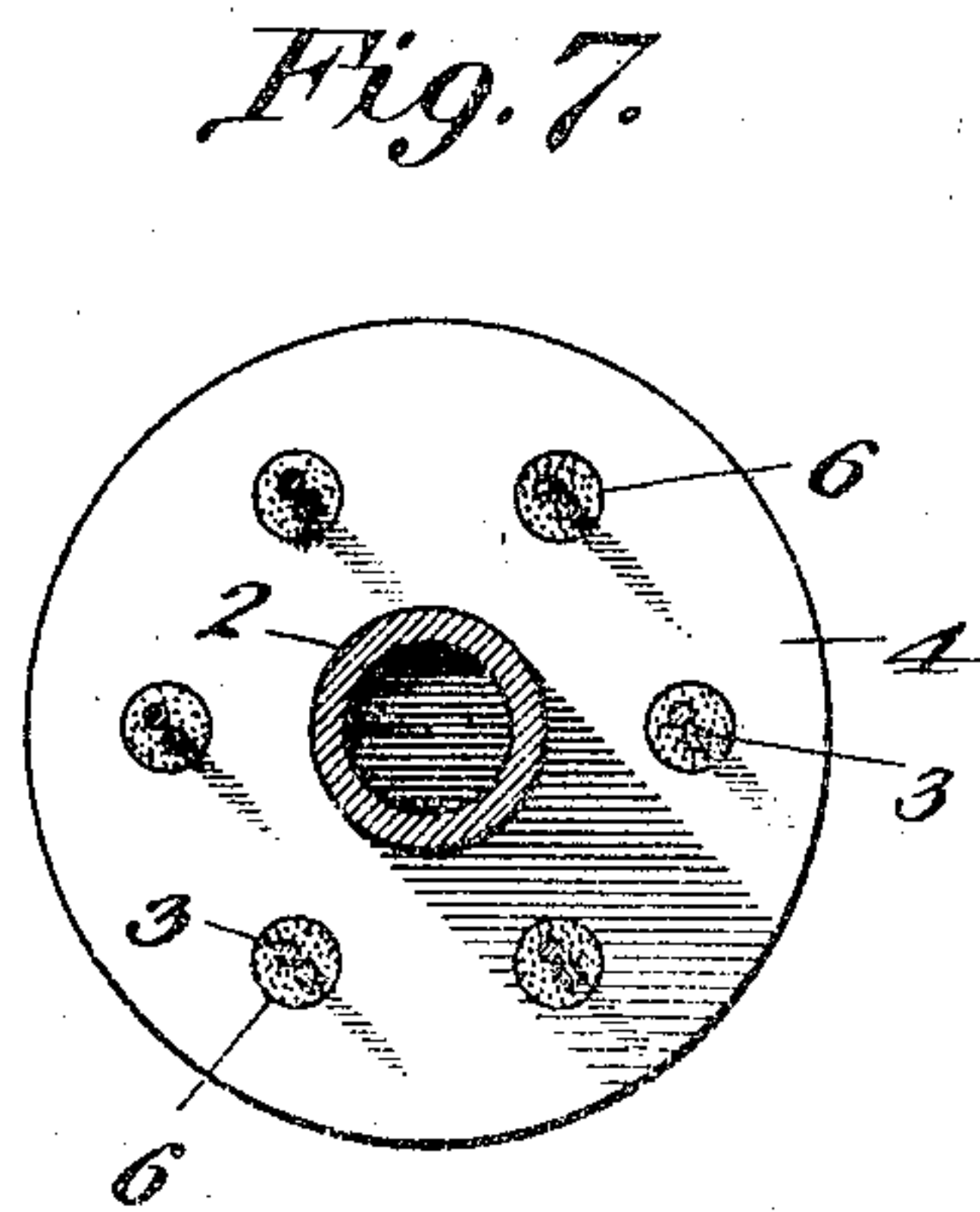
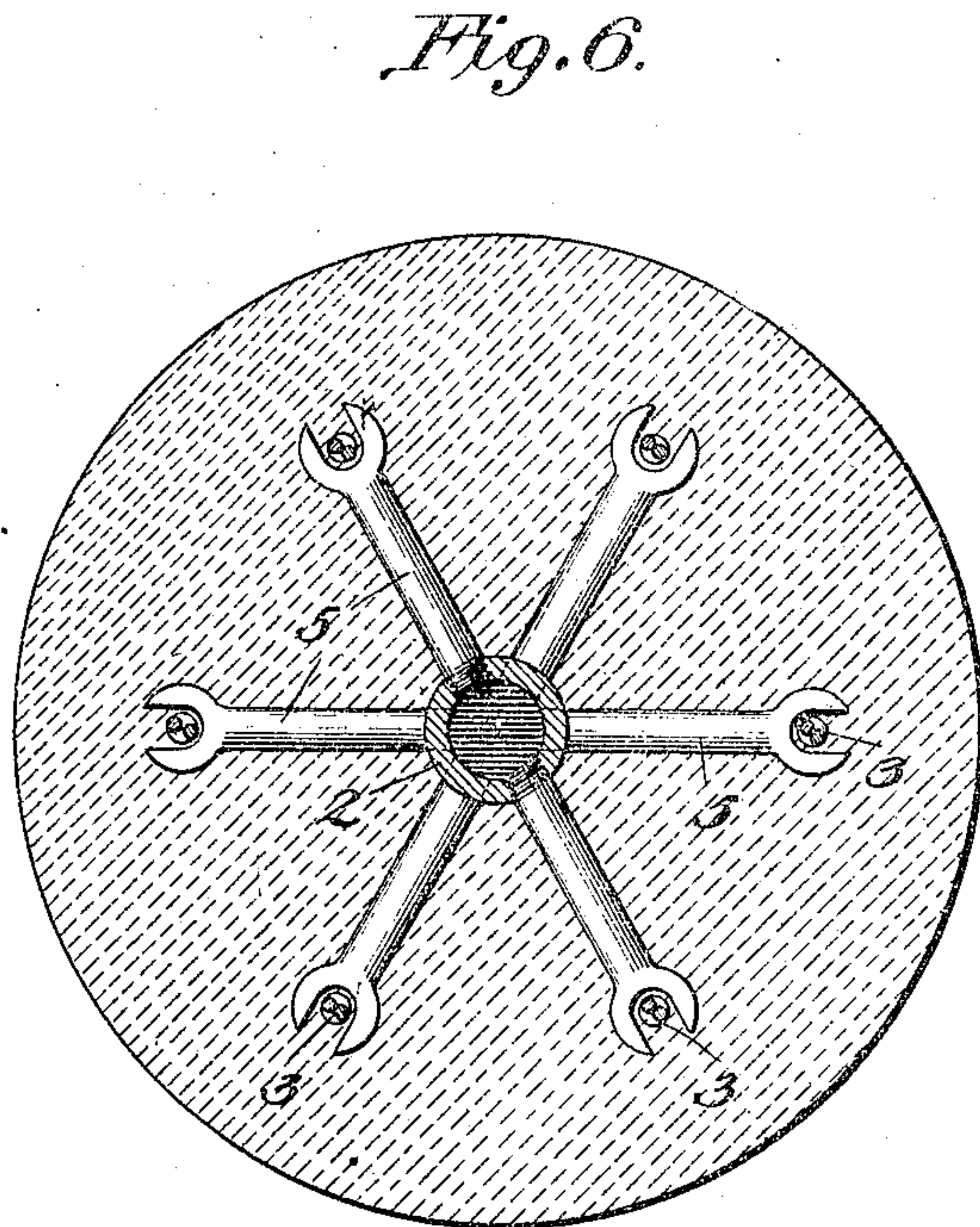
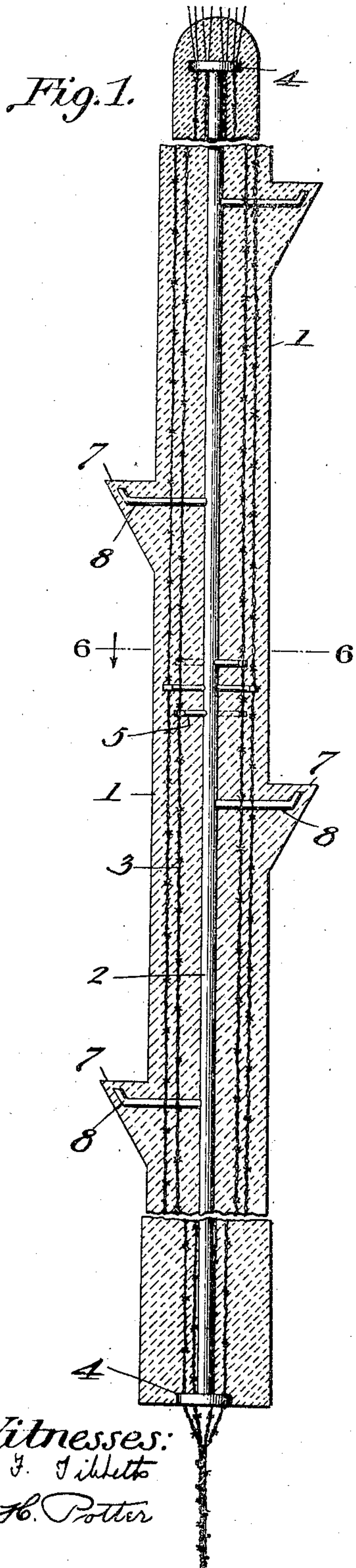
No. 841,064.

PATENTED JAN. 8, 1907.

T. P. STANLEY.
TELEGRAPH AND TROLLEY POLE.

APPLICATION FILED FEB. 17, 1906.

4 SHEETS—SHEET 1.



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4 SHEETS—SHEET 2.

Fig. 2.

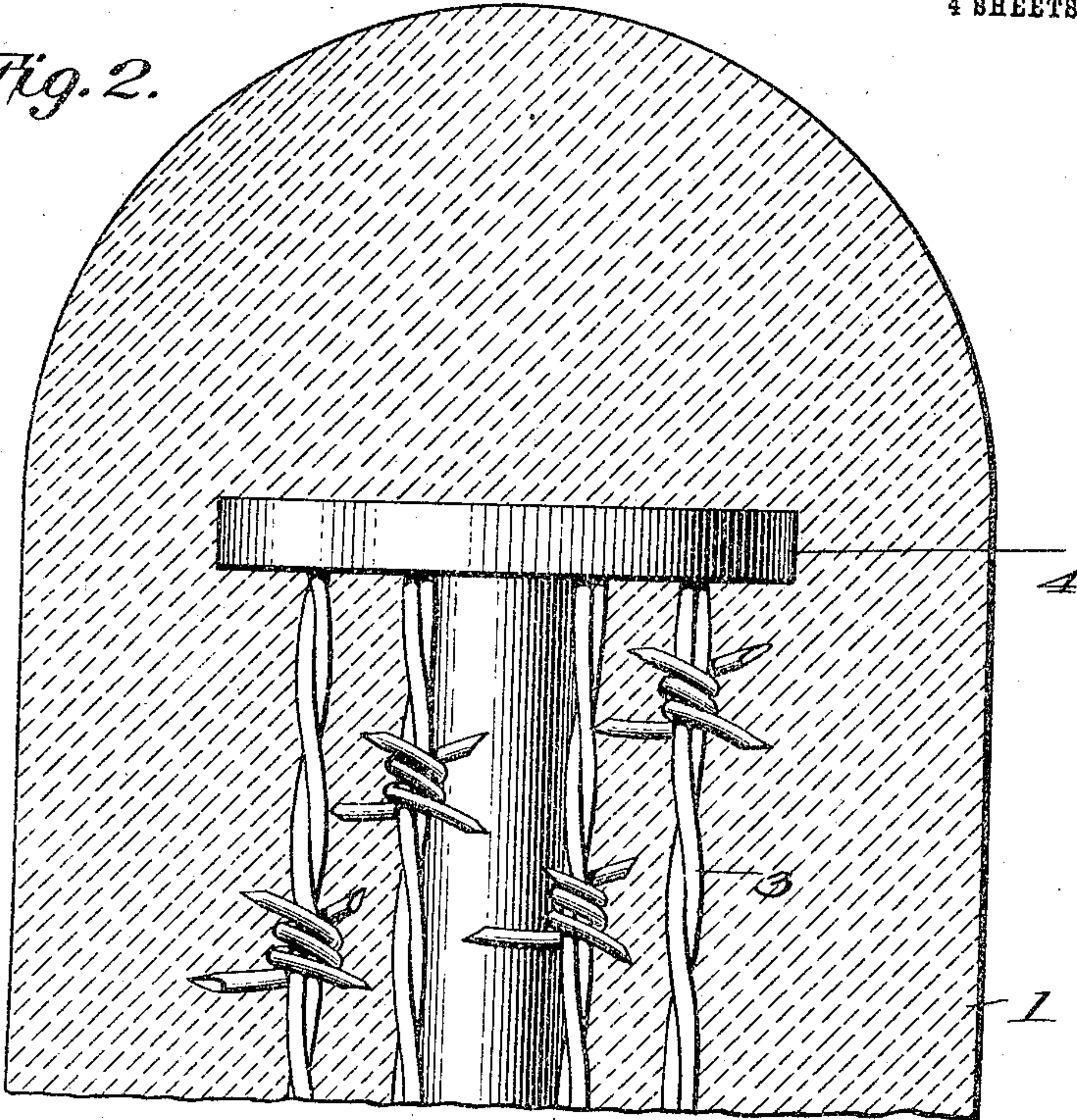
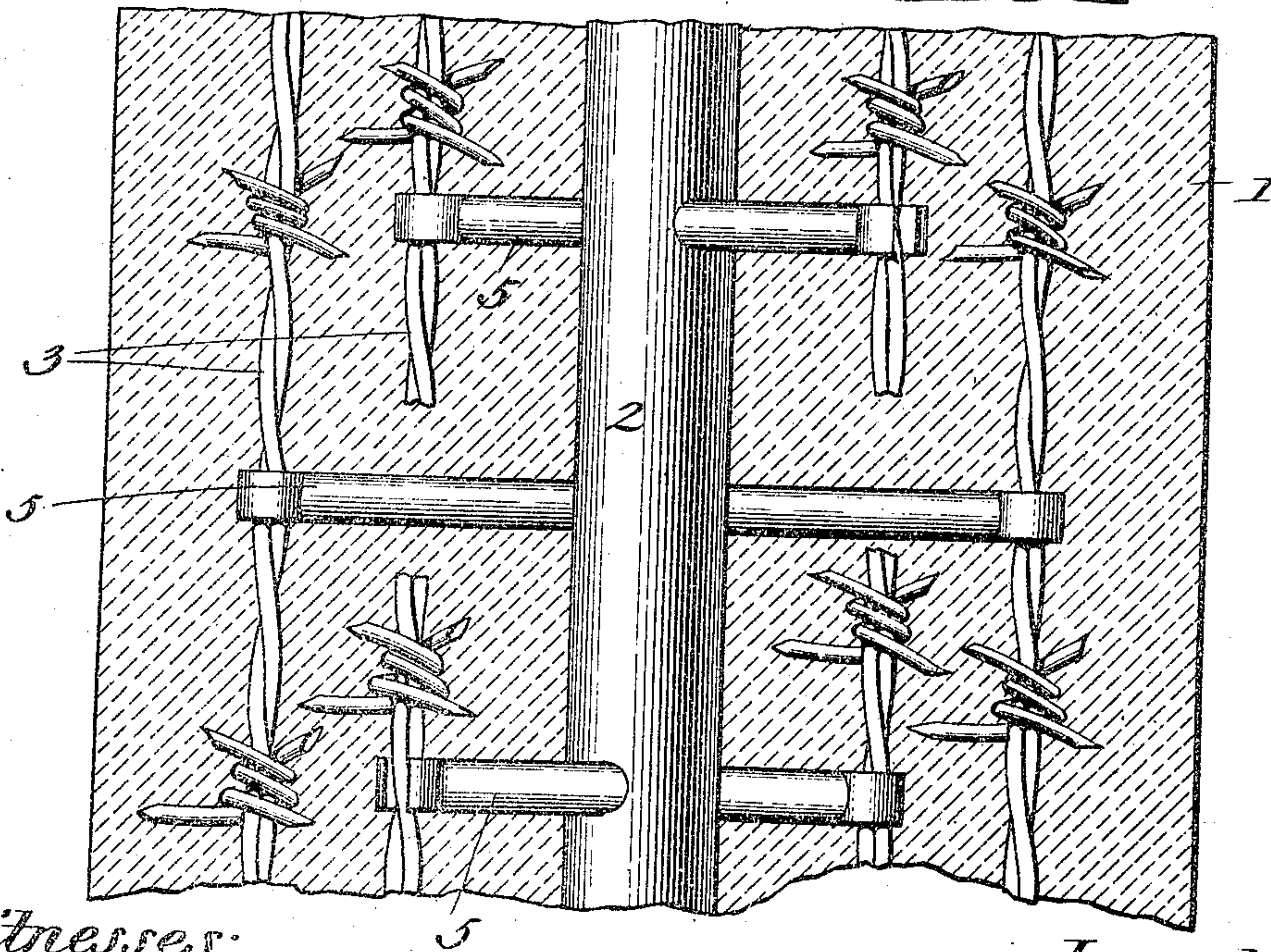


Fig. 3.



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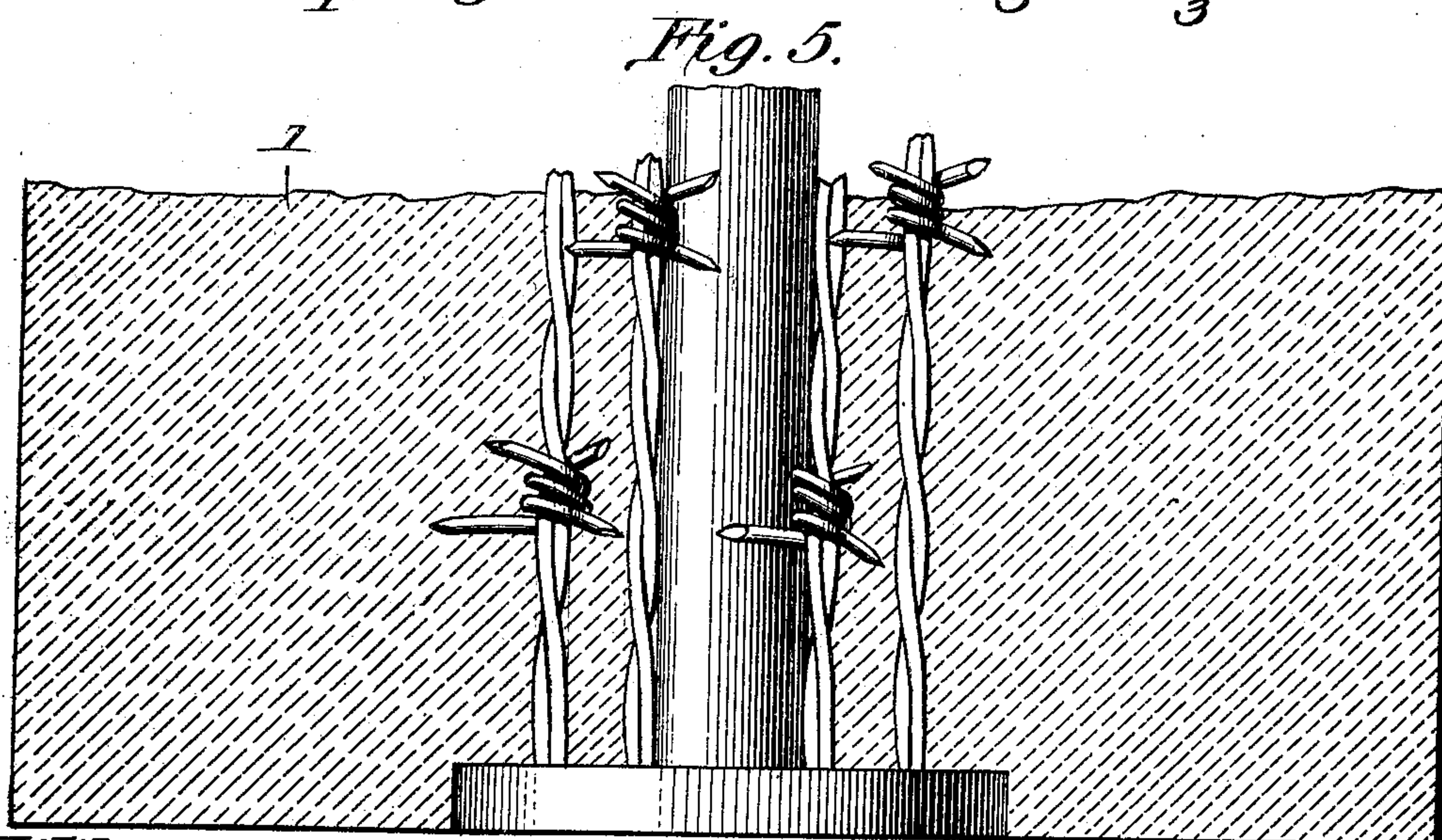
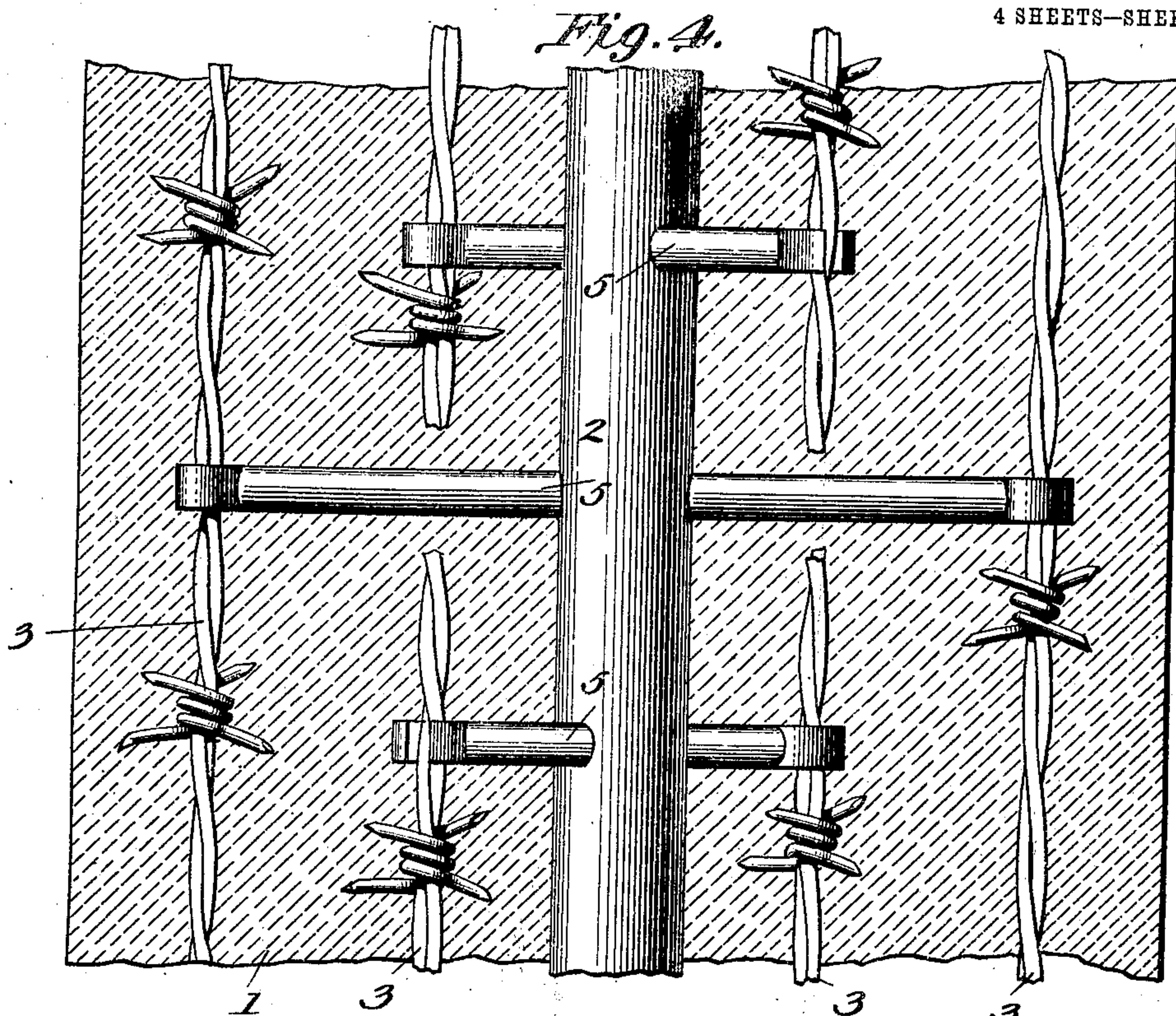
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4 SHEETS—SHEET 3.



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4 SHEETS—SHEET 4.

Fig. 8.

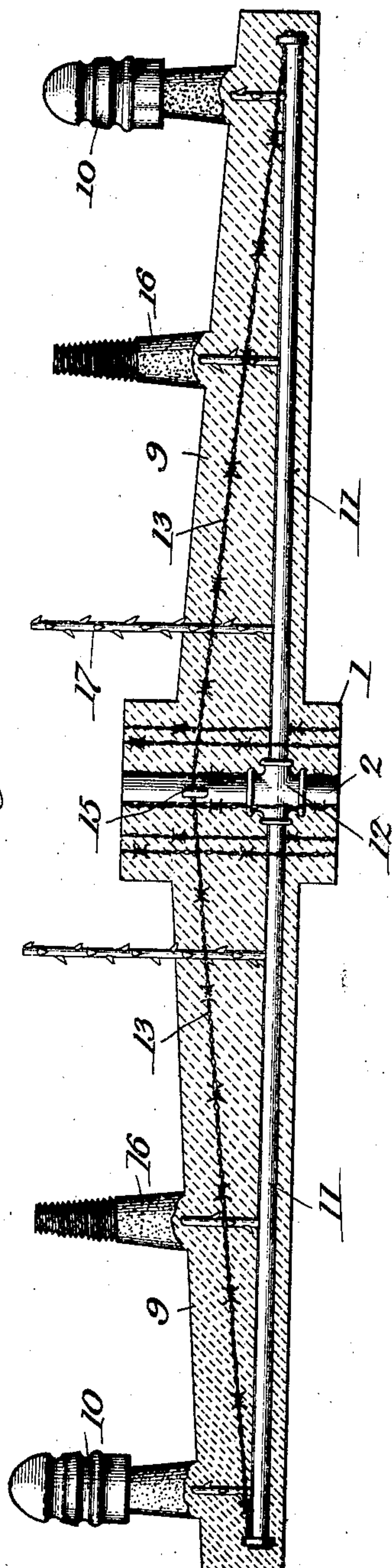


Fig. 9.

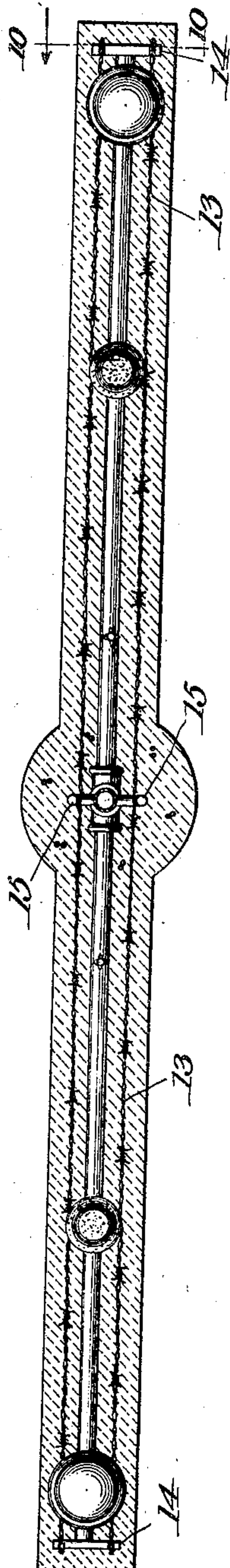
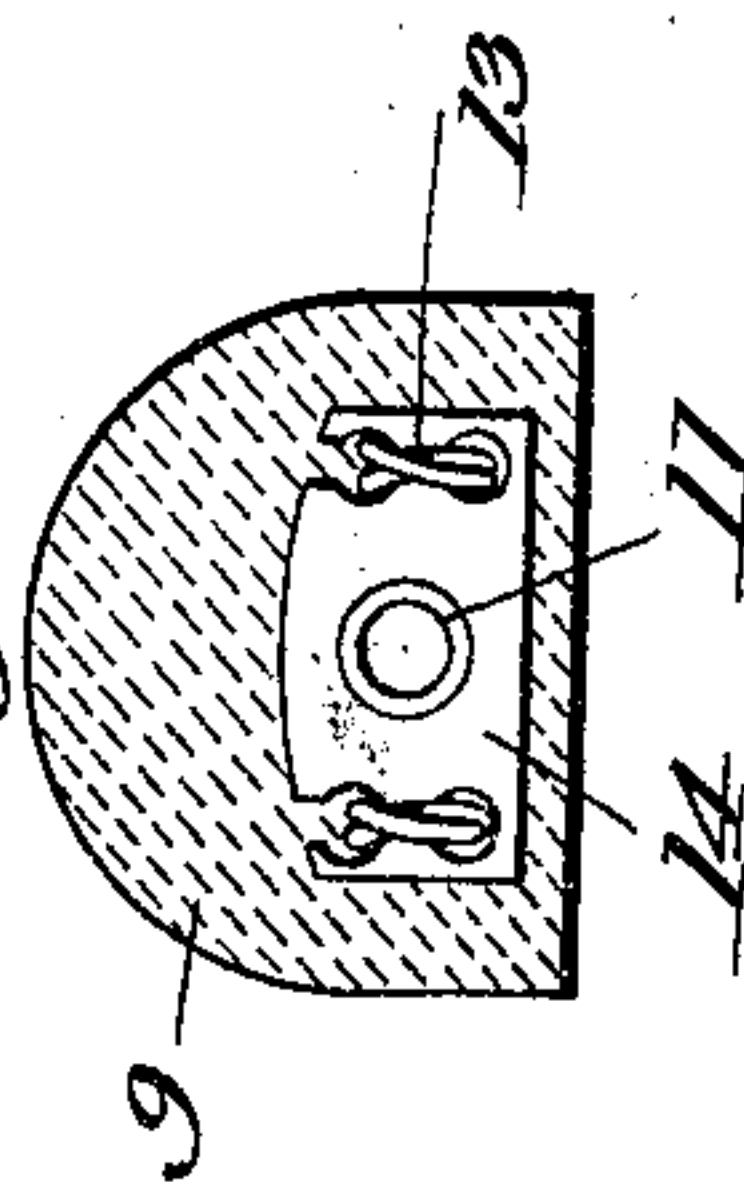


Fig. 10.



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UNITED STATES PATENT OFFICE.

THOMAS P. STANLEY, OF ATHENS, GEORGIA.

TELEGRAPH AND TROLLEY POLE.

No. 841,064.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed February 17, 1906. Serial No. 301,575.

To all whom it may concern:

Be it known that I, THOMAS P. STANLEY, a citizen of the United States, residing at Athens, in the county of Clarke and State of Georgia, have invented certain new and useful Improvements in Telegraph and Trolley Poles, of which the following is a specification.

This invention relates to poles or bars, especially applicable to telegraph, telephone, and trolley poles, which are constructed of cement or concrete reinforced with an embedded iron framing. These posts and bars are more resistant to bending and pressure than common posts of wood and, moreover, have the great advantage over wooden posts that they are not affected by rot and decay.

A further object of my invention is to construct a telegraph or trolley pole with integral insulator-arms or cross-arms, so that the completed concrete pole shall constitute a monolith, requiring no external bolts or fastenings. The pole is molded with steps alternating on opposite sides and the cross-arms with screw-threaded stems or pins for the reception of the usual insulators. Furthermore, by prolonging the reinforcing members beyond the top and bottom of the pole I provide an excellent lightning-conductor, which thoroughly protects the pole and dispenses with the necessity for the usual lightning-arresters attached thereto.

In the annexed drawings, Figure 1 represents a longitudinal elevation of my pole in section. Figs. 2, 3, 4, and 5 are enlarged section views. Fig. 6 is a cross-section of the pole, showing the radial arrangement of the brace-rods. Fig. 7 is a view of the top or bottom plate; and Figs. 8, 9, and 10 are respectively side elevation, top plan, and end views in section of the cross-arm.

In the manufacture of my improved telegraph or trolley pole a mold or flask of a proper length for the intended post is employed, and the mold being properly fashioned for the design of the post the iron pipe or core and the bracing-wires are arranged, as hereinafter described, so as to be embedded in the material and form the reinforcing members to hold the material firmly together and brace it at all points. The plastic material—cement, concrete, or other suitable material—is placed by suitable means into the formed mold, so as to sur-

round the metallic framework and fill the mold, after which the mold may be subjected to pressure for compressing the plastic material, or the material may remain in the mold until it becomes solidified and hardens, when the formed post is removed.

The improved post comprises a body portion 1 of concrete or like material and provided with a core, preferably of iron pipe 2, which is braced against the side strain and pressure by wires or rods 3, constituting the tension members of a truss. I preferably employ twisted barbed wires, as these offer a greater surface for engagement with the concrete than bare smooth wires. The wires 3 pass through and are secured to top and bottom anchor-plates 4, which may be nuts screwed to the ends of the central pipe or tube 2, and at their centers pass through slots or holes in the ends of brace rods or struts 5, projecting from the core, opposite braces 5 being in horizontal alinement, but the several opposite pairs or sets being in different horizontal planes, the purpose of this arrangement being to prevent the weakening of the concrete in any plane by the displacement due to the braces. Each wire 3, with its central brace or strut 5, thus constitutes, with the central core-pipe 2, a truss, and by providing six or eight of these trusses in radial planes about the core the post is strongly braced against side pressure and strains.

Fig. 1 clearly shows the manner in which I provide the post when desirable with a perfect lightning-conductor. At the top of the post the wires, after passing through holes 6 in the top plate 4, are separated and carried up through the concrete body and project as many points, while at the bottom the wires are twisted together below the bottom plate, being carried down, preferably, eighteen inches or two feet, so as to constitute a good ground connection for the lightning-conductor. I am thus enabled to utilize the reinforcing metallic framework to afford a complete protection against lightning and dispense with the lightning-arresters with which telegraph and trolley poles are usually provided. When the lightning-conductor is not required, the pole is finished, as shown in Fig. 2. For the purpose of enabling the pole to be easily mounted I provide steps 7 in staggered arrangement. Each step is mold-

ed about a supporting brace or bracket 8, which is screwed or otherwise secured to the central core, as in the preferred construction illustrated in Fig. 1.

5 The cross-arms 9 for the reception of insulators 10 are made integral with the post and have a central core 11, formed of a tube or pipe, which is secured to the core of the post by means of a "cross" or other coupling
10 12. The cross-arms are braced against downward pressure by means of strain-wires 13 on either side of the central core-pipe, having their ends secured to plates 14 and passing over supports or brackets 15, projecting from the central core 2. The strain-wires 13 and core 11 thus constitute a truss and provide an exceedingly strong and rigid support for the weight and strains to which the insulator-arm is subjected. I may dispense
20 with the brackets 15 by placing plates under the central portion of the wires 13 as the cement is being placed in the mold to retain the wires in position until the cement hardens.

25 The insulator-pins 16 are molded integral with the cross-arms and are reinforced by a metal core or stem 17, having spurs projecting therefrom to better engage the cement. In addition to the fact that I dispense with
30 separate insulator-pins requiring special fastenings, the concrete pin itself being an insulator furnishes additional security from the escape of the electric current.

When the pole is to be used as a support
35 for trolley-wires, the parts of the cross-arm are reversed, so that the insulator-pins project downward instead of upward, as illustrated. It is obvious that the pole may be used without the cross-arms and that its use
40 is not restricted to telegraph, telephone, or trolley poles.

While I have described my pole as having a central core or pipe in the coupling structure, I may withdraw the core after the cement has set, as the truss-wires 3 afford sufficient strength against bending to provide a
45 rigid and strong pole. In order to withdraw the central core, I join opposite brace rods or struts 5 by means of a sleeve or ring surrounding the core and support the braces 8 in a similar manner.

The advantages of my improved pole will be apparent to those skilled in the art. In addition to the increased rigidity afforded by
55 my construction I am enabled to produce a pole which is cheaper than either wood or iron and which is not liable to deteriorate by exposure to the elements.

Having described my invention, I claim—

60 1. A telegraph or trolley pole comprising a continuous cement or concrete body having embedded therein a plurality of longitudinal truss members, each member extending substantially the length of the pole in a plane

radial to the center thereof; substantially as 65 described.

2. A telegraph or trolley pole comprising a continuous cement or concrete body having embedded therein a plurality of longitudinal truss members, each member extending substantially the length of the pole in a plane
70 radial to the center thereof secured to anchor-plates at either end of the pole; substantially as described.

3. A telegraph or trolley pole comprising a 75 continuous cement or concrete body having embedded therein a plurality of longitudinal truss members, secured to anchor-plates at either end of the pole, and passing over central struts or braces; substantially as described. 80

4. A telegraph or trolley pole comprising a continuous cement or concrete body having embedded therein a central metal core and a plurality of longitudinal truss members; 85 substantially as described.

5. A telegraph or trolley pole comprising a continuous cement or concrete body having a central metal core provided with anchor-plates at each end and intermediate brace
90 rods or struts, and a plurality of truss members passing over said struts and secured to said anchor-plates; substantially as described.

6. A telegraph or trolley pole comprising a continuous cement or concrete body having a 95 central metal core provided with anchor-plates at each end and intermediate brace rods or struts, and a plurality of truss members passing over said struts and secured to said anchor-plates, and having their ends
100 projecting beyond the top and bottom of said pole to constitute a lightning-conductor; substantially as described.

7. A telegraph or trolley pole comprising a continuous cement or concrete body and integral cross-arms, having a main central core with branches in said cross-arms, anchor-plates secured to the ends of the main and branch cores, intermediate brace rods or struts, and a plurality of truss members passing
105 over said struts and secured to said anchor-plates; substantially as described. 110

8. A telegraph or trolley pole of plastic material, having embedded therein a metallic reinforcing-framework, comprising a central 115 core having terminal anchor-plates and intermediate brace rods or struts and longitudinal brace members, radially disposed about said core, passing over said struts and secured to said anchor-plates; substantially as 120 described.

9. A telegraph or trolley pole of plastic material, having embedded therein a metallic reinforcing-framework, comprising a central core having terminal anchor-plates and
125 intermediate brace rods or struts, longitudinal brace members radially disposed about said core passing over said struts, and se-

cured to said anchor-plates, and brackets arranged in staggered relation on opposite sides of said core; substantially as described.

10. A telegraph or trolley pole of plastic material having embedded therein a metallic reinforcing-framework comprising a plurality of radially-disposed trusses and integral cross-arms, having a core provided with pro-

jecting stems constituting the cores of molded insulator-pins; substantially as described. 10

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

THOMAS P. STANLEY.

Witnesses:

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J. H. HANDRUP.