

No. 682,709.

Patented Sept. 17, 1901.

W. F. JENKINS.

INSULATOR.

(Application filed Feb. 7, 1901.)

(No Model.)

Fig. V.

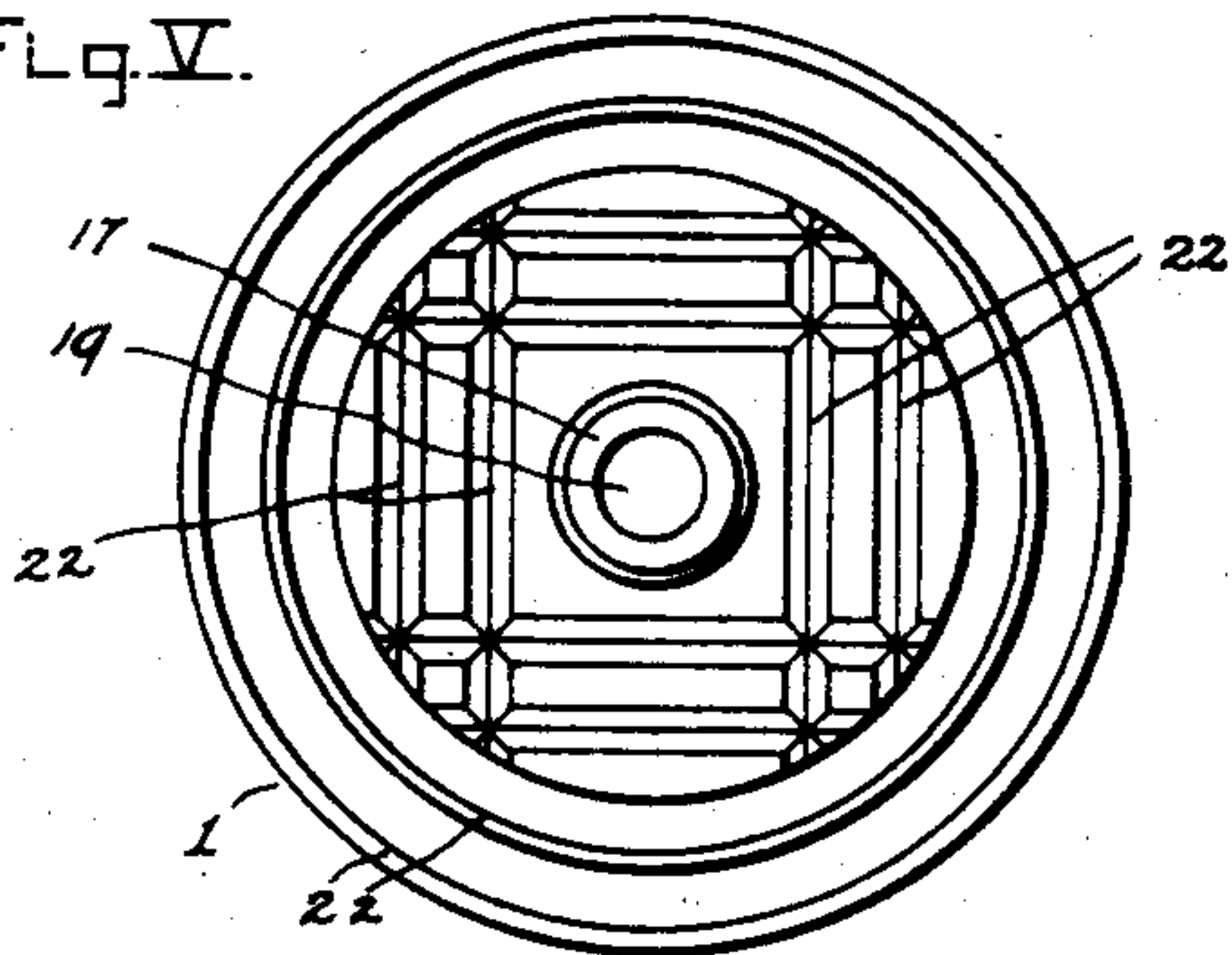


Fig. VI.

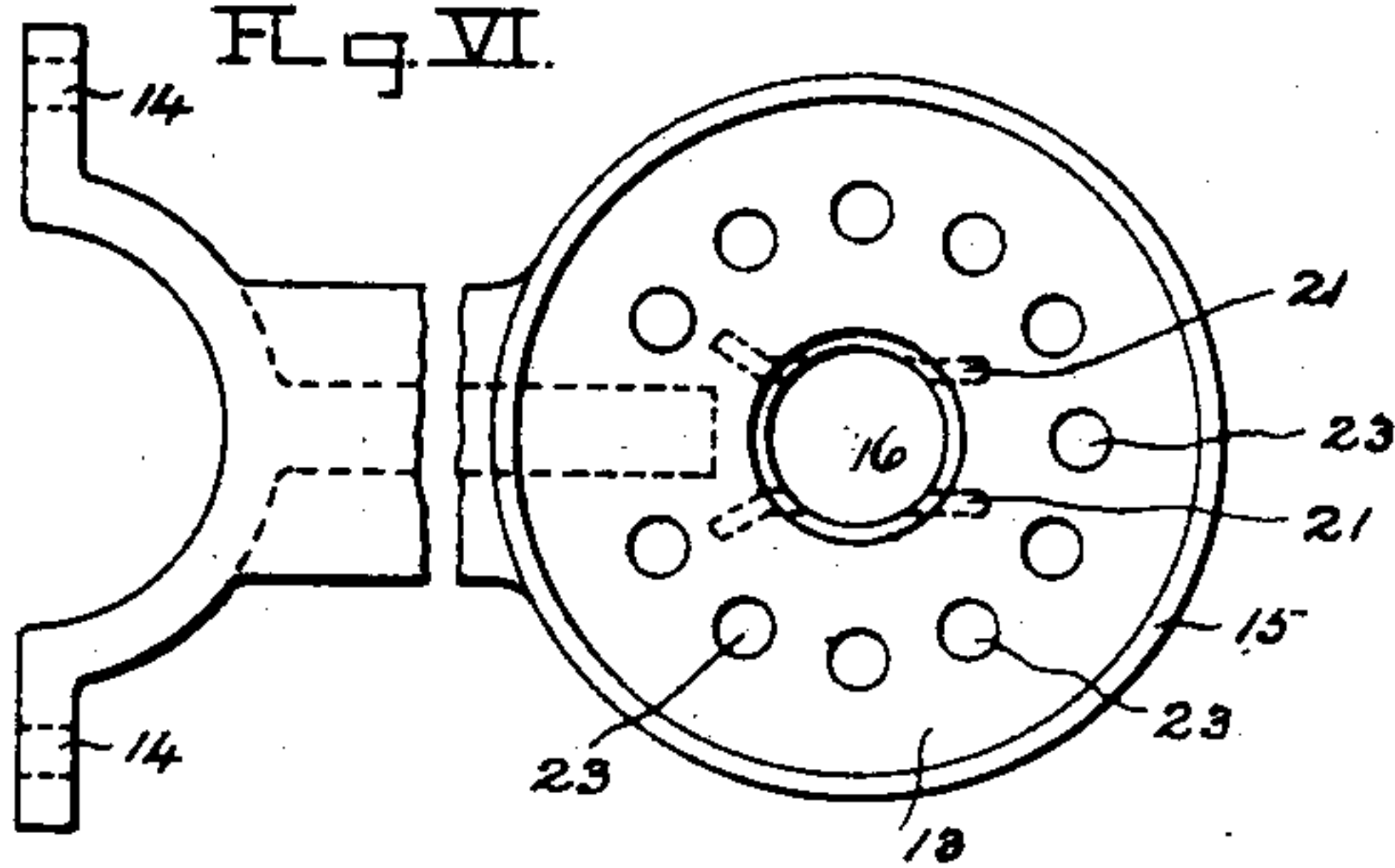


Fig. IV.

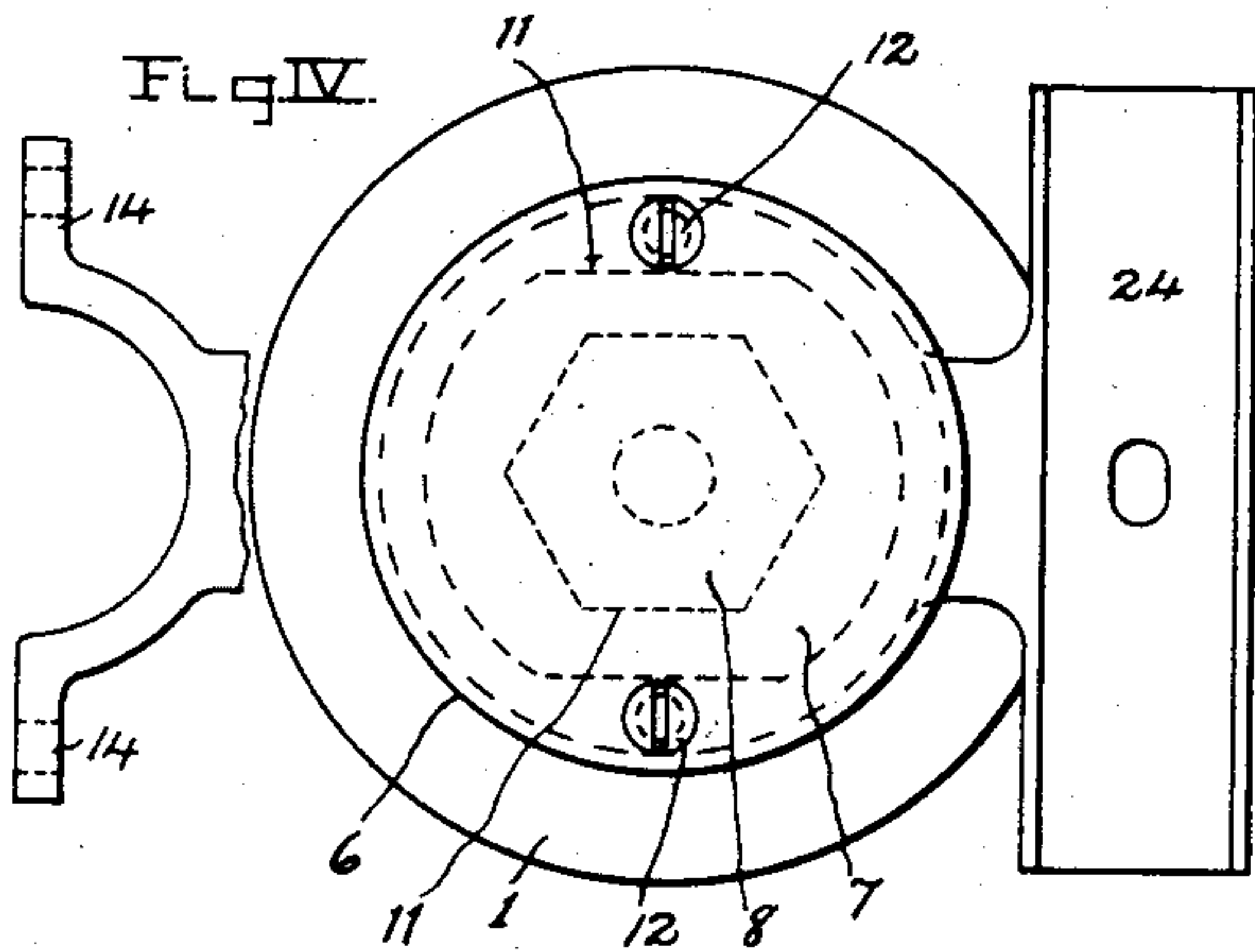


Fig. III.

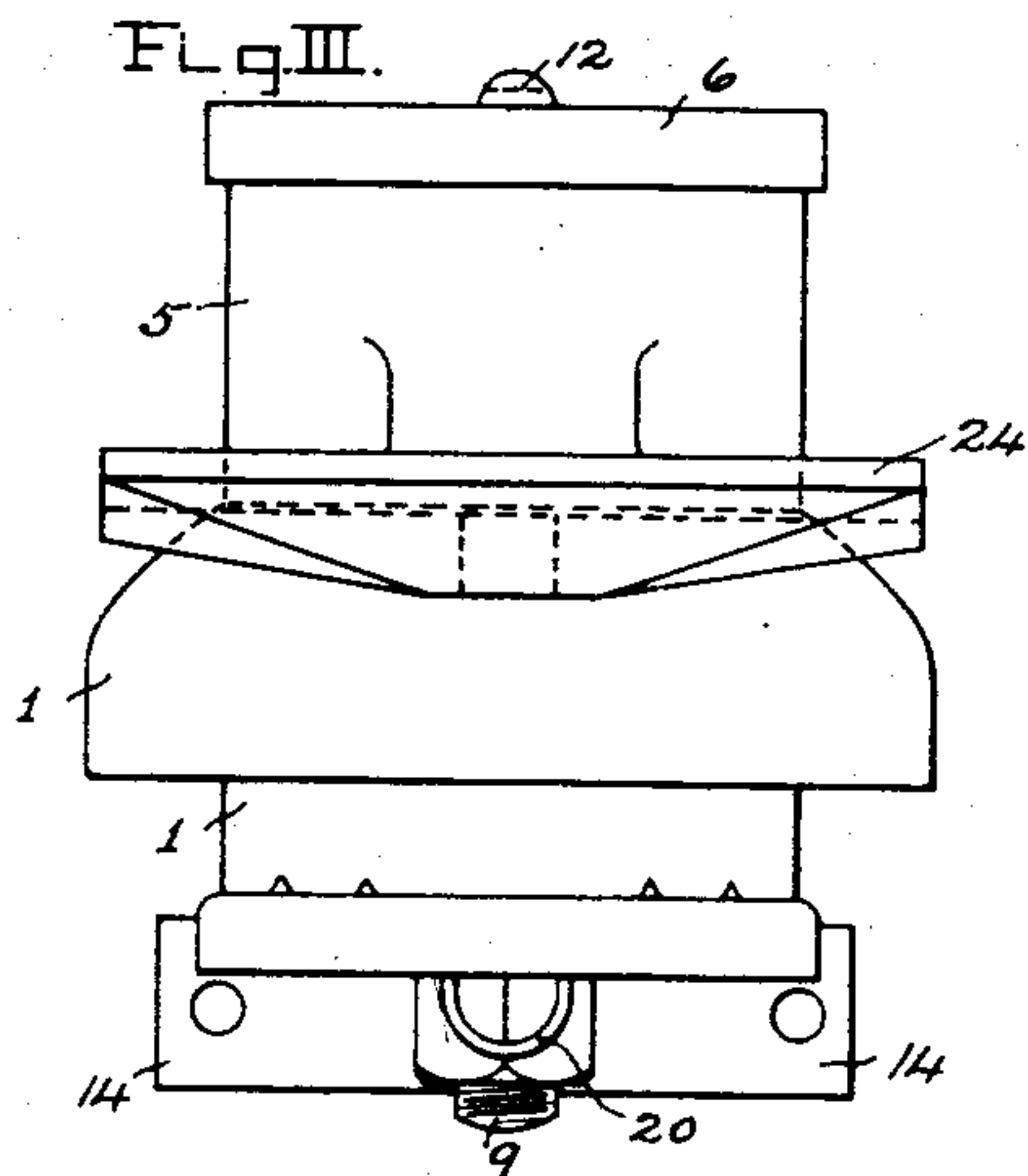


Fig. I.

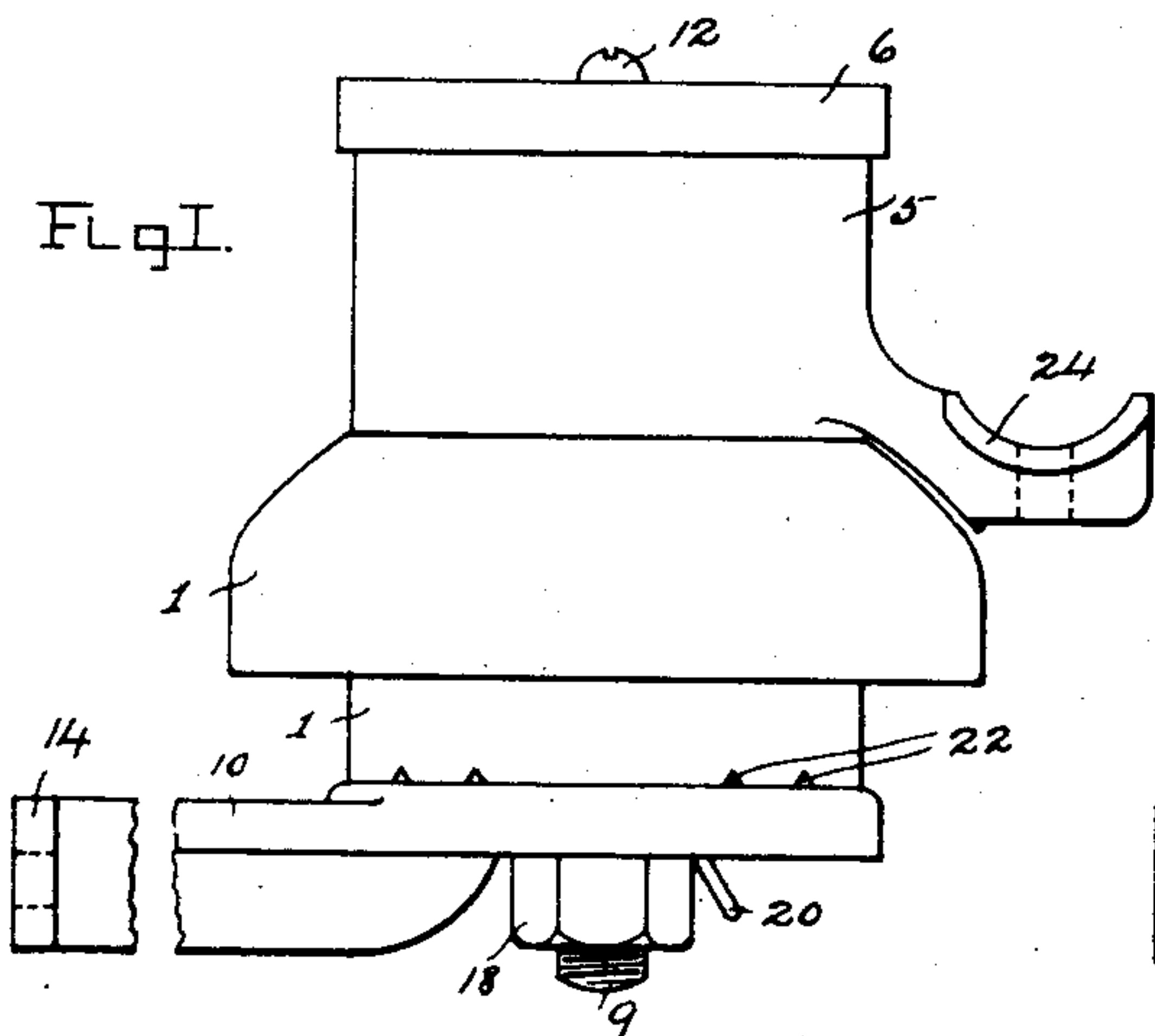
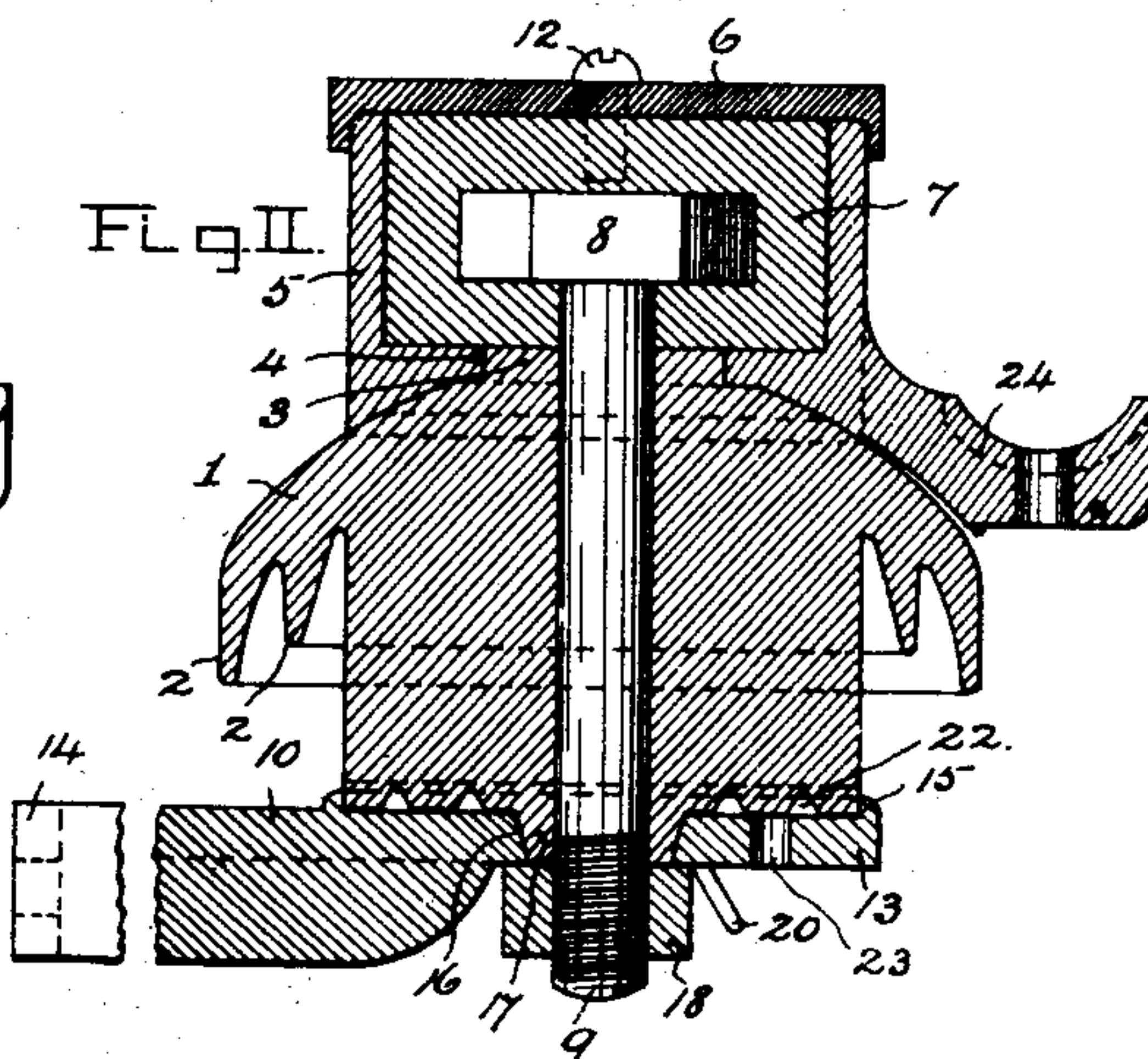


Fig. II.



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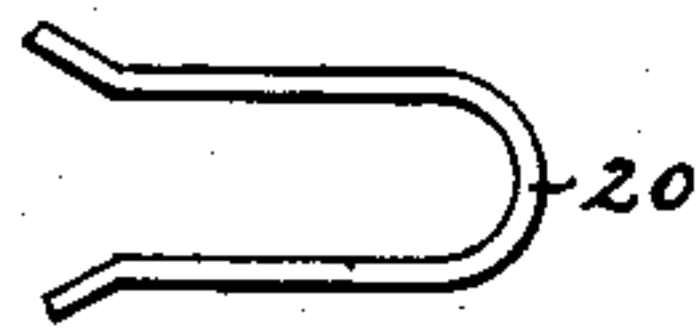


Fig. VII.

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UNITED STATES PATENT OFFICE.

WILTON F. JENKINS, OF RICHMOND, VIRGINIA.

INSULATOR.

SPECIFICATION forming part of Letters Patent No. 682,709, dated September 17, 1901.

Application filed February 7, 1901. Serial No. 46,405. (No model.)

To all whom it may concern:

Be it known that I, WILTON F. JENKINS, a citizen of the United States, and a resident of Richmond city, State of Virginia, have invented certain new and useful Improvements in Insulators, of which the following is a specification.

My invention relates to underground-conduit electric railways; and it consists of insulating means for supporting the conductors.

In the drawings which accompany and form a part of this specification and in which like numerals refer to like parts in the different views, Figures I, II, III, and IV are views of the insulator in side elevation, vertical section, front elevation, and plan, respectively. Fig. V shows in plan the bottom of the insulator-petticoat. Fig. VI shows in plan the insulator bracket or support. Fig. VII shows the nut-locking wire.

In Figs. I, II, III, and IV, 1 is the insulator-petticoat, made of non-conducting material and having the annular projecting ribs 2 2 and terminating at its upper end in a neck 3. (See Fig. II.) This neck 3 engages in an aperture 4, cut in the bottom of the casing 5 and so assists in keeping the latter in place. The casing 5 is made in the form of a box and is provided with a cap 6. The interior of the casing 5 is filled with non-conducting material 7, which is formed around the head 8 of the bolt 9, which bolt passes through a central hole 19 in the petticoat 1 and, projecting below the latter, forms means whereby the parts of the insulator may be held together and whereby the insulator may be secured to the bracket 10. The non-conducting material 7 is preferably of that kind which is liquid when hot and which sets hard on cooling. It then can be cast around the head 8 of the bolt 9 and so actually form a head to the said bolt, while it insulates it from its surroundings. The interior of the casing 5 instead of being cylindrical in form has one or more flats 11 11, (see Fig. IV,) their object being to prevent the non-conducting material 7, and consequently the bolt 9, from turning when the latter is tightened up. The cap 6 is held in place by the screws 12 12, which, passing through the cap, enter the walls of the casing 5.

10 is the insulator support or bracket, which

consists of a plate 13 and means for rigidly attaching the said plate to some part of the conduit structure. Such a part may be the conduit-yokes, which are placed at intervals along the conduit for the purpose, among others, of supporting the slot-rails. In that case the brackets 10 may be provided with feet 14 14, which may be bolted to the yoke-post or which may be secured to the said yoke in any suitable manner.

I prefer to provide the plate 13 of the bracket 10 with a projecting ring 15, the object of which is to add security to the insulator and to strengthen the plate 13, the lower extremity of the petticoat being made of such a diameter that it will fit neatly within the ring 15.

In the center of the plate 13 of the bracket 10 is an aperture 16, considerably larger in diameter than the bolt 9. In this aperture a projecting piece 17 on the bottom of the petticoat fits accurately. The nut 18 of the bolt 9 is large enough to extend beyond the walls of the aperture 16 and comes to a bearing against the under side of the plate 13. The petticoat 1 having been placed in position on the bracket 10, the casing 5 is placed on the petticoat 1, so that the neck 3 of the latter engages in the aperture 4 in the bottom of the said casing. The bolt 9, having its head 8 cased in the non-conducting material 7, is then dropped into place. The nut 18 being run onto the threaded end of the bolt 9 and tightened up, the casing 5 will be held firmly to the petticoat 1, and the latter will be firmly secured to the bracket 10. A nut-locking wire 20 may be used to prevent the nut 18 from slacking, grooves 21 21, Fig. VI, being cut in the under side of the bracket 10 to receive it. The said wire having been laid to the grooves 21 and the nut 18 tightened up, the looped end of the wire is turned down against the nut, Figs. I, II, and III, to prevent the latter from turning accidentally.

It will be seen from Fig. II that the casing 5 is perfectly insulated from the bracket 10, the petticoat 1 separating them from one another and from its shape preventing the formation of a continuous line of moisture between them, and the non-conducting material 7 preventing any flow of the current between the casing 5 and the bolt 9.

In the bottom face of the petticoat 1 are

cast grooves 22 22, &c., Figs. II and V, and holes 23 23, &c., are cored in the plate 13 of the bracket 10. Any moisture which may condense or otherwise accumulate about the bottom of the petticoat will find its way along the grooves 22 to the holes 23 and so escape.

24 is the conductor-support, which may be cast in one with the insulator-head 5 or which may be attached to the latter in any suitable manner. The manner in which the conductors are attached to the support is fully described in another application, bearing Serial No. 46,406, which I have filed on the same day with this application.

Having now described my invention, what I claim, and desire to protect by Letters Patent of the United States, is--

1. In an insulator, the combination of a bracket, an insulating-petticoat centrally perforated, a bolt passing downward through the perforation in the petticoat and having its head incased in insulating material, a casing resting on the petticoat and surrounding the insulating-head of the bolt, a cap to the casing covering the insulating-head of the bolt, and means to secure the bolt to secure the parts of the insulator in position on the bracket, substantially as described.

2. An insulator consisting of a centrally-perforated insulating-petticoat having downwardly-curved exterior surfaces and one or more depending flounces and provided on its upper end with a vertically-projecting neck, a waterproofing-casing resting on the top of the insulator and surrounding the neck thereof of which it fits closely, a bolt the head of

which is embedded in an enlarged insulating-block, said block filling and fitting into the casing when the bolt is passed through the petticoat, and a cover for the casing, substantially as described.

3. An insulator consisting of a centrally-perforated insulating-petticoat having downwardly-curved exterior surfaces and one or more depending flounces and provided on its upper end with a vertically-projecting neck, a waterproofing-casing resting on the top of the insulator and surrounding the neck thereof of which it fits closely, a bolt the head of which is embedded in an enlarged insulating-block, said block filling and fitting into the casing when the bolt is passed through the petticoat, a cover for the casing, and a supporting-bracket to which the insulator is secured by a nut threaded onto the lower end of the bolt, substantially as described.

4. An insulator consisting of an insulating-petticoat provided on its upper end with a vertically-projecting neck, a casing resting on the top of the petticoat and surrounding the neck thereof which it fits closely and provided with means for supporting a conductor, and insulated means whereby the petticoat and casing are secured to one another.

Signed at Richmond, in the county of Henrico and State of Virginia, this 24th day of January, A. D. 1901.

W. F. JENKINS.

Witnesses:

EUGENE JONES,
ARTHUR SCRIVENOR.