

No. 698,097.

Patented Apr. 22, 1902.

H. P. BALL.  
ELECTRICAL INSULATOR.

Application filed Aug. 31, 1901.)

(No Model.)

FIG. 1.

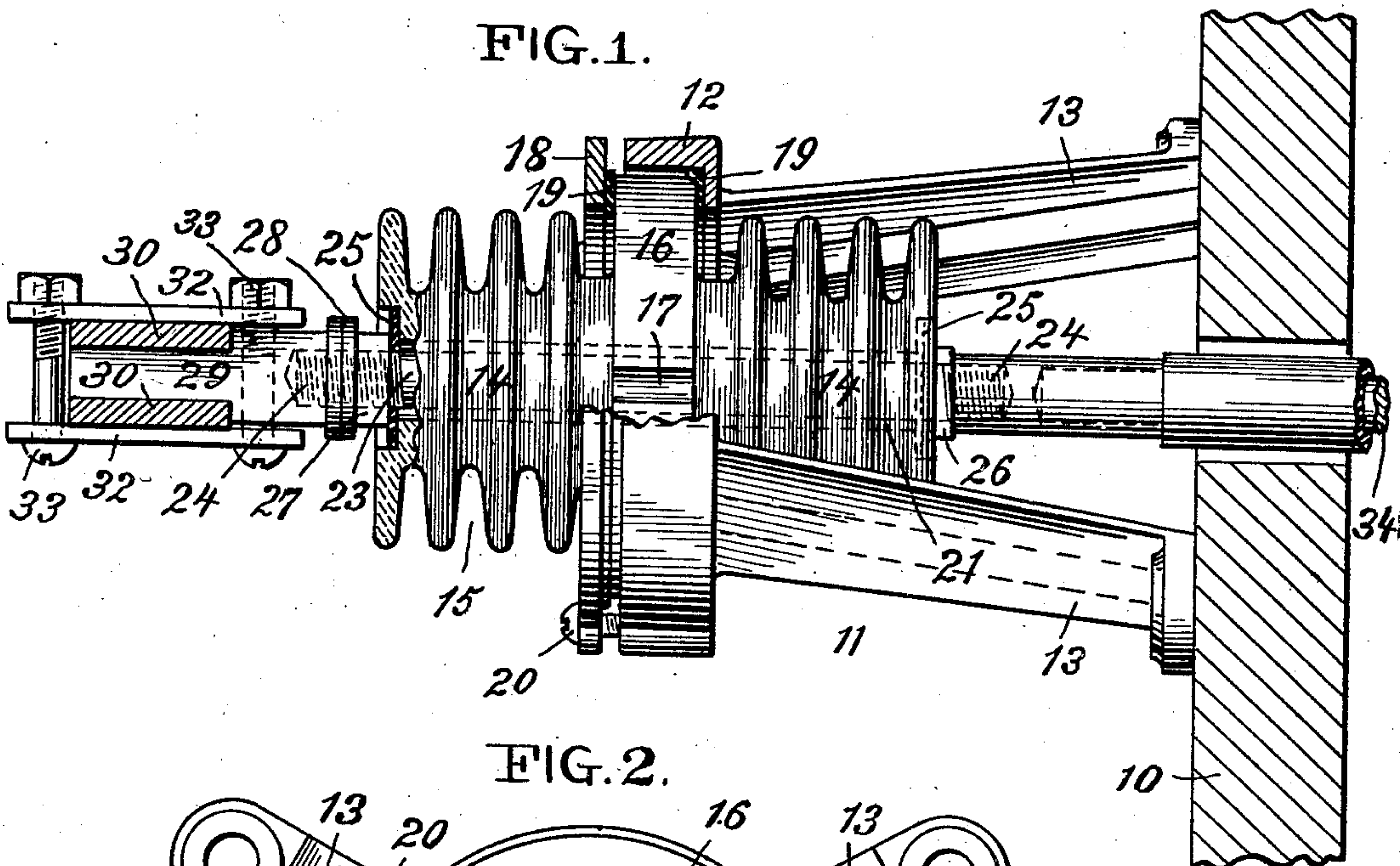


FIG. 2.

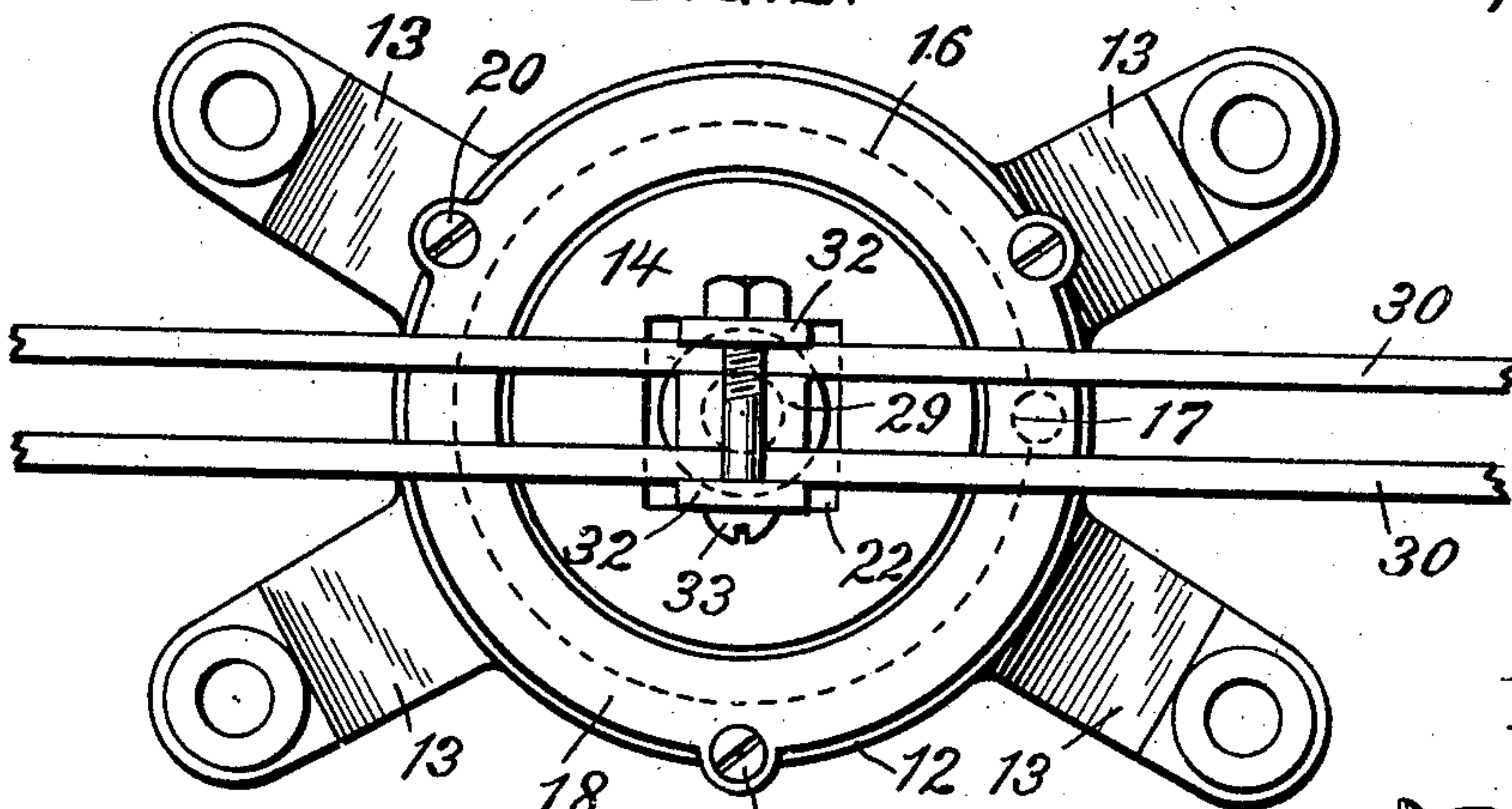


FIG. 3.

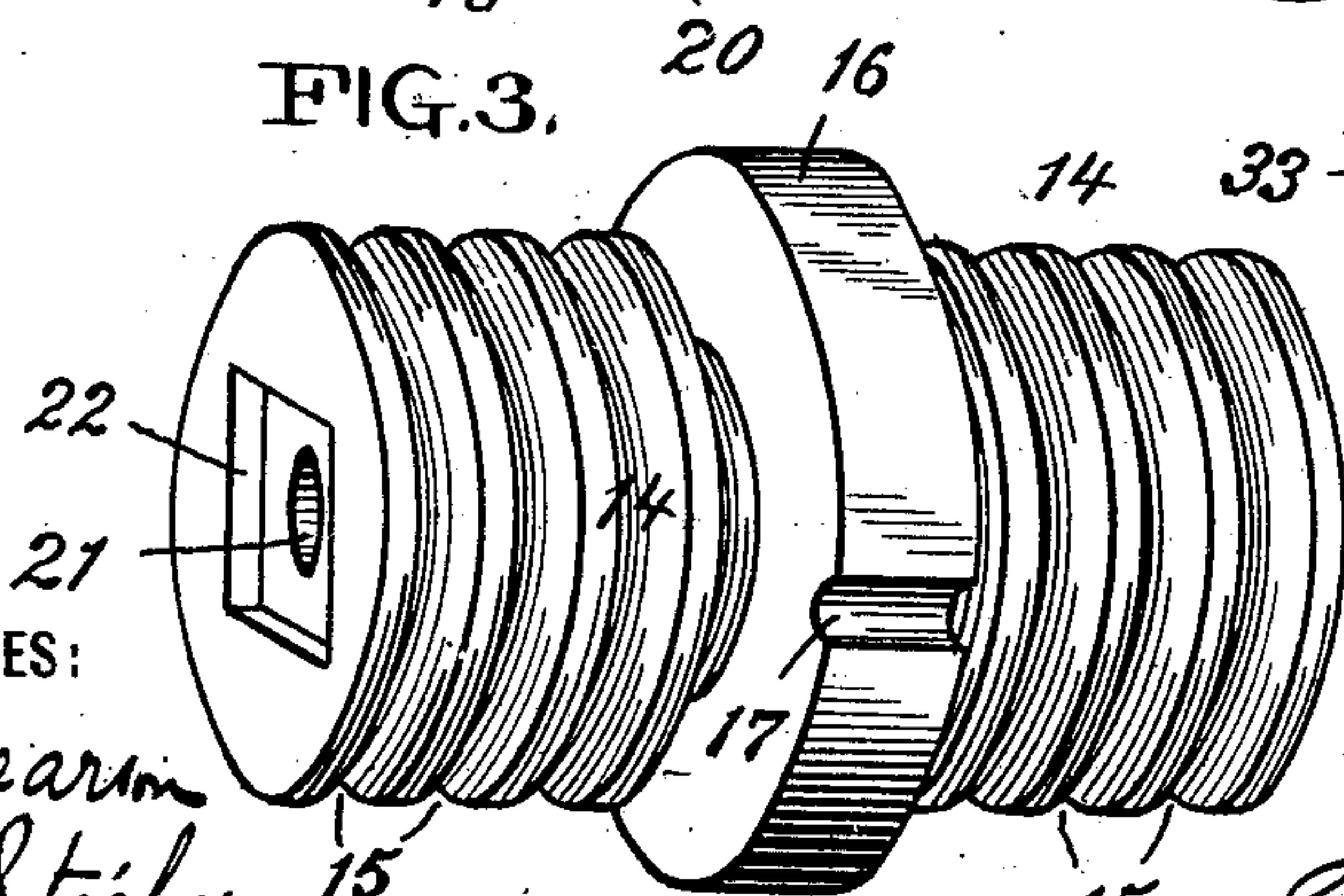
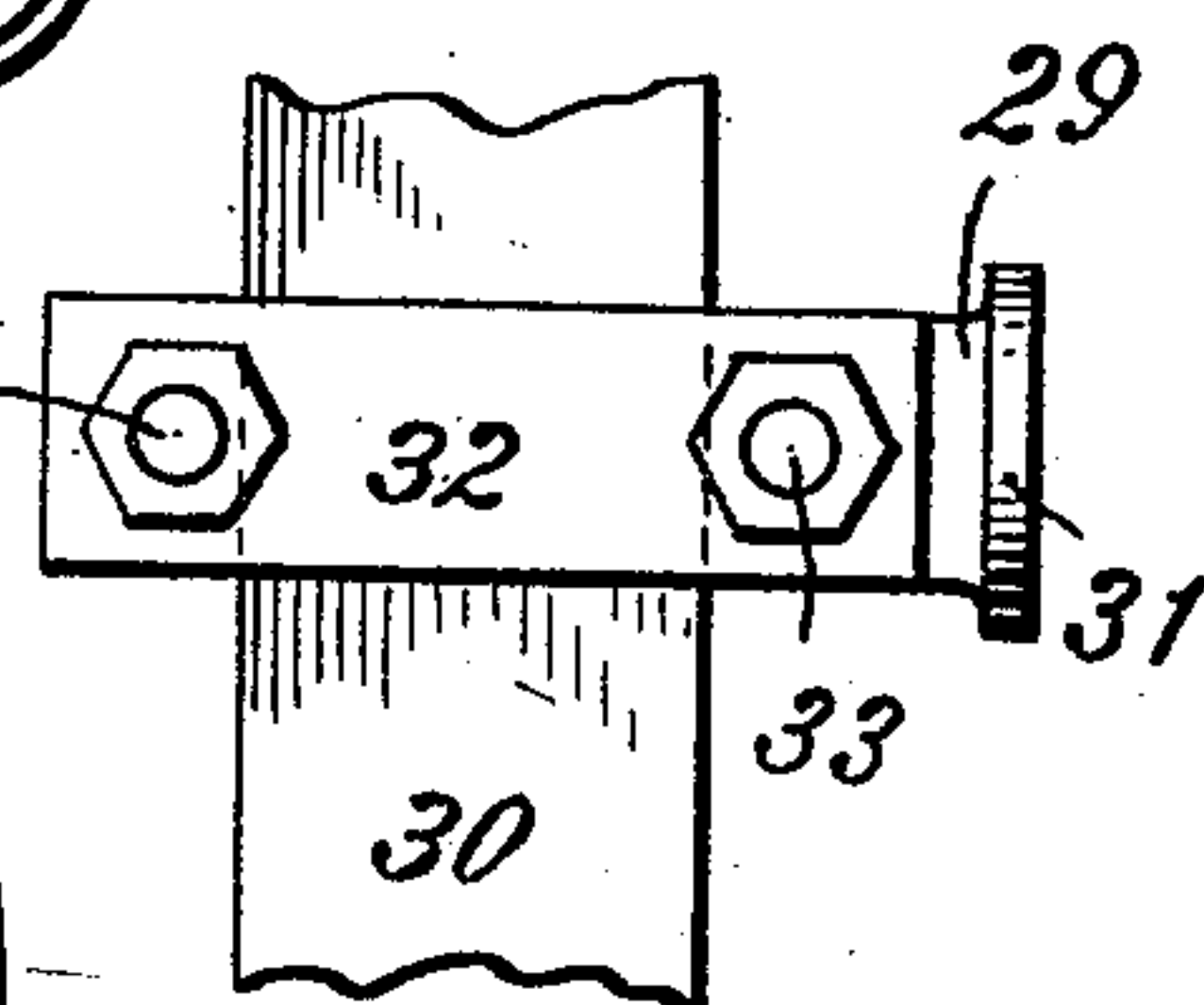


FIG. 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## ELECTRICAL INSULATOR.

SPECIFICATION forming part of Letters Patent No. 698,097, dated April 22, 1902.

Application filed August 31, 1901. Serial No. 73,929. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY PRICE BALL, a citizen of the United States, residing at New York city, county and State of New York, have invented certain new and useful Improvements in Electrical Insulators, of which the following is a specification.

My invention relates to insulators of the type which may be employed for supporting electrical conductors carrying high-tension currents—such, for instance, as bus-bars, the terminals of oil-switches, &c.

The invention consists, essentially, of an insulator having its body portion formed to present a large air-surface and provided with a flange by means of which the insulator may be secured in position upon a switchboard or other supporting-body.

The invention consists, further, in various details of construction of the insulator and its support.

The object of the invention being to effectually insulate the conductor from its support, which though it may be formed of an insulating material—such as slate, marble, or concrete—will not be effective as an insulator for high-tension currents.

The accompanying drawings will serve to illustrate my invention, in which—

Figure 1 is a side elevation and partial section showing an insulator mounted upon a switchboard and supporting bus-bars. Fig. 2 is a front view. Fig. 3 is a perspective view of the insulator. Fig. 4 is a top view of one of the bus-bars, its support, and a securing-plate.

In the drawings, 10 indicates the body of the switchboard, or it may indicate a metal slab, concrete floor, &c.; 11, support for the insulator held in position in any suitable manner upon the switchboard, floor, slab, &c. The particular construction of the support for the insulator is not material, so long as it serves its purpose to properly support the insulator upon the switchboard, &c. In the present case it consists of an annular recessed head 12, from the rear side of which project lugs 13.

The insulator itself consists of a body 14, of porcelain or other suitable insulating material. The body is cylindrical in section and

preferably provided with a series of parallel grooves 15 in its surface. By reason of such parallel grooves an extended air-surface is provided, which serves to cut off the possibility of an electric discharge between the high-tension conductor carried by the insulator and the body of the switchboard, floor, slab, &c., and a flange portion 16, greater in diameter than the body portion. The flange has formed in its periphery one or more transverse concave openings 17.

I do not limit myself to an insulator having a cylindrical body or a cylindrical body having parallel grooves in its surface, as other forms may be adopted. Both of these forms I have, however, found to be well suited for the use for which they are designed.

In Fig. 1 the insulator is shown as having its flange located in the recessed head of the support for the insulator and secured therein and prevented from turning by means of the plate 18, annular washers 19, and screws 20, one of the latter located in the cavity 17 in the periphery of the insulator.

The body 14 of the insulator is provided with an opening 21, which can be enlarged at the front and rear of the body, as shown, to form rectangular countersunk openings 22. Situated in the opening 21 is a rod 23, which may serve merely as a support or which may be used to conduct current from the conductor supported by it and the insulator. This rod is screw-threaded at both ends 24. Located over the ends of the rod and within the rectangular countersunk openings 22 of the insulator are placed resilient washers 25, of fiber or other material, which are secured in place upon the rod 23 by means of the nuts 26 27. The head of the nut 27 is enlarged to form a flange 28.

Connected to the front of the insulator through the support 29 are the bus-bars 30. The inner end of the support 29 is provided with a flange 31, which corresponds to the flange 28 on the nut 27 and is provided with a thread to receive the threaded end of the rod 23.

32 33 are plates and bolts by means of which the bus-bars are secured upon the support 29. Manifestly if other devices are to be supported by the insulator—such as the contacts

of oil-switches, &c.—the construction of the support or fastening means will be altered.

34 indicates a conductor such as may be connected to the rear end of the rod 23.

5 Having thus described my invention, I claim—

1. An insulator, comprising a body portion having the shape of a long cylinder with parallel grooves in its surface, and a supporting-  
10 flange of greater diameter.

2. An insulator comprising a body portion having the shape of a long corrugated cylinder, and a supporting-flange of greater diameter.

15 3. The combination with an insulator, con-

sisting of a corrugated body portion and a supporting-flange, of means for securing said insulator upon a switchboard, floor, slab, or other similar body.

4. The combination with an insulator, con- 20  
sisting of a corrugated body portion and a supporting-flange, a support for said insulator, a rod traversing said insulator, and a clamping device on the end of said rod.

In testimony whereof I affix my signature 25  
in the presence of two witnesses.

HENRY PRICE BALL.

Witnesses:

ALEXANDER PERRY,  
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