

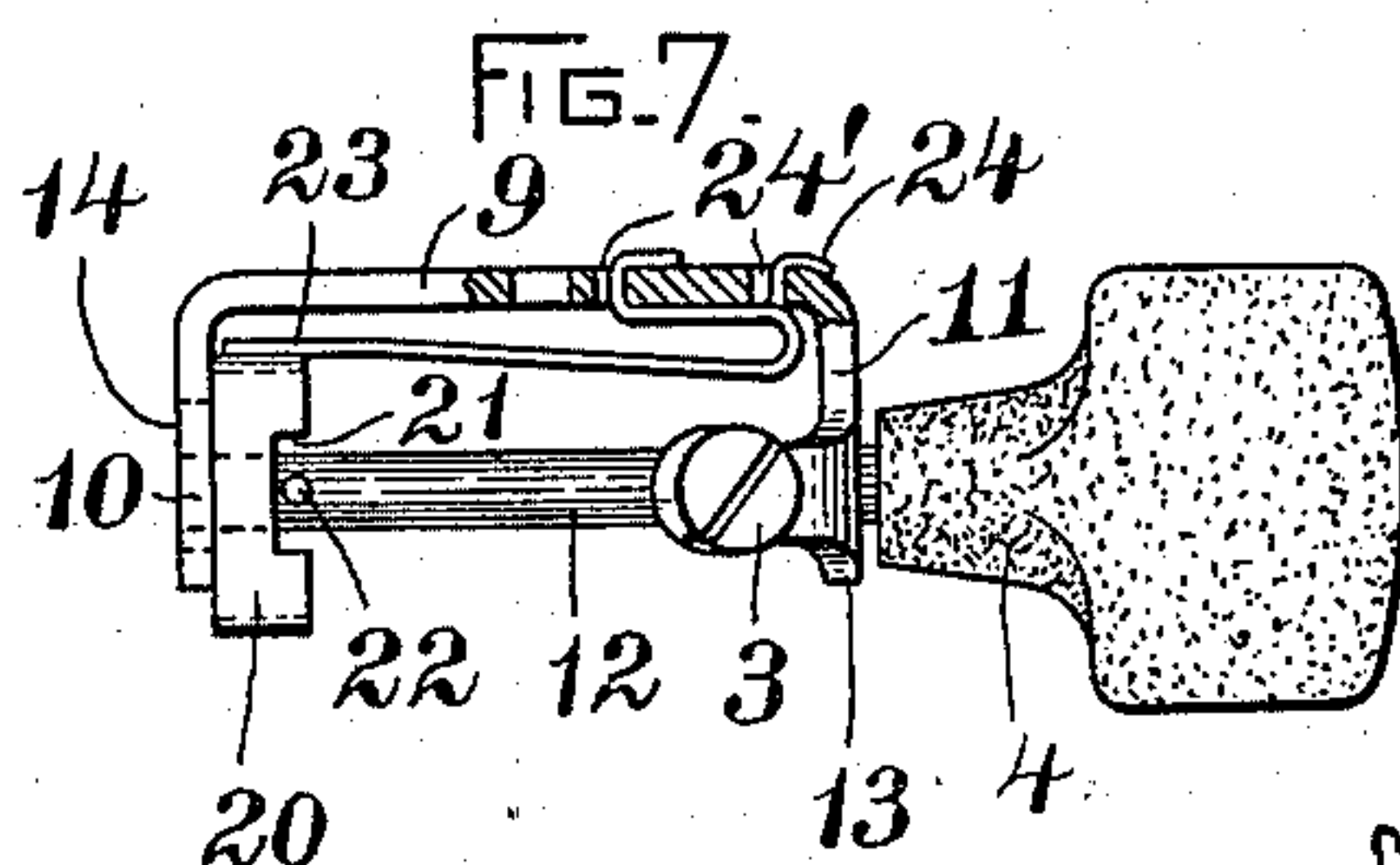
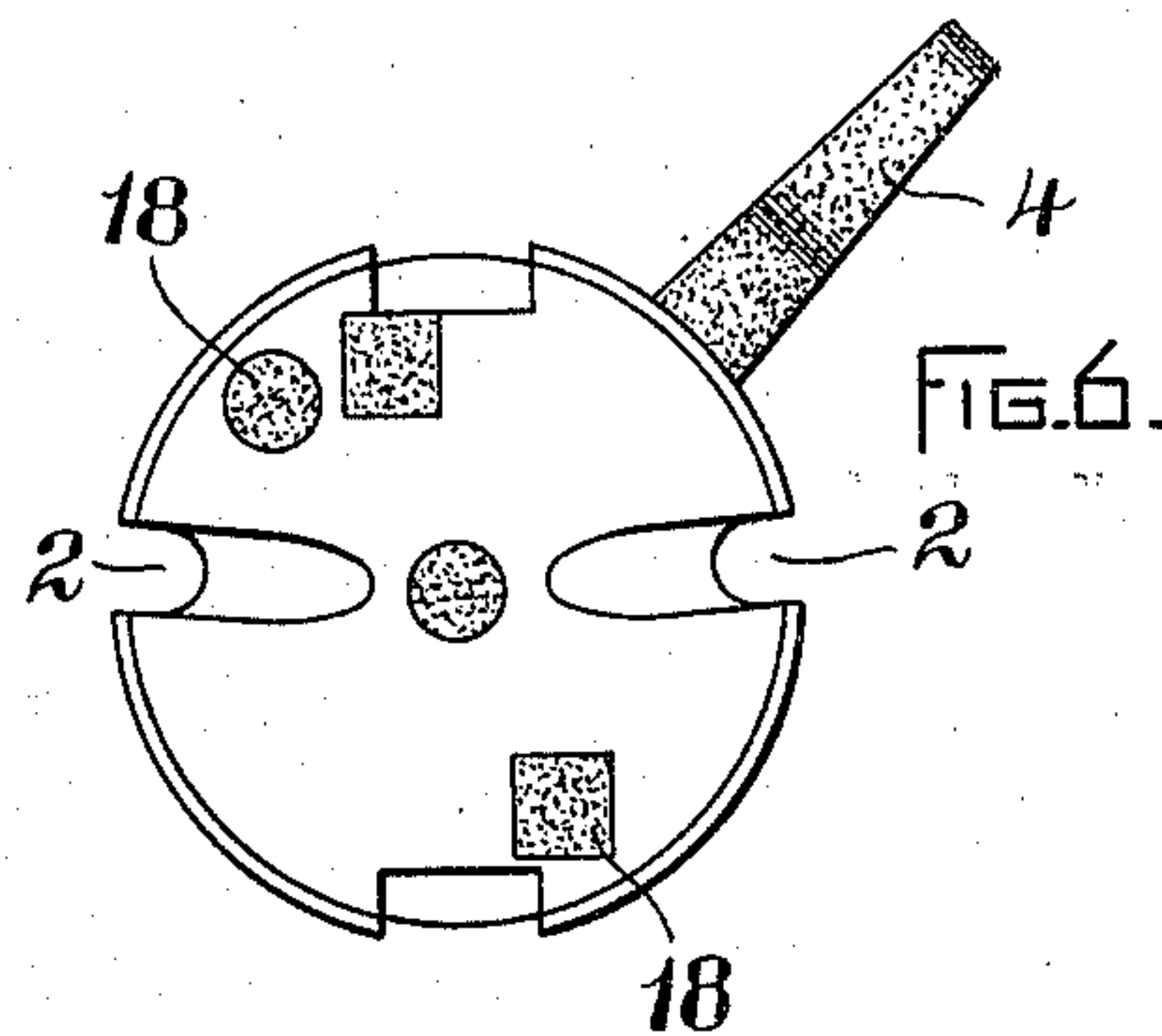
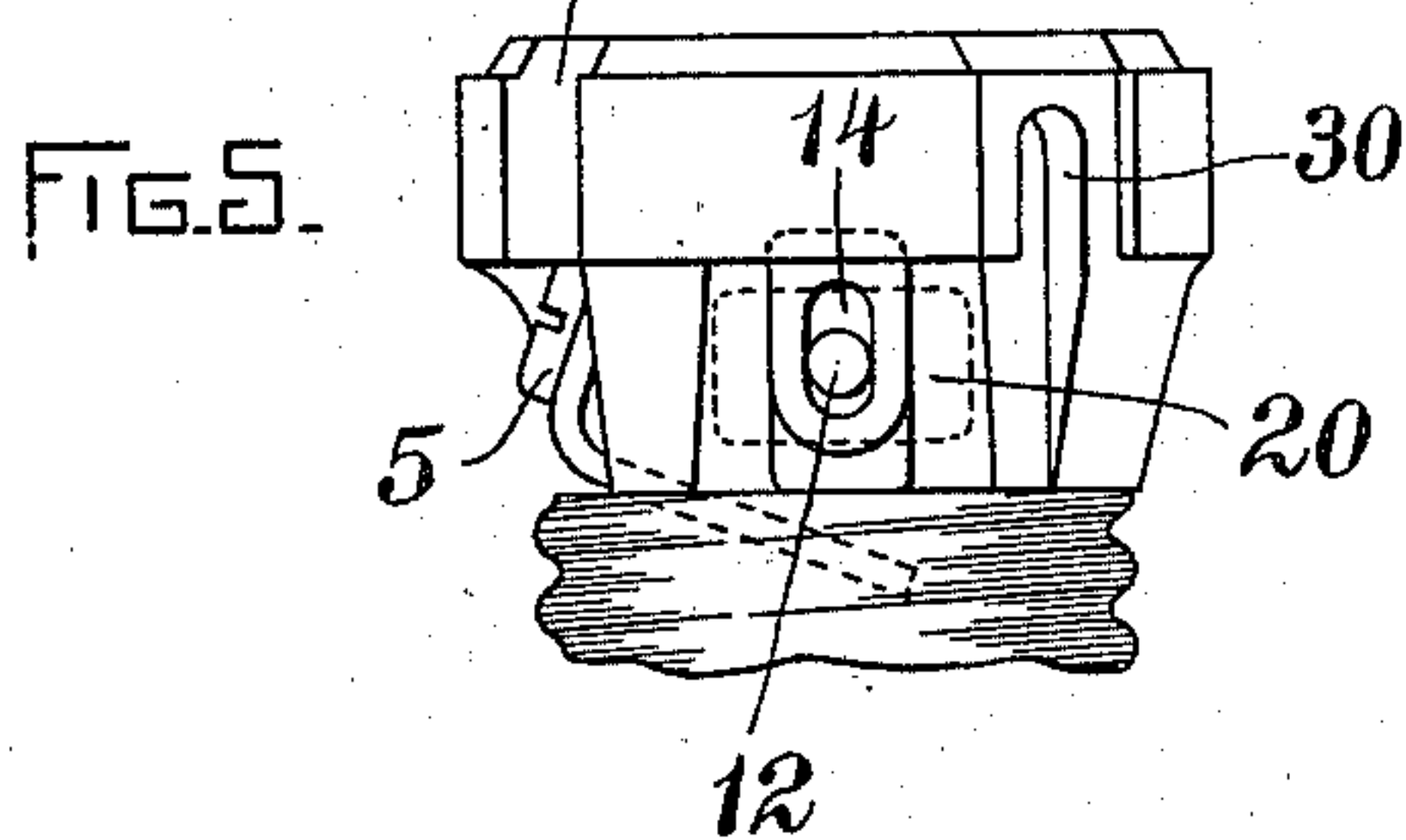
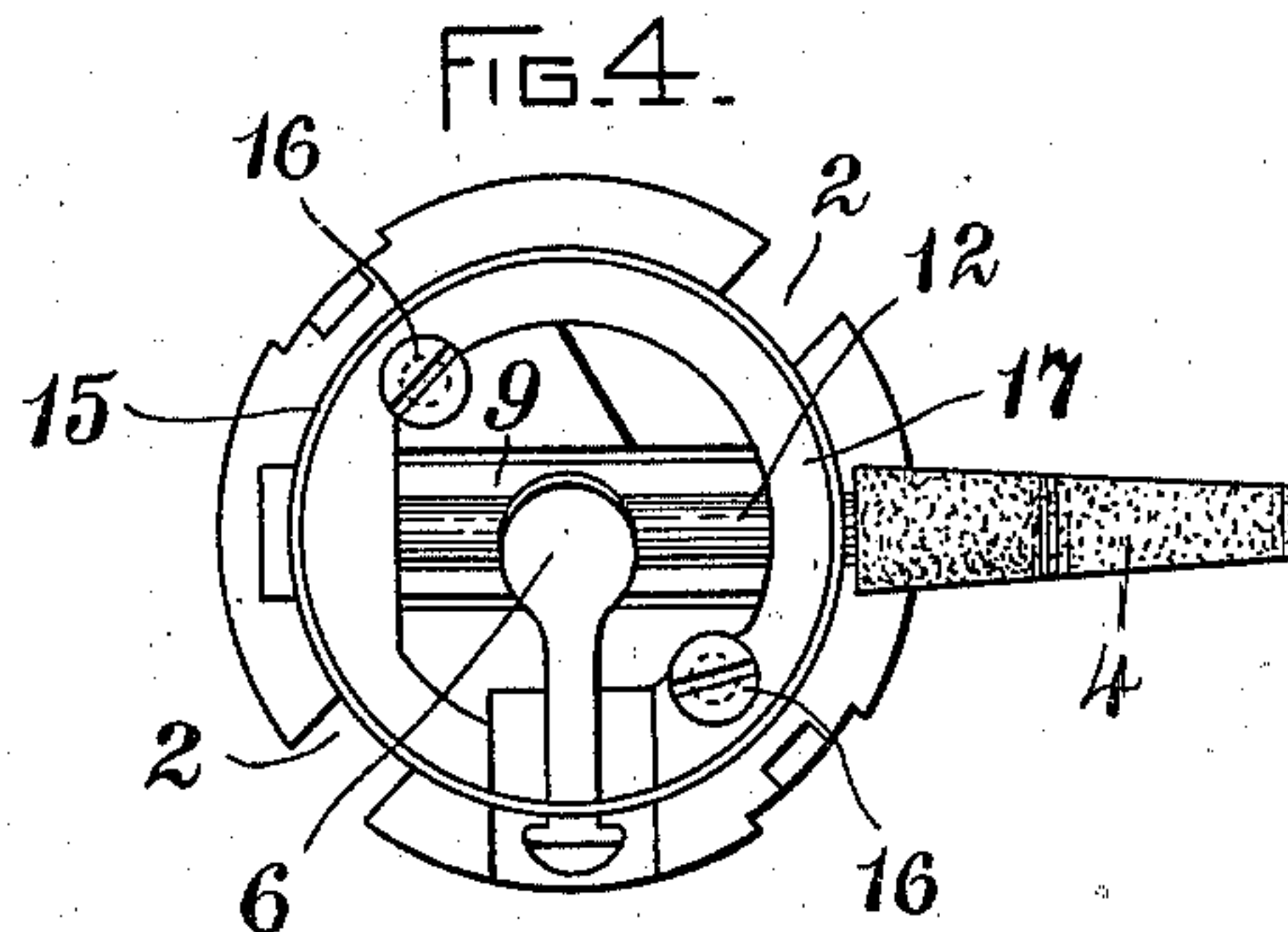
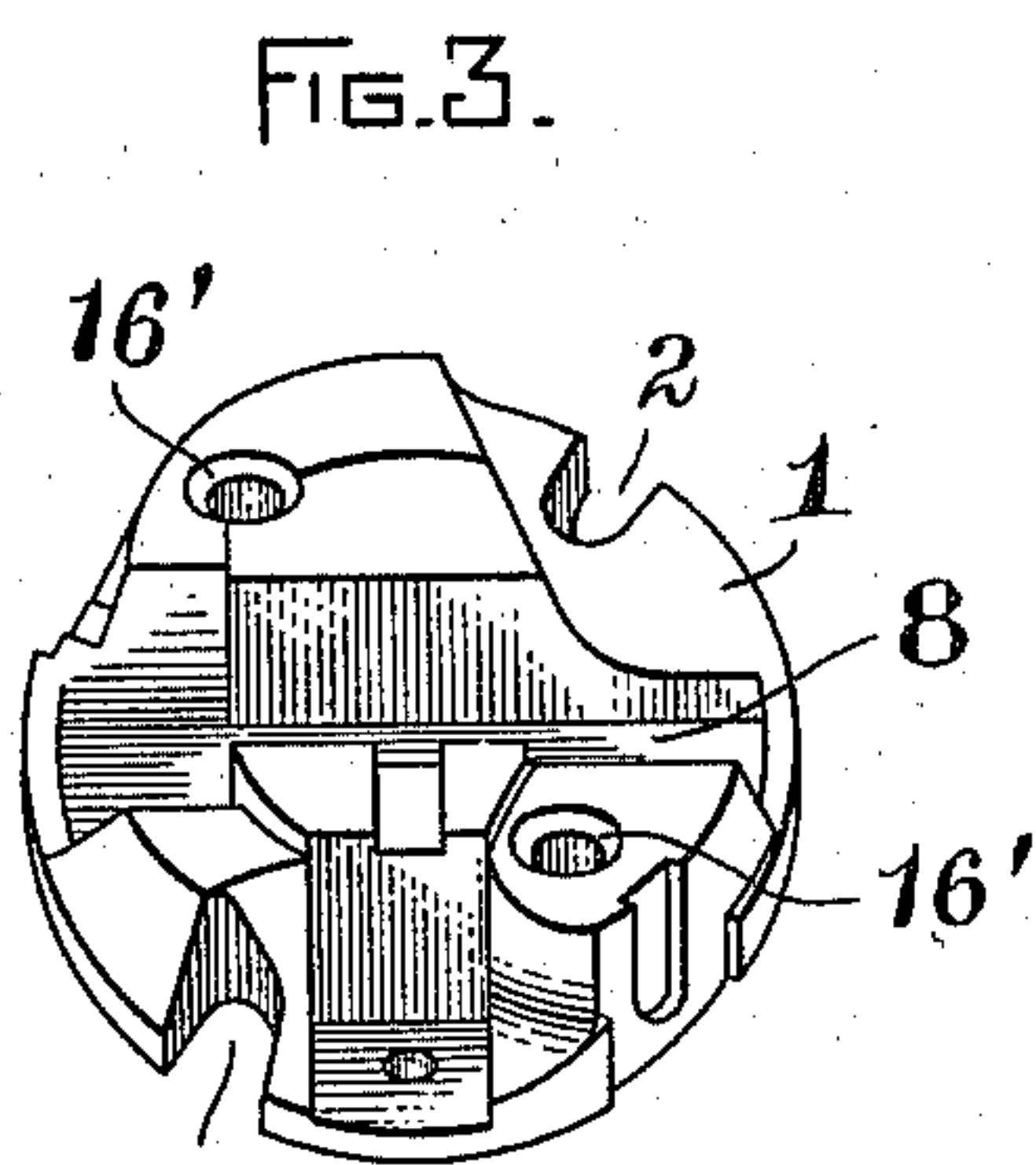
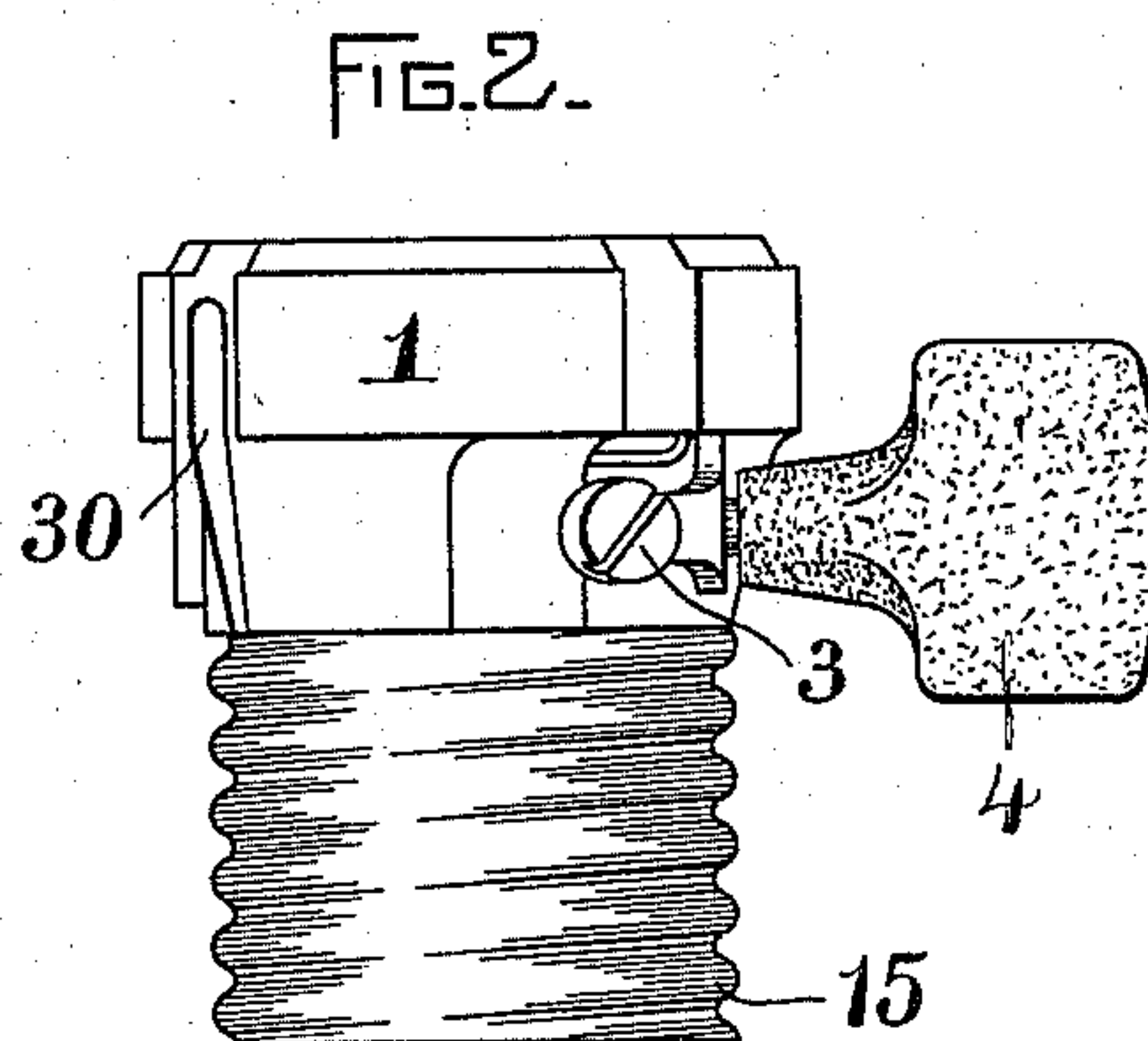
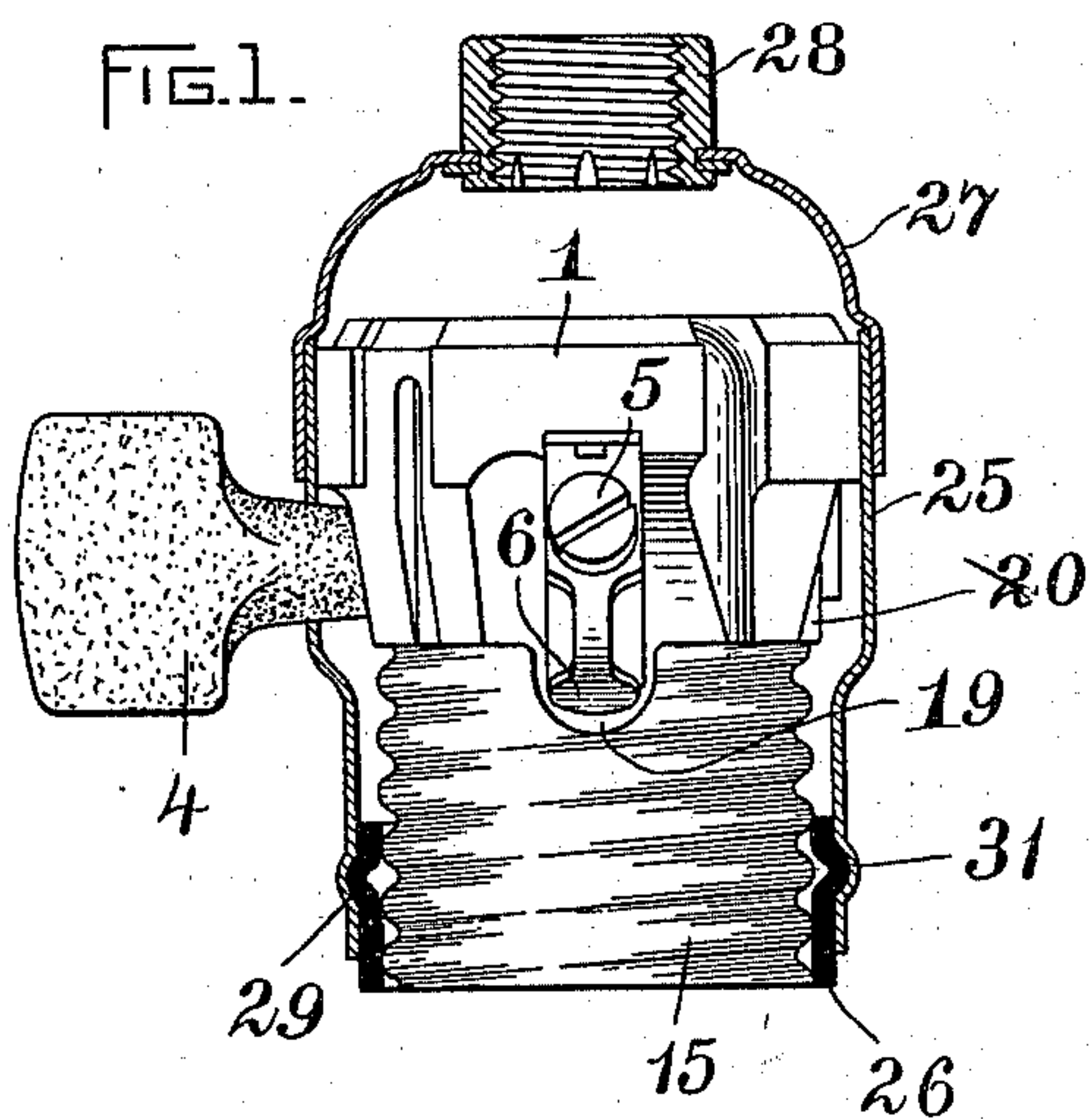
(No Model.)

2 Sheets—Sheet 1.

J. C. TOURNIER.  
SOCKET FOR INCANDESCENT LAMPS.

No. 559,232.

Patented Apr. 28, 1896.



WITNESSES.

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Att'y.

(No Model.)

2 Sheets—Sheet 2.

J. C. TOURNIER.  
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FIG. 8.

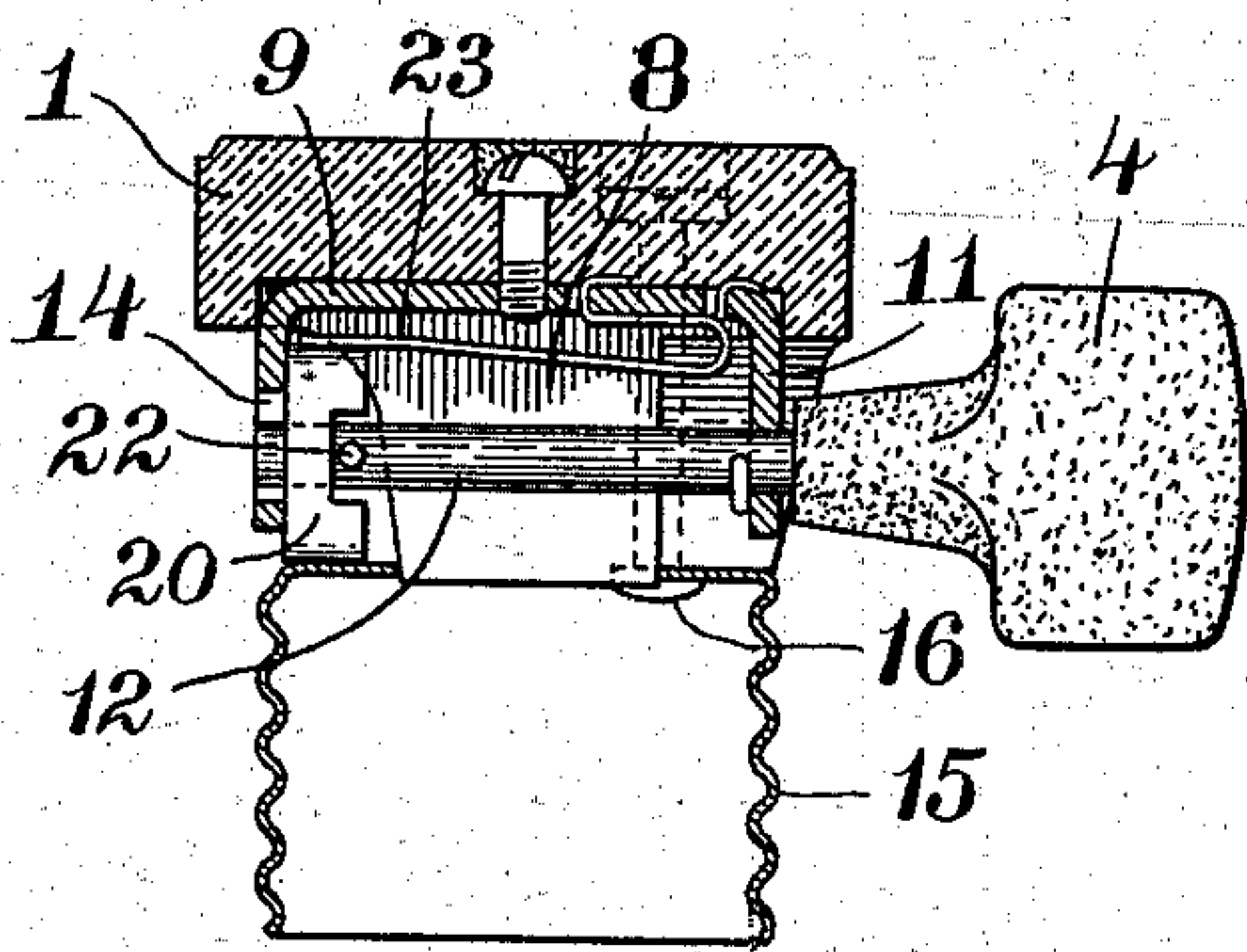


FIG. 9.

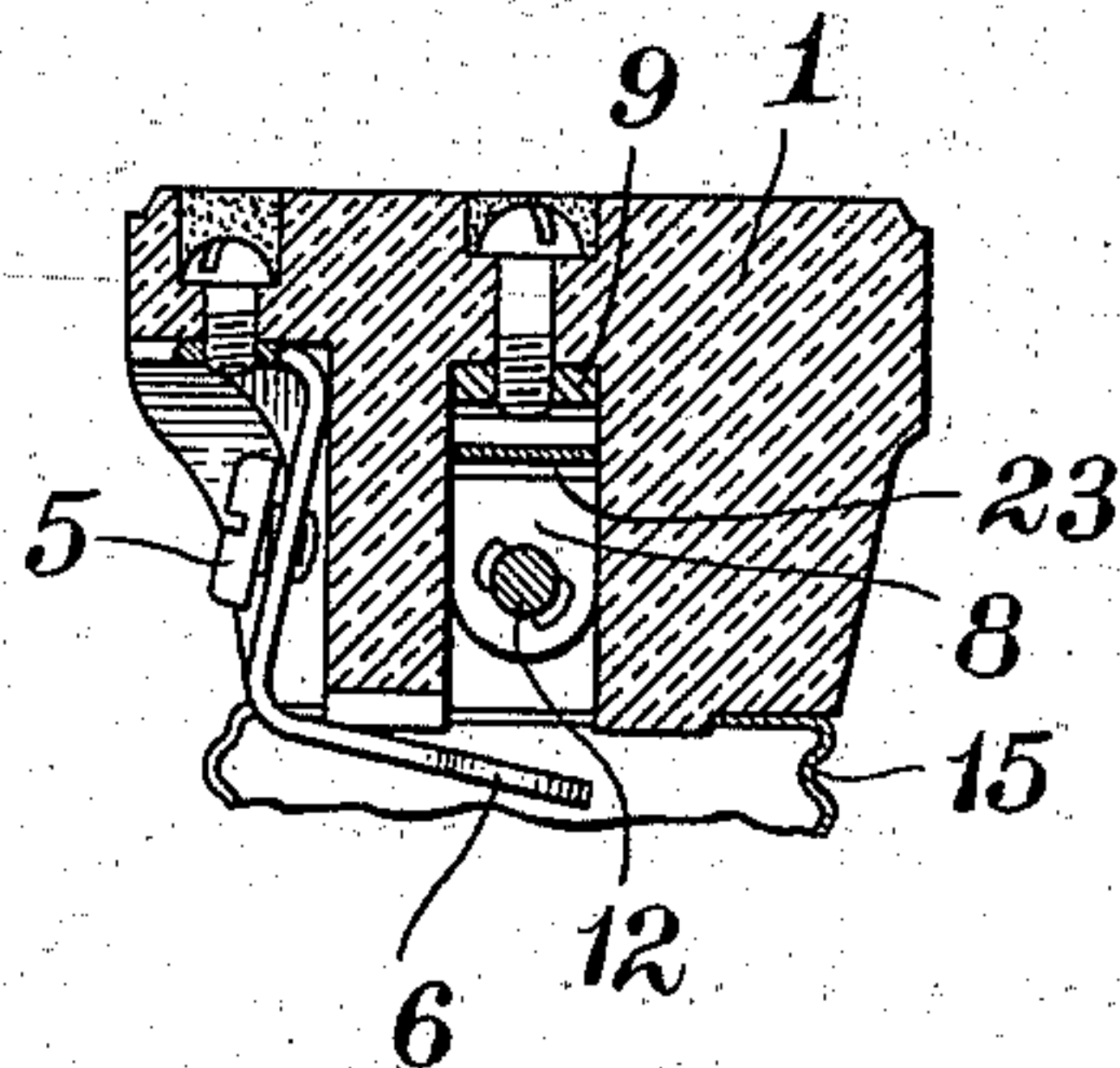


FIG. 10.

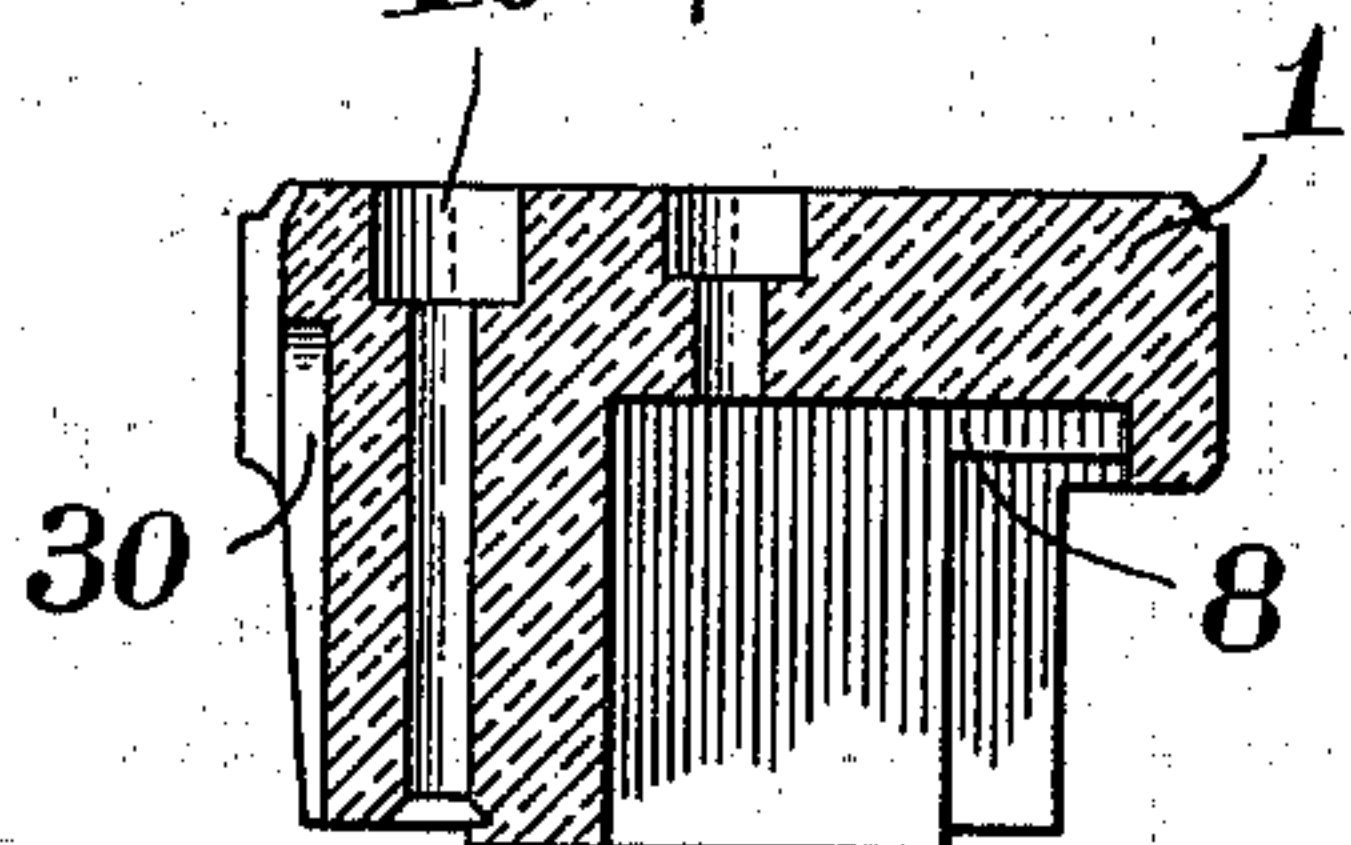


FIG. 11.

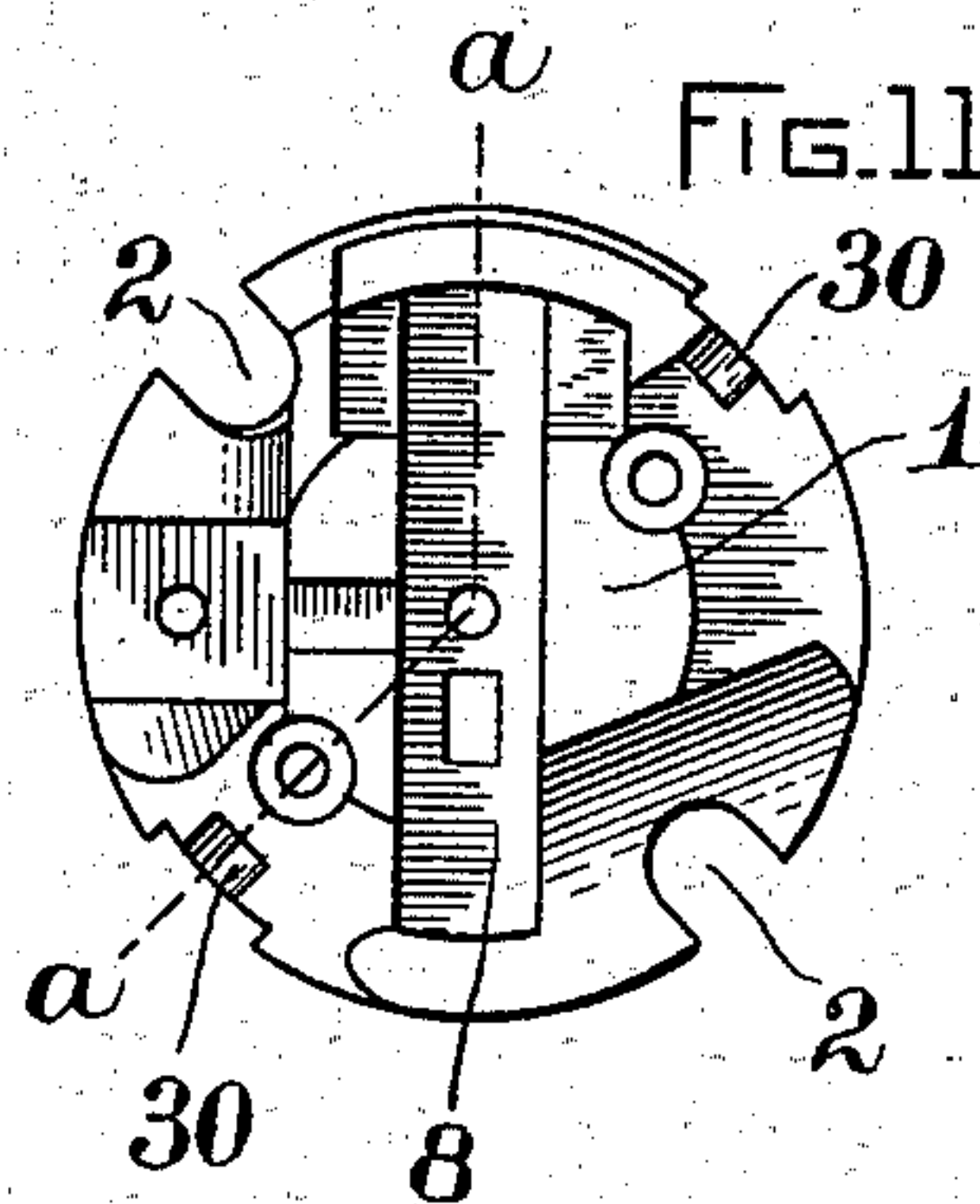
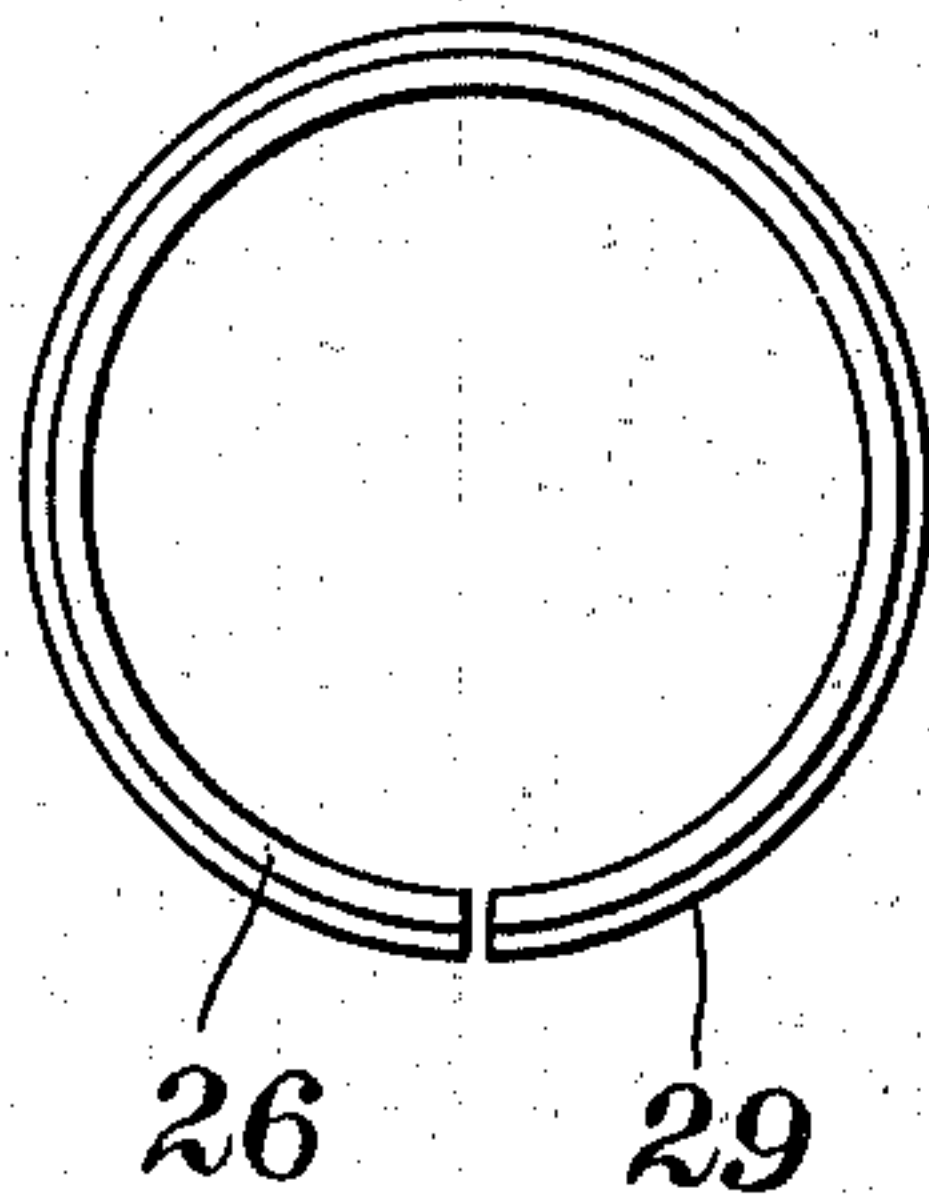


FIG. 12.



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att.



# UNITED STATES PATENT OFFICE.

JULIUS CH. TOURNIER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO THE  
GENERAL ELECTRIC COMPANY, OF NEW YORK.

## SOCKET FOR INCANDESCENT LAMPS.

SPECIFICATION forming part of Letters Patent No. 559,232, dated April 28, 1896.

Application filed March 25, 1896. Serial No. 584,793. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS CH. TOURNIER, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Sockets for Incandescent Lamps, (D. 377,) of which the following is a specification.

This invention relates to sockets for incandescent lamps, and has for its object to provide a socket for incandescent lamps of a simple, cheap, and efficient construction, having its parts so arranged as to afford strength and compactness and a convenient and practical assemblage of the circuit-controlling device and the contacts for completing the circuit, all as hereinafter set forth and claimed.

Referring to the accompanying drawings, Figure 1 is an elevation, with the inclosing shell in vertical section, of an incandescent-lamp socket constructed in accordance with this invention. Fig. 2 is an elevation of the lamp-socket with the inclosing shell removed. Fig. 3 is a view in perspective of the supporting-block with the metallic parts removed. Fig. 4 is a plan view of the supporting-block, circuit-controlling key, and lamp-contacts. Fig. 5 is a side view of the supporting-block with the spiral sleeve broken away. Fig. 6 is a plan view of the under side of the supporting-block, and Fig. 7 is a detail view of the circuit-controlling key and its connections detached from the block. Fig. 8 is a vertical section through the base and shell, disclosing certain of the operative parts. Fig. 9 is a vertical section of the insulating-base on a line transverse to Fig. 8, including certain of the operative parts. Fig. 10 is a vertical section of the insulating-base with parts removed on the line *a a* of Fig. 11. Fig. 11 is a plan view of the insulating-base, showing the interior construction thereof; and Fig. 12 is a detail view of the insulating-ring shown in Fig. 1.

In the construction of this invention a cylindrical supporting-block 1 is employed, of suitable insulating material, and cut away at its edges at 2 2 for the passage of the circuit-wires, which are carried through the same and have their ends attached, respectively, to the binding-screw 3, connecting with the circuit-controller 4, and the binding-screw 5,

connecting with the elastic metallic arm 6, mounted in a recess in the supporting-block 1 and projecting centrally under the bottom of the block 1. The block 1 is formed with a transverse passage-way or cavity 8, in the bottom of which is located a longitudinal plate 9, Fig. 7, having upturned ends 10 11, in which are openings through which projects the metallic rod 12 of the circuit-controlling key 4, the arms 10 and 11 serving as bearings for said shaft 12. The binding-screw 3 is mounted on an arm 13 of the arm 11, and the arm 10 has a vertical oval slot 14, Fig. 5, in which the outer end of the metallic shaft 12 is located, this being adapted to have free play vertically in its rotary movement when the key is operated.

Upon the top of the block 1 is mounted a threaded shell 15, secured thereto by means of screws 16, Fig. 4, which pass through the perforations in a flange 17 of the threaded shell 15 and through perforations or holes 16' in the block 1, extending through the latter. The ends of the screw 16 are covered with suitable insulating material 18, as shown in Fig. 6, to guard against the accidental contact therewith of the leading-in wires when securing the latter in place. One end of the screw-threaded shell 15 is cut away, as at 19, Fig. 1, to permit the passage of the metallic projection 6 within the screw-threaded shell 15. At the end of the transverse passage 8 in the block 1, where the outer end of the metallic shaft 12 of the circuit-controlling key 4 is located, there is formed in the block 1 a cavity or space, in which is located the rotary contact-block 20, loosely mounted on the end of the metallic shaft 12 and so connected thereto as to have lost motion—as, for example, by means of the slot 21, formed on the inner face of the block 20, in which are adapted to play the ends of a pin 22, mounted on the shaft 12, the projecting ends of the pin 22 coming in contact with the ends of the slot 21 of the block 20, so as to give the latter a lost motion in its operation. Upon the metallic base 9, located in the transverse groove 8 in the block 1, is mounted a longitudinal spring-arm 23, secured thereto in any suitable manner, and as here shown by cut-away projecting portions 24, bent to engage with aper-



tures 24' in the metallic plate 9. By means of this latter construction the spring may be readily removed and a new spring inserted in its place. The outer end of the spring 23 is  
 5 located above the rotary block 20 of the circuit-controlling key, and a portion of one end of the screw-threaded shell 15 extends over the block 20, there being a passage between the shell 15 and the block 20, so that when  
 10 the circuit is open the rotary block 20 is out of contact with the end of the shell 15 and the spring 23 bears against one side of the block 20.

When the incandescent electric lamp is  
 15 screwed into the threaded shell or socket 15, one terminal on its base makes contact with the sleeve 15 and the other with the projecting arm 6, the circuit being thus completed through the lamp, except between the shell  
 20 15 and the rotary block 20. Connection at this point is made and broken by means of the circuit-controlling key 4 by turning the latter so that the rotary block 20 is snapped with a lost motion into contact with the  
 25 threaded shell or socket 15.

By means of the construction hereinbefore set forth a compact and efficient arrangement of the supporting-block, threaded socket, circuit-controlling key, and other metallic  
 30 parts is provided. The several parts just referred to are inclosed in a suitable casing, as here shown, consisting of a cylindrical shell 25, adapted to be slipped over the block 1 and the threaded socket 15 and having a flanged  
 35 insulating-ring 26, located between one end of the casing and the threaded shell 15, and the other part of the casing consists of a cap 27, which fits over one end of the shell 25 and is provided with a screw-threaded pro-  
 40 jection 28 for securing thereto the end of the fixture.

The insulating-ring 26, consisting, preferably, of fibrous material, is elastic and of greater width than such rings heretofore  
 45 made and projects beyond the outer end of the shell 25. The ring 26 is formed with an exterior bead 29 and is sprung into place between the socket 15 and the shell 25, so that the bead 29 is located in a circular groove 31  
 50 on the inner face of the shell 25. The ring 26 is a split ring, as indicated in Fig. 12. To insert the ring 26 in position, as shown in Fig. 1, it is necessary to squeeze the ring, so as to cause the free ends of the ring at the split to  
 55 overlap each other, and the ring so compressed is slipped into place between the shell 25 and the threaded shell 15, and by its elasticity will spring into place, so as to cause the ends of the split ring 26 to fit closely together, as  
 60 shown in Fig. 12.

It is obvious that in lieu of the elastic split ring an elastic ring which is not split and is capable of being buckled in and then slipped into place between the shells 15 and 25 may  
 65 be used.

By means of the foregoing construction the ring 26 is firmly held against slipping out of

position and the outer ends of the socket 15 and shell 25 are completely insulated.

I am aware that it is old to construct the  
 70 outer shell of an incandescent-lamp socket with a groove formed at one end thereof and to employ in connection therewith a split insulating-ring which is sprung into place in  
 75 said groove. It has been found in practice that such a construction is defective and that it does not provide sufficient insulation between the inside screw-shell and the outside  
 80 metal shell. Furthermore, it has been found in practice that said insulating-ring does not stay securely in place and, as heretofore  
 stated, does not provide sufficient insulation between the inside screw-shell and the outside  
 metal shell.

Heretofore in the construction of support-  
 85 ing insulating-blocks for incandescent-lamp sockets it has been necessary to weigh the plastic porcelain or other insulating material of which the block is formed, and considerable  
 90 care and skill have had to be exercised in not only providing the exact amount of plastic insulating material, which is compressed to the required and proper size, but also in forming  
 the grooves for the screws by means of which  
 95 the cap 27 is secured to the block, which grooves have been required to be of proper and exact size in order to properly engage the cap with the block. The weighing of the plastic mass and the measurement of the grooves  
 100 are obviated by simultaneously compressing the plastic mass and forming the grooves 30, as set forth in a separate application.

It will thus be seen that by means of this construction a simple, cheap, and efficient  
 105 lamp-socket is provided in which contact with the lamp is readily made and a firm union of the socket with the lamp is provided.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an incandescent-lamp socket, an in-  
 110 sulating-block, circuit-terminals, and a circuit-controlling key with a metallic tip and operating-spring mounted thereon, in combination with a metallic socket mounted on the  
 115 insulating-block, the metallic tip of the controlling-key being adapted to make contact with the shell and close the circuit.

2. In an incandescent-lamp socket, as a new article of manufacture, an insulating-block formed with passages in its edges for the cir-  
 120 cuit-wires, a transverse passage-way for the insertion of a controlling-circuit key-shaft, its bearings and a controlling-spring, a cavity at one end for the location of a rotary metallic tip of the key-shaft, and a cavity at the  
 125 other end for the location of one of the binding-screws and brackets, a cavity at one side of the block for the location of the other binding-screw and bracket, and a contact-arm, as herein set forth.

3. In an incandescent-lamp socket, an insulating-block formed with a transverse cavity, a rotary circuit-controlling key, and a spring and contact-tip located in this cavity,



binding-screws located in cavities in the insulating-block, one connected with the key-shaft and the other with a metallic contact-arm projecting over the top of the block, and a shell or socket mounted on the top of a block and adapted to complete the circuit with a lamp by contact of the contact-tip therewith.

4. In a socket for incandescent lamps, the combination with the insulating-base thereof and a key having a contact-tip, of a lamp-socket cylindrical shell mounted on one end of said base, and so arranged in relation to the key-tip that the latter contacts with the lamp-socket cylindrical shell to close the circuit, as set forth.

5. In a socket for incandescent lamps, a U-shaped frame for supporting the key, provided with apertures, in combination with a spring having one end formed with branches projecting through said apertures, bent over and detachably held in engagement with said U-shaped frame.

6. In a socket for incandescent lamps, the combination with an inner screw-threaded

socket and an outer cylindrical shell having a circular groove in its inner face, of an elastic insulating-ring formed with a bead, and located between the inner socket and outer shell, said bead being located in the circular groove in the outer shell.

7. An elastic insulating-ring for incandescent-lamp sockets, formed with an exterior circular bead.

8. An elastic split insulating-ring for incandescent-lamp sockets, formed with an exterior circular bead.

9. As a new article of manufacture, an insulating-ring for incandescent-lamp sockets, formed of a sheet of elastic insulating material provided with a circumferential bead, as and for the purpose set forth.

In witness whereof I have hereunto set my hand this 24th day of March, 1896.

JULIUS CH. TOURNIER.

Witnesses:

B. B. HULL,  
GENEVIEVE HAYNES.

## DISCLAIMER.

559,232.—*Julius C. Tournier*, Schenectady, N. Y. IMPROVEMENT IN SOCKETS FOR INCANDESCENT LAMPS. Patent dated April 28, 1896. Disclaimer filed October 17, 1901, by *the present assignee, The General Electric Company*.

Enters its disclaimer—

“To that part of said Letters Patent which is in the following words, to wit:

“9. As a new article of manufacture, an insulating-ring for incandescent-lamp sockets, formed of a sheet of elastic insulating material provided with a circumferential bead, as and for the purposes set forth.—[*Official Gazette. October 22, 1901.*]