

R. B. BENJAMIN.  
 INCANDESCENT LAMP SOCKET.  
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974,946

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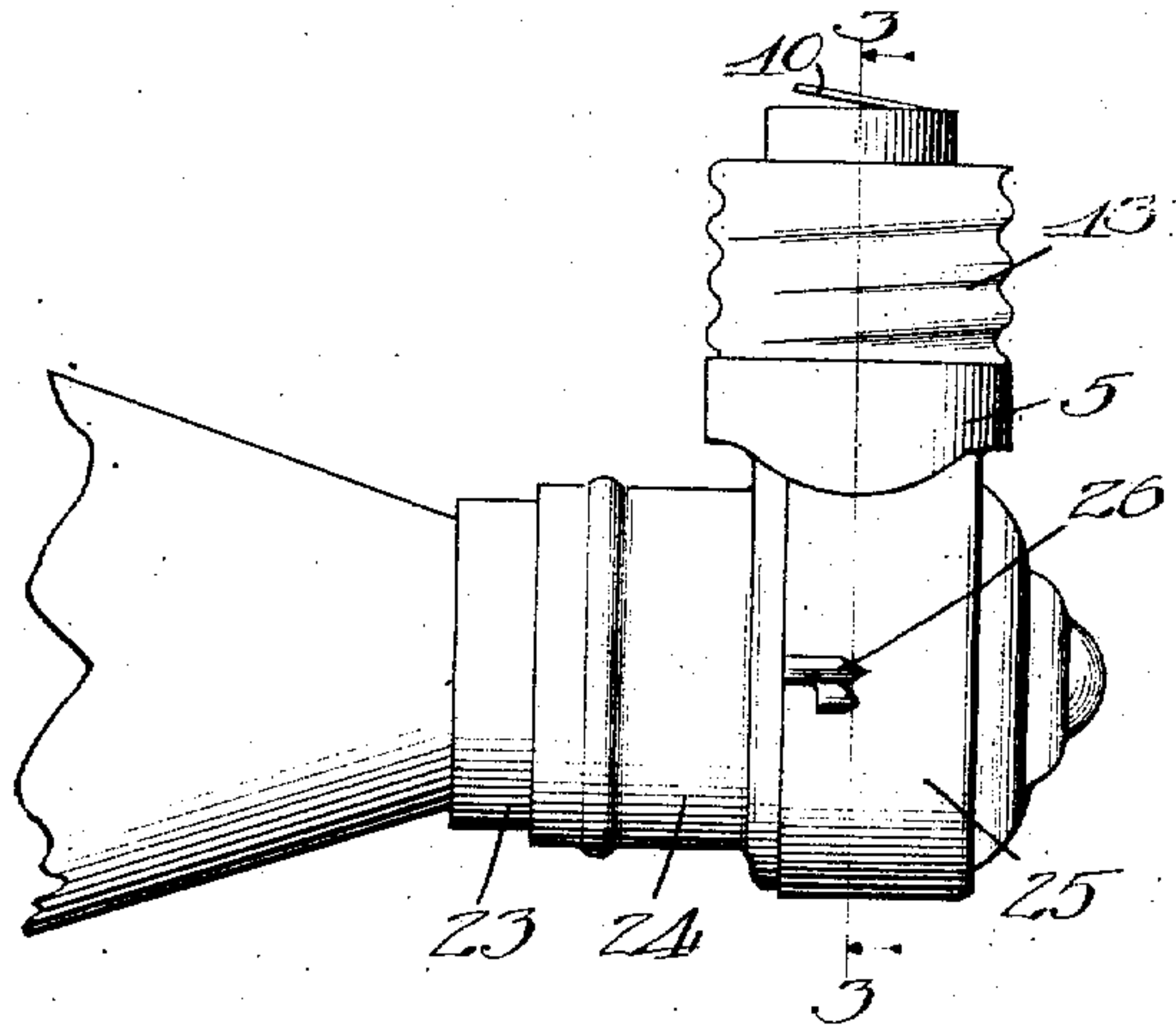


Fig. 1.

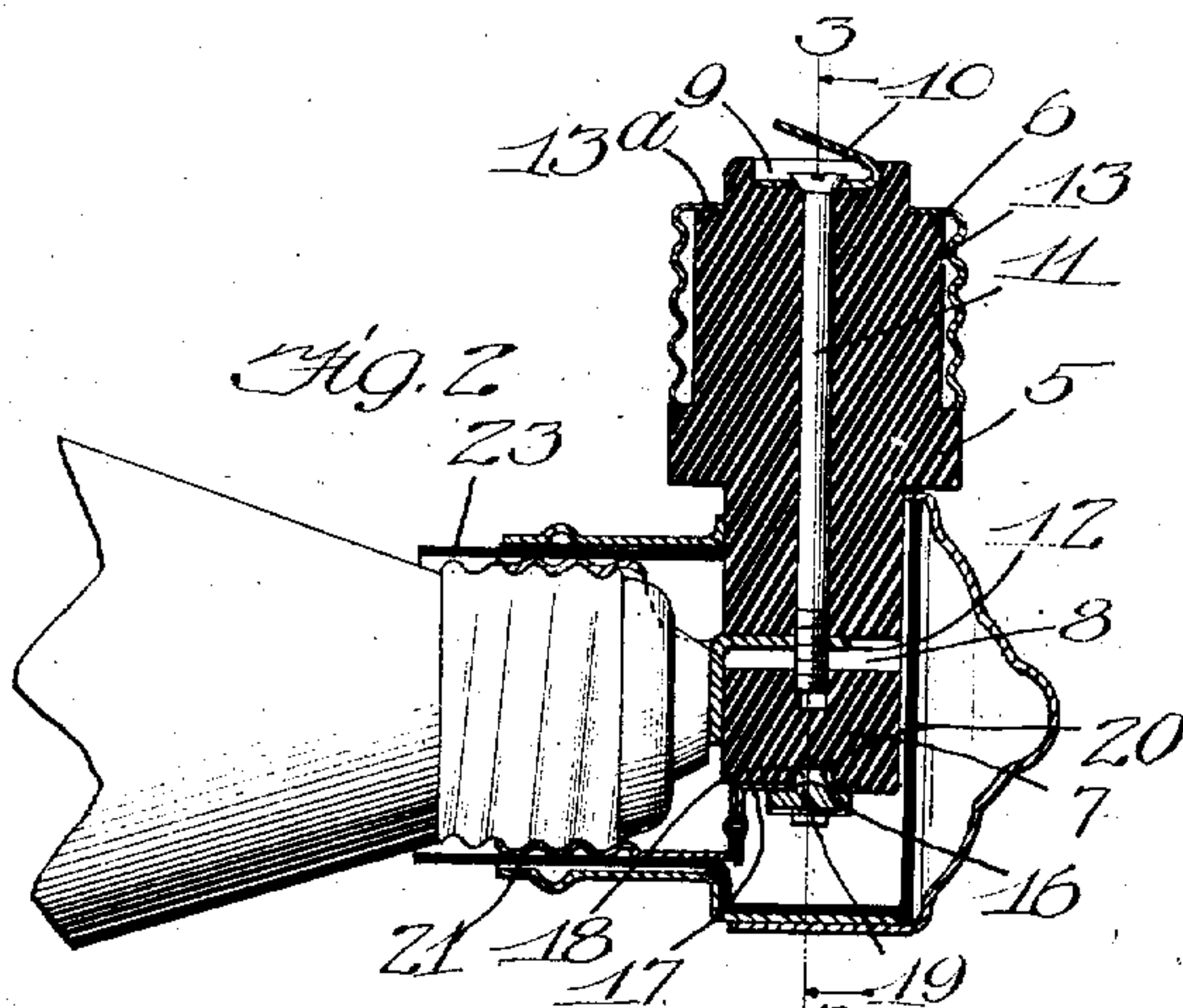


Fig. 2.

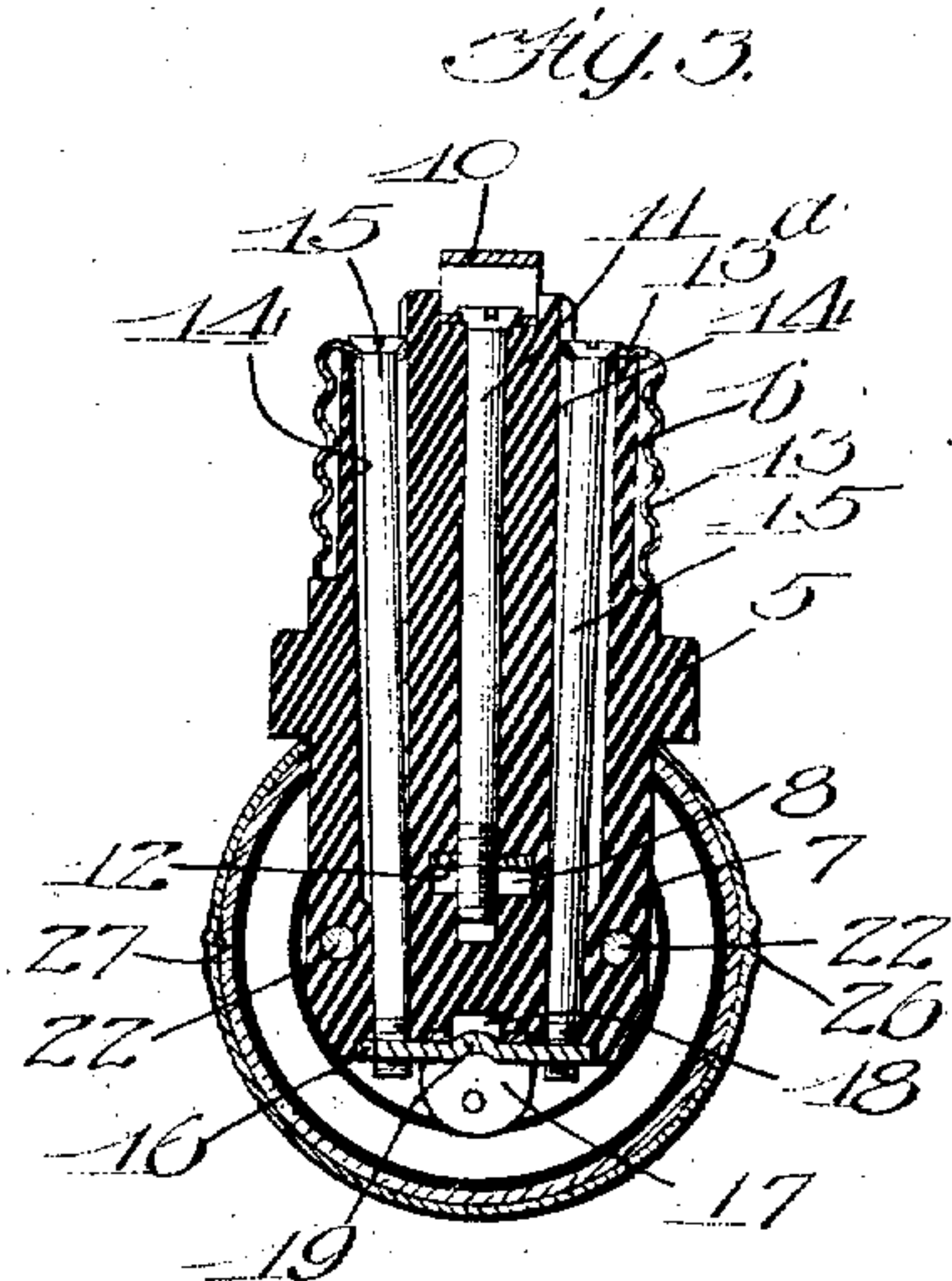


Fig. 3.

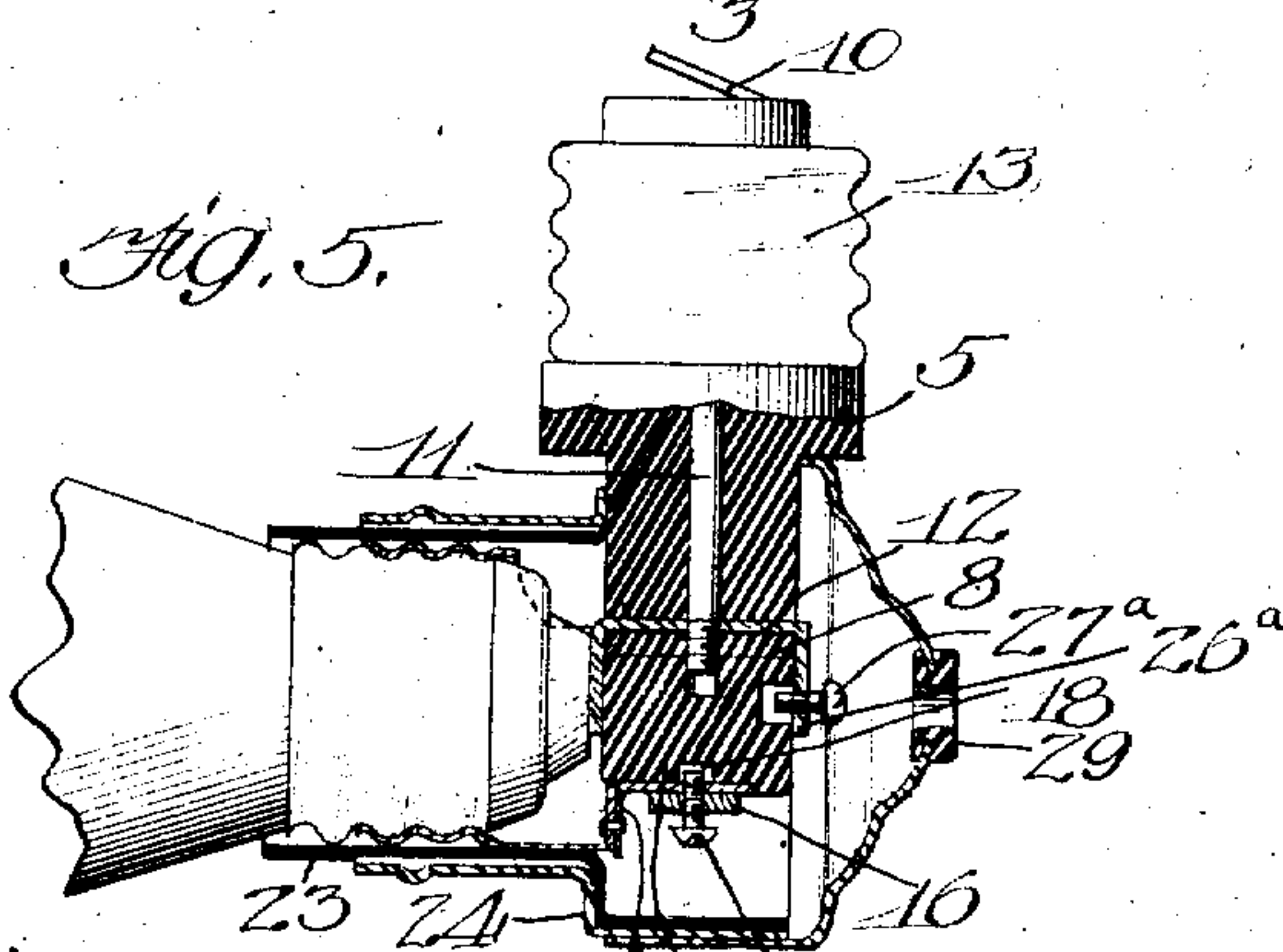


Fig. 5.

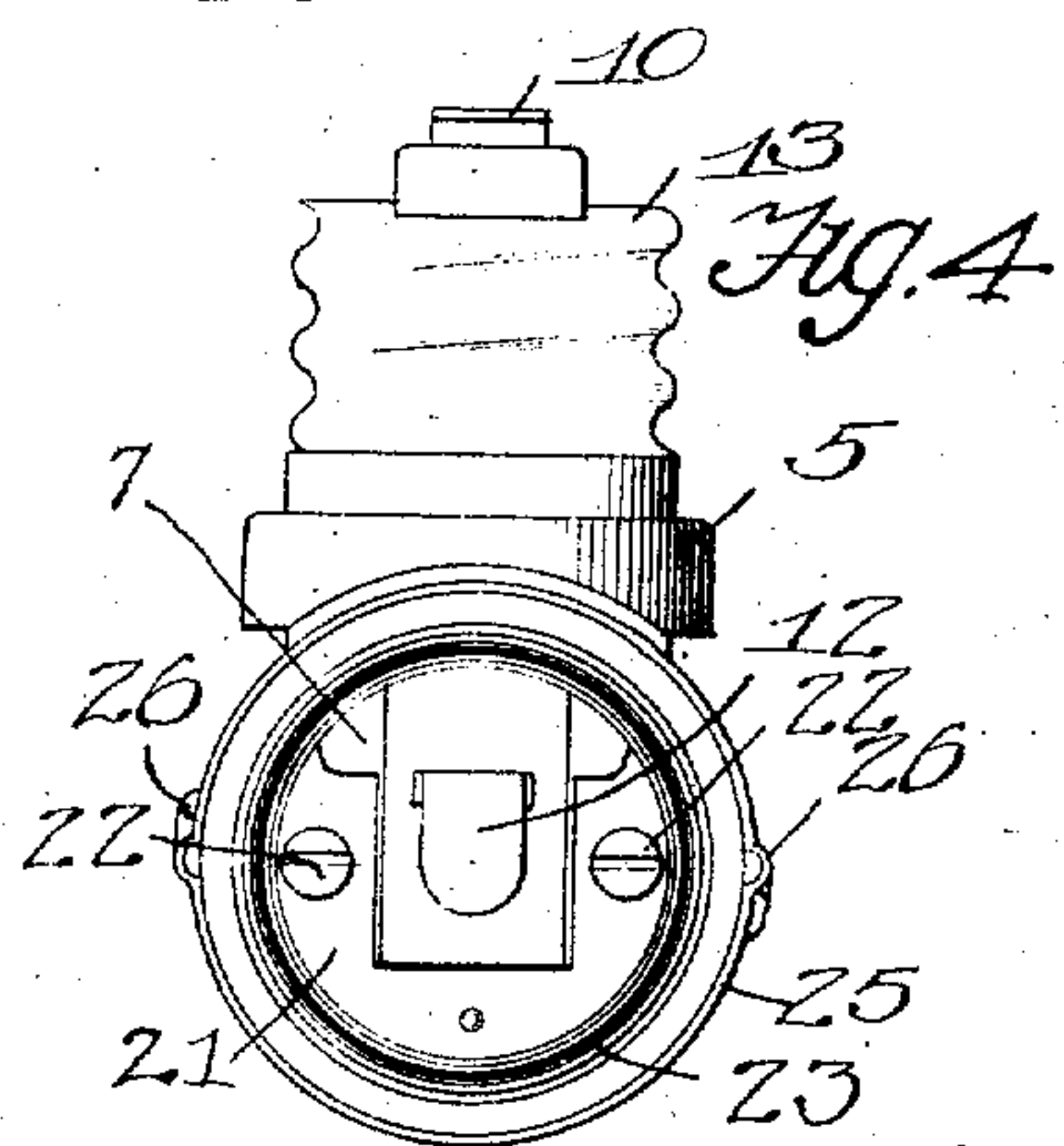


Fig. 4.

Witnesses:  
 M. L. Garrard  
 C. L. Hopkins

Inventor:  
 R. B. Benjamin  
 BY Jones, Addington & Ames  
 attys



# UNITED STATES PATENT OFFICE.

REUBEN B. BENJAMIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO BENJAMIN ELECTRIC MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## INCANDESCENT-LAMP SOCKET.

974,946.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed March 4, 1907. Serial No. 360,560.

*To all whom it may concern:*

Be it known that I, REUBEN B. BENJAMIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Incandescent-Lamp Sockets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to improvements in incandescent-lamp sockets and particularly to a type of such sockets wherein a lamp-receiving device is provided with a plug adapted to be inserted into an ordinary lamp or plug holder, said plug having arranged thereon contacts adapted to cooperate with the contacts of the holder into which it is inserted, these contacts being electrically connected with other contacts adapted to engage the terminals of the lamp carried by the device.

As is well known, the light radiated from an incandescent electric lamp is not evenly distributed, more light being projected in a direction transverse the longitudinal axis of the lamp than in a direction parallel to the axis thereof. Consequently, it frequently becomes desirable, in order to get the most light possible, to place the lamp in such a position that its axis is disposed at an angle to the axis of the socket which is designed to receive the lamp, especially where such socket is rigidly secured to the ceiling or wall, or to an arm of an electrolier.

The object of the present invention is the provision of an improved, simplified and efficient device that is adapted to receive an incandescent lamp and to be inserted into an ordinary lamp-receiving receptacle, said device being so constructed as to permit the lamp to be swung to any desired position radially about the axis of the receptacle into which the device is inserted. To this end, I provide a plug adapted to be inserted into the fixed socket so as to constitute an extension thereof, and arrange upon said plug a socket having its axis in a plane at an angle with the axis of the plug. By the use of a device of this kind, the lamp may be caused to assume a horizontal position, so as to throw a maximum amount of light downward, whether the fixed socket be arranged with its axis horizontal or vertical, or at any angle between these two positions.

Heretofore, it has been proposed to provide a plug, adapted to be inserted into a lamp receptacle, with a lamp-holding socket extending at a right angle to the axis of the plug, this socket having a swiveling connection with the plug so that after said plug has been screwed into its receiving socket, the lamp-carrying socket on said plug and the lamp carried thereby may be swung radially around the longitudinal axis of the plug. Such a device has inherent defects which I propose to overcome by the provision of simpler and cheaper, and yet efficient means. Instead of rotatably connecting the socket with the plug portion of the device, I secure the socket rigidly to the side of this plug portion with its axis at substantially a right angle with the axis of the plug, and provide on said plug a form of contacts which are adapted to maintain electrical connection with the corresponding contacts of the receptacle into which it is inserted after the plug has been screwed into said receptacle as far as possible and then given a quarter turn or half turn, or even a whole turn backward. By this means, the position of the lamp may be varied by the simple expedient of turning the plug in the fixed receptacle as much as is required to swing the lamp into the desired position, it being possible, by reason of this feature of my invention, to do so without causing the contacts on the plug to lose their connection with the contacts of the receptacle.

In the accompanying drawings Figure 1 is an elevational side view of a device embodying the features of my invention; Fig. 2 is a central vertical section of the same; Fig. 3 shows a section of the device, the section being taken on the line 3—3 of Figs. 1 and 2, looking in the direction indicated by the arrows; Fig. 4 is a front elevational view of the device, looking into the lamp receiving socket; and Fig. 5 shows, partly in section and partly in elevation, a modified form of the device.

In the several figures of the drawings, in which like reference numerals indicate the same parts throughout, 5 is a base having one of its ends formed to constitute the plug and its opposite end flattened and widened to constitute a support 7 for the lamp socket and the contacts for the same. The portion 7 of the base 5 is provided with an opening or slot 8, extending therethrough, and upon



the outer end of the plug portion 6 is formed a recess or depression 9 in which lies a substantially U-shaped plate 10 forming the center contact of the plug. This plate 10 is  
 5 formed of spring metal and has one of its legs secured to the plug by a bolt 11 which extends longitudinally through the plug. Upon the lower end of this bolt 11 is an L-shaped plate 12 having one of its legs in-  
 10 serted into the opening 8 and its other leg extending parallel with the face of the base 7 and adapted to form the center contact of a lamp-receiving socket, the bolt 11 serving to secure the plates 10 and 12 in place and  
 15 to provide electrical connection therebetween. The plug 6 is provided with an outer contact member 13 preferably in the form of a corrugated or threaded shell sleeved onto the plug 6, this shell having an  
 20 inturned shoulder 13<sup>a</sup> upon its outer end. The base 5 is formed with a pair of openings 14, 14 extending longitudinally there-through. Bolts 15, 15 extend through the  
 25 openings 14, 14, the heads of these bolts engaging the inturned end of the sleeve 13 and securing this sleeve 13 in place on the plug 6. A plate 16 extends across the inner end of  
 30 the base 7 and is provided with threaded openings into which are screwed the ends of the bolts 15, 15, these bolts thus serving to secure the plate 16 in place and providing  
 35 electrical connection between the same and the contact sleeve 13. An L-shaped plate 17 is clamped between the plate 16 and the end of the base 7 when the bolts 15, 15 are tight-  
 40 ened. The end of the base 7 is provided with a depression 18. The plate 16 has a projection 19 punched up midway between its ends, the plate 17 being provided with an  
 45 opening 20 into which the projection 19 fits, the plate 17 being thus prevented from becoming loosened and dislodged from its position.

The lamp-holding shell 21 is secured to  
 45 the face of the base 7 by means of screws 22, 22. The inner end of this shell engages the end of the plate 17 and makes electrical connection therewith, this plate 17 and the  
 50 inner end of the socket 21 being secured together by a rivet, or by soldering, or otherwise. An insulating sleeve 23, of vulcanized fiber or like material, is sleeved on over the  
 55 socket 21. Outside of the socket and insulating sleeve is a shell 24 forming part of the housing of the device. A cover 25 is adapted to be telescoped onto the sleeve 24, and, when in position, to form with the  
 60 sleeve 24 a complete casing for the parts of the device. To retain the parts 24 and 25 together and to secure them to the base, these parts are provided with a form of bayonet connection. An L-shaped depression  
 65 26 is formed in the cover 25 and a projection 27 on the sleeve 24 is adapted to fit into this depression and to prevent the portions

of the casing from becoming separated after being telescoped together.

In the form of the device shown in Fig. 5, the plate 12, which constitutes the center contact for the lamp, is extended rearwardly  
 70 through the opening 8 and has an end 26<sup>a</sup> which is bent downwardly and provided with a binding screw 27<sup>a</sup>. The plate 16, which is connected through the bolts 15, 15  
 75 with the outer contact member 13, is also provided with a binding screw 28. These binding screws 27<sup>a</sup> and 28 provide means for receiving and holding the ends of suitable  
 80 flexible conductors which are brought in through an insulating bushing 29 which is inserted into a suitable opening provided in the back of the cover 25. These conductors may lead to a portable lamp, fan motor, or the like.

In the use of the device herein shown and  
 85 described, the plug of the device will be inserted into the receptacle in connection with which it is to be used and will first be screwed in as far as possible, thus compressing the spring-contact 10 on the plug. To  
 90 adjust the lamp carried by the device to the desired position, the device will then be turned back or unscrewed as far as is necessary to effect this result. Obviously this will not  
 95 cause the contacts on the plug to lose their connection with the contacts of the receptacle into which the device is inserted, unless the device is screwed outward to the point where the resiliency of the spring contact is  
 100 exhausted. As this will not occur until the plug has been given at least a whole turn backward, ample adjustment is provided for.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination of a base member having a flattened portion and a plug portion formed integral therewith, a center contact member on said plug portion, an outer contact member on said plug portion, a two-part  
 110 housing inclosing the flattened portion of said base member, the parts of said housing being detachably secured together and one of the parts being provided with an opening for the reception of a lamp and the  
 115 other part being provided with an opening for the admission of tapping conductors to the base, a lamp-holding device carried by the flattened portion of said base member and adapted to register with the opening  
 120 of said housing, a lamp terminal engaging member associated with said lamp-holding device, said lamp-holding device and said lamp terminal engaging member being connected with the contact members of said  
 125 plug portion, and binding terminals connected with said lamp holding device and said lamp terminal engaging member respectively.

2. A plug lamp socket comprising an in- 130



5 insulating base formed with a plug portion at  
 one end and having two longitudinal screw  
 holes therein, a center contact carried by  
 said plug portion, a threaded outer contact  
 10 carried by said plug portion, said outer con-  
 tact having a flange extending inwardly  
 over the end of said plug portion, a thread-  
 ed lamp-terminal engaging contact carried  
 by the other end of said base and extending  
 15 laterally therefrom, a screw contained in  
 one of said screw holes and bearing with its  
 head against the flange of said outer contact  
 for connecting said outer contact and said  
 threaded lamp-terminal engaging contact to-  
 20 gether, a center lamp-terminal engaging con-  
 tact carried by said base, and a screw ex-  
 tending between said last mentioned contact  
 and the center contact of said plug portion  
 through said screw hole, said screw forming

25 3. A plug lamp socket comprising an in-  
 sulating base formed with a plug portion  
 at one end, a center and an outer contact  
 carried by said plug portion for engaging  
 30 the corresponding contacts of a socket, a  
 threaded lamp-terminal engaging contact  
 carried by the other end of said base and  
 extending laterally therefrom, said threaded  
 contact being electrically connected with one

35 tact of said plug portion, binding terminals  
 carried by said base and connected with said  
 threaded lamp receiving contact and said  
 center lamp terminal engaging contact re-  
 spectively, and a two-part housing surround-  
 ing said lamp-terminal engaging contacts,  
 the parts of said housing being separable,  
 and one of said parts being formed with  
 40 an opening for enabling tapping conductors  
 to be connected to said binding terminals.

4. The combination of an elongated base  
 having one of its ends formed as a plug,  
 contacts on said plug, a lamp-holding de-  
 45 vice carried by said base, with its axis dis-  
 posed at an angle with the axis of the plug;  
 contacts associated with said lamp-holding  
 device and electrically connected with the  
 contacts of the plug, binding terminals con-  
 50 nected with said last named contacts, and a  
 casing for said device, said casing compris-  
 ing a shell and a cover adapted to be de-  
 tachably connected to said shell and formed  
 with an opening for the passage of tapping  
 55 conductors to be secured to said binding  
 terminals.

In witness whereof, I have hereunto sub-  
 scribed my name in the presence of two wit-  
 nesses.

REUBEN B. BENJAMIN.

Witnesses:

M. L. FARRAR,

C. L. HOPKINS.

It is hereby certified that in Letters Patent No. 974,946, granted November 8, 1910, upon the application of Reuben B. Benjamin, of Chicago, Illinois, for an improvement in "Incandescent-Lamp Sockets," errors appear in the printed specification requiring correction as follows: Page 1, line 88, the word "lose" should read *loose*; and page 2, line 6, the word "logs" should read *legs*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 17th day of January, A. D., 1911.

[SEAL.]

C. C. BILLINGS,

*Acting Commissioner of Patents.*