

No. 755,954.

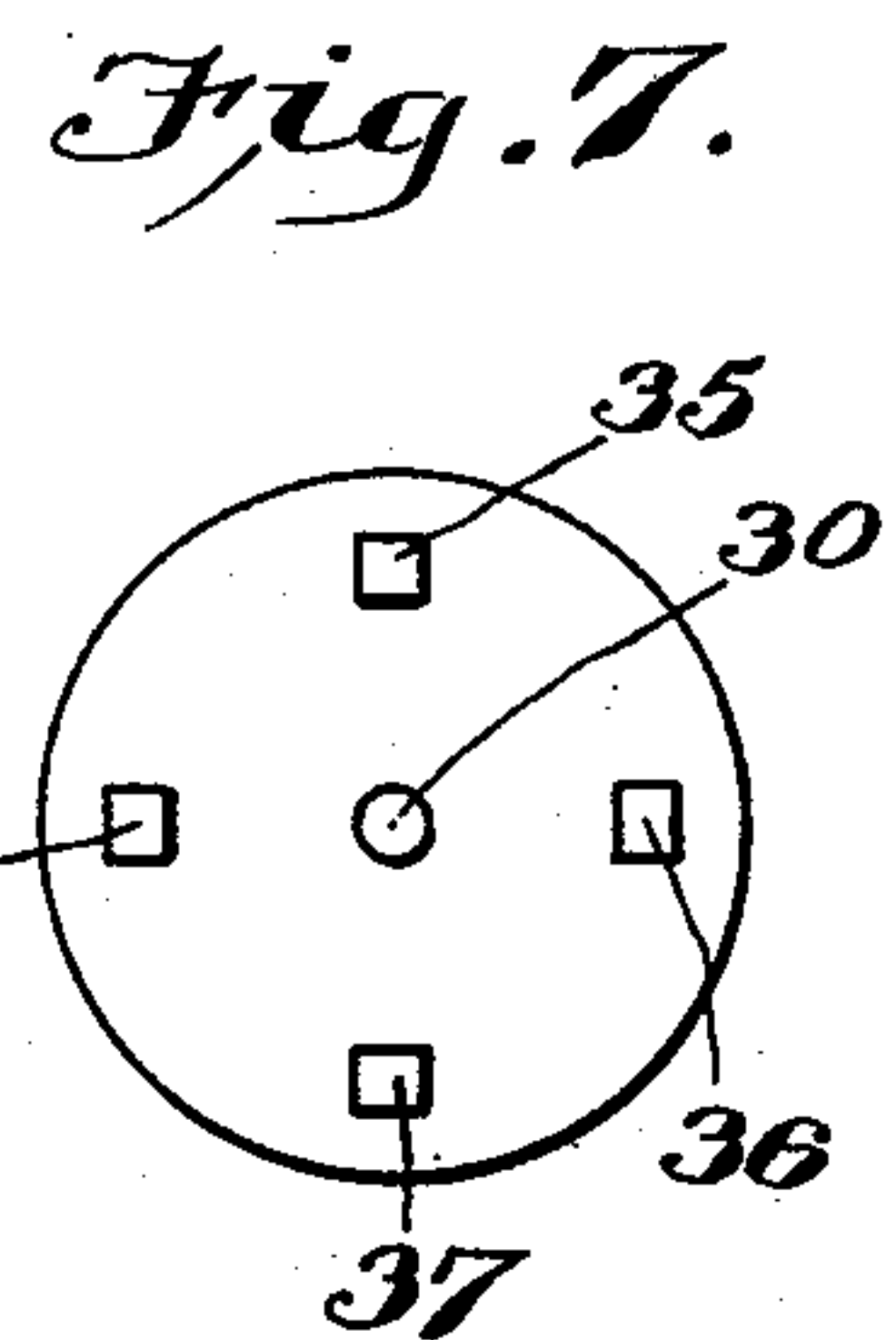
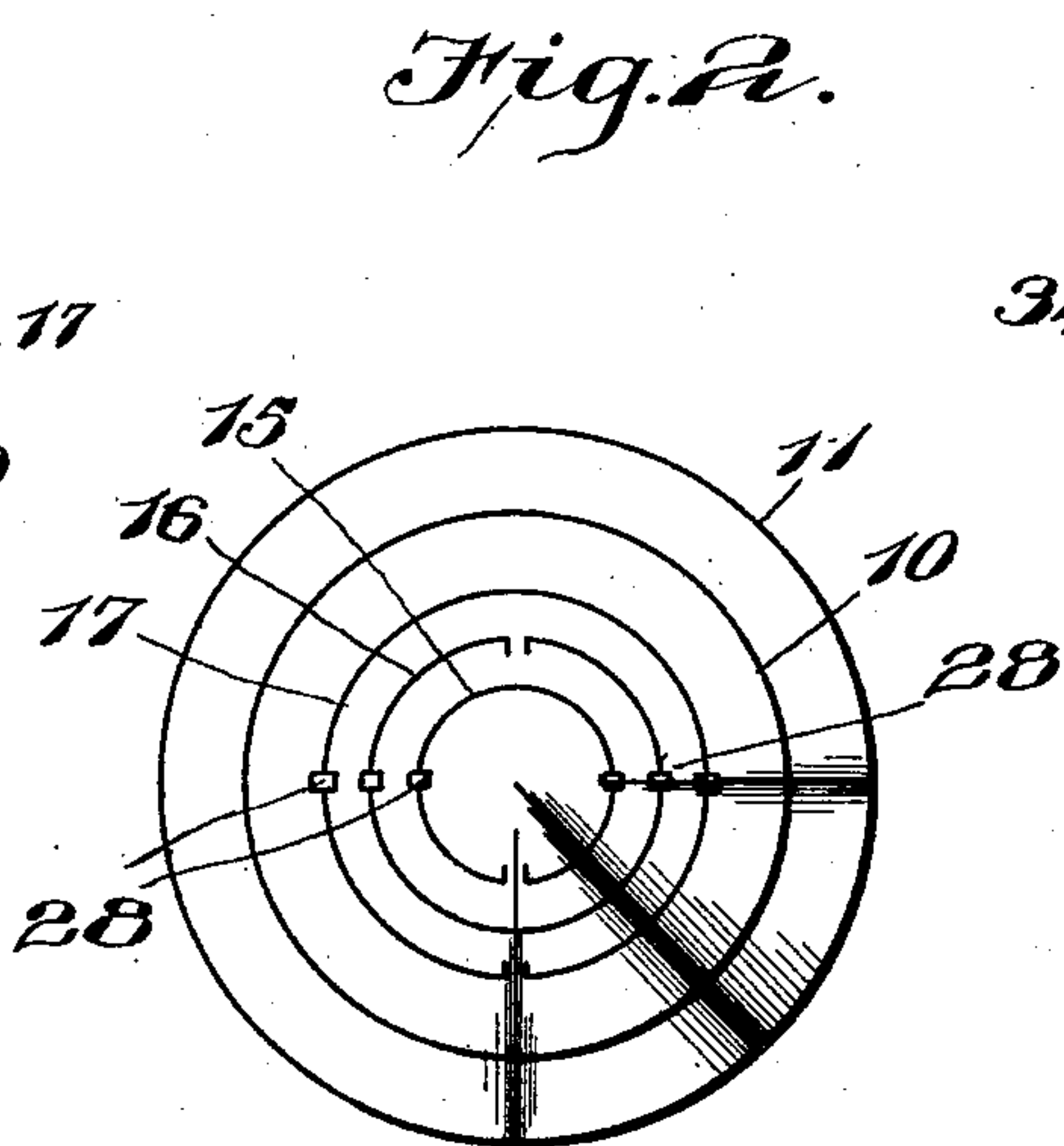
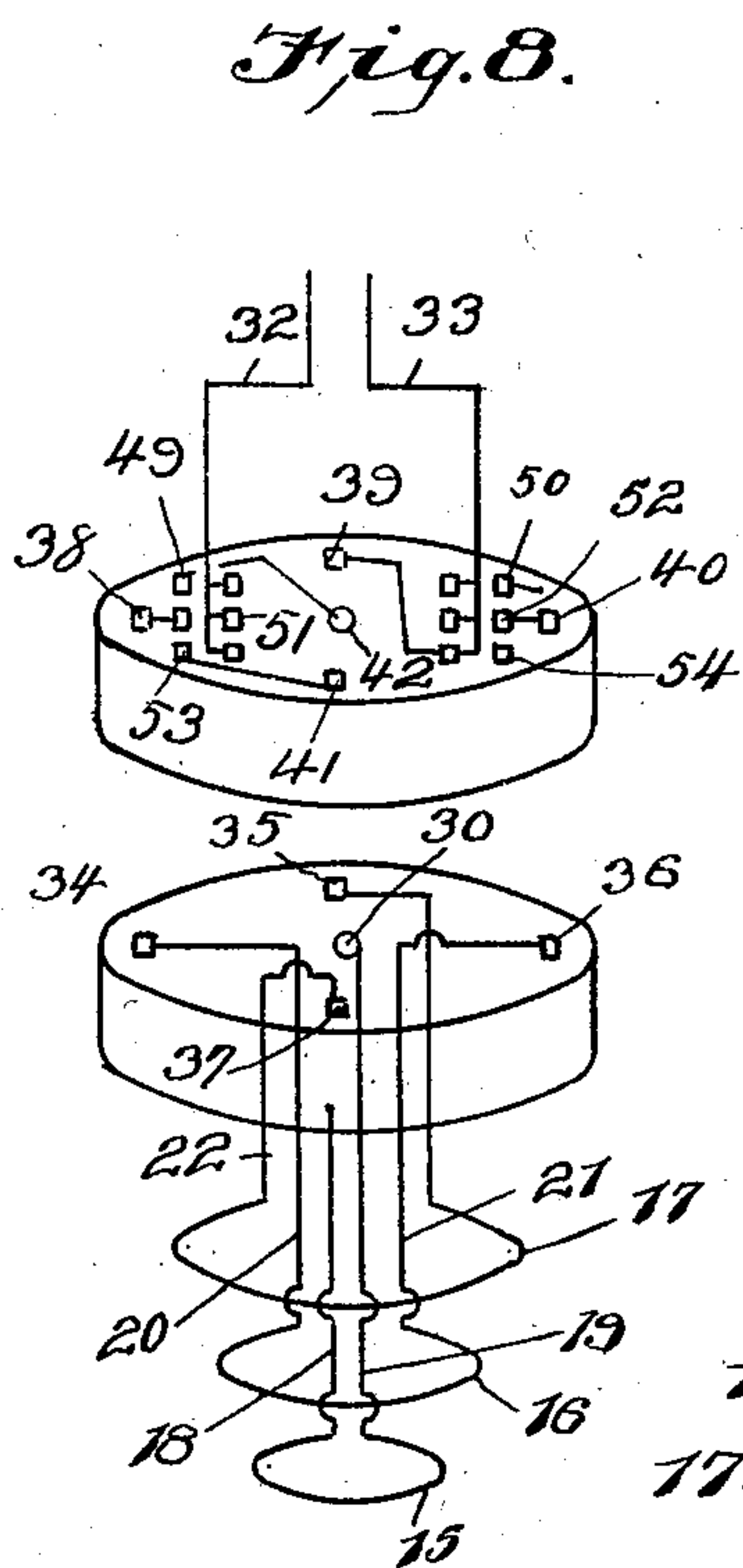
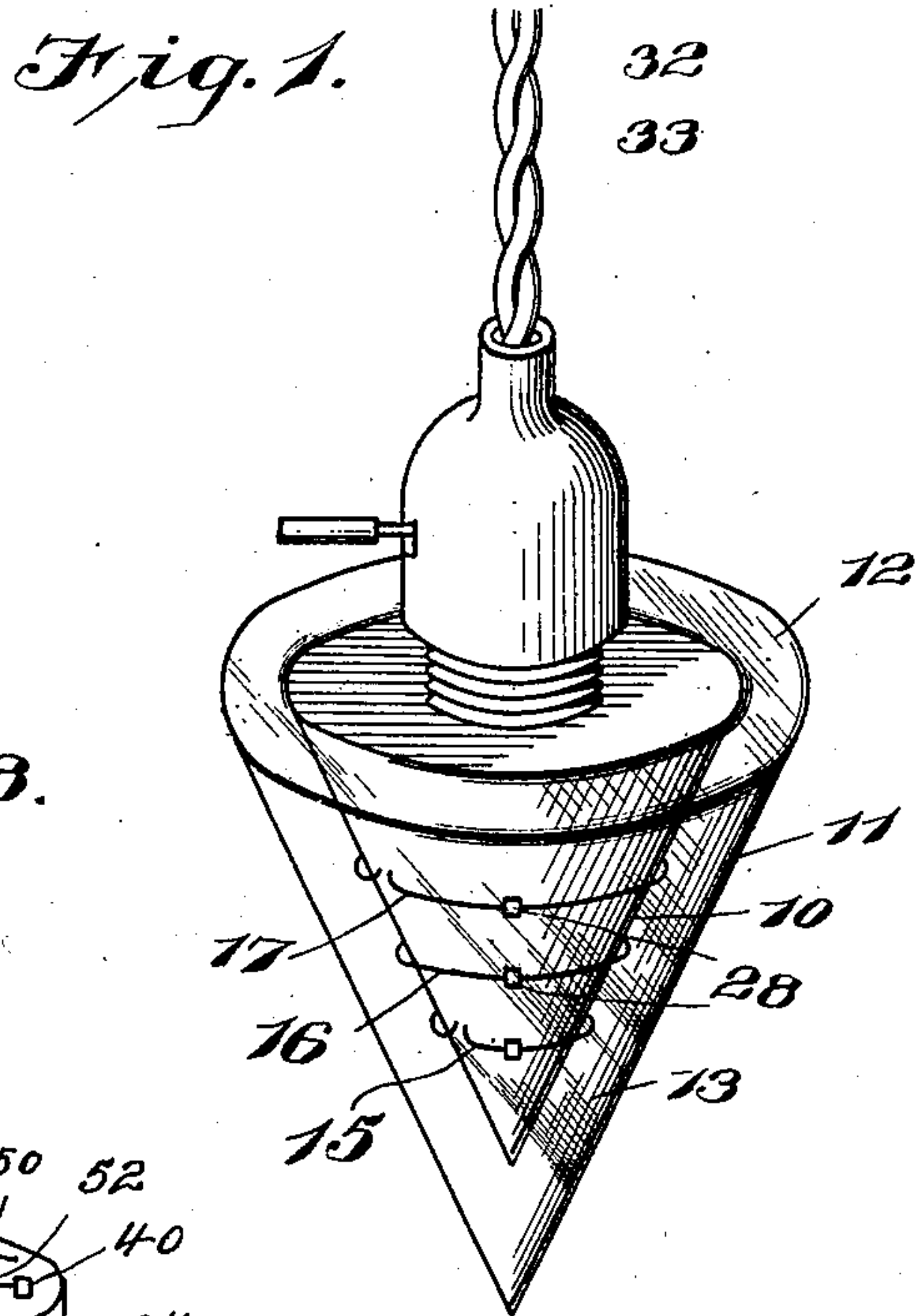
PATENTED MAR. 29, 1904.

A. N. SODEN.
ELECTRIC LAMP AND SOCKET.

APPLICATION FILED DEC. 10, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

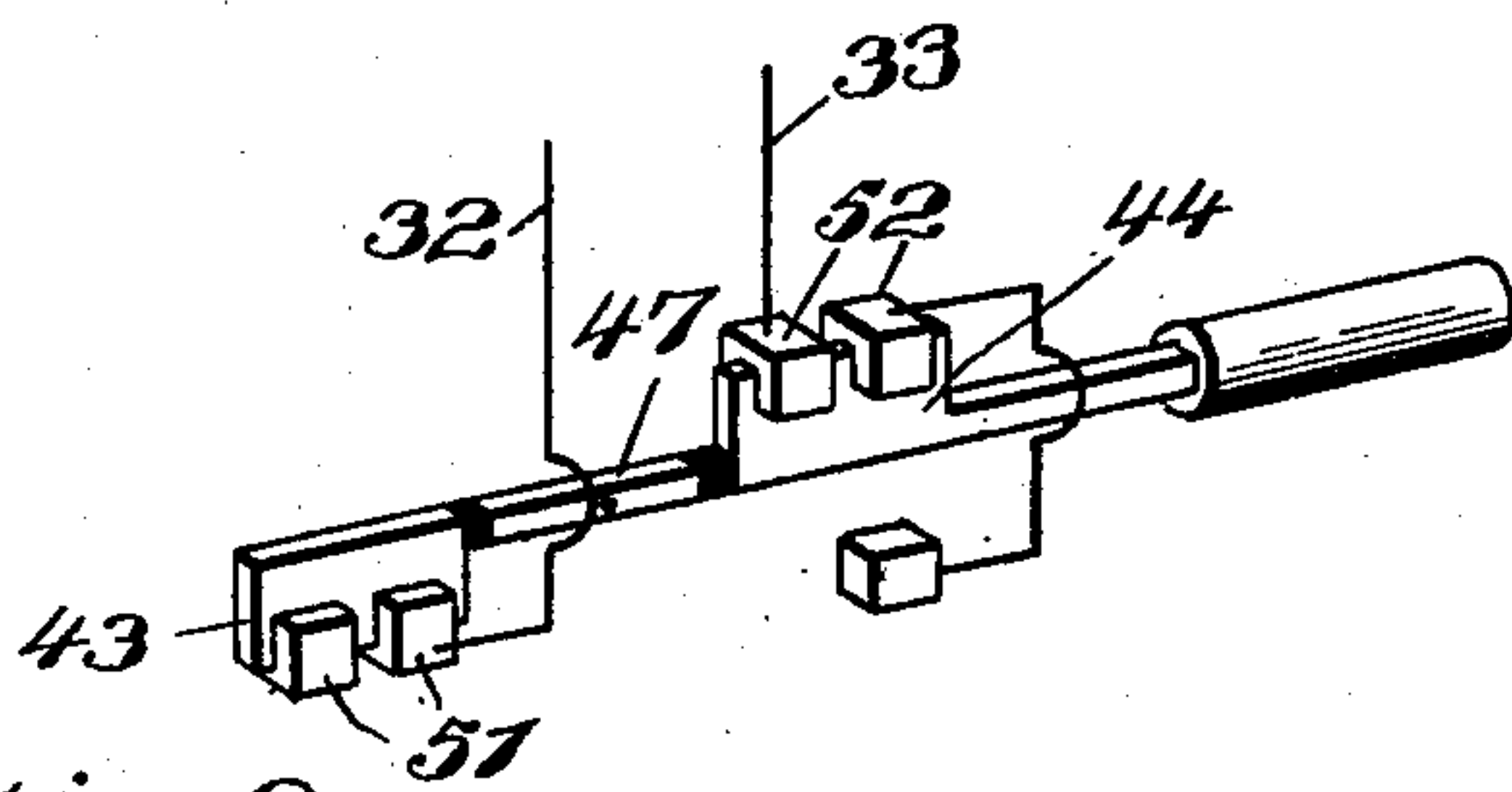
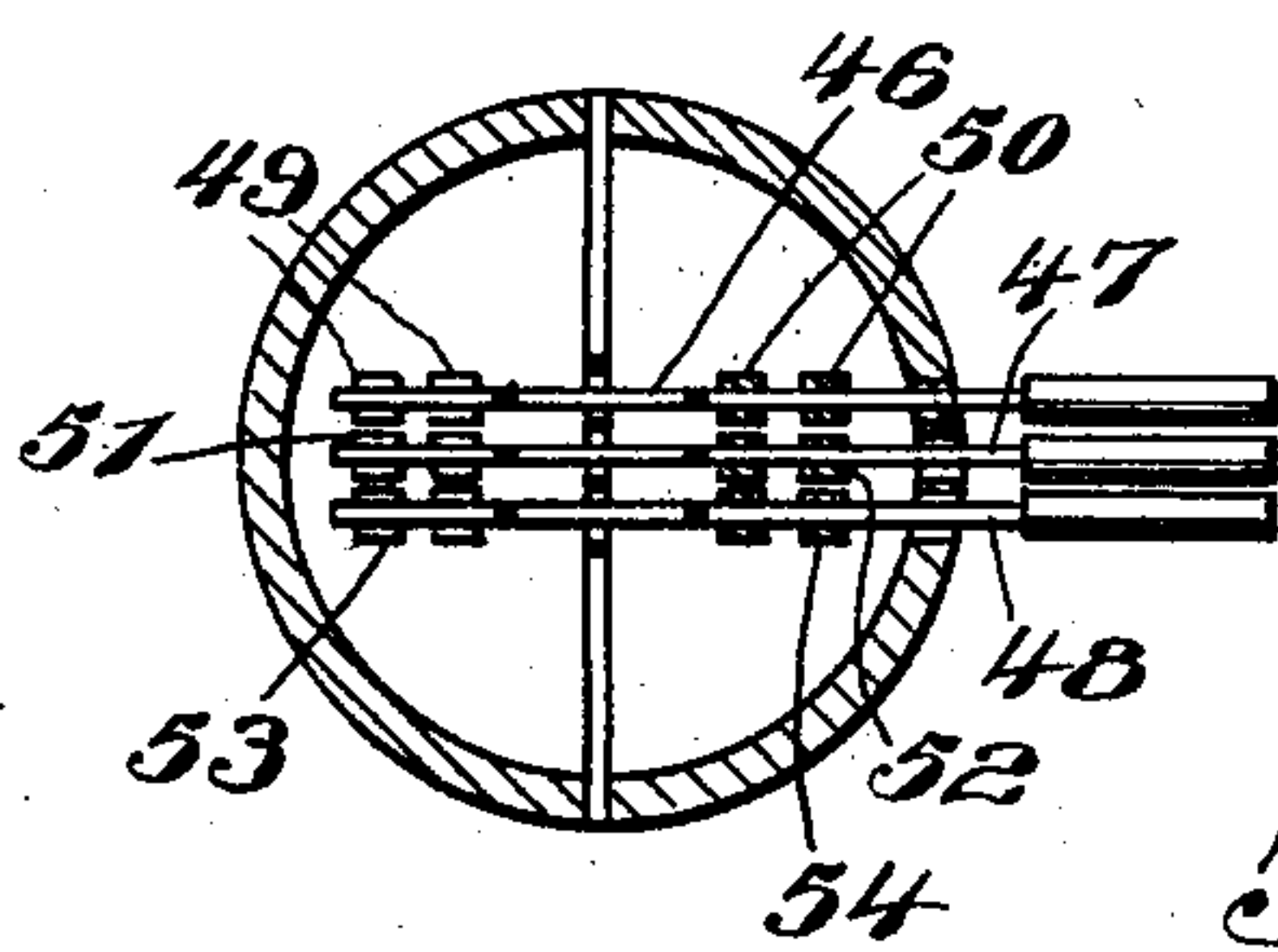
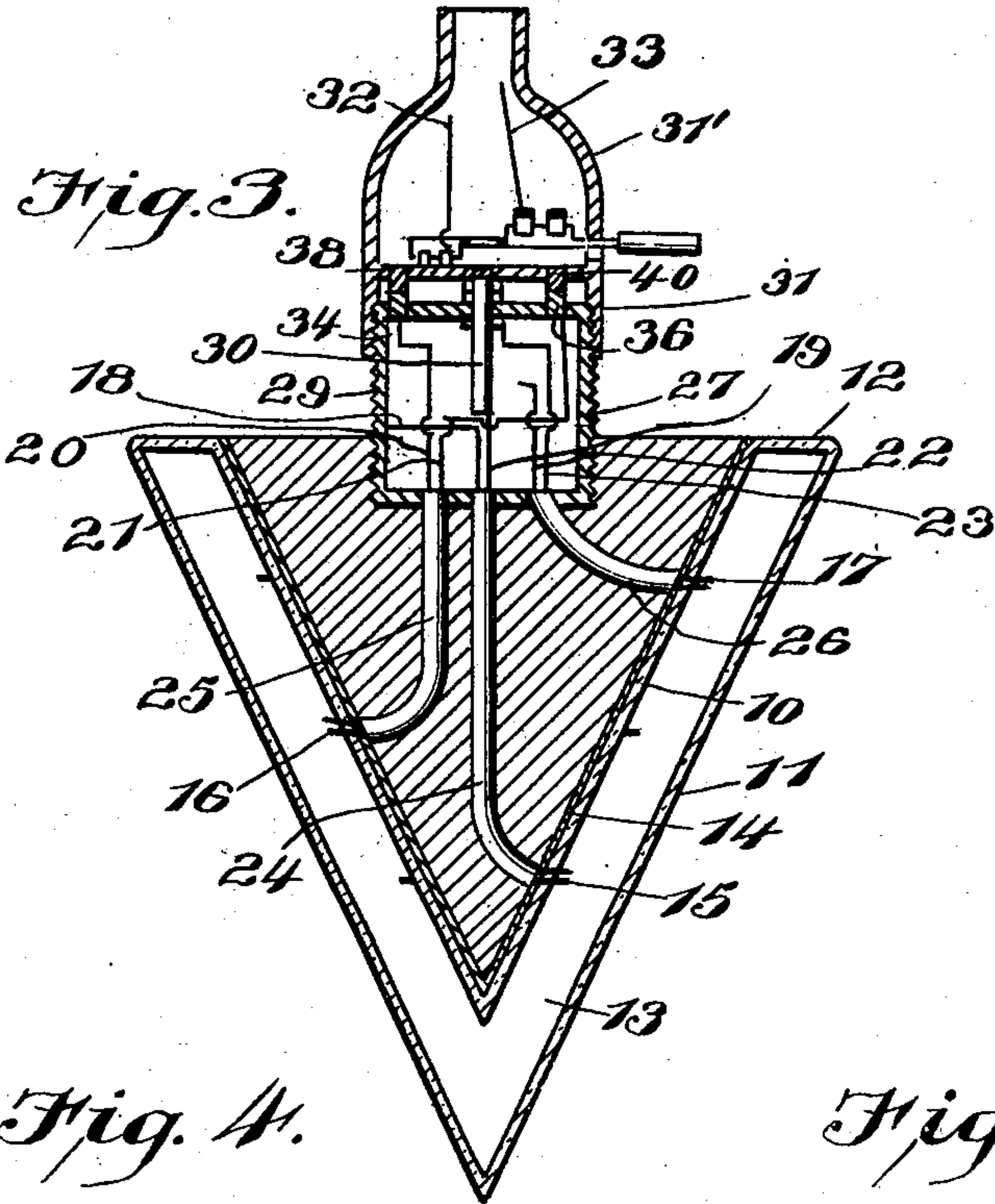
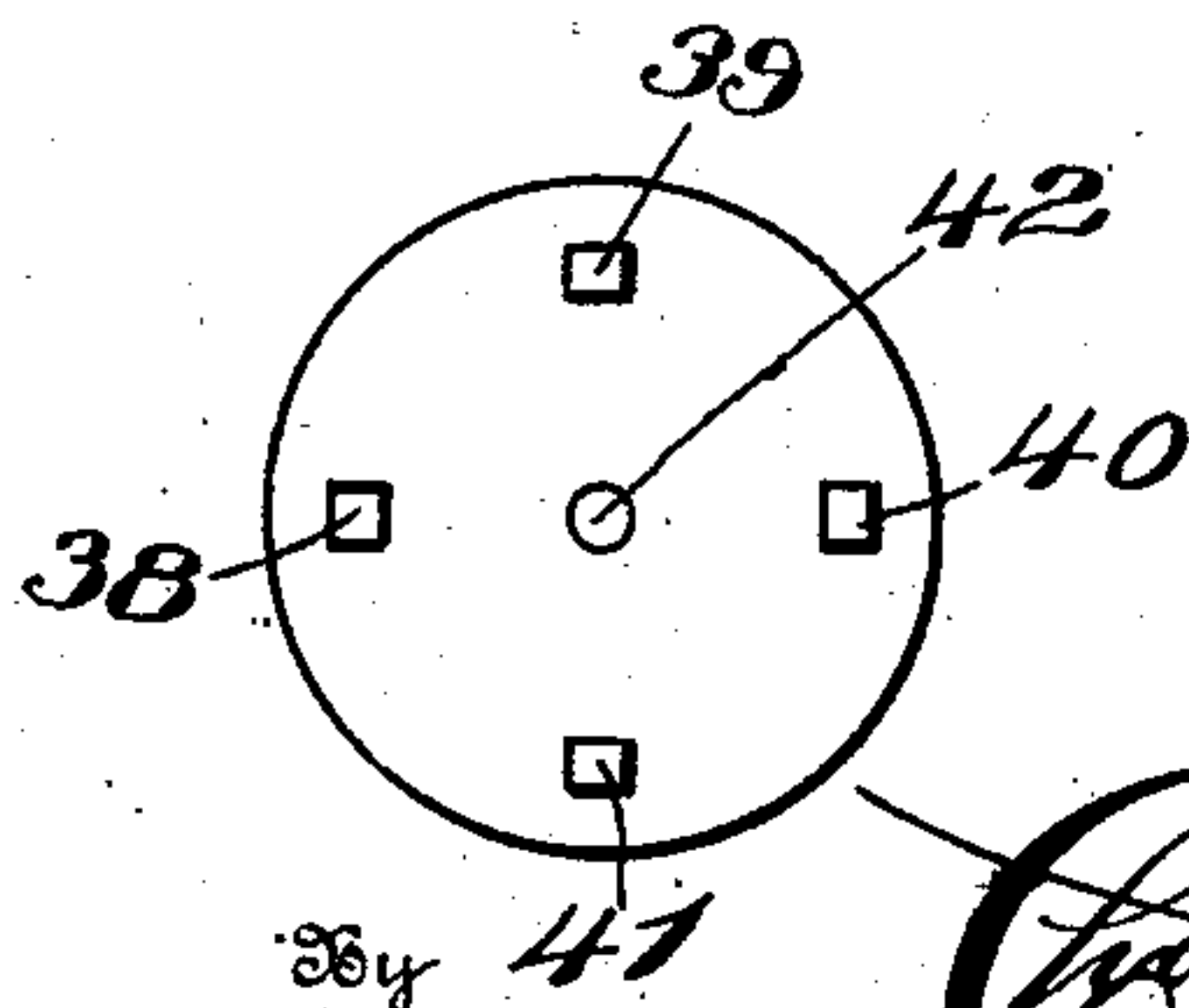


Fig. 6.



Witnesses

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ALBERT N. SODEN, OF TRENTON, NEW JERSEY.

ELECTRIC LAMP AND SOCKET.

SPECIFICATION forming part of Letters Patent No. 755,954, dated March 29, 1904.

Application filed December 10, 1902. Serial No. 134,686. (No model.)

To all whom it may concern:

Be it known that I, ALBERT N. SODEN, a citizen of the United States, residing at Trenton, in the State of New Jersey, have invented certain new and useful Improvements in Electric Lamps and Sockets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to incandescent lamps; and it has for its object to provide a construction and arrangement wherein there is employed a number of filaments of different lengths and resistances and a switch mechanism for connecting the different filaments individually with the feed-wires, said switch mechanism being so constructed as to permit of the filaments being connected separately or simultaneously in multiple.

A further object of the invention is to provide a lamp wherein the filament will be so disposed as to give the best lighting effects, the light being reflected downwardly instead of being permitted to radiate in all directions.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view showing a lamp and its socket embodying the present invention. Fig. 2 is a bottom plan view of the lamp, illustrating the disposition of the filaments. Fig. 3 is a vertical section through the lamp and its socket and illustrating the electrical connections and switch mechanism between the filaments and the feed-wires. Fig. 4 is a horizontal section through the socket and showing the arrangement of the several switch-levers and the contacts with which they engage. Fig. 5 is a detail perspective view showing one of the switch-levers and its contacts and showing in diagram the electrical connection therewith. Fig. 6 is a plan view of the contacts of the socket. Fig. 7 is a top plan view of the plug. Fig. 8 is a diagram of the wire.

Referring now to the drawings, the present lamp comprises a globe which is conical in form, said globe being, in fact, two cones 10

and 11, one disposed within the other and in spaced relation thereto, the cones being connected at their bases, as shown at 12, so that there is formed between the two conical walls a chamber 13, from which in practice the air is exhausted in the usual manner. The inner surface of the cone 10, which is a hollow cone, is provided with a coating 14, which gives to the inner conical wall a mirrored convex face, and within the conical wall 10 is a filling of plaster-of-paris or other suitable material.

Within the vacuum-chamber 13 are disposed annular filaments 15, 16, and 17, which encircle the inner cone and are concentric therewith and increase in size from the apex of the cone in the direction of the base thereof. The terminals of the filaments are connected to wires which are brought through the inner conical wall 10 and are sealed, the wires for the filament 15 being shown at 18 and 19, those for the filament 16 being shown at 20 and 21, while those for the filament 17 are shown at 22 and 23. These leading-in wires for the several filaments are inclosed in tubes 24, 25, and 26 and connect with the plug 27, it being understood that the filaments may be provided with any suitable number of hangers 28, which are connected thereto and to the cone 10, which being of glass thoroughly insulates the filaments from each other. The plug to which the leading-in wires are connected at their outer ends includes an outer metallic shell 29, to which the wire 18 is electrically connected, the wire 19 being electrically connected to the central pin 30 of the plug. The casing 29 is threaded for engagement with the collar 31 of a socket 31', to which lead the feed-wires 32 and 33. On the end of the plug 27 are the spaced contacts 34, 35, 36, and 37, which when the plug is screwed into the socket make contact with the corresponding points 38, 39, 40, and 41, the pin 30 at the same time making contact with a plate 42. In the upper portion of the socket are pivoted levers 46, 47, and 48, each of which has knives 43 and 44. In the socket are contacts 49 and 50 for engagement, respectively, by the knives of the lever 46, there being a pair of contacts 49 and a pair 50. There is a pair of contacts 51 and a pair of contacts 52

for the knives, respectively, of the lever 47, and there is a pair of contact-points 53 and a pair of contact-points 54 for the knives, respectively, of the lever 48, and the contacts 5 are so arranged that when a lever is rocked in one direction its knives will engage the corresponding contacts, and when it is rocked in the opposite direction it will disengage them, the knives of each lever being insulated from each other, as illustrated. With one contact of each pair of contacts 49, 51, and 53 is connected the feed-wire 32, while with one contact of each pair of contacts 50, 52, and 54 is connected the feed-wire 33. With the remaining contacts of the pairs 49 and 50 are connected the contact 42 and the collar 31, and with the remaining contacts of the pairs 51 and 52 are connected the contacts 40 and 38, and with the remaining contacts of the pairs 53 and 54 are connected the contacts 41 and 39. Thus if the lever 46 is rocked in one direction when the plug is engaged with the socket one of its blades will engage the pair of contacts 49, so that the feed-wire 32 will be connected with the plate 25 42 and thence by means of the pin 30 and wire 19 with one terminal of the filament 15. At the same time the other blade of the lever 46 will engage the contacts 50 to electrically connect the feed-wire 33 with a shell 31 and thence through the shell 29 and wire 18 with the opposite terminal of the filament 15. When the lever 47 is properly positioned, one of its blades will engage the contacts 51 and the other blade will engage the contacts 52, so that the feed-wires 32 and 33 will be connected electrically with a terminal of the filament 16. When the lever 48 is properly positioned, one of its blades will engage the contacts 53, while the other blade will engage the contacts 54, and thus electrically connect the feed-wires 32 and 33 with the terminals of the filaments 17.

It will be understood that in practice modifications of the specific construction shown 45 may be made and any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention. Furthermore, it will be noted that

the arrangement of the filaments is such that there is an economic reflection of the light 50 and that in the use of the present lamp there is no necessity for the usual unsightly reflectors.

What is claimed is—

1. An incandescent electric lamp comprising a vacuum-chamber having inner and outer spaced walls, a plurality of filaments of different lengths disposed concentrically within the chamber, and means for connecting the filaments individually with a source of electricity. 60

2. An incandescent electric lamp comprising a vacuum-chamber having inner and outer spaced walls, a plurality of filaments of different illuminating power disposed concentrically within the chamber, a pair of contacts for each filament, one contact of each pair being adapted for connection of a feed-wire thereto and the remaining contacts being connected respectively with the terminals of the corresponding filament and means for 70 completing the circuit between the contacts.

3. The combination with an incandescent electric lamp comprising a vacuum-chamber having inner and outer spaced walls, a plurality of filaments of different illuminating power 75 disposed concentrically within the chamber, a threaded plug projecting from the upper portion of the lamp, a number of contacts mounted upon the upper face of the plug, one end of each filament being connected to one of said contacts and the remaining ends of the filaments being connected with the plug, of a threaded socket adapted to receive the plug, said sockets containing a number of contacts adapted to engage the contacts upon the plug 85 to complete the circuit, each of said contacts having a feed-wire connected thereto, a second feed-wire being connected to the socket and means for connecting the circuit to any or all of the contacts. 90

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

ALBERT N. SODEN.

Witnesses:

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