

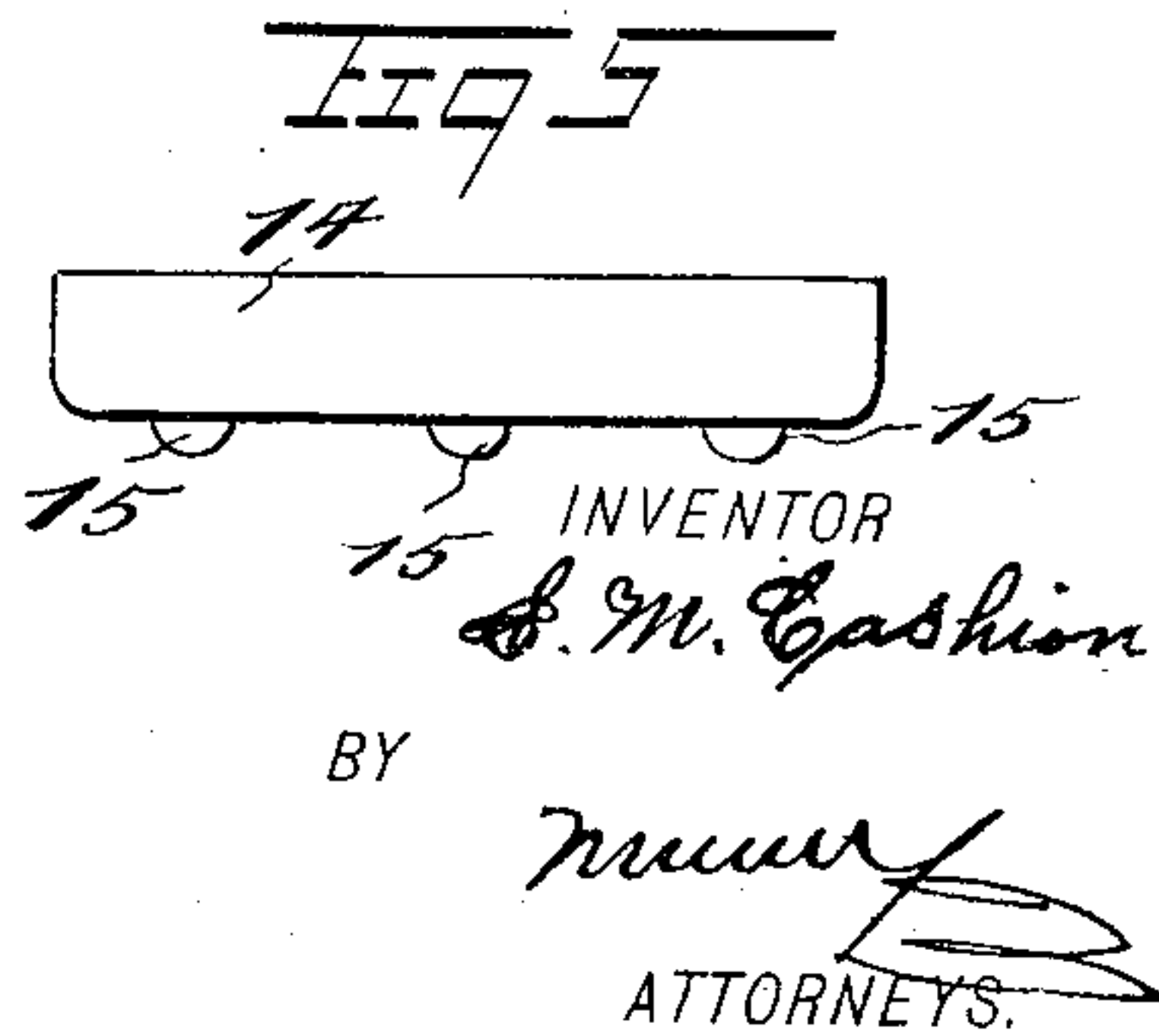
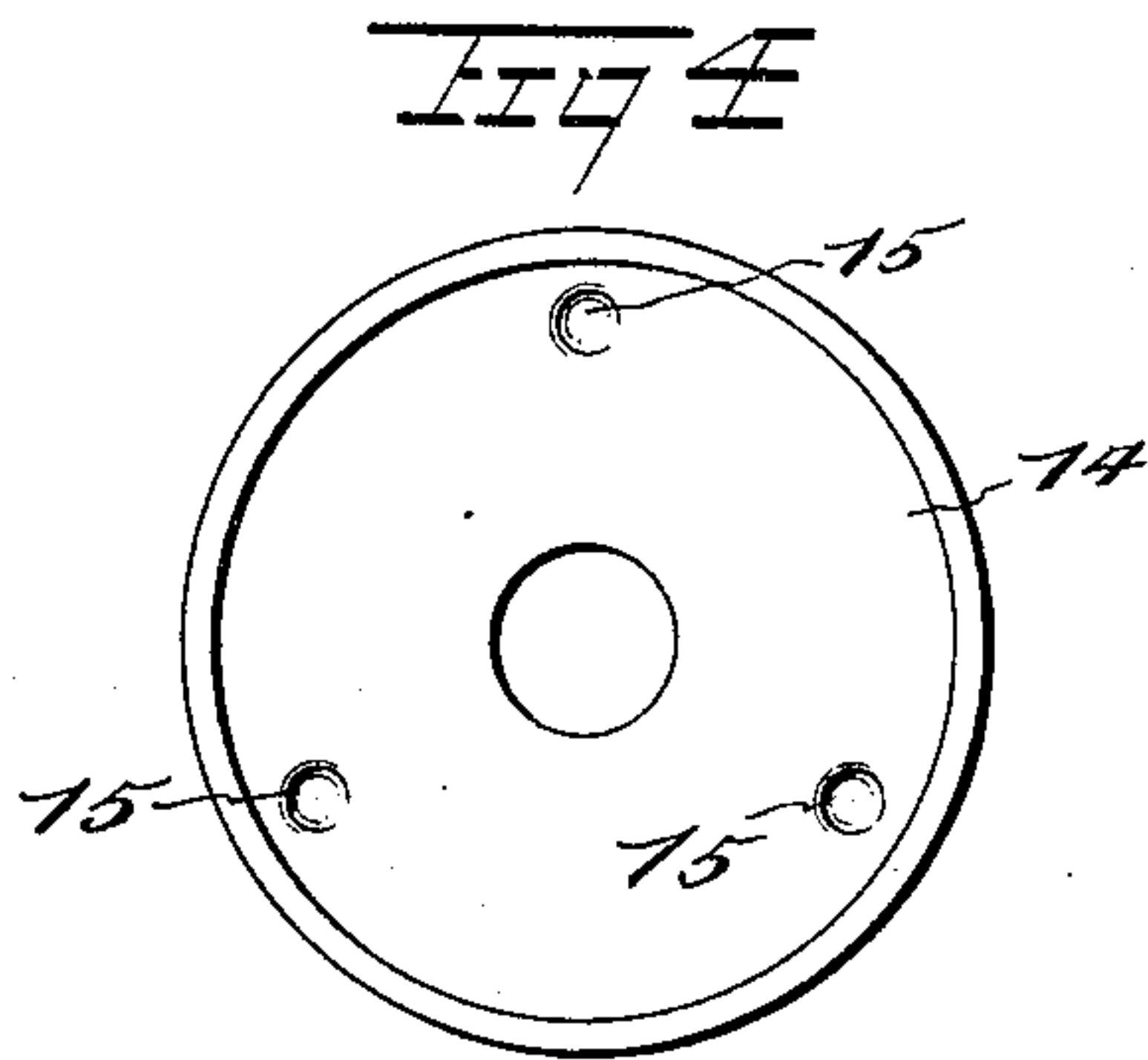
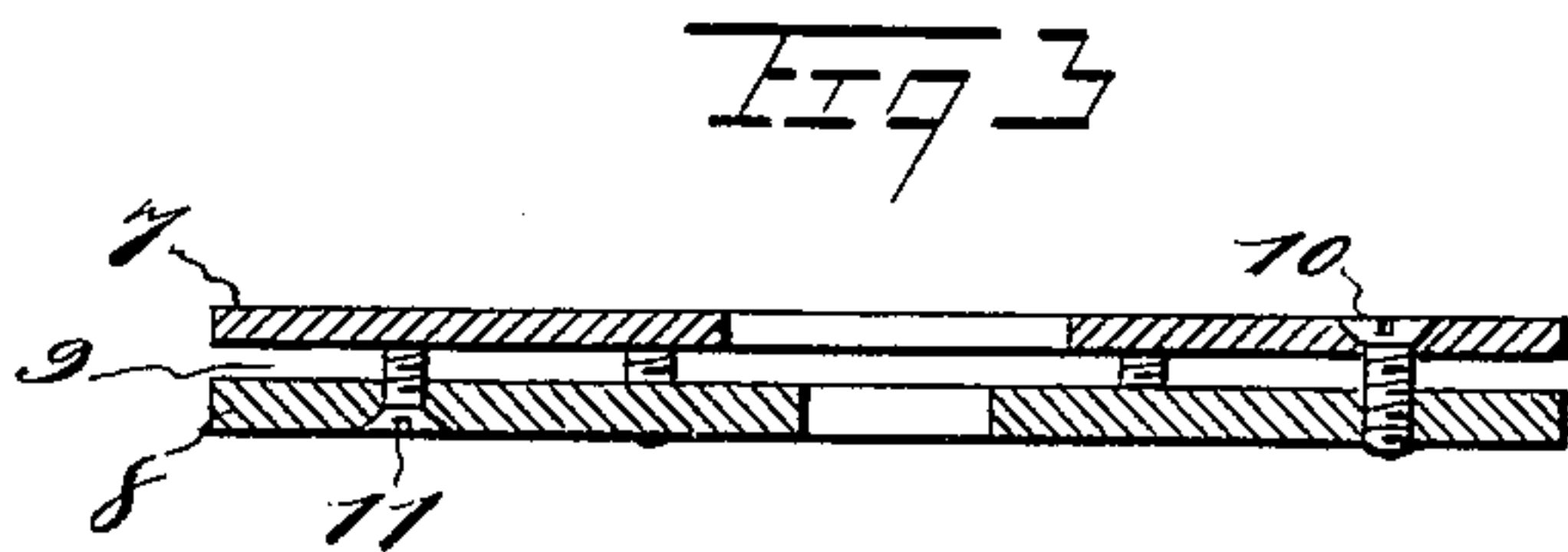
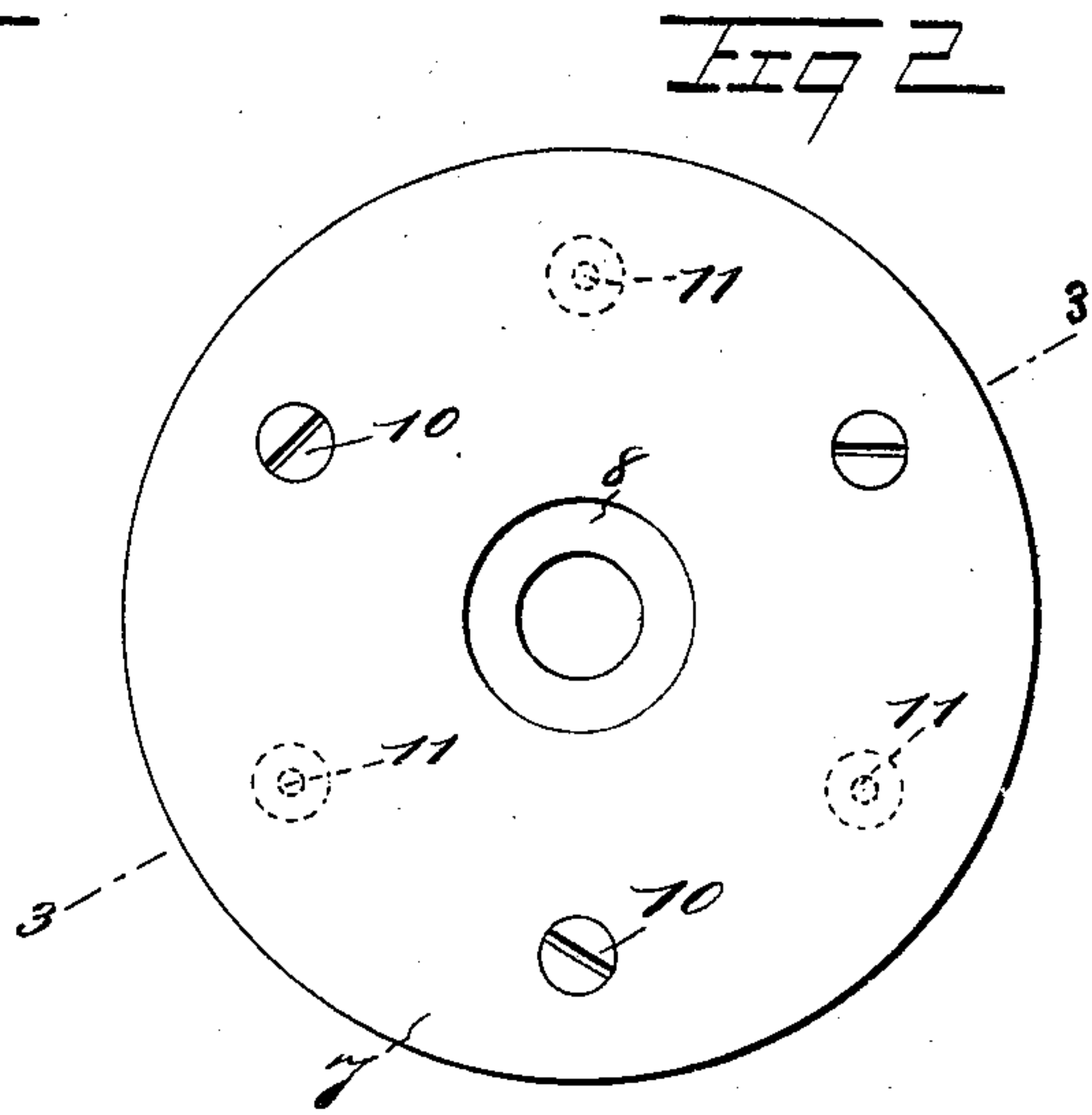
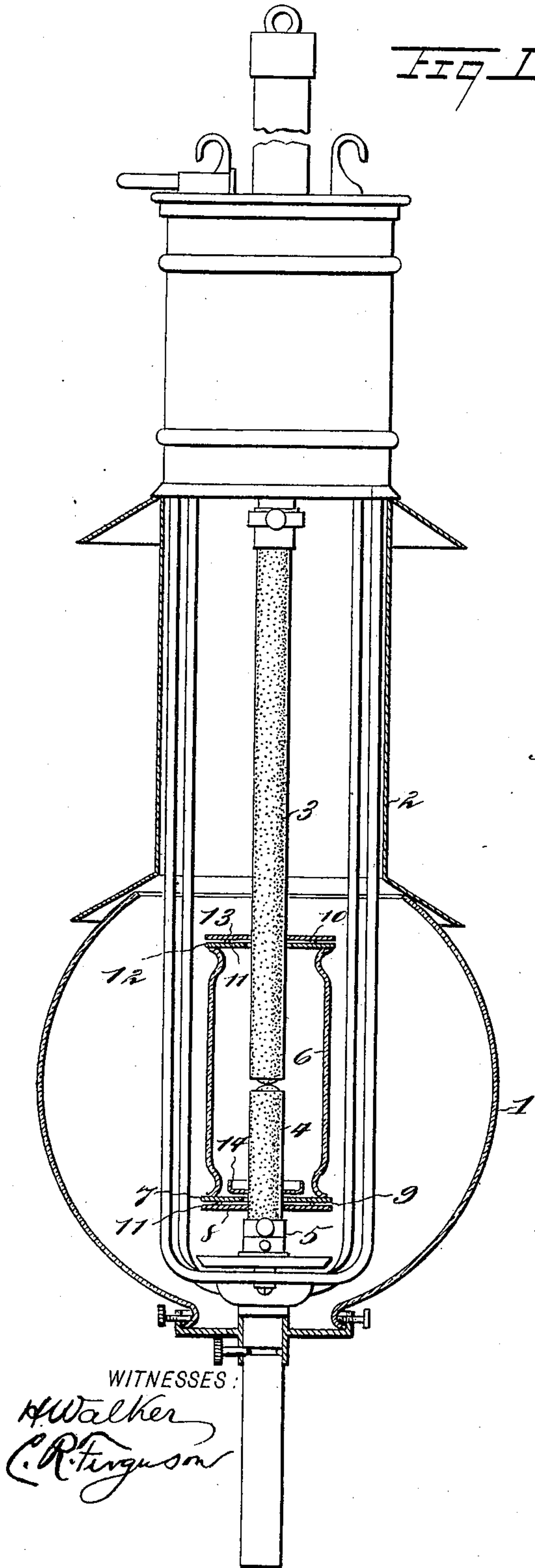
No. 629,424.

Patented July 25, 1899.

E. M. CASHION.  
ARC LAMP.

(Application filed Aug. 29, 1898.)

(No Model.)



INVENTOR

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BY

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# UNITED STATES PATENT OFFICE.

EDWARD M. CASHION, OF GLENS FALLS, NEW YORK, ASSIGNOR TO HIMSELF,  
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## ARC-LAMP.

SPECIFICATION forming part of Letters Patent No. 629,424, dated July 25, 1899.

Application filed August 29, 1898. Serial No. 689,728. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD M. CASHION, of Glens Falls, in the county of Warren and State of New York, have invented a new and  
5 Improved Arc-Lamp, of which the following is a full, clear, and exact description.

This invention relates to improvements in electric-arc lamps of the type in which the carbon-points are inclosed in an inner glass  
10 globe; and the object is to provide a simple and adjustable means for permitting and regulating a continuous passage of air through the globe without the intervention of valves or other periodic working devices.

15 I will describe an arc-lamp embodying my invention, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indi-  
20 cate corresponding parts in all the views.

Figure 1 is a vertical section of an arc-lamp embodying my invention. Fig. 2 is an inside plan view of an air-regulating cap employed.  
25 Fig. 3 is a section through the line 3 3 of Fig. 2. Fig. 4 is a plan view of a dust-pan employed, and Fig. 5 is an edge view thereof.

Referring to the drawings, 1 designates the outer globe of the lamp, and 2 is the casing  
30 above the same. Arranged in the lamp is the upper carbon 3 and the lower carbon 4, the lower carbon being adjustably fixed in a holder 5 and the upper carbon being movable vertically in the ordinary manner to form the arc.

35 The points of the carbons 3 and 4 are arranged within an inner globe 6, the lower end of said globe resting upon a plate 7, which has an opening through it for the passage of the carbon 4, the said opening being somewhat larger than the diameter of the carbon,  
40 so that air may pass through the same. This plate 7 is adjustably connected to a plate 8, having an opening through it, the wall of which is designed to fit snugly upon the carbon 4. These plates 7 and 8 are made ad-  
45 justable one relatively to the other to increase or diminish a space 9 between them, as circumstances may require.

As a means for causing the adjustments I  
50 have here shown screws passing from one plate into another—that is, screws 10 pass

through openings in the plate 7 and into tapped holes in the plate 8 and screws 11 pass through openings in the plate 8 and into tapped holes in the plate 7. Obviously by manipulating  
55 the screws the plates may be adjusted one relatively to the other.

Resting on the top of the globe 6 is a plate 12, and adjustably connected with said plate 12 is a plate 13. The plates 12 and 13 are  
60 similar to the plates 7 and 8, excepting that the opening through said plate 13 is slightly larger than the carbon 3, so as to permit of the movement of said carbon. The plates 12 and 13 are adjustably held together by means  
65 of screws, as shown in connection with the plates 7 and 8.

Surrounding the carbon 4 within the globe 6 is a dust-pan 14, which has an opening through it in which the carbon 4 tightly fits,  
70 and on its under side it has lugs 15, which rest upon the plate 7, so that a space will be formed between the under side of said dust-pan and the upper side of the plate 7 for the passage of air. The object of the dust-pan is  
75 to prevent the passage of dust or the like from the interior of the globe to the air-space between the plates 7 and 8, which will have a tendency to stop up or clog the space and prevent the ingress of air.  
80

The object in forming the caps each of two adjustable plates is to regulate the inlet of air and the outlet of gases from the globe. The greater the distance between the plates the more freely will the gas escape. The less  
85 the distance the less freely will the gases and the hot air escape. As the caps are intended to be used in connection with any kind of lamp or system of electric lighting, the distance between the plates will have to be regu-  
90 lated by the particular system of lighting used. In general it is desirable to separate the plates, so as not to increase the voltage. For instance, if at a certain distance the voltage is increased, increase the distance between  
95 the plates and thus allow the gases, &c., to more freely escape, and thus diminish the resistance and voltage.

It is found in practice that when employing my invention the life or usefulness of the car-  
100 bons has been increased four or five times the ordinary duration and that the soot, dust, &c.,



collected on the inner surface of the inner globe is much less than ordinarily.

Having thus described my invention, I claim as new and desire to secure by Letters  
5 Patent—

1. In an arc-lamp, an inner globe for surrounding the carbon-points, a ventilating-cap on the end of the globe, comprising two plates adjustable one relatively to the other so as to  
10 form an air-space between them, the inner of said plates having an opening through which the carbon passes, the said opening being larger than the diameter of the carbon, the outer plate having an opening, the wall of  
15 which engages closely against the carbon and a dust-pan on the carbon and adjacent to the inner plate, substantially as specified.

2. In an arc-lamp, an inner globe for enclosing the carbon-points, a cap at each end  
20 of said globe, each cap consisting of an inner

and an outer plate having openings for the passage of the carbons, the opening in the inner plate being larger than the carbon, the opening in the lower outer plate fitting the carbon snugly, and screws for engaging and regulating the space between the plates, substantially as specified. 25

3. In an electric-arc lamp, a globe, caps engaging with the ends of said globe, each cap consisting of two plates having openings for  
30 the passage of the carbons, means for adjusting the space between the plates, and a dust-pan surrounding the carbon and supported on the inner plate of the lower cap, substantially as specified.

EDWARD M. CASHION.

Witnesses:

C. J. BARBER,  
FRED L. RUSSELL.