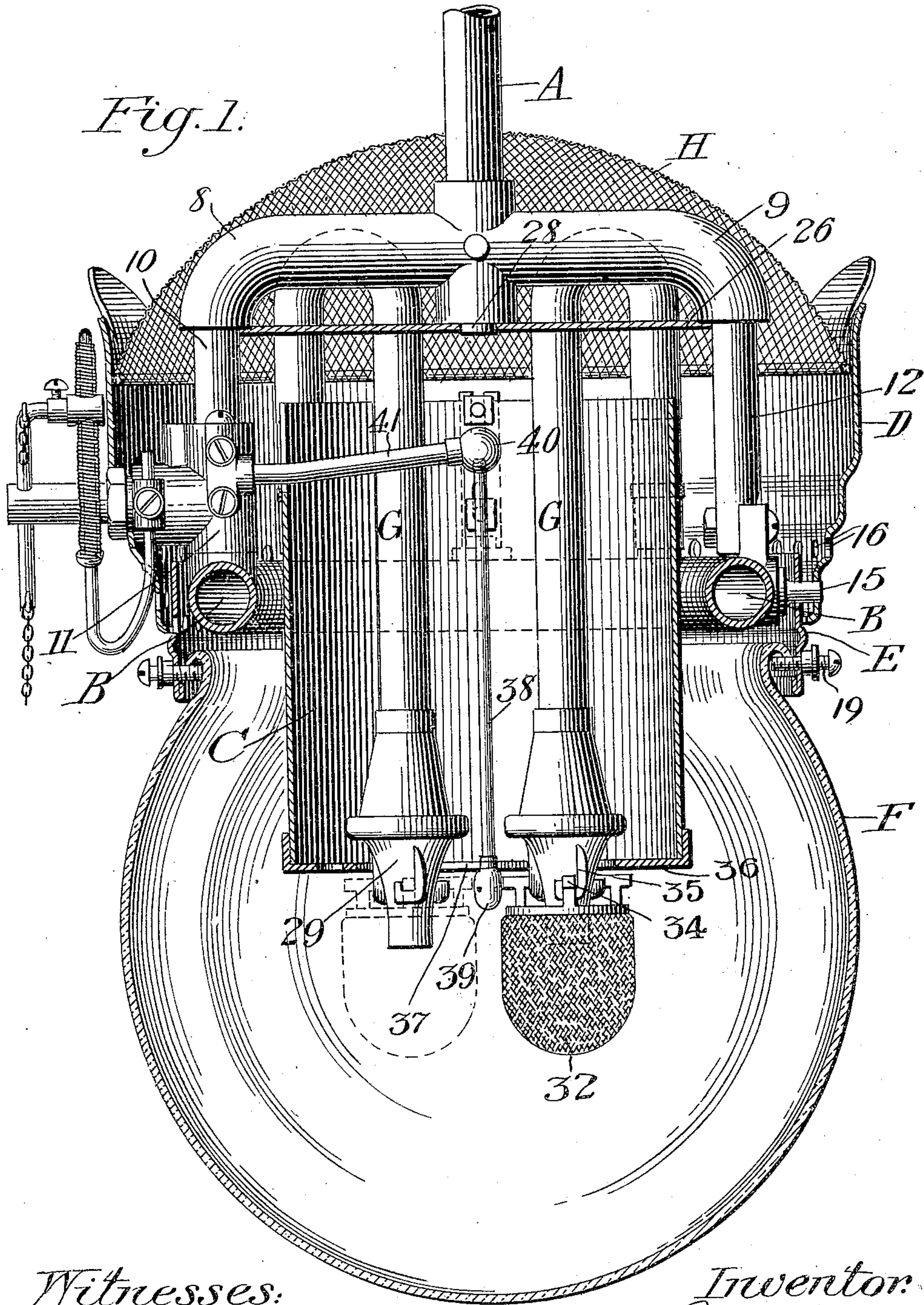


J. MAAS.
 INCANDESCENT GAS LAMP.
 APPLICATION FILED APR. 29, 1909.

938,602.

Patented Nov. 2, 1909.
 3 SHEETS—SHEET 1.



Witnesses:

N. W. Edlin.

J. E. Rockness

Inventor:

Joseph Maas

by Henry Goldbrough Hill
 Attys.

J. MAAS.
 INCANDESCENT GAS LAMP.
 APPLICATION FILED APR. 29, 1909.

938,602.

Patented Nov. 2, 1909.
 3 SHEETS—SHEET 2.

Fig. 2.

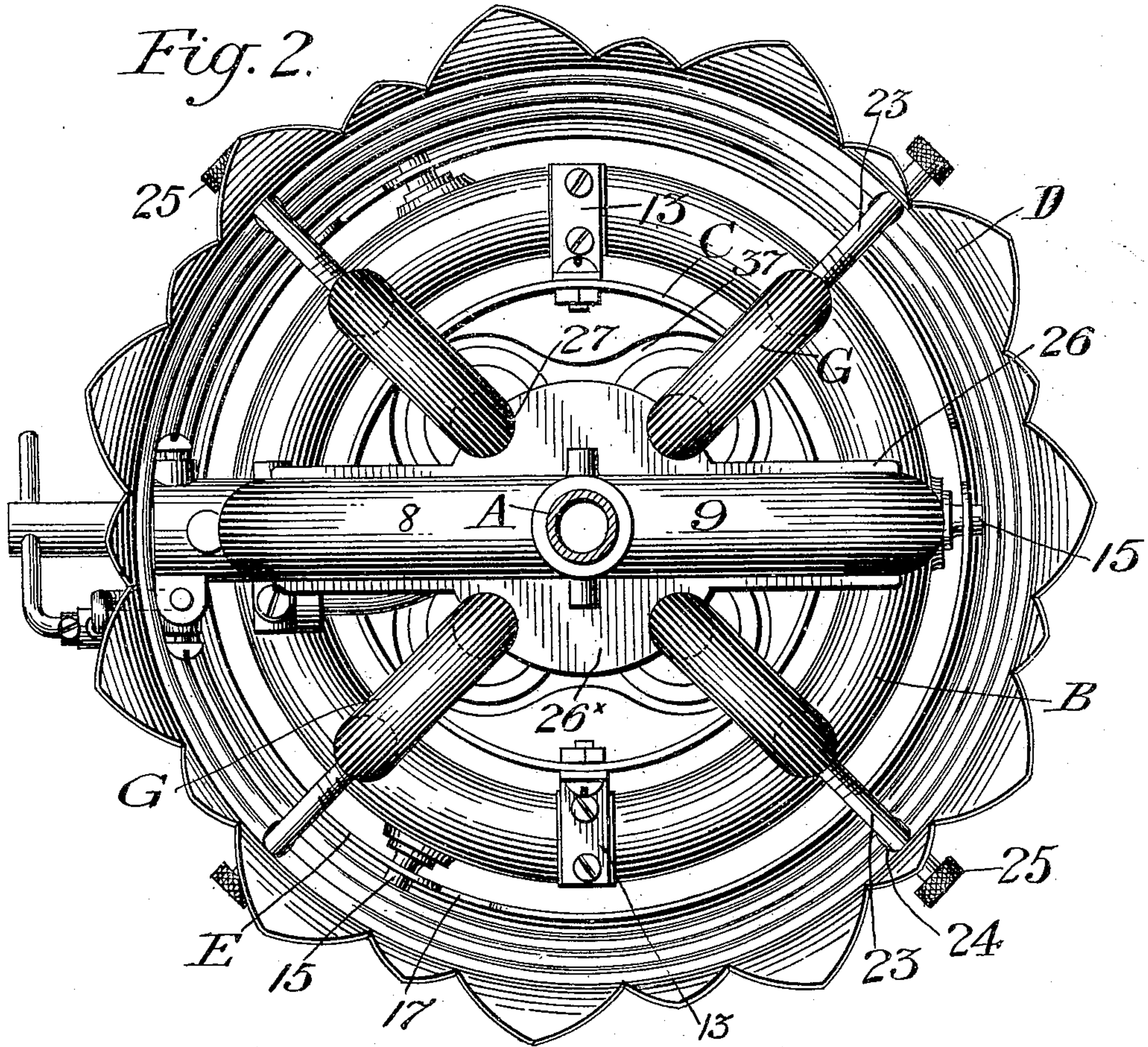
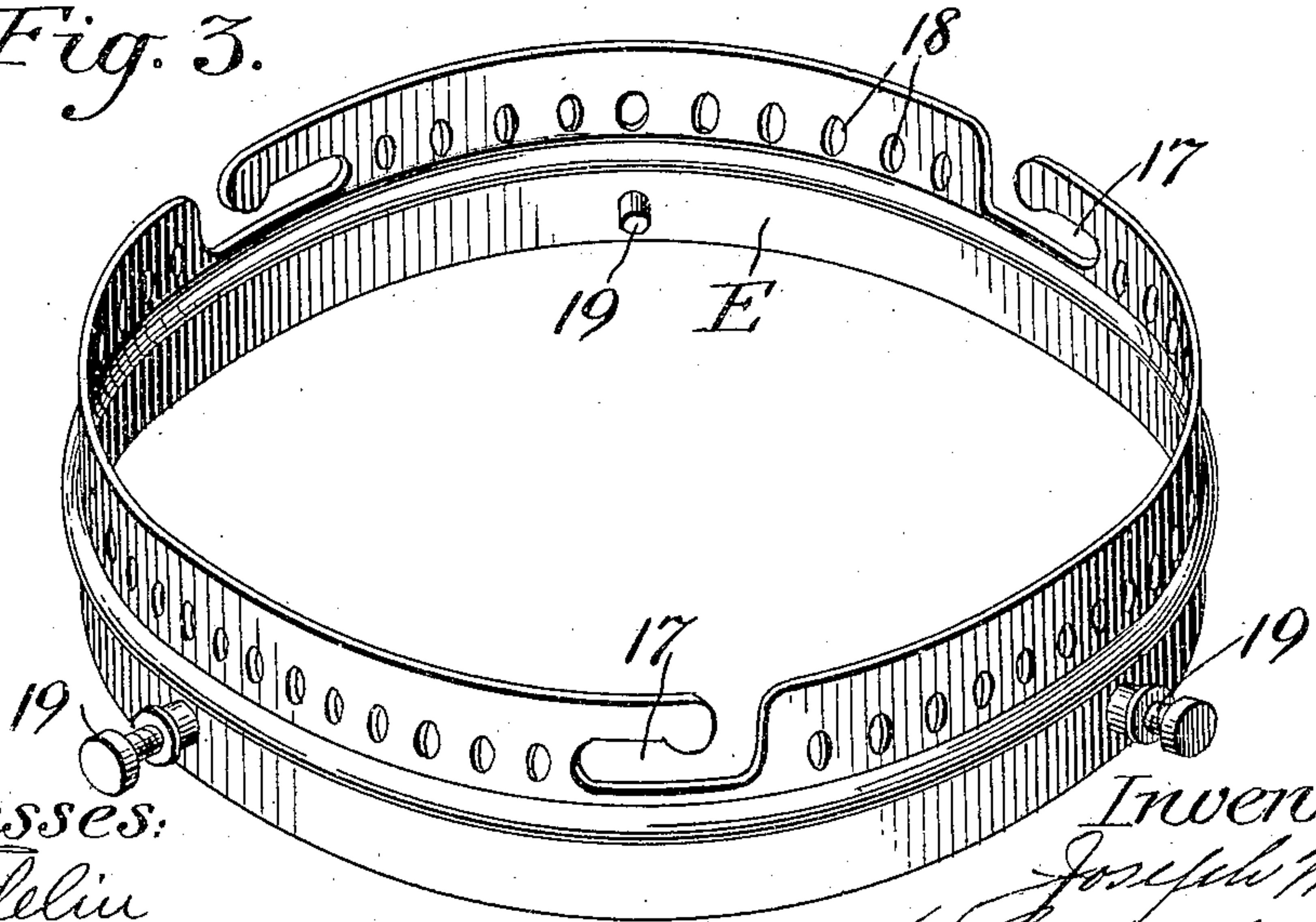


Fig. 3.



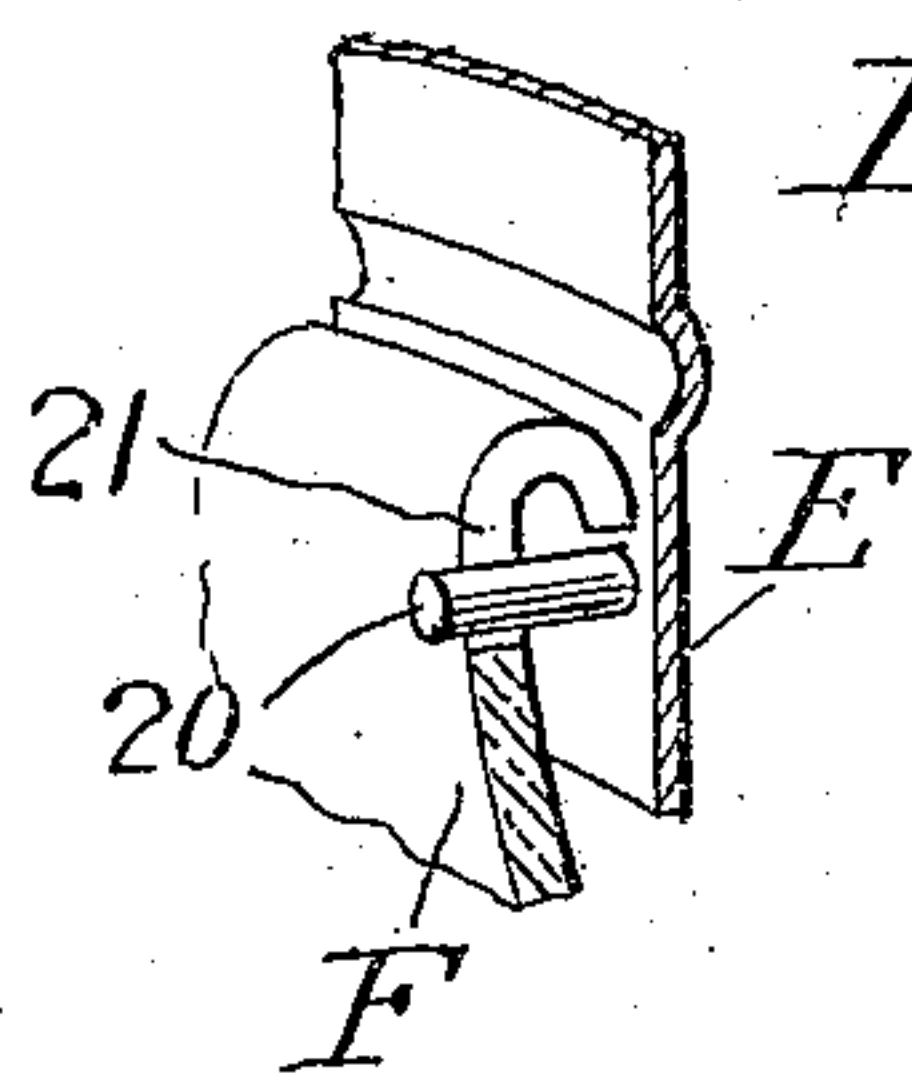
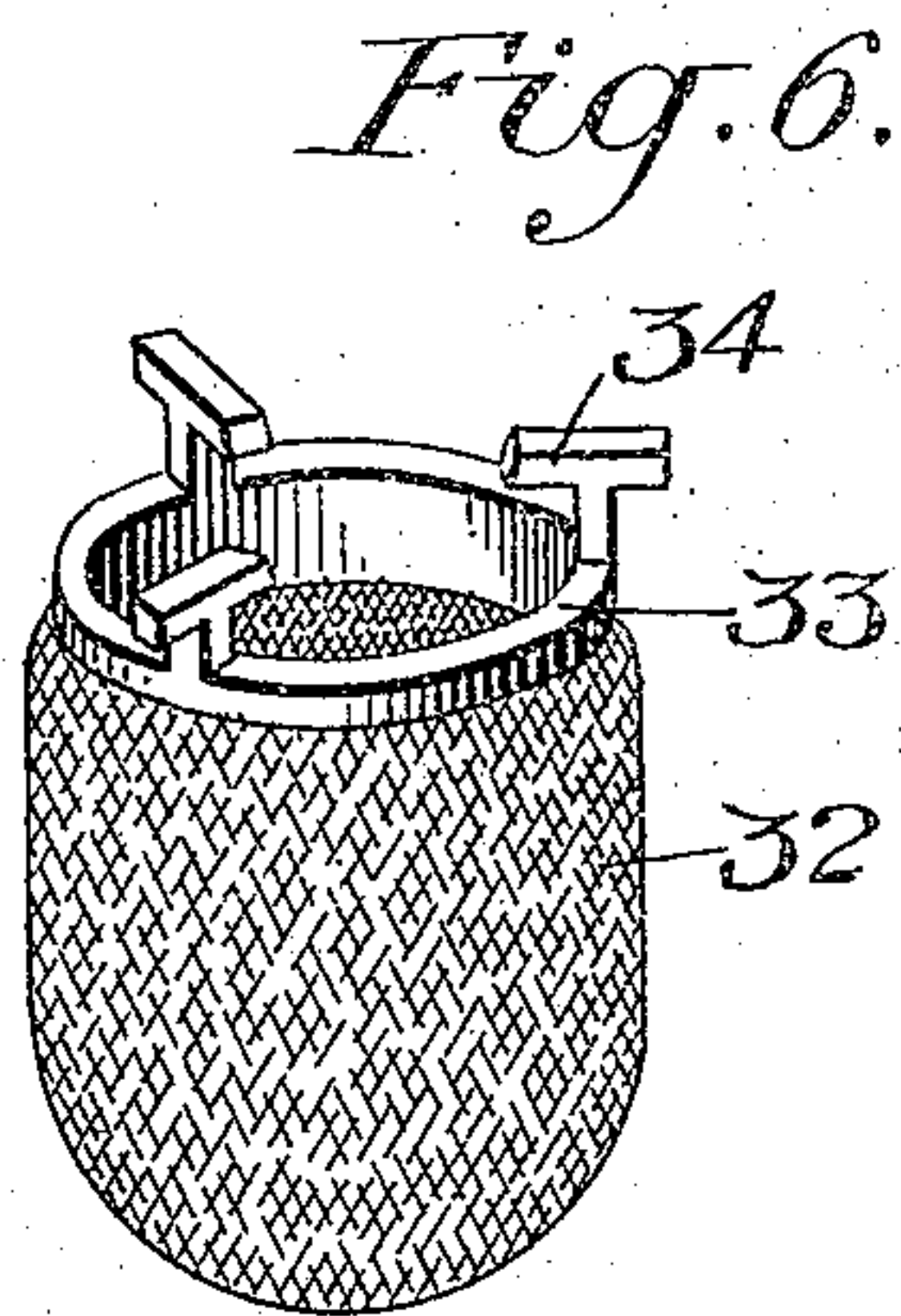
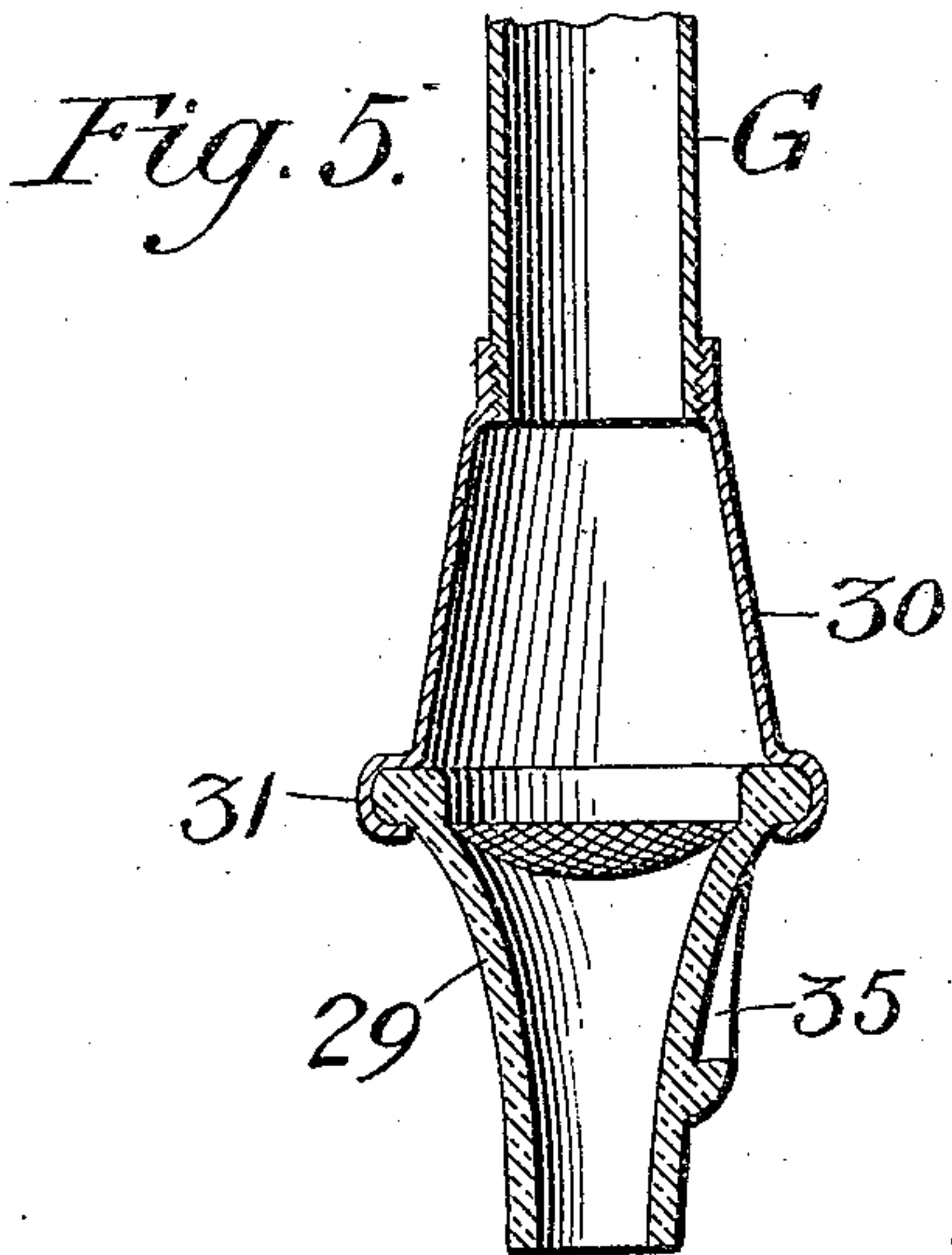
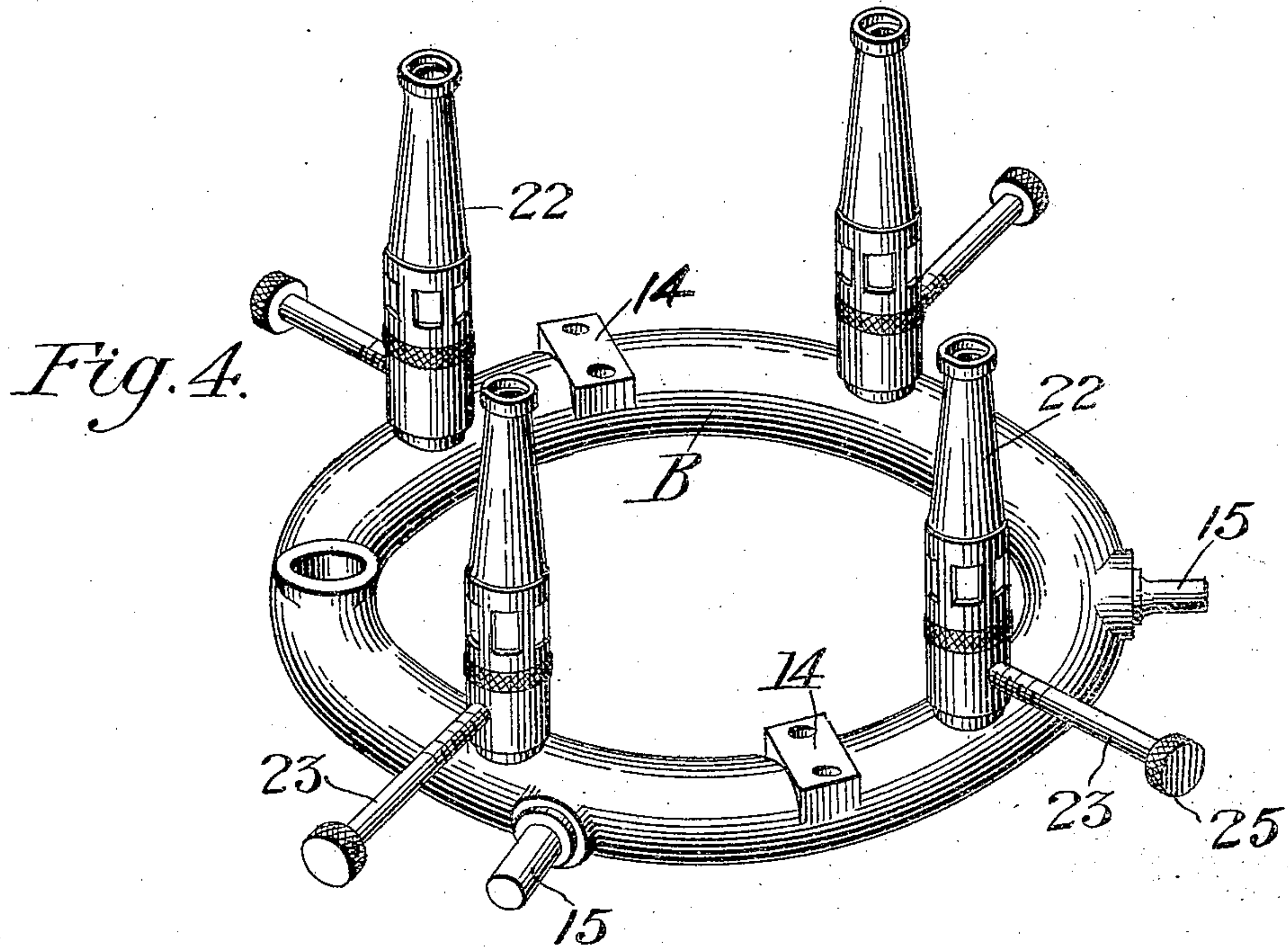
Witnesses:
W. Edelin
M. Rockness

Inventor:
Joseph Maas
Francis Goldsmid *Att'y*

J. MAAS.
INCANDESCENT GAS LAMP.
APPLICATION FILED APR. 29, 1909.

938,602.

Patented Nov. 2, 1909.
3 SHEETS—SHEET 3.



Witnesses:

O. W. Edlin.

J. H. Rockwell

Inventor.

Joseph Maas.

Wm. E. Goldsmith
Att'y

UNITED STATES PATENT OFFICE.

JOSEPH MAAS, OF KALAMAZOO, MICHIGAN, ASSIGNOR TO AMERICAN GAS LIGHT COMPANY, OF KALAMAZOO, MICHIGAN, A CORPORATION.

INCANDESCENT GAS-LAMP.

938,602.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed April 29, 1909. Serial No. 492,981.

To all whom it may concern:

Be it known that I, JOSEPH MAAS, a citizen of the United States, and resident of Kalamazoo, county of Kalamazoo, and State of Michigan, have invented certain new and useful Improvements in Incandescent Gas-Lamps; 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 gas lamps, and more particularly to lamps of this character in which a cluster of inverted incandescent mantles is used, the device forming the subject-matter of the invention being an improvement on the gas light fixture described in Letters Patent No. 900,031, granted me under date of September 29, 1908.

The primary object of the invention is to furnish a lamp of very compact form, in which the long casing shown in the patent just mentioned is dispensed with, thereby materially shortening the length or height of the device. It is aimed to reduce the number of parts to a minimum and to provide a construction in which the gas ring supports as directly as possible a number of the parts, such as the crown, the globe ring, and the chimney.

The invention also aims to improve the construction as regards certain details of the lamp, as will appear from the following description and claims.

In the drawing, Figure 1 is a vertical central section of a gas lamp constructed in accordance with the invention, Fig. 2 is a top plan view of the lamp with the top screen removed, Fig. 3 is a detail perspective view of the globe ring, Fig. 4 is a similar perspective view of the gas ring and its Bunsen burners, Fig. 5 is a detail longitudinal section through one of the goose neck burner tubes which fit over the Bunsen burners, Fig. 6 is a perspective view of one of the mantles, and Fig. 7 is a detail of the device to prevent the turning of the globe in its supporting ring.

Referring to the drawing, the gas pipe A conducts the gas in downward direction through suitable connections to a gas ring B, which supports within the same a cylindrical chimney or draft flue C. Supported on the gas ring at its outer portion is an up-

wardly extending crown D, and the gas ring also supports at its outer portion a depending globe ring E, in which the globe F is positioned, said globe inclosing the mantles which are carried at the lower ends of burner tubes G extending downward through the chimney. At the top the lamp is inclosed by means of a screen H set around the gas pipe A and seated within the crown.

At the lower end of the gas pipe A the same carries horizontal arms 8 and 9 of which the arm 8 is hollow to conduct the gas downward into an upright pipe or hanger 10, which forms an extension of the arm 8 and is connected at its lower end, which carries a valve casing 11, to the gas ring B. The arm 9 does not form a gas passage, but merely supports a solid hanger 12 which is connected to the gas ring at a point opposite the pipe 10. The gas ring is therefore supported at diametrically opposite points by means of a yoke formed of members 8, 9, 10 and 12. The members 10 and 12 are comparatively short so that the gas ring is at a relatively short distance below the end of the inlet pipe A.

The valve which is inclosed in the casing 11 controls the flow of gas from the inlet pipe to the gas ring and can be of any preferred form; its particular construction forms no part of the present invention. Said valve is adapted to be operated by depending chains as indicated in the drawing, or in any suitable manner.

The chimney C which is located within the gas ring is of only slightly less diameter and extends both above and below the gas ring, as shown, that is to say, the gas ring is located intermediately of the height of the chimney. Said chimney is supported on the gas ring by means such as the angle irons 13 which are bolted to the chimney at opposite points and upon its outer surface, said angle irons being screwed at their bases to flat bosses 14 formed on the upper surface of the gas ring as shown in Fig. 4. The gas ring is provided at its outer part with a series of radially extending pins 15 upon which both the crown D and the globe ring E are supported. The crown is positioned at its lower end upon the outer portions of these pins and extends in upward direction above the top of the chimney and substantially to the top of the yoke members 8 and 9. At its lower portion the crown is pro-

vided with circumferential series of air inlets 16 formed by small perforations.

The globe ring E fits within the crown and is adapted to be moved upward within the latter in order to be supported on the intermediate portions of the laterally extending pins 15, connection being made with these pins by means of angular slots 17, which in conjunction with the aforesaid pins form a number of bayonet joints. When the globe is to be suspended from the gas ring the globe ring is moved upward with the upright portions of its slots over the supporting pins 15, after which the globe ring is turned to place the horizontal portions of the slots 17 over said pins, and thereby support the globe ring, as will be readily understood. The globe ring is provided with a circumferential series of perforations 18 forming air inlets and with set screws 19 by which the globe F is clamped in the usual manner. In order to prevent the rotation of the globe in the ring in case the set screws do not bind the globe tightly, the ring is provided with an inwardly extending lug 20 as shown in Fig. 7, said lug entering a suitable slot 21 formed in the edge of the globe.

The Bunsen burners 22 are arranged on and extend upward from the gas ring as shown in Fig. 4, and said burners are controlled by threaded valve spindles 23 which extend laterally through perforations 24 formed in the crown as shown in Fig. 2, each valve spindle being provided outside of the crown with a milled head 25 by which it may be operated to control the flow of gas through the corresponding Bunsen burner. The goose neck burner tubes G are also of substantially the same form as heretofore constructed; they are seated over the Bunsen burners and extend over the top of the chimney and downward to the lower part of the latter. In the present construction, however, said burner tubes extend at their upper curved portions up substantially as far as the top of the crown and the horizontal arms 8 and 9, and said burner tubes are held in proper position within the chimney by means of a baffle plate 26 which extends under the arms 8 and 9 and the inlet pipe A and is provided with a disk shaped central part 26^x secured to the lower end of the inlet pipe A and provided with notches 27 in which the burner tubes G are positioned, as shown in Fig. 2. Said baffle plate prevents the pipes A and 8 from becoming overheated by the products of combustion which pass up through the chimney, and at the same time said plate holds the burner tubes in their proper positions. The baffle plate is positioned upon a boss 28 formed on the lower surface of the union which is located at the juncture of the arms 8 and 9 and receives the inlet pipe A. Although the burner tubes G are firmly positioned in the manner indi-

cated when the device is in use there is nothing to prevent the lifting out of such tubes when the screen H is removed, the burner tubes being merely raised off of the corresponding Bunsen burners and out of the chimney.

At their lower ends the burner tubes G are provided with the usual vitreous burner nozzles 29, one of which is illustrated in detail in Fig. 5. In the present construction, the lower edge of the conical portion 30 is spun over the upper edge of the nozzle, as indicated at 31, so that the nozzle is reliably held in place. The mantles 32 are hung directly on the nozzles, and each mantle is provided at the top with a ring 33 having inwardly projecting catches 34 adapted to rest in angular integral lugs 35 with which the nozzles 29 are provided. In order to place a mantle on one of the burner nozzles, the corresponding burner tube G is detached from the lamp and its nozzle is placed within the upper open end of the mantle, after which the mantle or the burner tube is given a slight twist in order to bring the catches 34 into locking relation with the pockets of the lugs 35, as shown in Fig. 1. In this way the handling of the mantle is entirely dispensed with and it may be placed in position very quickly and with great facility.

In the operation of the device, the air is sucked in a downward direction around the gas ring and into the globe F, a certain amount of air entering through the perforations 16 and 18 of the crown and globe ring respectively. The air enters the crown throughout the peripheral portion at the top of the lamp and is therefore supplied in sufficient quantity. In order to direct the air to the mantles in the proper manner and equalize the combustion throughout the mantle surface the chimney is provided at the bottom with a deflector plate 36 having a cut away central portion 37 which conforms to the contour of the cluster of mantles, as best shown in Fig. 2. Extending downward through the opening 37 and located centrally thereof is a pilot burner 38, the nozzle 39 of which is located centrally with respect to the several burner nozzles as shown in Fig. 1, and provided with a small orifice directed toward each nozzle. The pilot tube 38 is screwed at its upper end into a ball 40 carried at the end of a laterally extending tube 41 which is connected with the valve casing 11 and supplied with gas therefrom, the ball shaped terminal of said tube 41 being located centrally of the chimney at the upper portion of the latter.

Owing to the fact that all of the parts of the device are readily accessible when the screen at the top is removed it is not necessary to provide for the detachability of the crown. However, the globe ring and chimney may be detached from the gas ring, as

will be understood. By constructing the device in the manner described, the number of parts is not only minimized and the lamp made very compact, but the operation of the lamp is rendered very effective.

Without limiting myself to the precise construction shown, I claim:—

1. In a gas lamp, the combination of a gas ring having a plurality of burners associated therewith, a crown carried directly at its lower portion by the gas ring and extending upward from the latter, and a globe ring also carried directly by the gas ring.

2. In a gas lamp, the combination of a gas ring, supporting devices extending laterally from said ring at its outer portion, a crown supported on said devices and extending in upward direction from the gas ring, and a globe ring suspended from said supporting devices and independent of the crown.

3. In a gas lamp, the combination of a gas ring, supporting pins extending laterally therefrom at its outer portion, a crown supported at its lower edge on said pins, and a globe ring directly engaging and supported on said pins within the crown.

4. In a gas lamp, the combination of a gas ring, supporting pins extending outward from said ring in radial direction, a crown fitting and supported on the outer ends of said pins, and a globe ring having angular slots to coact with the intermediate portions of said pins, the globe ring being locked when turned in one direction and freely detachable from said pins when turned in the opposite direction.

5. In a gas lamp, the combination of a gas ring, a plurality of goose neck burner tubes coacting therewith, an inlet pipe, and a yoke at the lower end of said inlet pipe which supplies gas to said gas ring and has its upper portion located at substantially the same height as the upper curved portions of said goose neck tubes.

6. In a gas lamp, the combination of a gas ring, a chimney within said ring, a crown supported on and extending upward from said gas ring to a point above the chimney, and burner tubes connected with said gas ring and having portions extending down into said chimney.

7. In a gas lamp, the combination of a gas ring, a chimney supported within the gas ring, a crown extending upward from the gas ring, and goose neck burner tubes connected with the gas ring and extending over the top edge of the chimney down into the latter.

8. In a gas lamp, the combination of a gas ring, a chimney supported with the gas ring and extending upward therefrom, a crown carried by the gas ring, and goose neck burner tubes connected with the gas

ring and extending over the top edge of the chimney down into the latter, the upper portions of said tubes being at substantially the same height as the top of the crown.

9. In a gas lamp, the combination of a gas ring, a chimney supported within the same, a crown extending upward from the gas ring, burner tubes connected with the gas ring and extending down into the chimney, and a gas supply yoke connected with the gas ring and having its horizontal portion at substantially the same height as the top of the crown.

10. In a gas lamp, the combination of a gas ring, a chimney supported within the gas ring, a crown extending upward from the gas ring, goose neck burner tubes connected with the gas ring and extending down into the chimney, and a gas supply yoke connected with the gas ring, the upper portions of said burner tubes, the top of the crown, and the horizontal portion of said yoke being located in substantially the same horizontal plane.

11. In a gas lamp, the combination of a gas ring, a yoke above said ring to supply the same with gas, a plurality of goose neck burner tubes loosely associated with the gas ring, and a baffle plate on said yoke by which said burner tubes are positioned.

12. In a gas lamp, the combination of a gas ring, a chimney located within the same, a plurality of goose neck burner tubes seated on the gas ring and extending downward into the chimney, gas pipes located above the gas ring and connected therewith, and a device which protects the gas pipes from the products of combustion passing upward through the chimney and at the same time positions the burner tubes laterally within the chimney.

13. In a gas lamp, the combination of a gas supply yoke, a baffle plate carried by the yoke and having notches, a gas ring supplied with gas by said yoke, and goose neck burner tubes loosely seated on the gas ring and having downturned inner portions fitting within the notches of the baffle plate.

14. In a gas lamp, the combination of a chimney, a plurality of burner tubes extending down into the chimney and having burner nozzles at their lower ends, mantles carried by said nozzles, and a plate secured to the lower end of the chimney and provided with a central opening conforming in contour with the cluster of burners.

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

JOSEPH MAAS.

Witnesses:

GLENN A. MEAD,

JOHN S. HOLLANDER.