

(No Model.)

S. P. ESSEX.
GAS BURNER.

No. 529,324.

Patented Nov. 13, 1894.

Fig. 1.

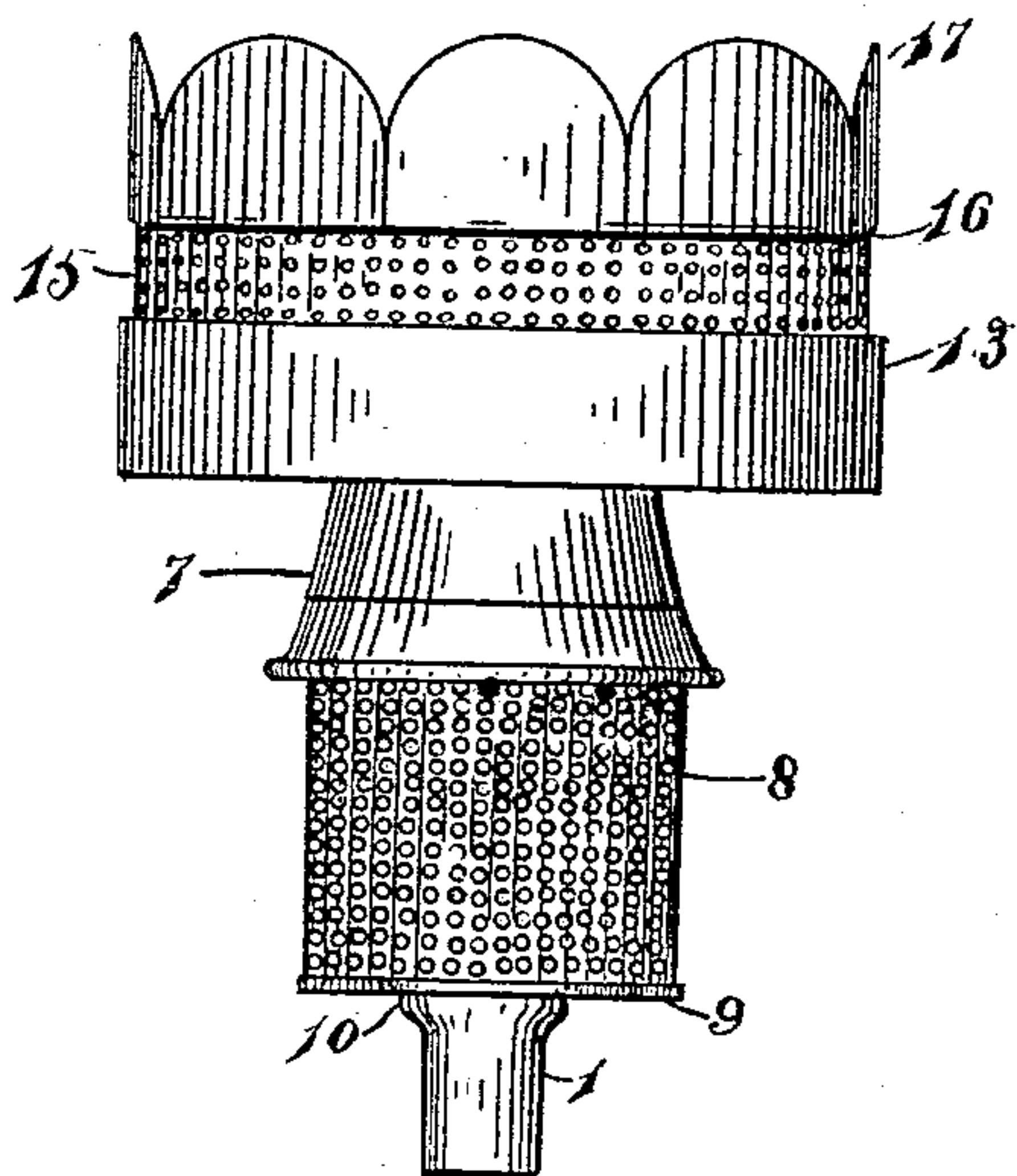


Fig. 2.

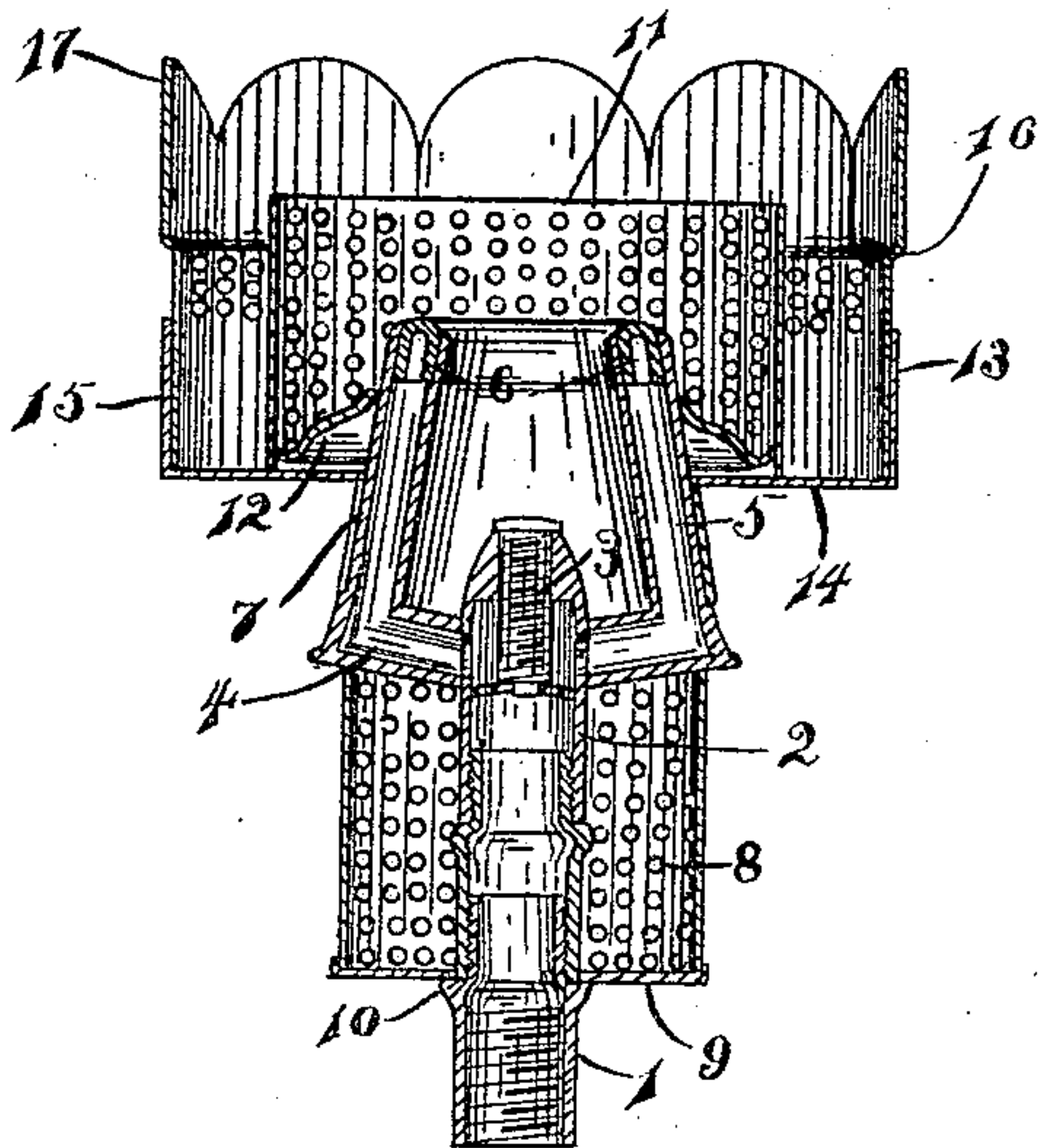


Fig. 3.

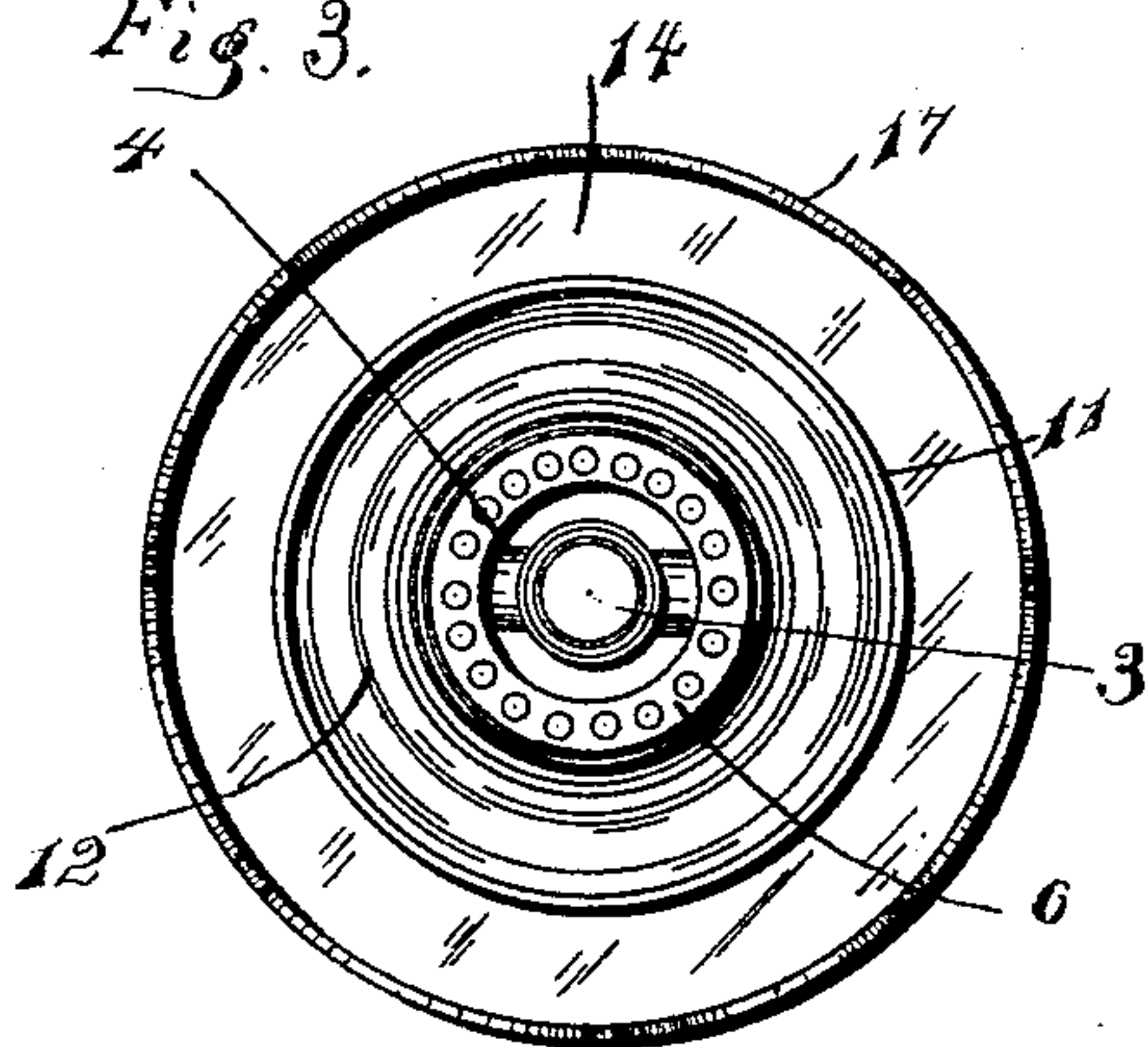


Fig. 5.

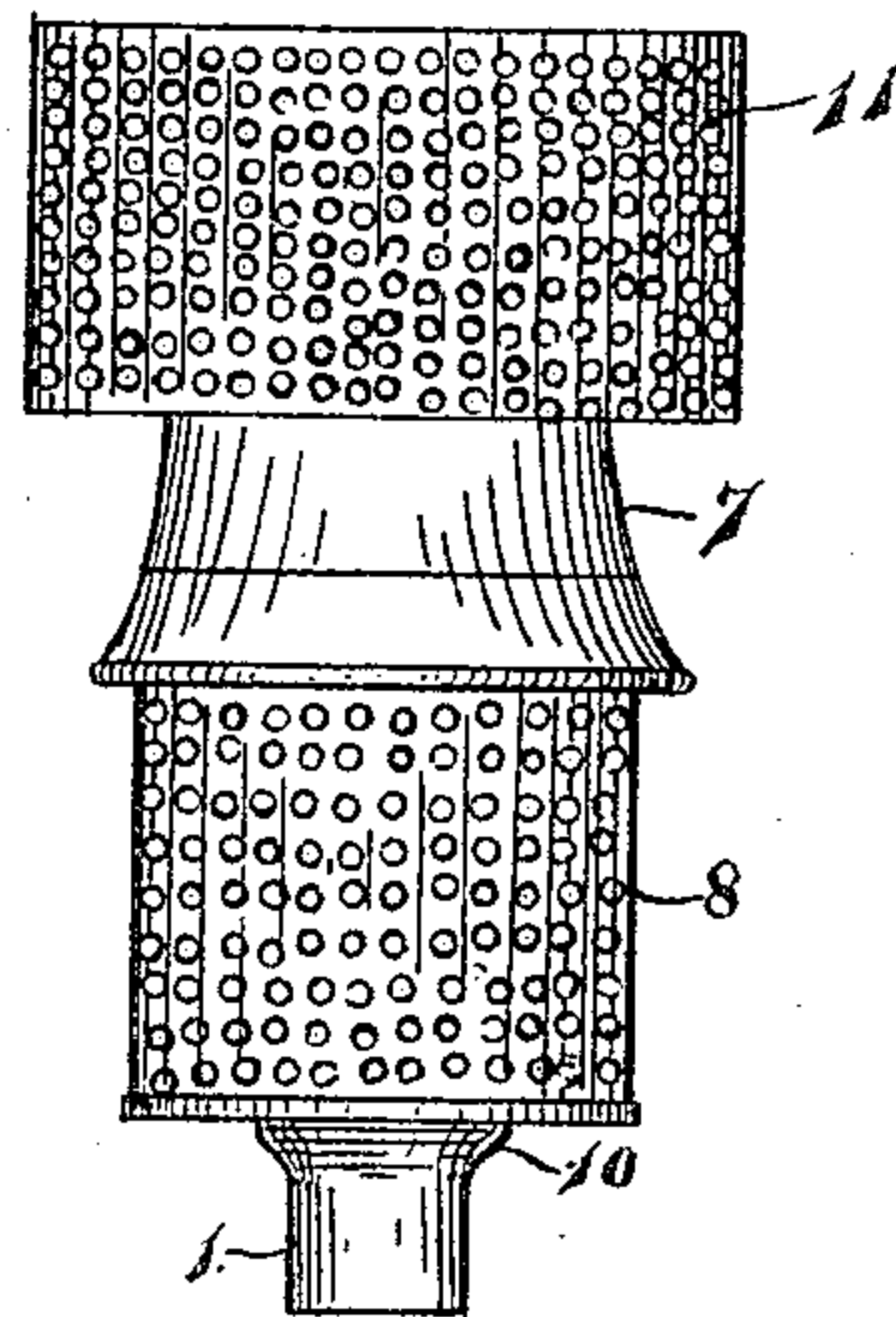


Fig. 4.

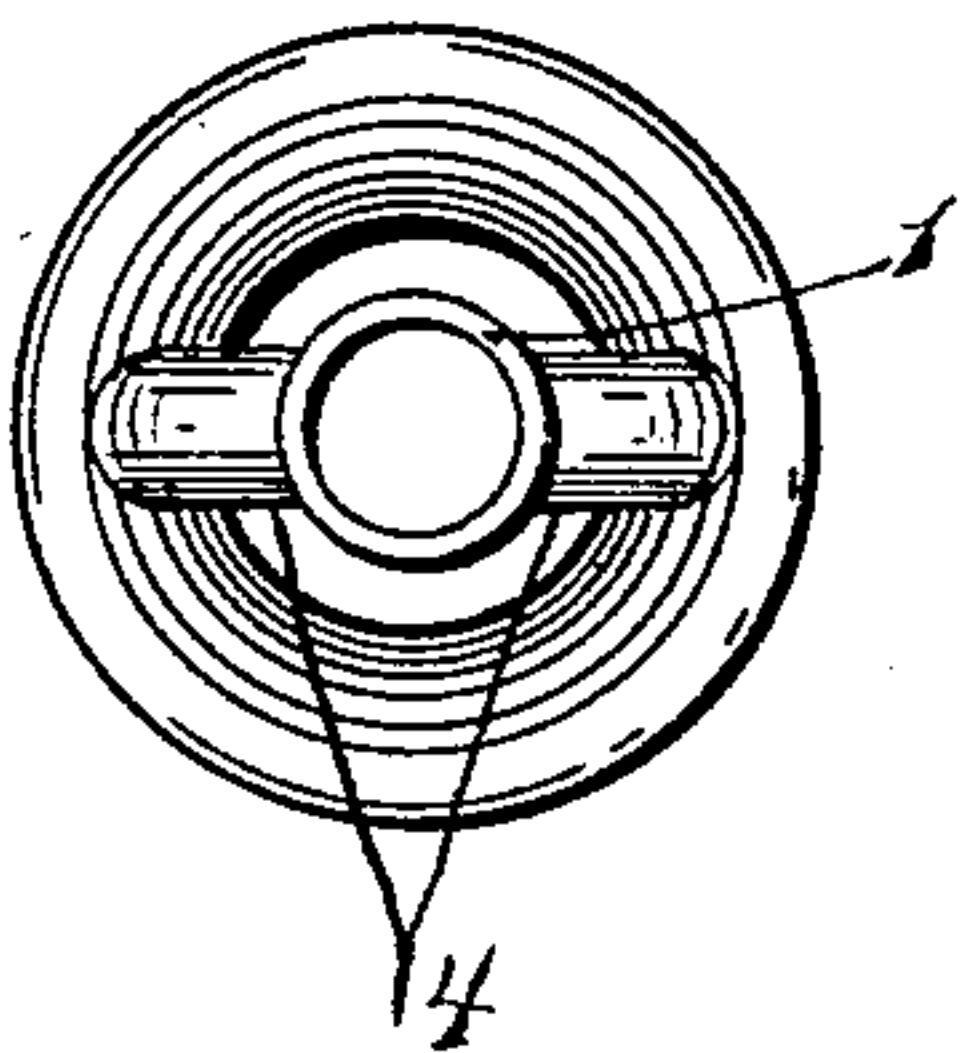
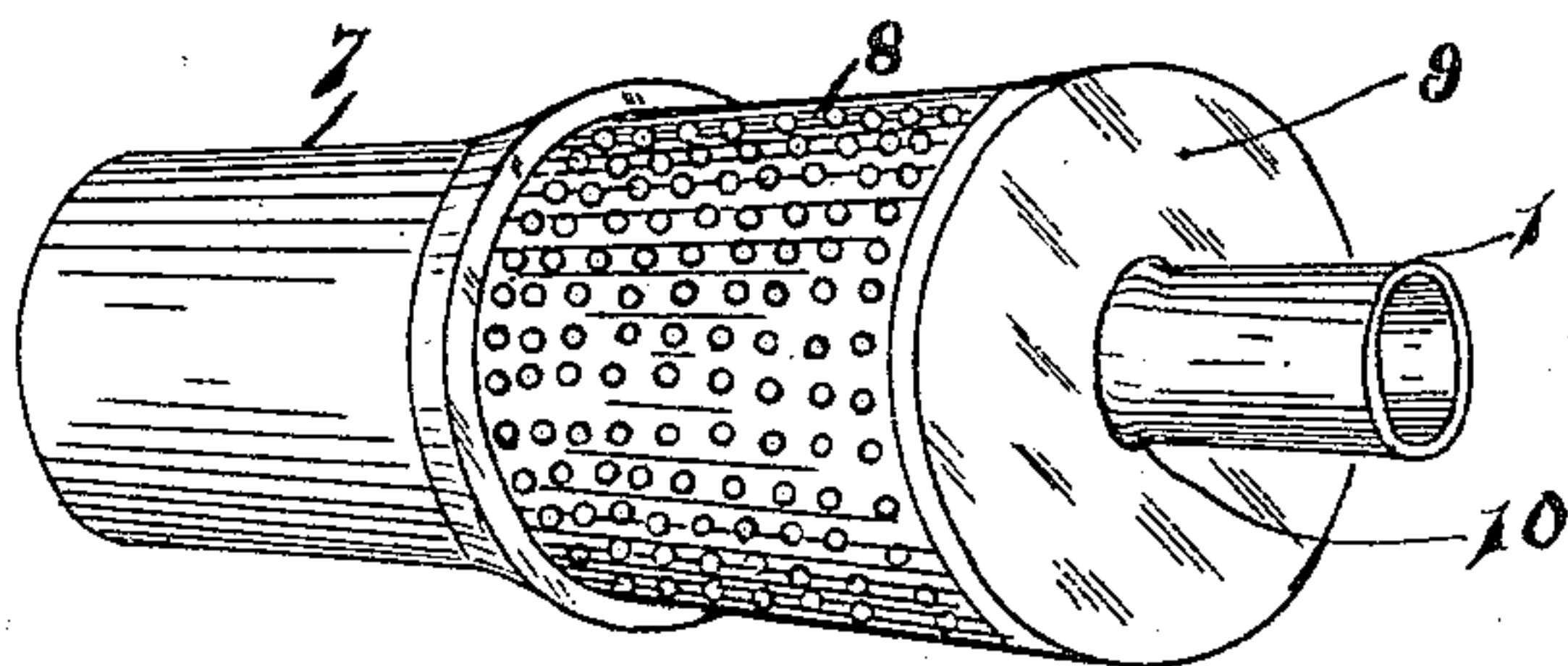


Fig. 6.



Witnesses

Geo. C. Conner
Lela Monroe.

Inventor

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UNITED STATES PATENT OFFICE.

SAMUEL P. ESSEX, OF ZIONSVILLE, INDIANA, ASSIGNOR OF ONE-HALF TO
JAMES O. HURST, OF SAME PLACE.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 529,324, dated November 13, 1894.

Application filed May 4, 1894. Serial No. 510,121. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL P. ESSEX, of Zionsville, county of Boone, and State of Indiana, have invented certain new and useful
5 Improvements in Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

10 My invention relates to a natural or artificial gas illuminating burner.

The chief object of my improvement is to so distribute and mix the oxygen with the gas as to make a steady and very brilliant light
15 and prevent "breathing" which is common to gas burners. This breathing, it is thought, is due to the irregular currents of air drawn upward through the globe by the draft thus supplying the flame with an irregular, im-
20 proper quantity of oxygen which makes the flame unsteady, dull or pale, instead of brilliant. With my improvement, all breathing is avoided and the brilliancy of the flame is more than doubled by regulating the quan-
25 tity of oxygen and admitting only the proper amount to the point of combustion to produce a brilliant light. One of the perforated casings about the burner might be dispensed with and the remaining one be perforated and
30 so made as to support the chimney. While this would not produce the best results, still it would be a material improvement over the existing gas burners.

35 The nature of my improvement will appear from the following description and drawings.

Figure 1 is a side elevation of my burner and Fig. 2 a central vertical section thereof. Fig. 3 is a plan view. Fig. 4 is a bottom view
40 of the gas conduit. Fig. 5 is a side elevation of my burner with the globe holder removed, and Fig. 6 is a perspective of my burner with the top removed.

In detail, 1 is the end of a gas pipe having the extension 2 screwed to it. On the end of
45 the extension 2 is the valve 3 adapted to regulate the flow of gas through the connecting pipes 4 to the cylindrical gas chamber 5 which lead to the circular burner tip 6 secured in the upper end of the hollow cylindrical frame
50 7. The burner tip 6 is perforated as seen in

Fig. 3 for the exit of gas. The cylindrical frame 7 flares toward the bottom which is open as seen in Fig. 4. The parts so far described are not my invention and form no
part of the same except by way of combina- 55
tion with the remainder. They constitute a well-known burner.

To regulate the distribution of oxygen coming to mix with the gas within the circular burner and flame, I provide at the lower end
60 of the frame 7 a perforated cylindrical case 8 having a closed bottom 9 fitting about the gas pipe against a shoulder 10 thereon. This perforated cylindrical casing fits snugly up against the burner frame 7 so that the air
65 coming in contact with the gas and flame beneath will pass through the perforated casing and by reason of the distribution caused by such casing, the admission of air will be distributed, causing the oxygen to come up from
70 all directions instead of one only.

To provide for the distribution of the oxygen approaching the flame from the outside, I mount about the top of the conical shaped
75 frame 7 a perforated cylindrical casing 11 having a closed flange bottom 12 adapted to fit like a collar around the frame 7. This perforated casing 11 should preferably extend about one half inch above the burner
80 top 6 and may be finished and used as a globe holder independent of the following described globe holder.

To support the globe, I place a cylindrical casing 13 having a closed bottom 14 that surrounds and fits snugly on the frame 7 just be-
85 low the bottom 12 of the perforated casing 11. The sides of the casing 13 are closed up to a point on a level with the burner tip 6 so that no air or oxygen can approach the flame below. This casing 13 is extended up by a per-
90 forated casing 15 having a series of perforations for some distance above or below a point on a level with the burner tip 6. The casing then has an annular shoulder or offset 15 above which the case extends upward for
95 some distance to make a globe holder 17. The globe sits within this globe holder 17 and rests and is supported on the shoulder or offset 16. The casing 15 is enough larger than
100 the casing 11 to allow a chamber between them

of considerable dimensions. By this construction, the oxygen is fed to the flame from the perforated casing 15 just below the lamp chimney where it enters the chamber between the casing 15 and casing 11 and from that point it is further distributed about the flame by means of the perforated casing 11.

What I claim as my invention, and desire to secure by Letters Patent, is—

10 1. In a gas burner, the combination with a hollow cylindrical burner tip, of a casing forming an extension below the same whose bottom is closed, and a casing with a closed bottom extending around the burner tip with
15 perforations in its sides on a level with the top of the burner tip, substantially as shown and described.

2. In a gas burner the combination with a burner tip, of a chimney holder surrounding
20 the same and having its bottom closed and its side perforated below the chimney ledge and on a level with the top of the burner tip.

3. In a gas burner the combination with a

burner tip, of a cylindrical perforated casing surrounding the burner, and a chimney
25 holder surrounding such perforated casing and having its sides and bottom closed excepting a portion of the side on a level with the burner tip, which portion is perforated.

4. In a gas burner the combination with a
30 hollow cylindrical burner tip, of a perforated cylindrical casing extending below such burner and having a closed bottom, a perforated cylindrical casing surrounding the upper part of such burner, and a chimney holder
35 surrounding such upper perforated casing and having its bottom and sides closed excepting a portion of the side on a level with the burner tip, which portion is perforated.

In witness whereof I have hereunto set my
40 hand this 21st day of April, 1894.

SAMUEL P. ESSEX.

Witnesses:

JAMES N. HARMON,
WILLIAM Y. McNUTT.