

No. 782,303.

PATENTED FEB. 14, 1905.

W. J. WINCHEL & J. H. WHALEY.

STERILIZING APPARATUS.

APPLICATION FILED JAN. 8, 1904.

2 SHEETS—SHEET 1.

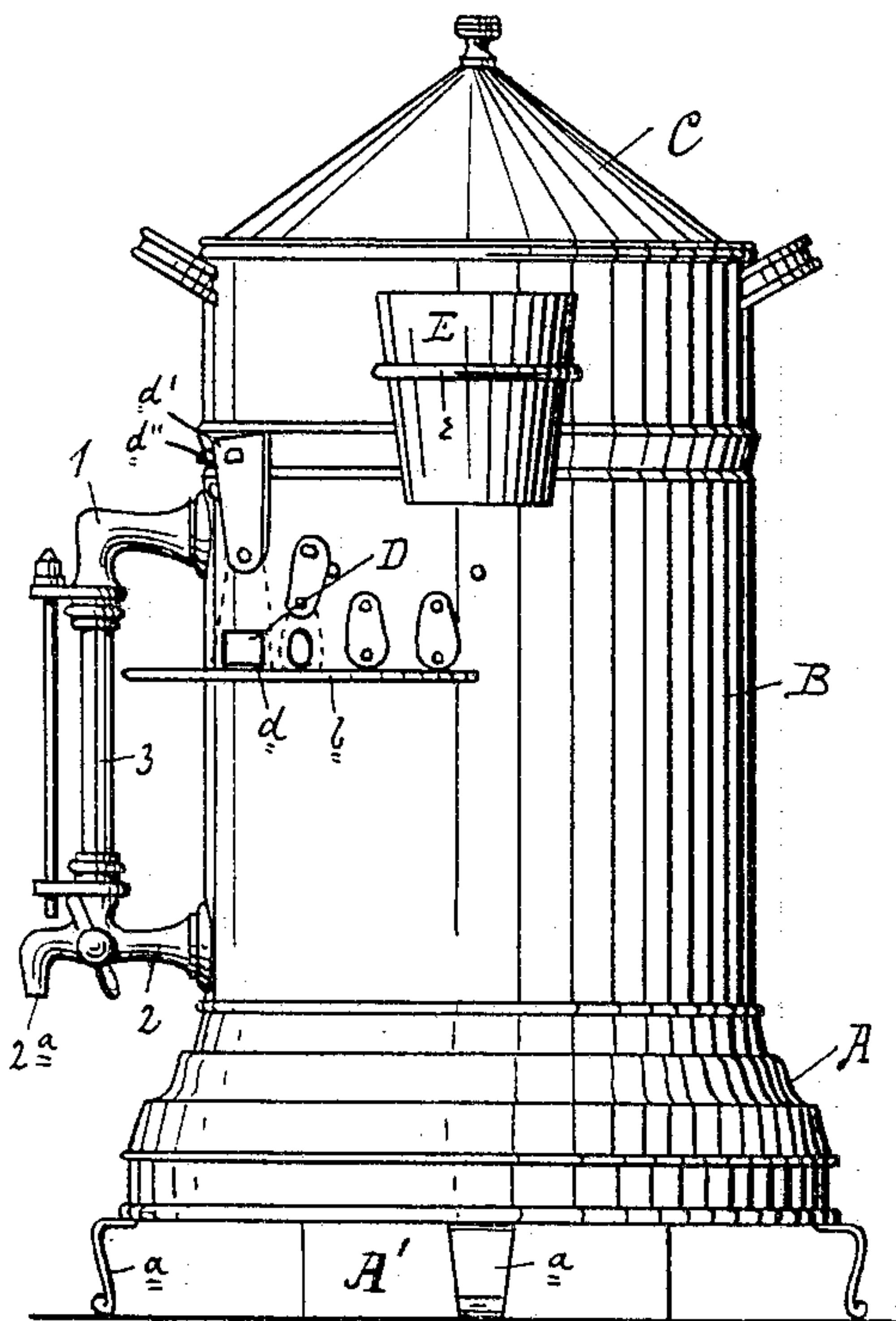


Fig. 1.

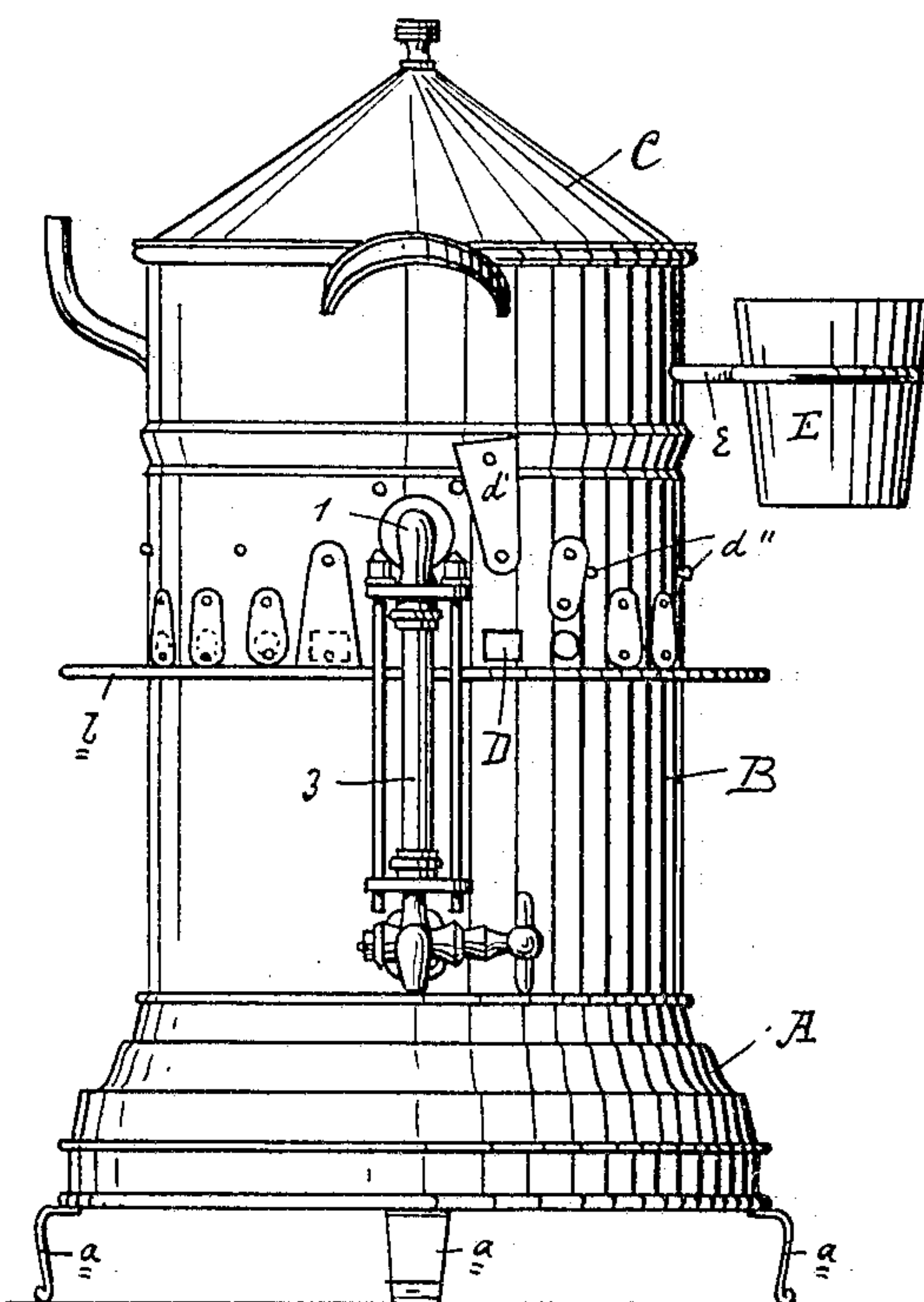


Fig. 2.

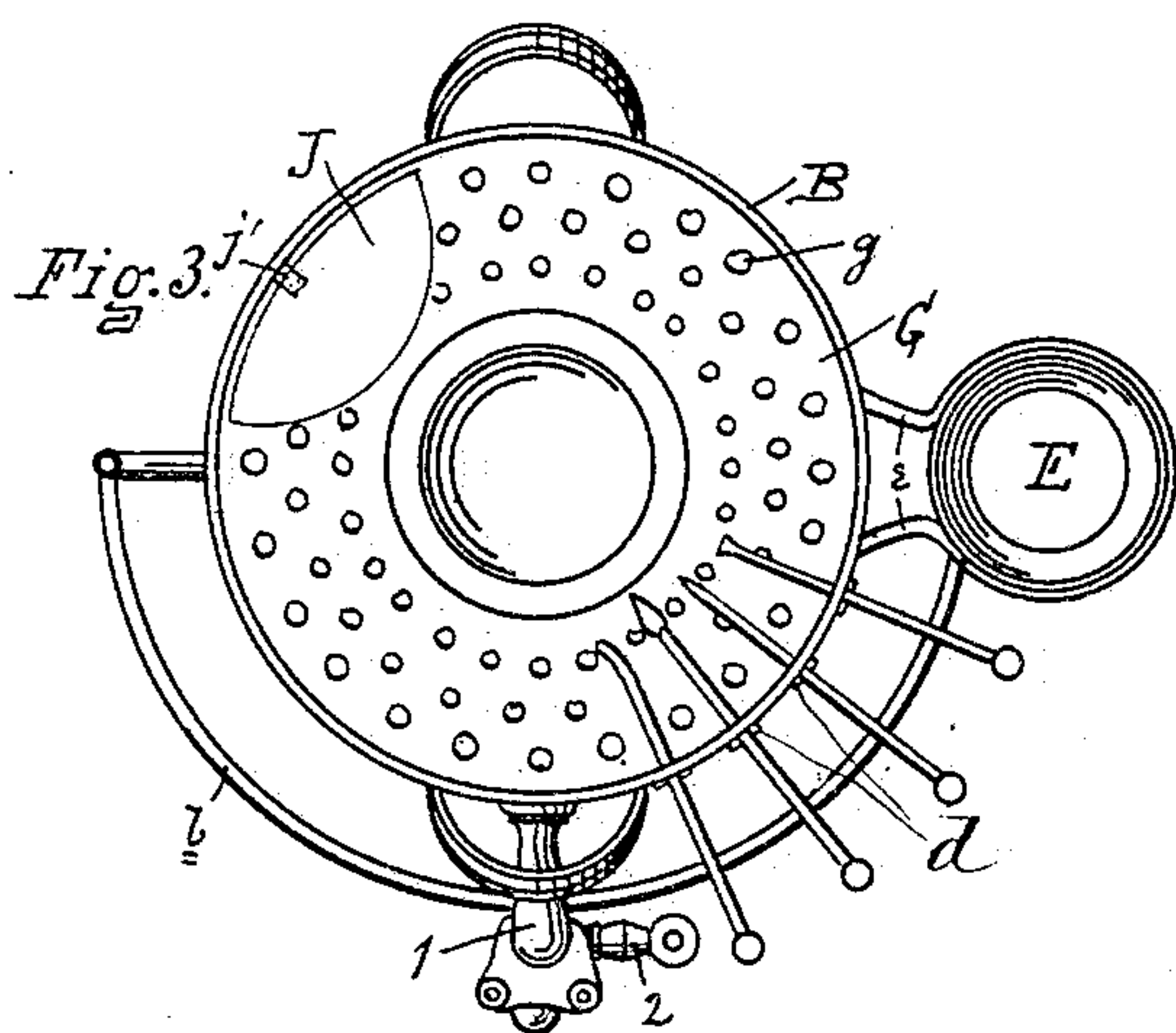


Fig. 3.

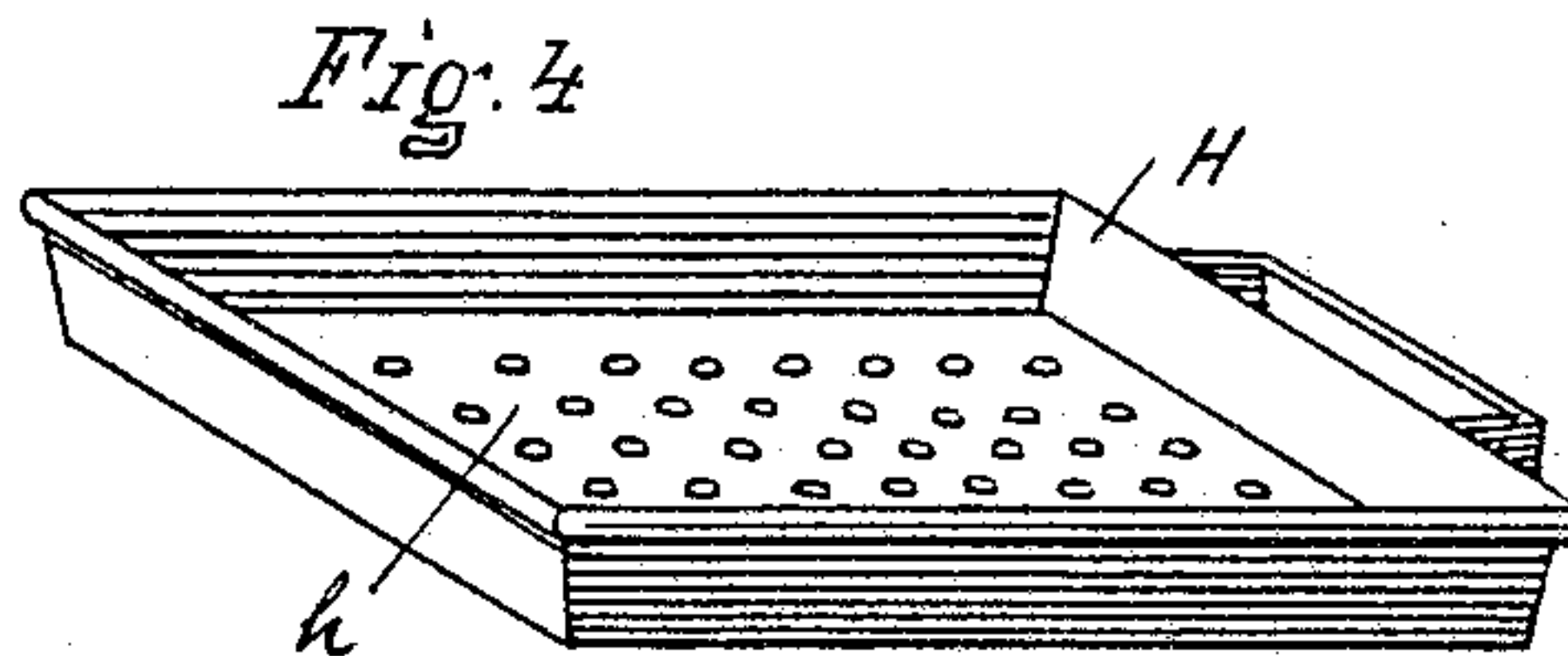


Fig. 4.

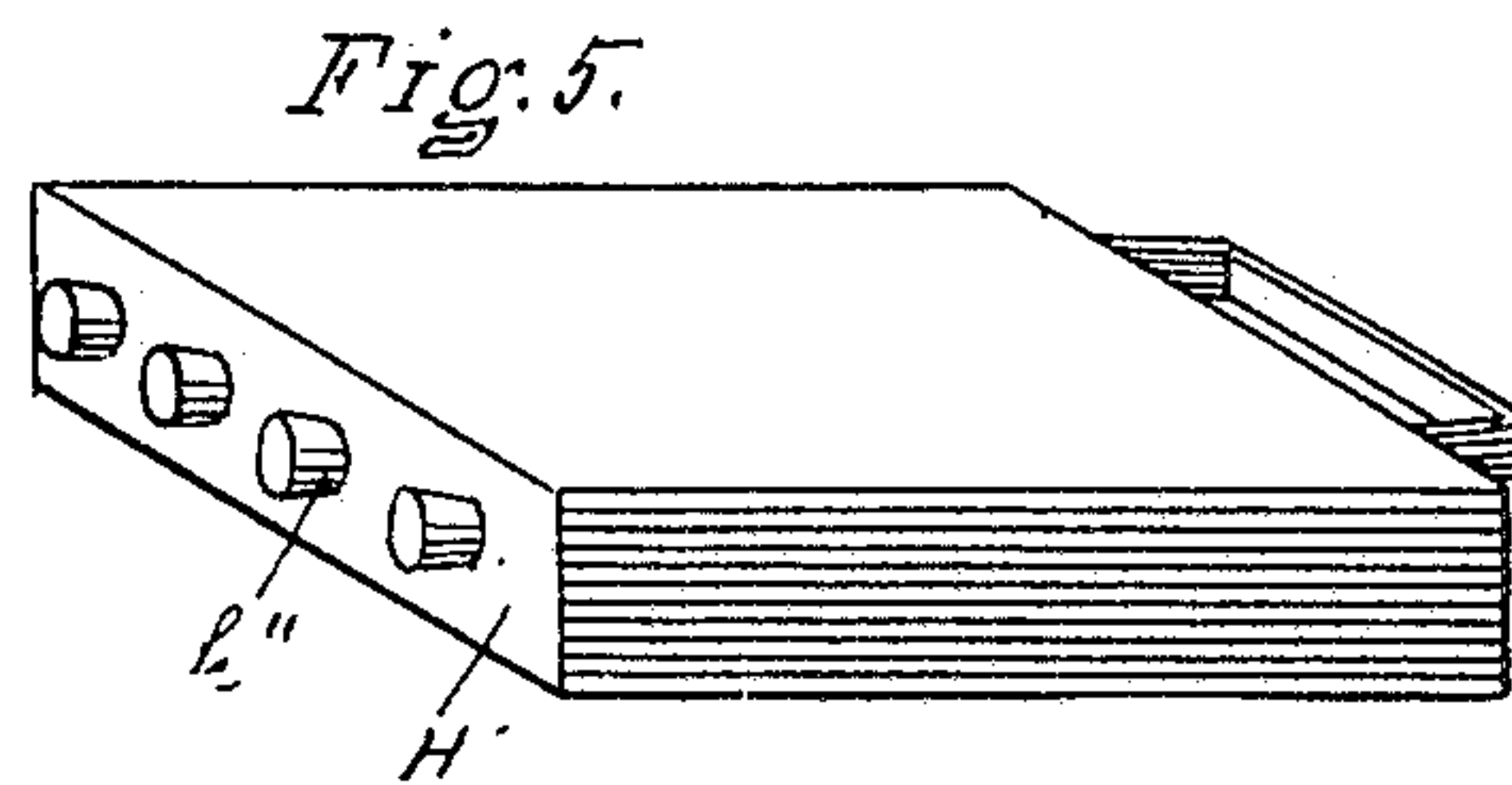


Fig. 5.

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2 SHEETS—SHEET 2.

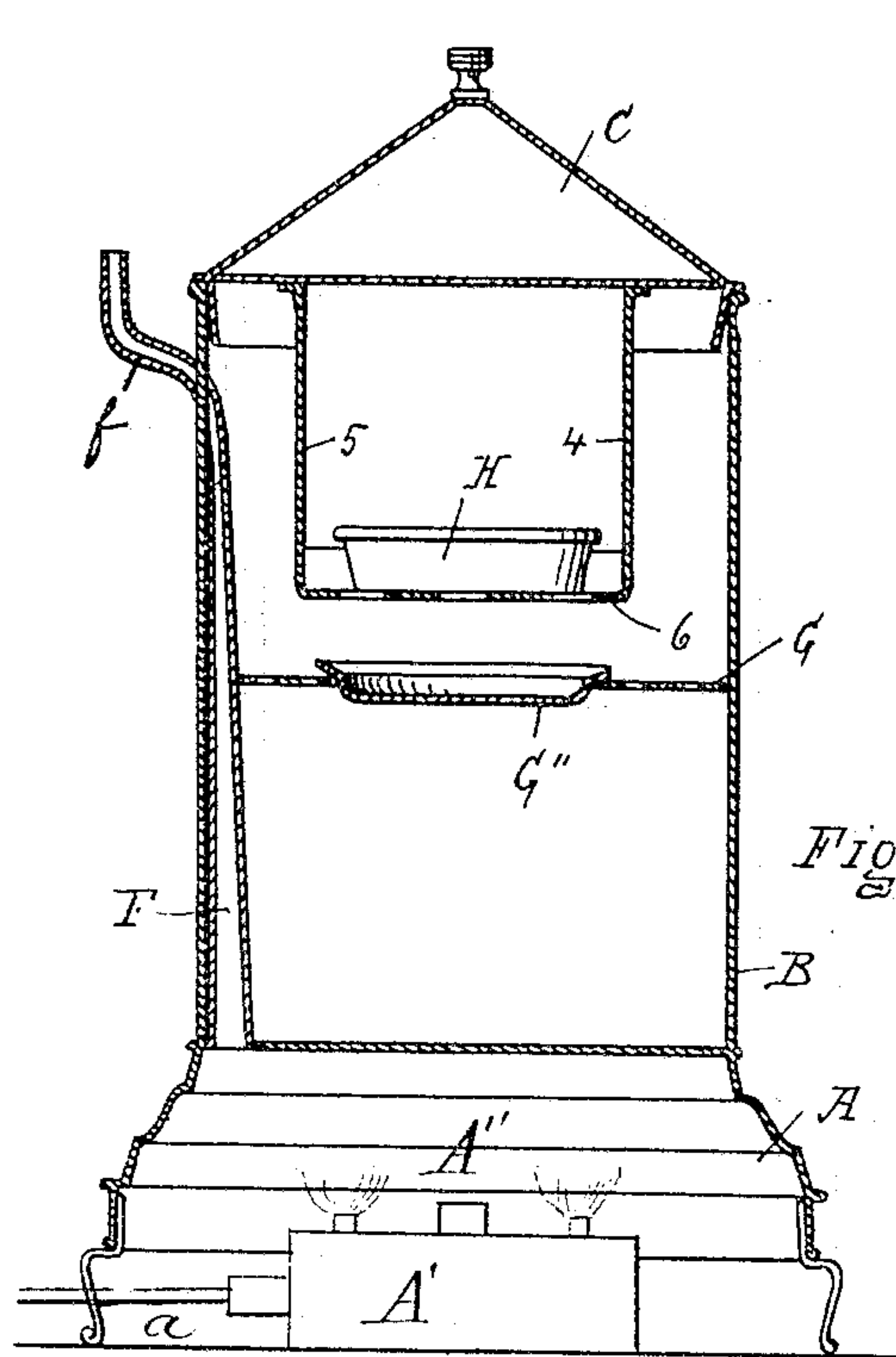


Fig. 6.

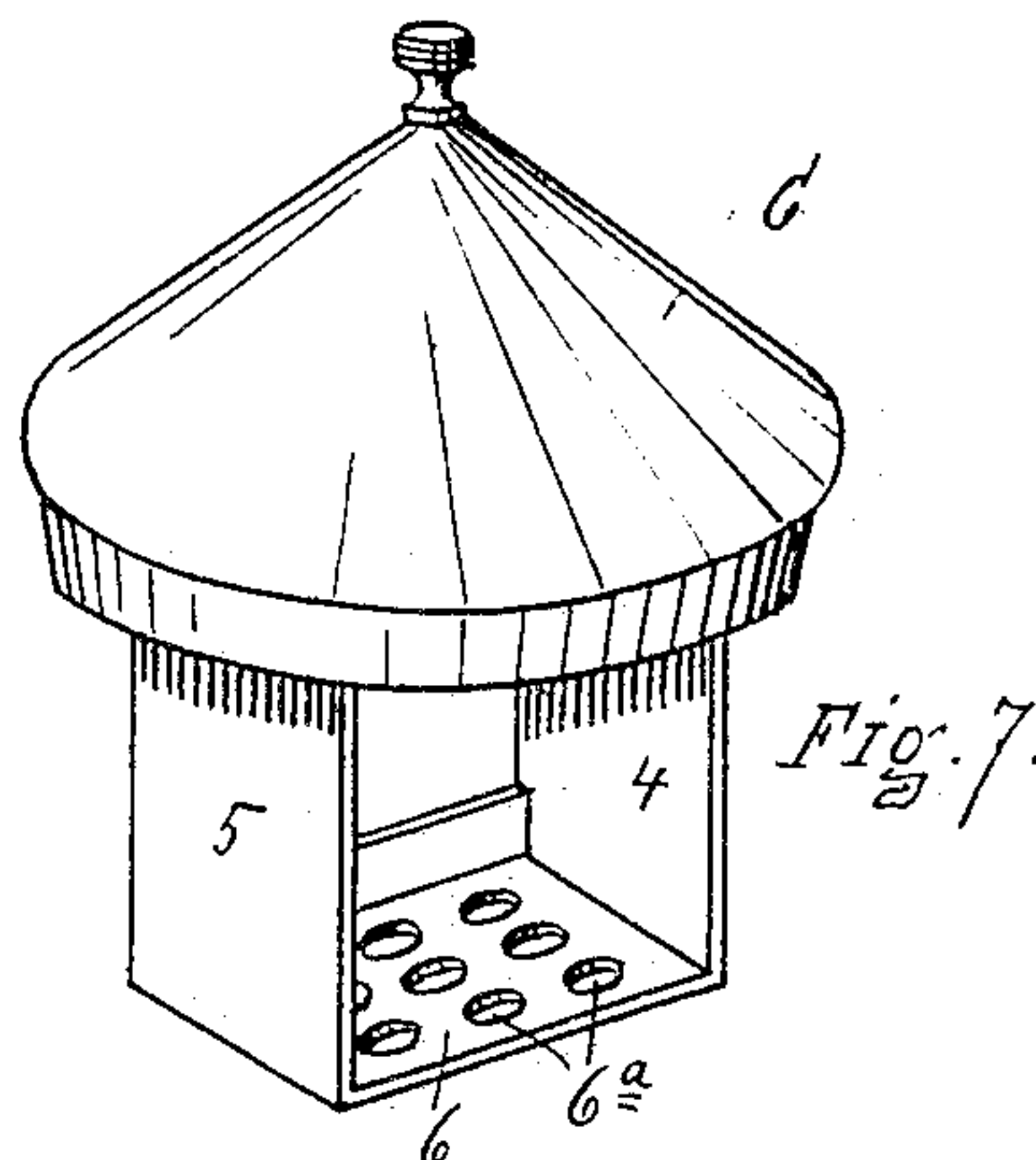


Fig. 7.

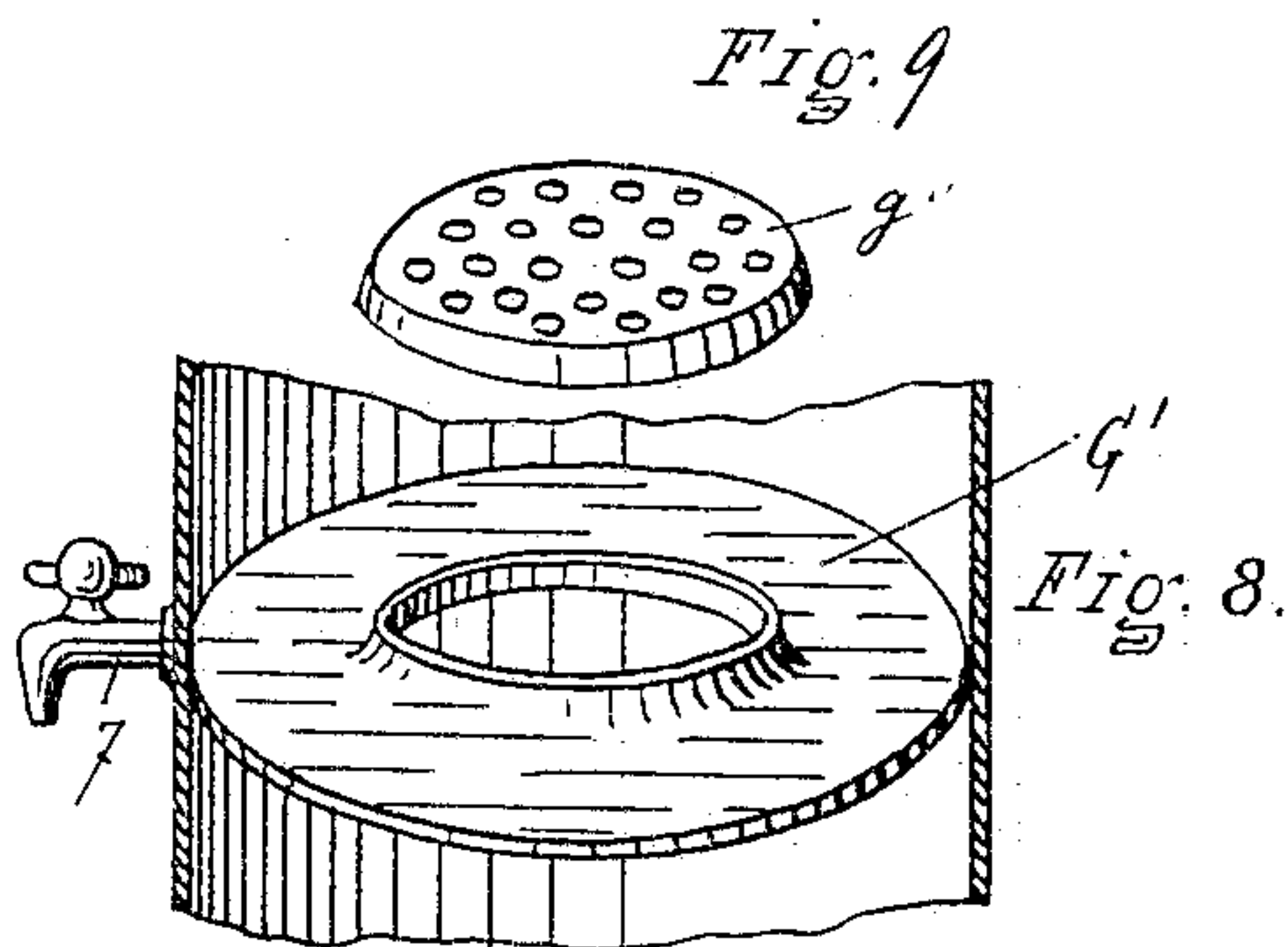


Fig. 8.

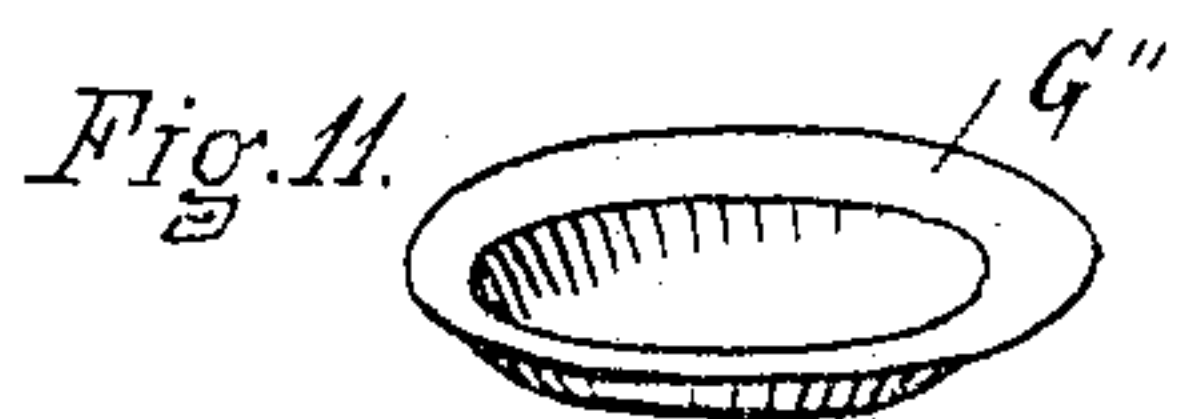


Fig. 11.

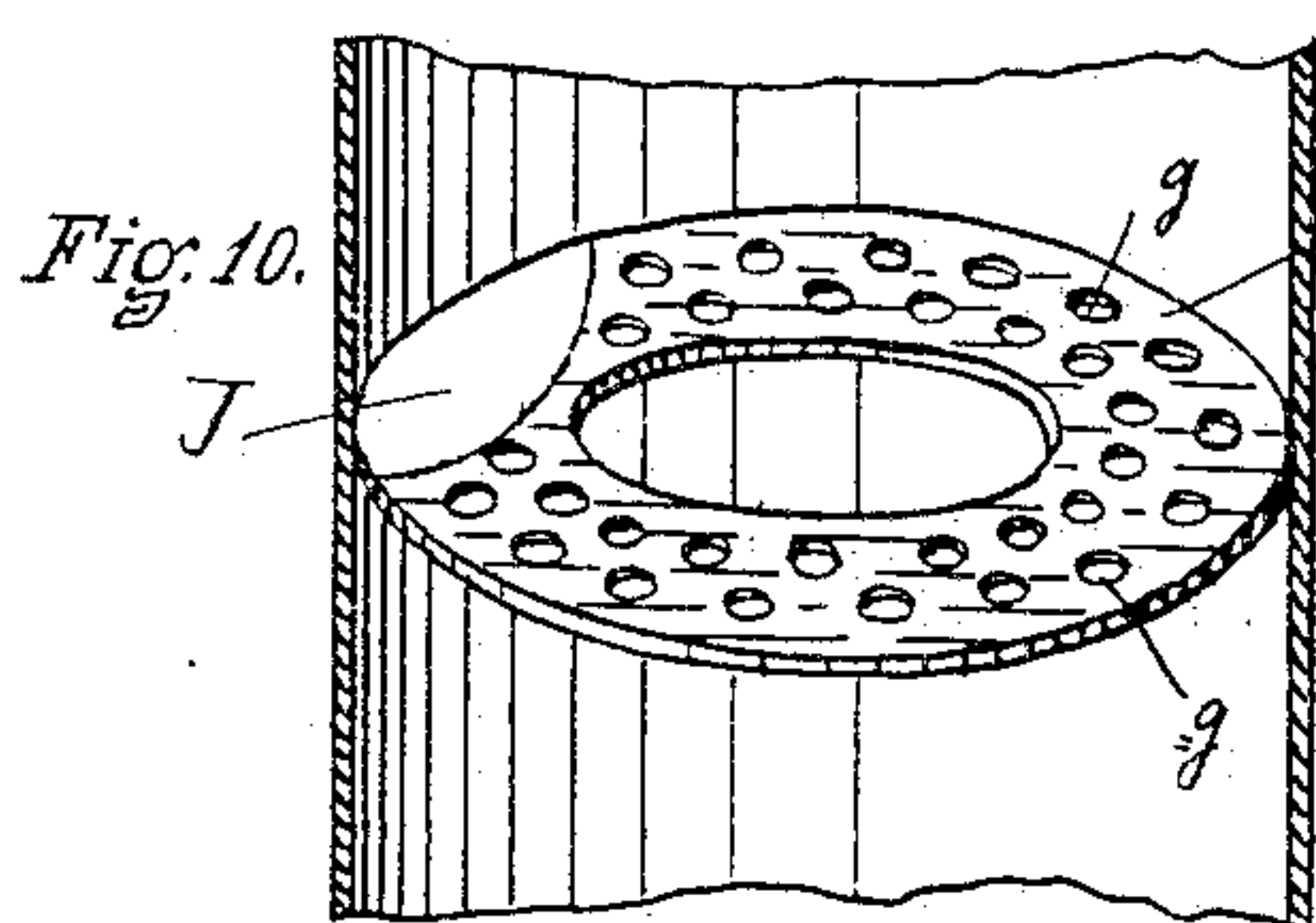


Fig. 10.

Fig. 12.

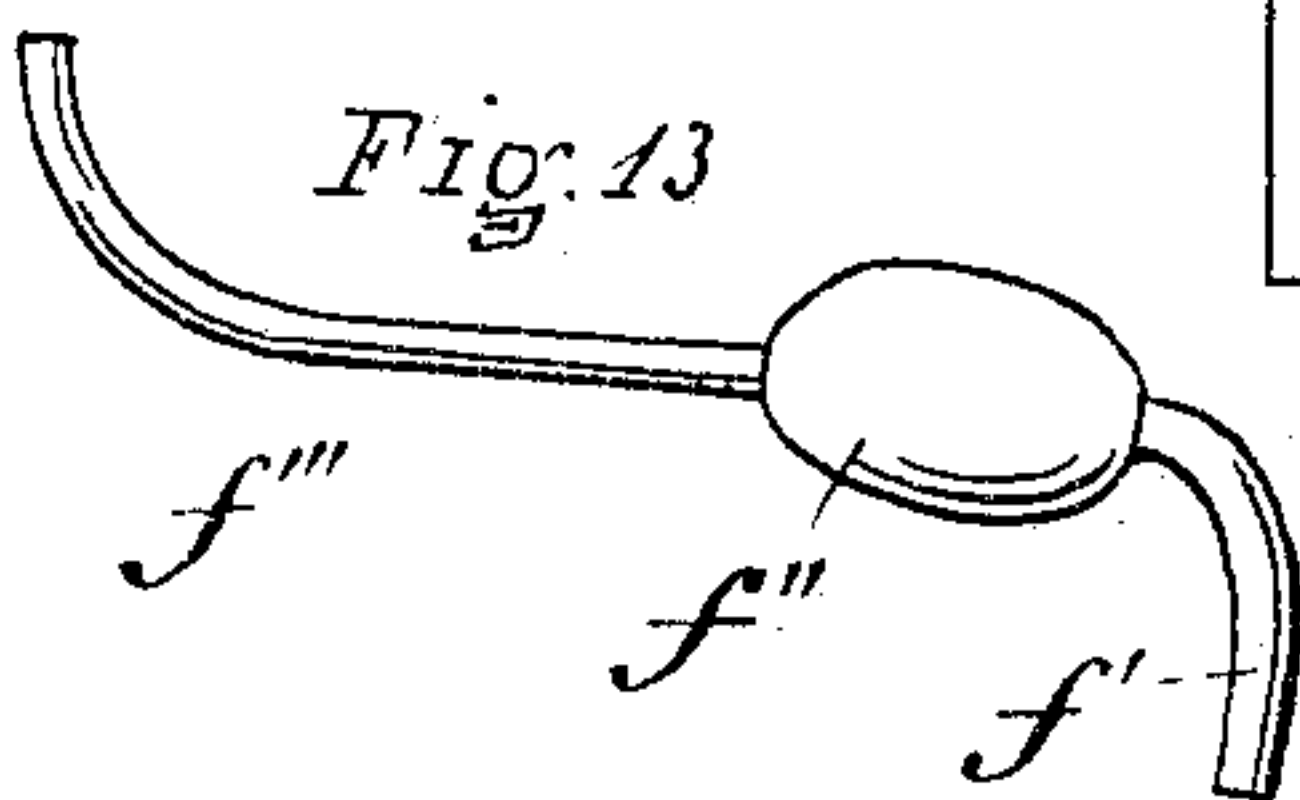
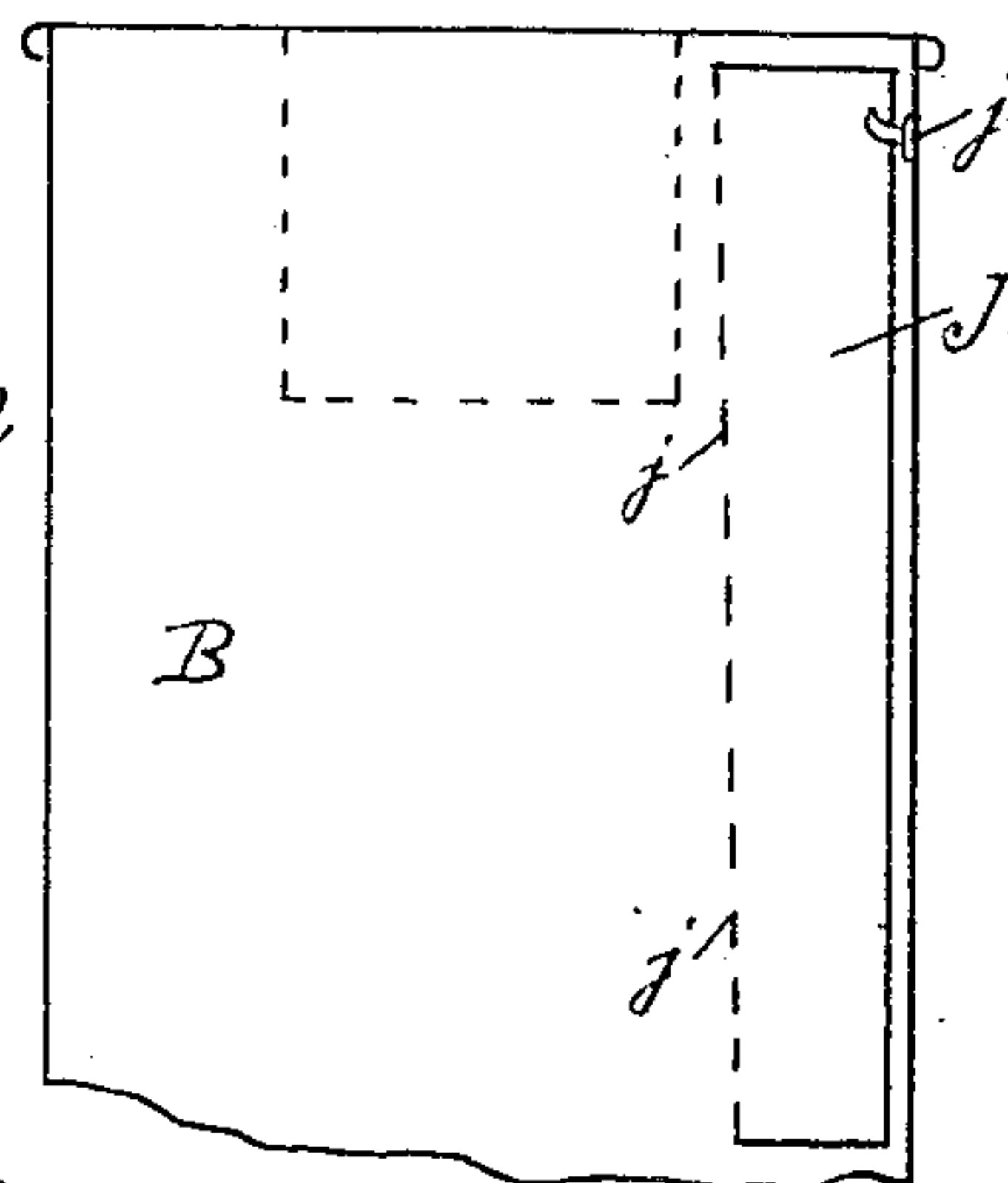


Fig. 13.

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# UNITED STATES PATENT OFFICE.

WILLIAM J. WINCHEL AND JAMES H. WHALEY, OF ROME, NEW YORK.

## STERILIZING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 782,303, dated February 14, 1905.

Application filed January 8, 1904. Serial No. 188,179.

*To all whom it may concern:*

Be it known that we, WILLIAM J. WINCHEL and JAMES H. WHALEY, citizens of the United States, residing at Rome, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Sterilizing Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to an improvement in sterilizing apparatus; and we declare that the following is a full, clear, concise, and exact description thereof, sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings, in which like letters and numerals refer to like parts throughout.

Heretofore Letters Patent were issued to Winchel and another under date of April 3, 1900, No. 646,481, relating particularly to a sterilizer for barbers' use. In the present application we illustrate a sterilizer particularly adapted for the use of dentists without, however, restricting ourselves to the particular forms and construction illustrated.

In the drawings, Figure 1 is a side view of the entire apparatus. Fig. 2 is a front view of the same. Fig. 3 is a top view with the cover removed. Figs. 4 and 5 are perspective views of the tray for holding certain implements. Fig. 6 is a section view from Fig. 2. Fig. 7 is a perspective view of the top and its depending structure. Figs. 8 and 9 illustrate a modified form of the diaphragm-plate, while Figs. 10 and 11 show the form disclosed in Fig. 3. Fig. 12 is a section view showing a receptacle for different instruments, and Fig. 13 illustrates a bulb and tube for use connected with the device.

Referring to the figures more in detail, A represents a base portion which is suitably supported on legs or standards *a*. B represents the body portion, and C represents the top. The base portion A is of course hollow, as shown in Fig. 6, and within which may be placed any suitable heating apparatus, such as a gas-burner or an oil-lamp, as required, and which we indicate in the first form by A' in that figure, with connection to any suitable

supply. We thus provide the hot-air chamber A' within the base A.

On the base A is seated the body portion B, which, briefly described, is a hollow cylinder. At one side is a gage made up of tubes 1 and 2, with a glass tube 3 supported therein and which serve the well-known purpose. The tube 4 extends to the outlet 2", which may be opened or closed by a suitable stop-cock, as is well understood. Horizontally around the periphery of the body we mount a rod or other supporting means *b*, which is devised and intended to support the tools when placed in the sterilizer.

D represents openings made in the side of the body in which the implements are to be inserted for sterilizing. These openings are provided with a lip *d*, which projects slightly from the surface of the body B, while *d'* represents swinging lids pivotally mounted to hang closely against the lips *d* when any opening is to be closed, and thus prevent the escape of steam. Small pins are provided, as shown at *d''*, to hold the lids in their upper position. The openings D are of suitable size and form to receive the shank of such instruments as may be inserted therein, there being a variety in the size and form of such openings. For sterilizing, as is plainly seen, the instruments are thrust into the openings, while the handles rest on the support *b*, and which is clearly seen in Fig. 3. At one side of the body is a water-cup E, supported in loop *e*, the purpose of which is to bring the tools to proper temperature after taking them from the sterilizer. On one side of the body is a tube F, which passes from the hot-air chamber A' beneath the body upward and protrudes from the body from its upper part, as shown at *f*. The purpose of this is to furnish heated dry air for well-known uses of dentistry and other requirements. To this outer end tubing *f'* of indefinite length may be connected by ordinary means and extended to a bulb *f''*, by which warm air may be directed by hand through tube or spout *f'''*. The bulb (shown in Fig. 13) is of well-known construction. If desired, however, the bulb *f''* may be given the size and form suitable for foot-pressure, the con-



struction and operation being familiar, so that the warm air may in either case be compressed and may be discharged at will by using any convenient finger-valve in the tube or spout  $f'''$ .

5 Transversely across the interior of the body B is seated an annular plate G, which is perforated, as shown at  $g$ , Figs. 3 and 10, so as to permit the steam to pass freely into the upper part of the apparatus, it being under-  
10 stood that the lower part is filled with water up to a point about half-way of the water-gage or slightly below the line of the rest  $b$ . In the opening of the annular collar or ring G is the dish  $G''$ , which collects the product of  
15 any drippings or condensation occurring in the upper part of the body and which may be readily removed for cleansing.

The cover C is provided with a depending rack suitably supported, as by side pieces 4  
20 and 5, and the bottom of which, 6, is perforated, as shown at  $6^a$ , for the free circulation of the steam. These parts may be made of any size or form desired. This depending structure extends into the upper part of the  
25 body, as clearly shown in Fig. 6.

We provide tray H with perforated bottom  $h$ , in which small tools may be laid to be sterilized, the tray being slipped onto the shelf 6 and the whole set into the upper part of the  
30 sterilizer by the putting on of the cover. When it is desired to remove any of these tools, the cover is taken out and the tray removed. Of course there may be several trays, so that certain instruments may be constantly  
35 ready for use. In Fig. 5 we illustrate a different structure of tray, which consists of a box  $H'$ , the openings of which,  $h''$ , may be readily and tightly sealed. The purpose of this is to sterilize certain instruments with-  
40 out subjecting them to the steam, but only to hot air.

In Figs. 8 and 9 we show a different structure of transverse plate, where shelf  $G'$  has a central opening but no annular perforations.  
45  $g''$  shows perforated disk or plate designed to rest over the central opening of the plate  $G'$ . When this form of plate and disk are used, the perforations  $6^a$  in the plate or bottom 6 should be omitted and the perforations be pro-  
50 vided in the sides 4 and 5. It is the purpose of such arrangement of perforated disk and upper shelf that the openings for the passage of steam shall not be above one another, it being desired that any dripping or condensa-  
55 tion may be prevented from passing again into the hot water in the lower part of the sterilizer. In Fig. 8 it is shown how these drippings may be drawn off in case such a structure is used, the stop-cock 7 being pro-  
60 vided for that purpose.

To provide for other and longer instruments, we supply a long receptacle J, which may extend from near the top of the sterilizer to  
about the bottom and which is shown as being

perforated on one side, as at  $j$ , although it 65 need not be perforated, of course, below the water-line. When it is extended such a vertical distance, of course the plate G will need to be cut away or opened to receive it, as indicated in Figs. 3 and 10. It is supported by  
70 the hook  $j'$  and can be readily removed by grasping the upper edge. It may be shaped, as indicated in Figs. 3 and 10, to conform to the inner surface of the body B and to leave  
75 room for the cover parts, it being constructed to lie between the latter and the wall of the body.

It will be understood that we do not limit ourselves to the particulars of construction and form illustrated and described, and the several  
80 parts and their arrangement and adjustment may be modified without departing from the spirit and scope of our invention.

Having described our invention, what we claim as new, and desire to secure by Letters  
85 Patent, is—

1. In a sterilizing apparatus, the combination of a water and steam receptacle, means of applying heat thereto, a cover therefor, a de-  
90 pending rack removable with the cover, a tray supported by the rack, a diaphragm mounted substantially transverse of the water and steam receptacle, the said diaphragm and rack being  
perforated to permit the free circulation of vapor, and means for collecting and removing  
95 the drippings from the rack, substantially as shown.

2. In a sterilizing apparatus, the combination of a water and steam receptacle, means of applying heat thereto, a cover therefor, a de-  
100 pending rack removable with the cover, a tray supported by the rack, and means for collecting and removing the drippings from the rack, substantially as shown.

3. In a sterilizing apparatus, the combination of a water-receptacle having a vapor-space therewith, means for applying heat  
105 thereto, a removable rack provided with perforations for permitting the free circulation of vapor therethrough, means for collecting and removing drippings therefrom, and an air-conduit extending from the space occupied by the heating means and means connected there-  
110 with provided for collecting, compressing and discharging the heated air, substantially as shown.

4. In a sterilizing apparatus, the combination of a water-tight receptacle, means for heating the contents thereof, a chamber connected with said receptacle for holding the  
120 heat-vapors, a series of openings of different size and form in the wall of the receptacle for receiving instruments to be sterilized, means for supporting such instruments therein and means for closely covering the said openings  
125 when not in use, substantially as shown.

5. In a sterilizing apparatus, the combination of a water-receptacle provided with a

vapor-chamber, a closely-sealable tray remov-  
ably supported in the vapor-chamber, means  
of applying heat to said receptacle, a tool-  
receptacle removably supported within the  
5 receptacle and suitably perforated for free  
access of the sterilizing means thereto, sub-  
stantially as shown.

In testimony whereof we affix our signatures  
in presence of two witnesses.

WILLIAM J. WINCHEL.  
JAMES H. WHALEY.

Witnesses:

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E. T. DE GIORGI.