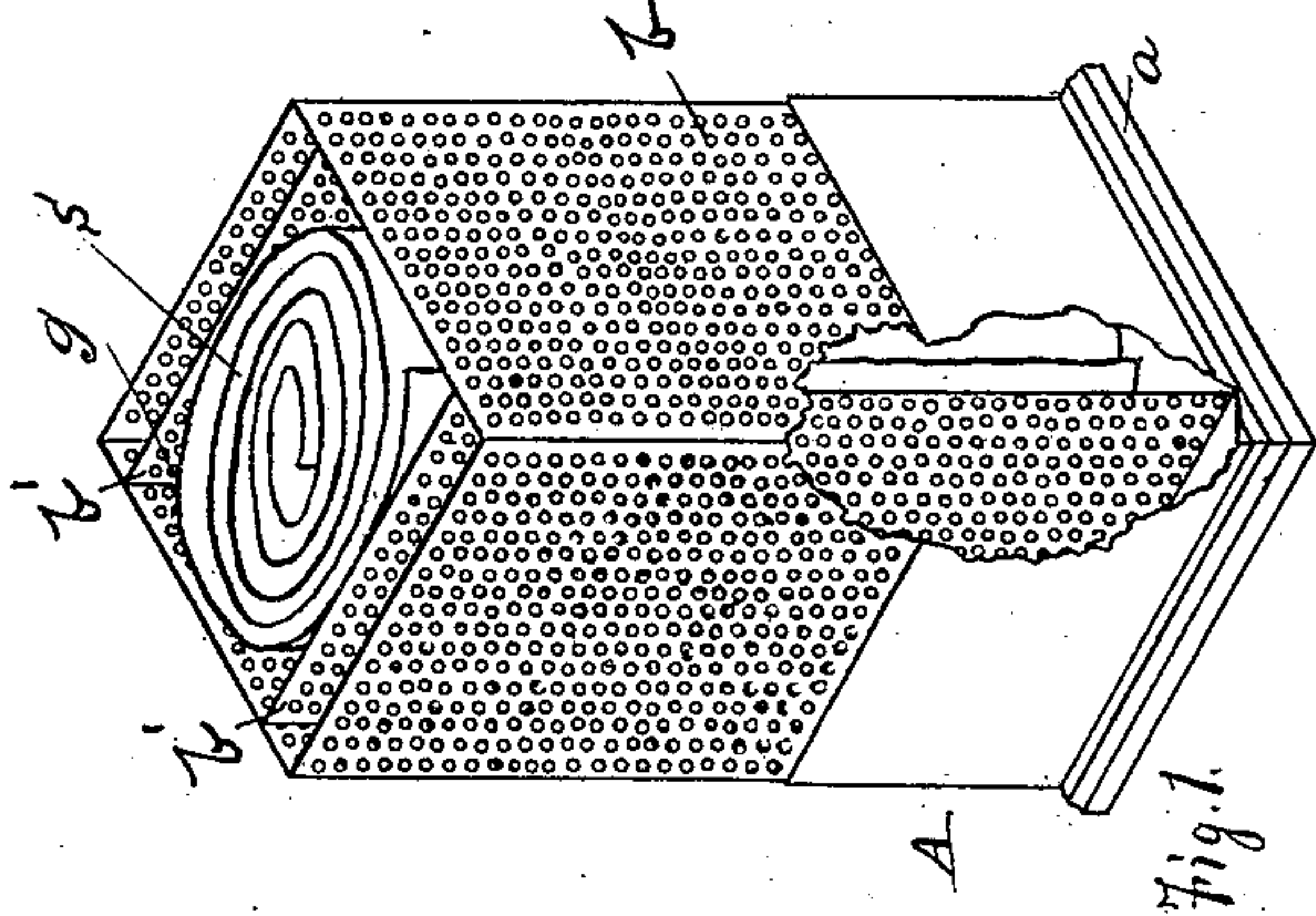
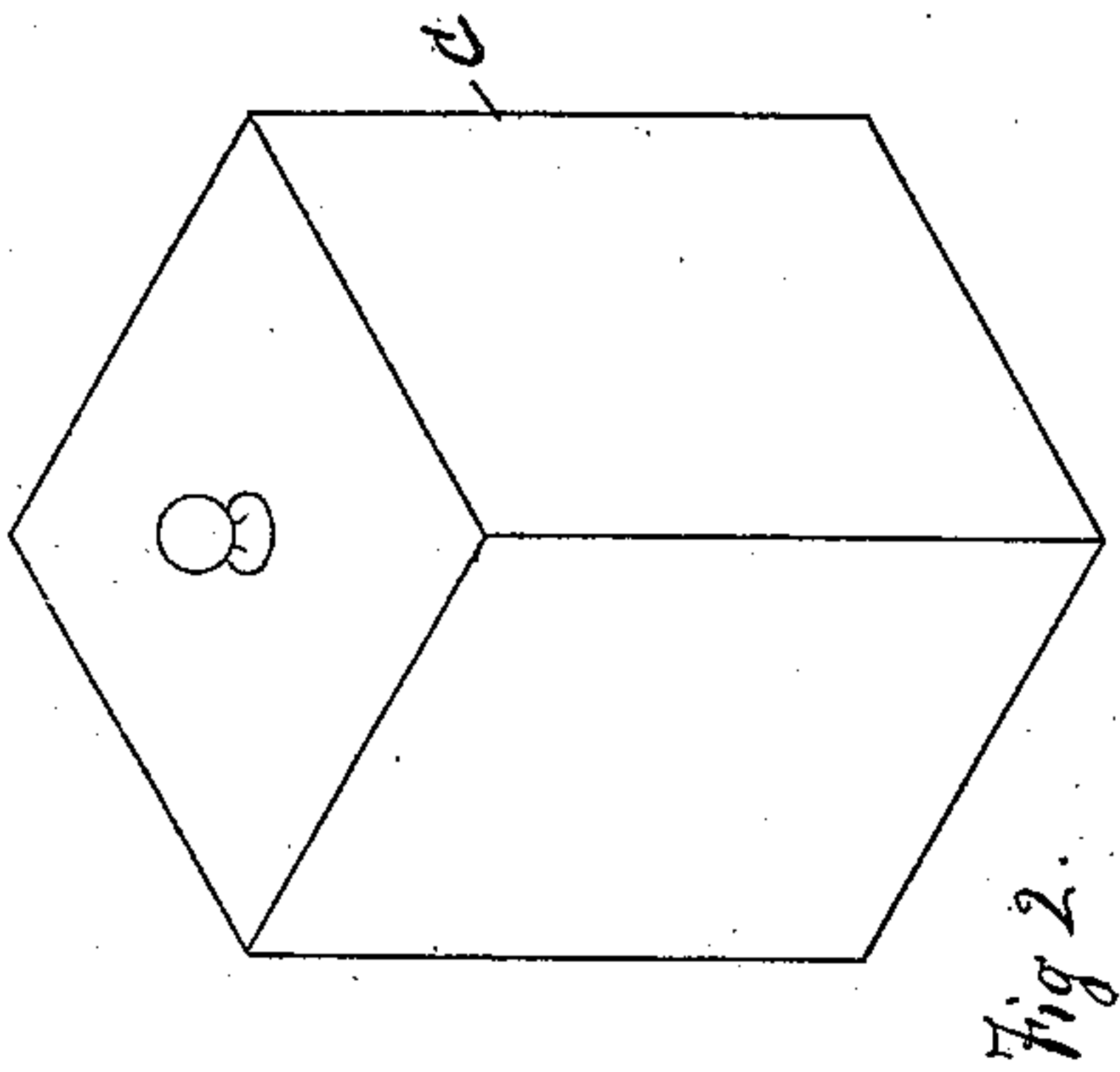
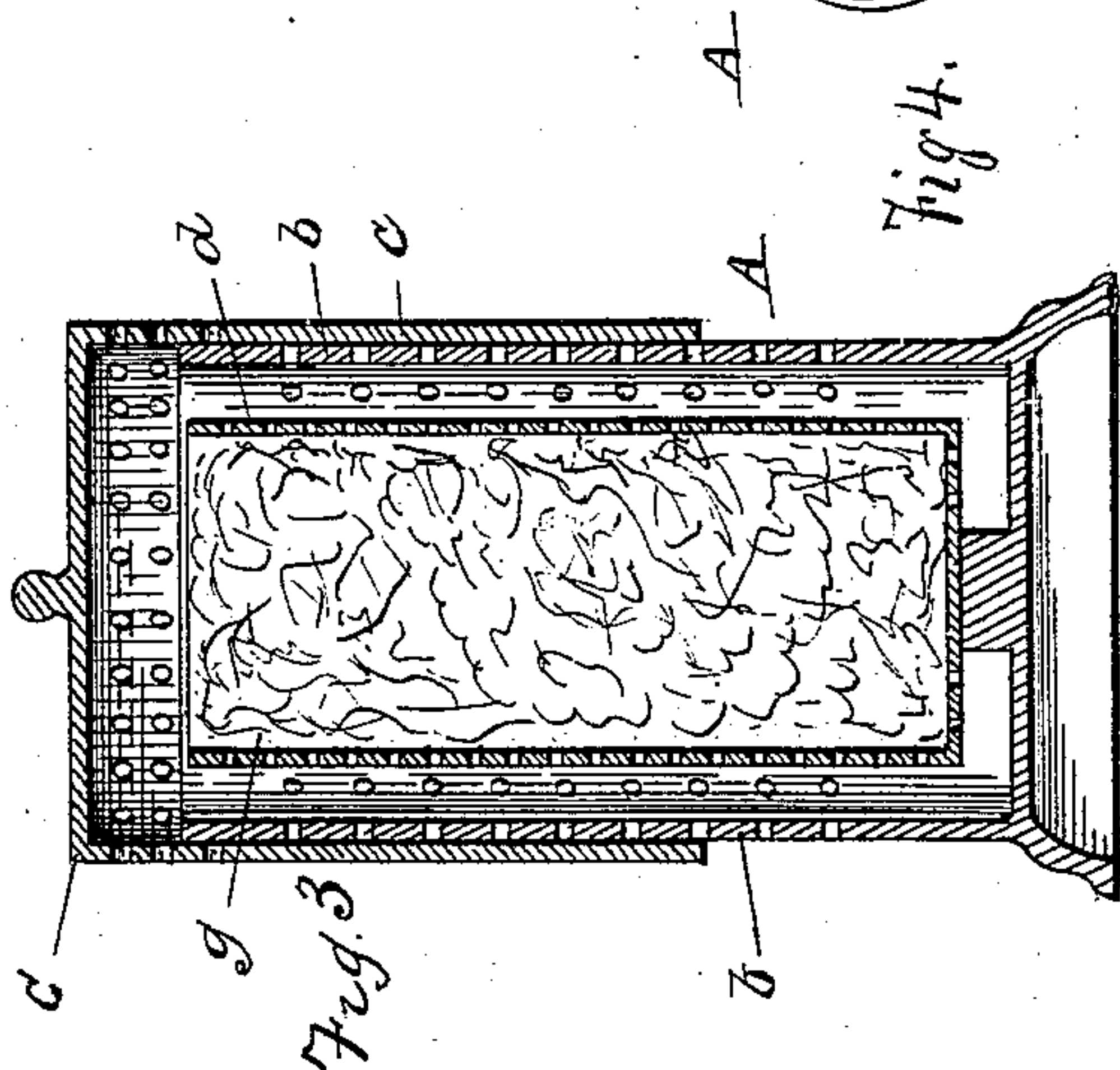
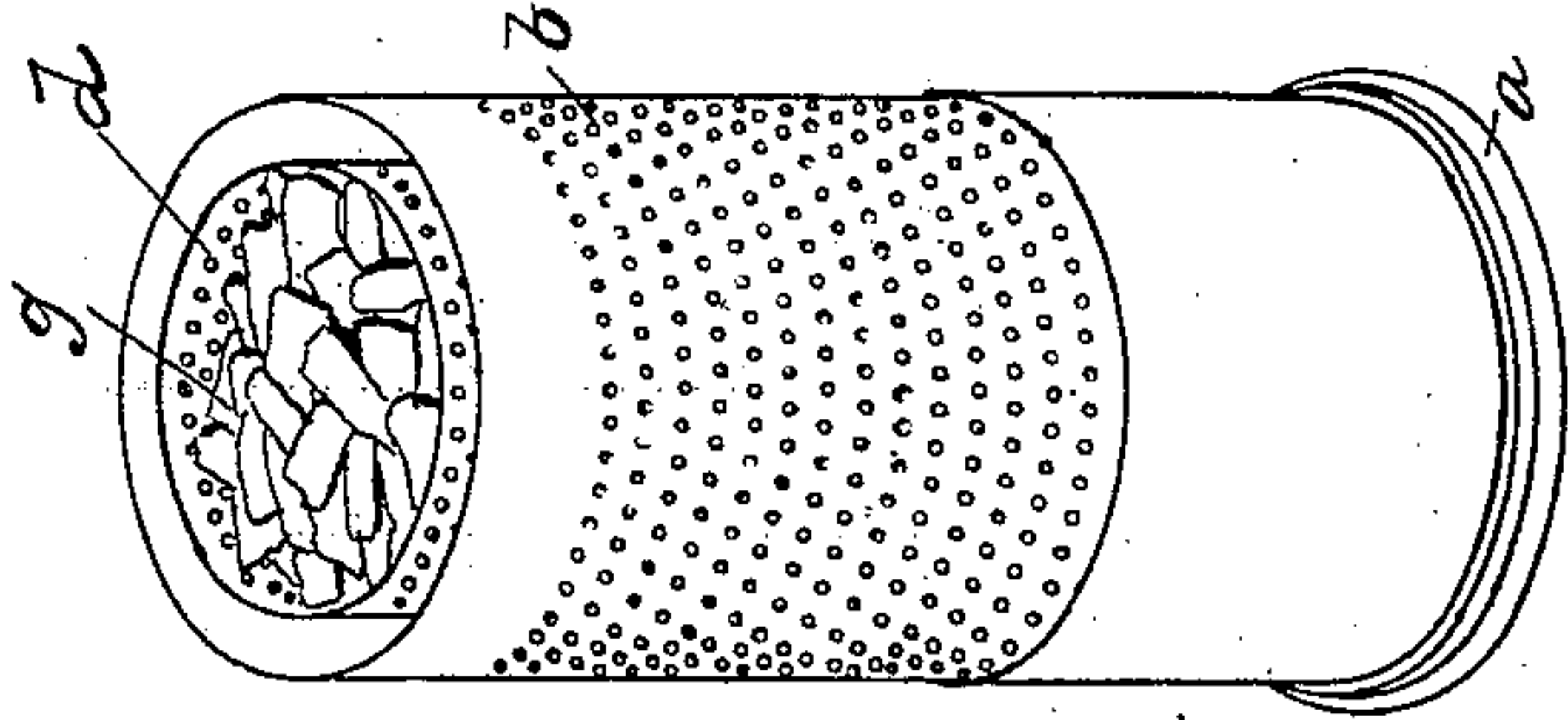
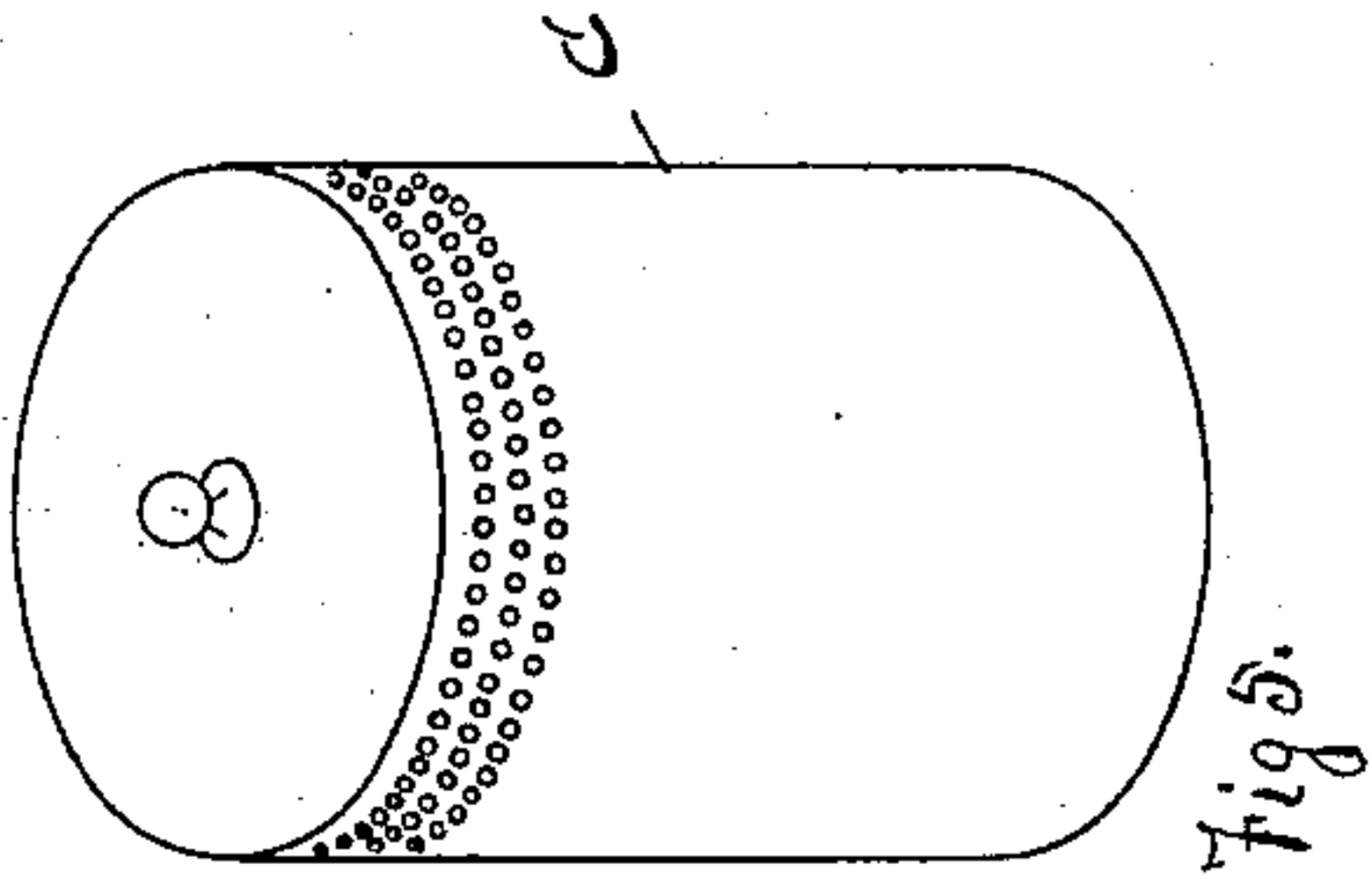


(No Model.)

G. M. SHERMAN.
VAPORIZER.

No. 444,319.

Patented Jan. 6, 1891.



Witnesses:

Francis W. Rice.
J. E. Chapman

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UNITED STATES PATENT OFFICE.

GARDNER M. SHERMAN, OF SPRINGFIELD, MASSACHUSETTS.

VAPORIZER.

SPECIFICATION forming part of Letters Patent No. 444,319, dated January 6, 1891.

Application filed April 23, 1890. Serial No. 349,189. (No model.)

To all whom it may concern:

Be it known that I, GARDNER M. SHERMAN, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Vaporizers, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

My invention relates to apparatus for holding a disinfecting or deodorizing material and for discharging the vapor arising therefrom into the atmosphere to purify the latter.

The object of the invention is to provide an apparatus for this purpose which can be manufactured very cheaply, which will be so constructed as to secure a large area of evaporating-surface for the disinfecting material, and which will be provided with means whereby the escape of the vapor can be accurately regulated.

To these ends my invention consists in the vaporizer constructed and operating substantially as hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings, in which like letters designate like parts in the several figures, Figure 1 is an isometric view of a vaporizer embodying my invention, the same being partly broken away to show the interior thereof, and the cover thereof being removed. Fig. 2 is a similar view of the cover or removable portion of said vaporizer. Figs. 3, 4, and 5 are sectional and perspective views illustrative of another form of the invention.

As will be seen on inspection of the various views of the drawings, the present improved vaporizer comprises a chambered body A, having a base or bottom *a* and the vertical wall *b*, or walls, according as to whether the said body is circular or rectangular, which wall or walls for a short distance above the base are imperforate, and above said imperforate-section thereof to or, as preferably constructed, only near to the top of the body said wall or walls are provided with perforations. There is within the chamber of said body another or divisional chamber *g*, with a space or spaces outside thereof and between the latter and the sides of the body A. In Fig. 2 the body is formed rectangular, and the internal chamber is constituted by the vertical walls *b' b'*,

which extend from the front to the rear sides of the body and are a short distance within the sides, which are angular to said front and rear sides, said walls forming two vertical chambers at opposite sides of said internal chamber *g*, while in Figs. 3 and 4 the chambered body A is shown as of cylindrical form, and the inner chamber is constituted by the smaller perforated or open-work cylinder *d*, supported within said body, there being between the circular walls of the inner and outer cylinders an annular space.

c designates a removable portion or cover having extended or pending sides, which are adapted to closely fit on and over the perforated portion of the body A and to overlies and closely cover the solid portion of the walls thereof, whereby said cover when forced downwardly sufficiently far will prevent the entrance of air to or the escape of vapors from the vaporizer.

Within the central chamber *g* is placed a medium which is to be impregnated by the disinfectant or deodorizing matter, said medium preferably consisting of paper, cloth, or other material of an absorbent nature, which may be rolled or otherwise disposed in desired form, either as represented at *s* in Fig. 1 or otherwise.

The imperforate portion of wall *b* at the bottom of the chambered body A forms a reservoir for the liquid, and the openings in the walls forming the said inner chamber permitting the liquid to have free access to the absorbent material therein contained the latter will be kept in a constantly-saturated condition by the capillary attraction as long as any substantial quantity of the liquid remains in the said reservoir. When thus charged, the vaporizer is ready for use, and is rendered operative by elevating the cover *c*, so that more or less space is left between the extremity of its sides and the solid portion of wall *b*. By so doing the air is permitted to circulate horizontally through the vaporizer by reason of the openings in wall *b* and partitions *b'*, thereby causing the vapor formed by the liquid to be discharged into the atmosphere, the amount of vapor so discharged being regulated by the height to which cover *c* is raised. The air-spaces upon either side of the

compartment holding the absorbent material not only greatly facilitate the process of evaporation of the liquid, but materially increase the discharging capacity of the apparatus, inasmuch as the horizontal circulation of air through the openings in the receptacle when cover *c* is raised creates a suction, which draws the vapor within said air-spaces toward said opening from the top and bottom of the receptacle.

The vaporizer is adapted under a construction substantially as set forth to be made very cheaply from tin or other suitable material, there being no valves or other parts requiring accurate and expensive machine-work, and yet the same beneficial results can be obtained therefrom as from the more expensive vaporizers heretofore employed. The use of the roll of flexible absorbent material also provides in a cheap and simple manner an evaporating surface of extended area and increases the disinfecting or deodorizing power of the apparatus.

In either form of the invention, if it be desired to secure an upward circulation of air through the vaporizer, the outer wall of the receptacle can be left solid for a short distance from the top thereof, as shown in Figs. 3 and 4, and the cover can be provided with openings or perforations at the upper end thereof, as shown in Figs. 3 and 5, said openings being so arranged that when the cover is in its lowest position they will be closed by the solid portion of the outer wall of the receptacle. By then raising the cover, so as to bring more or less of the openings therein above the top of the wall of the receptacle, a greater or less upward circulation of air can be secured, as may be desired and as will be

more clear on reference to the sectional view, Fig. 3.

I do not wish to limit myself to either of the forms in cross-section of the vaporizer herein shown and described, as it is obvious that other adaptations thereof can be made without departure from the spirit of my invention. Neither do I wish to limit myself to the use of the forms of the absorbent material herein shown, as any form of material capable of absorbing the disinfecting or deodorizing liquid and of discharging the same by evaporation can be employed.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A vaporizer comprising an outer case having its walls perforated for a portion of its length and provided with a cover whose walls are perforated for a short distance and adapted when closed to seal said chamber.

2. A vaporizer comprising an outer case having its walls perforated for a portion of its length, and an inner cage or receptacle supported a short distance from the base for holding an absorbent, and provided with a cover whose walls are perforated for a short distance and adapted when closed to seal said chamber.

3. A vaporizer consisting of an outer perforated case having vertical sides, an inner cage or receptacle, an absorbent contained within said cage, and a cover whose perforations are out of register with those of the outer chamber.

GARDNER M. SHERMAN.

Witnesses.

W. H. CHAPMAN,
J. E. CHAPMAN.