

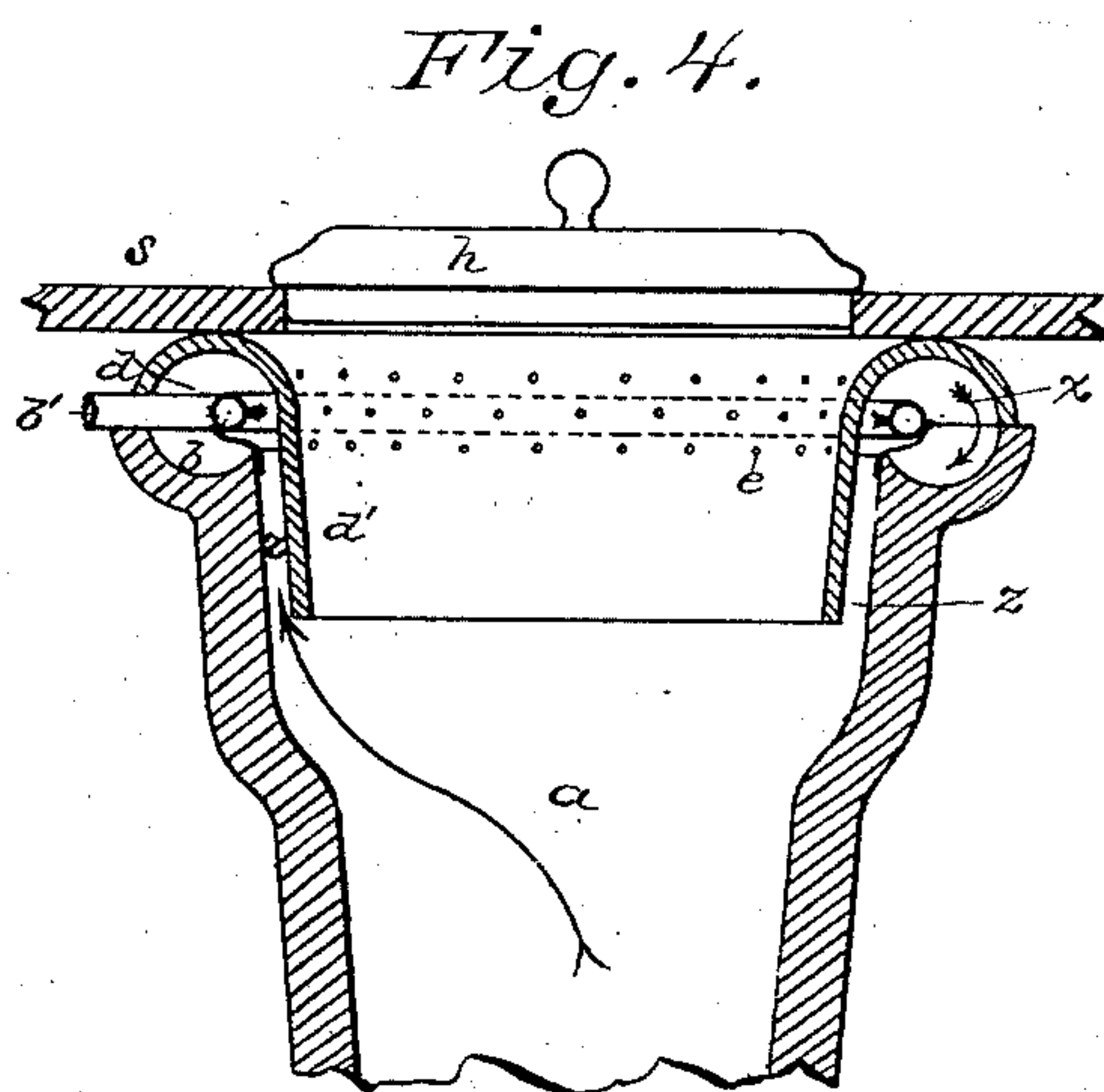
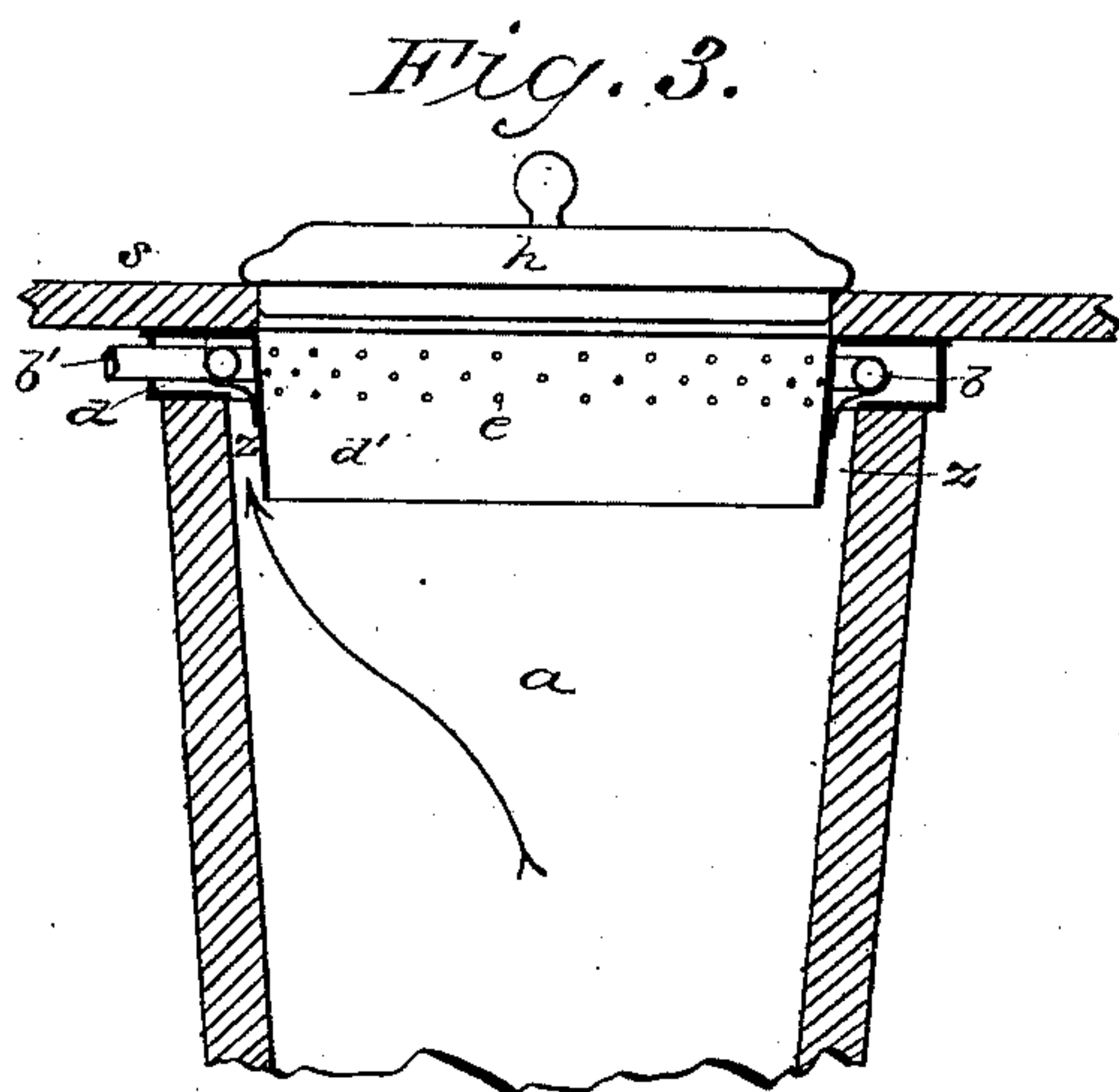
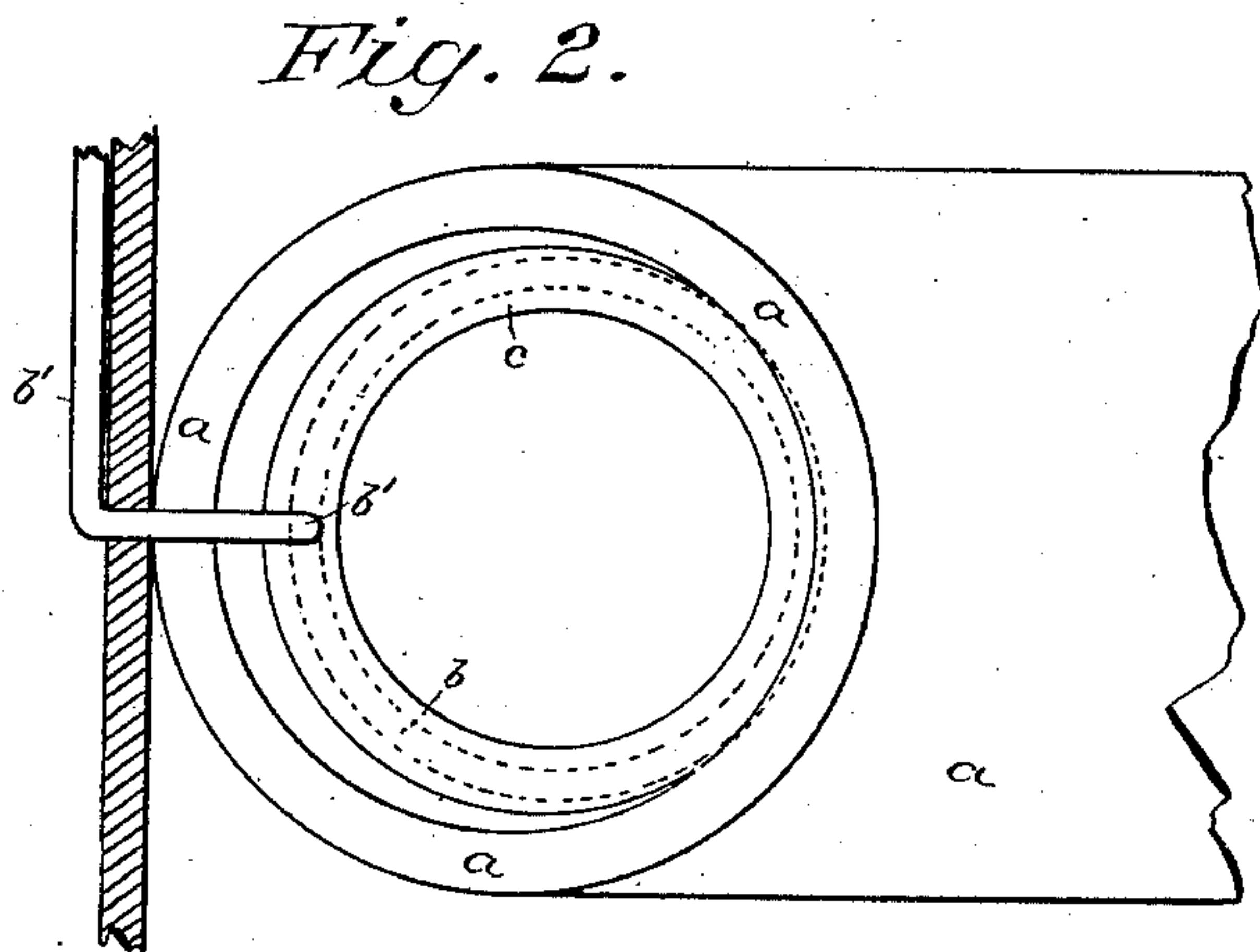
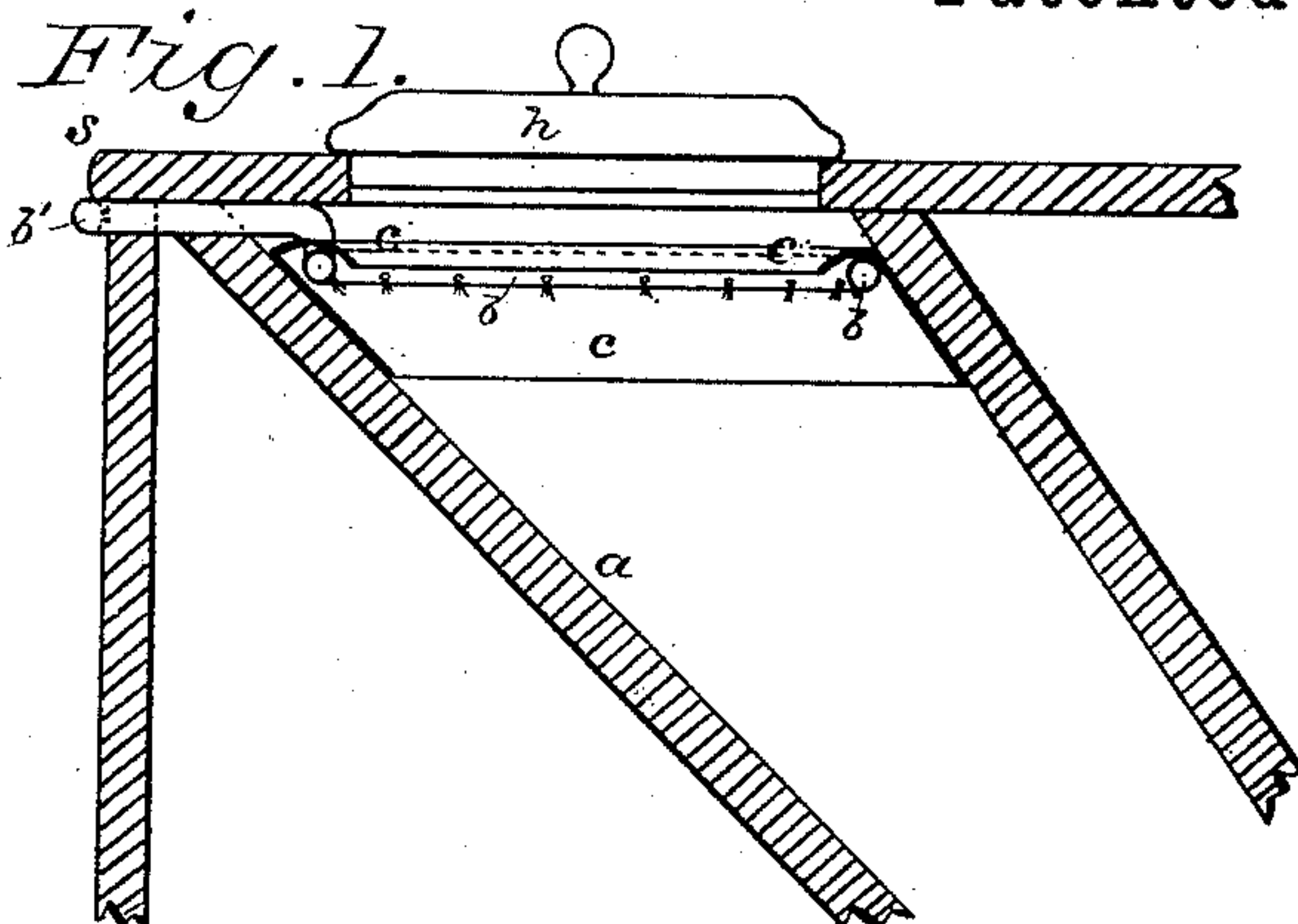
(No Model.)

L. GÜHRING & W. KÖHRER.

APPARATUS FOR WARMING AND DISINFECTING CLOSET TUBES.

No. 327,945.

Patented Oct. 6, 1885



Witnesses:
Delbert H. Decker

By their Attorney

Inventors.
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UNITED STATES PATENT OFFICE.

LUDWIG GÜHRING AND WILHELM KÖHRER, OF STUTTGART, WÜRTEMBERG, GERMANY.

APPARATUS FOR WARMING AND DISINFECTING CLOSET-TUBES.

SPECIFICATION forming part of Letters Patent No. 327,945, dated October 6, 1885.

Application filed March 31, 1885. Serial No. 160,852. (No model.)

To all whom it may concern:

Be it known that we, LUDWIG GÜHRING and WILHELM KÖHRER, both being citizens of Germany, residing at Stuttgart, in the Kingdom of Würtemberg in Germany, have jointly
5 invented a new and useful Apparatus for Warming and Disinfecting Closet-Tubes, of which the following is a specification.

This invention relates, primarily, to attachments for water-closets; but our warming and disinfecting apparatus is applicable to or may be embodied in other evacuation-receptacles in which a hopper or funnel or tube extends downward beneath a seat.

15 The primary object of our invention is to warm the said tube, or the air within it, at least in the winter, and therewith the seat to a greater or less extent, so as to keep the contents of the tube from freezing and to prevent the chilling effect heretofore connected with the use of such closets. Another object is, by the same means, to disinfect the vapors rising in such tubes, so as to render escaping gases innoxious.

25 Our invention consists, first, in the combination, with a closet-tube, of one or more gas-pipes extending around its passage-way immediately below the seat, and supplied with illuminating-gas or other inflammable fluid under suitable control, pierced for jets of flame and guarded by a suitable shield, and, secondly, in constructing said shield with a short inner tube forming the inner wall of an annular chamber, and perforating it opposite the jet-apertures for the escape of warm
35 air and radiation from the flames, disinfection being more effectually accomplished within such chamber, as hereinafter more fully set forth and claimed.

40 A sheet of drawings accompanies this specification as part thereof.

Figure 1 of these drawings represents a vertical section of a closet-tube provided with a warming and disinfecting apparatus according to this invention. Fig. 2 is a plan view of the same with the seat-board removed. Fig. 3 represents a vertical section of another closet-tube provided with a preferred species of our said apparatus, and Fig. 4 represents
45 a vertical section of another closet-tube provided with warming and disinfecting apparatus

illustrating another modification of the same invention.

Like letters of reference indicate corresponding parts in the several figures.

55 In each form of our said apparatus the closet-tube *a* is provided with a jet-ring, *b*, of gas-pipe, having a supply-pipe, *b'*, attached, and with an annular shield, *c* or *d*, guarding said jet-ring, the whole being located close beneath the seat *s* and around the passage-way of the tube, with the interior of said shield in communication with said passage-way, so that the vapors rising in the tube have access to the flames, to be dried and disinfected by the
60 latter.

In the apparatus represented by Figs. 1 and 2 it is necessary to this operation that the seat-hole be kept tightly closed while not in use, as by a hole-cover, *h*, the air and vapors or gases within the tube circulating under the influence of the flames, when so confined, so as to insure the contact of the purifying-flames with every part thereof.

The preferred shield, *d*, (represented in Fig. 3, and of a modified make in Fig. 4,) forms a relatively close annular chamber, within which the vapors may circulate around the jet-ring *b*, as represented by an arrow at *x* in Fig. 4, so as to work uninterruptedly. The main portion of this shield which forms said chamber is located at the upper end of the closet-tube *a*, while its inner wall is formed by a short tube, *d'*, which depends within the closet-tube, an annular space, *z*, being formed around the same as the inlet to the shield-chamber, while its upper part, opposite the flames, is provided with small escape-holes *e*, through which heated air escapes from said shield-chamber, together with direct radiation
80 from the flames.

Said shield *c*, Figs. 1 and 2, would be made of sheet metal. In the form represented in Fig. 3 said shield *d* would be made of sheet metal or cast-iron. In the form represented in Fig. 4 it would be made of cast-iron or earthenware, being formed in part by the upper end of the closet-tube, as clearly shown in the figure.

We are aware that heretofore an annular gas-pipe pierced for jets of flame has been combined with a closet, so that the soil may
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be dried up or burned by heat, and that an annular hot-water pipe has been arranged around the pan of a closet, below its bowl, to prevent freezing. The latter has no disinfecting effect, and the former operates on a different principle from that of ours. The flames in our apparatus come in contact with the air or gases alone, and in locating them for effective action on the air or gases they are rendered effective for heating the seat of the closet as well as the tube.

Having thus described our said apparatus for heating and disinfecting closet-tubes, we claim as our invention and desire to patent under this specification—

1. The combination, with a closet-tube, of a gas-pipe extending around its passage-way immediately below the seat and pierced for jets of flame, a supply-pipe connected therewith, and an annular shield guarding the jet-ring, substantially as herein specified.

2. The combination, with a closet-tube, of a gas-pipe extending around its passage-way and pierced for jets of flame, a supply-pipe connected therewith, and an annular shield inclosing and guarding the jet-ring, and constructed with an inner wall in the form of a short tube provided with escape-holes opposite the jet-holes, the inlet to the shield-chamber being formed around said inner wall, substantially as herein specified.

In testimony whereof we hereunto sign our names, in the presence of two subscribing witnesses, this 24th day of February, 1885.

LUDWIG GÜHRING.
WILHELM KÖHRER.

Witnesses:

EDUARD RETTIG,
W. KÖHRER.