

No. 615,858.

Patented Dec. 13, 1898.

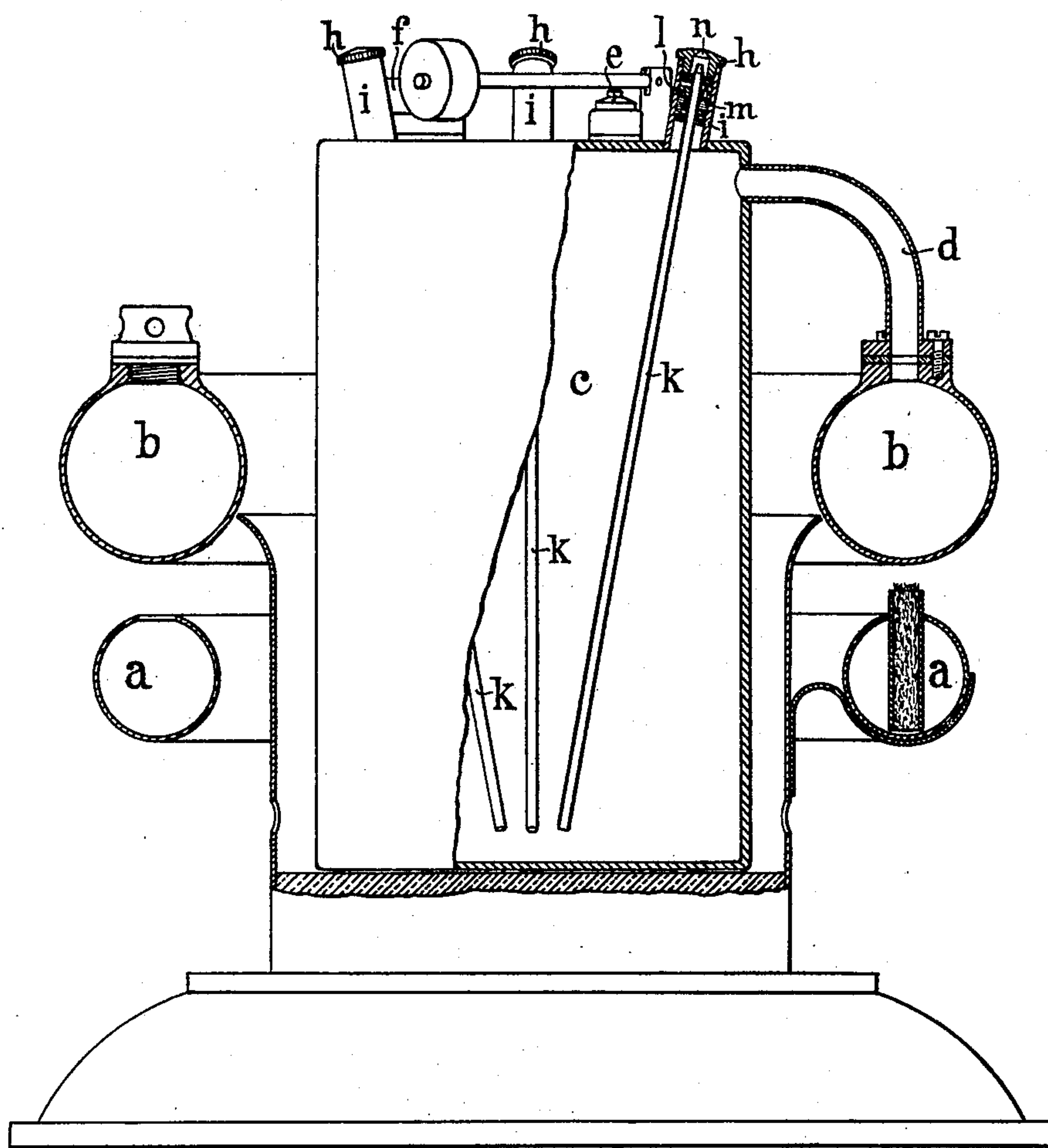
P. KIRSCHEN.
DISINFECTING APPARATUS.

(Application filed Aug. 6, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses:-
M. E. Fletcher.
Edward Vieser.

Inventor:-
Paul Kirschen
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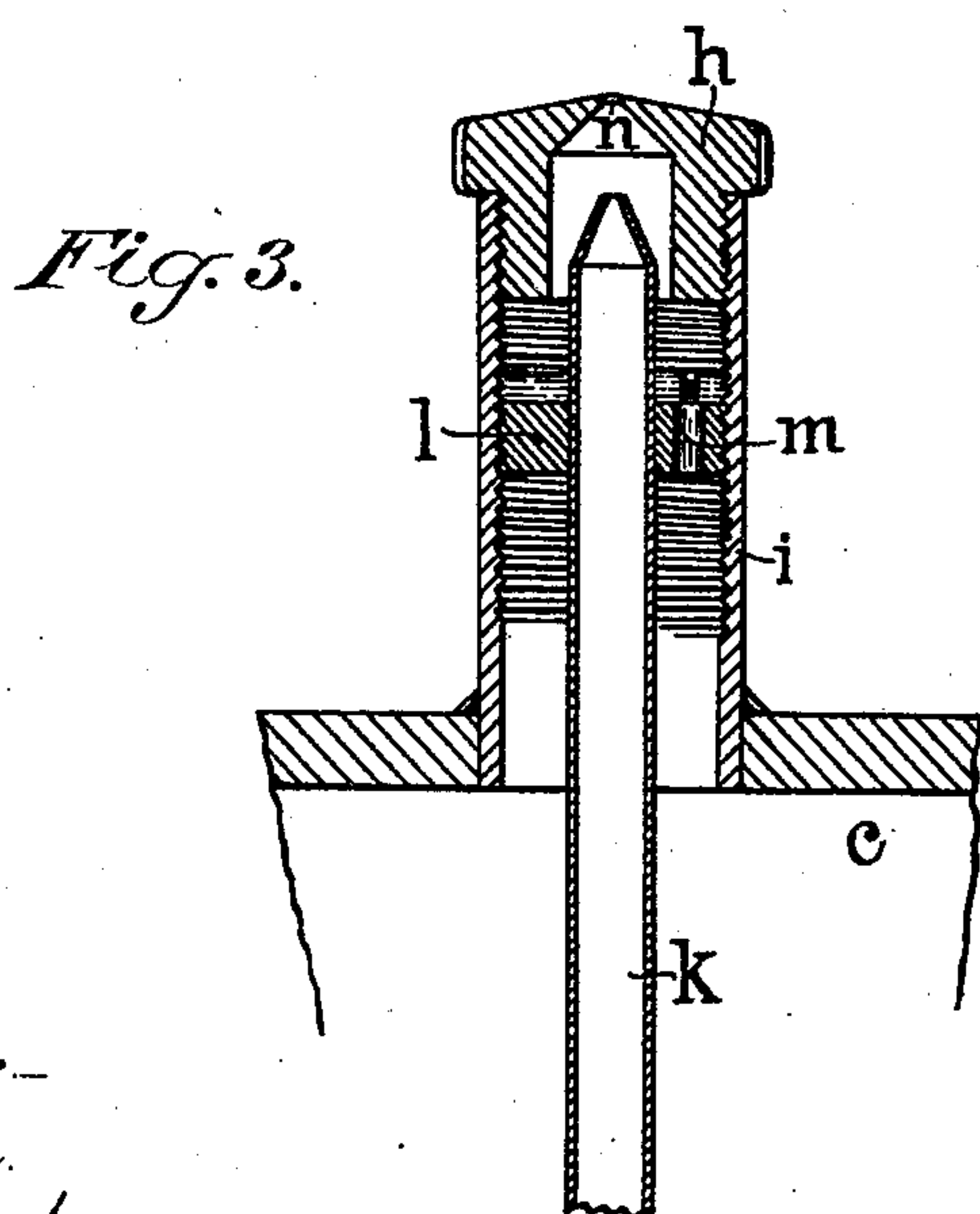
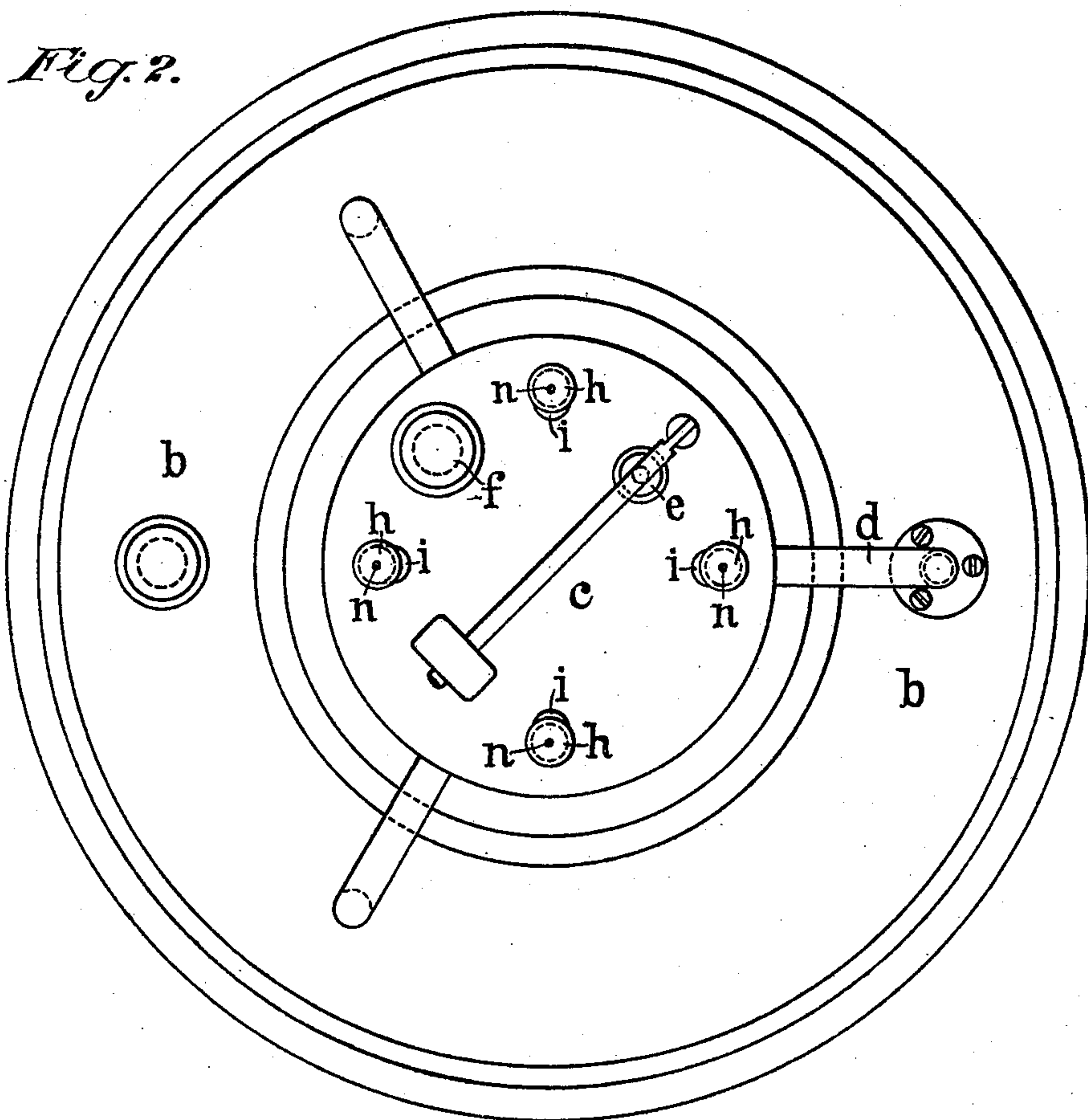
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

PAUL KIRSCHEN, OF DRESDEN, GERMANY, ASSIGNOR TO KARL AUGUST LINGNER, OF SAME PLACE.

DISINFECTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 615,858, dated December 13, 1898.

Application filed August 6, 1898. Serial No. 687,944. (No model.)

To all whom it may concern:

Be it known that I, PAUL KIRSCHEN, a subject of the King of Saxony, and a resident of Dresden, Kingdom of Saxony, German Empire, have invented new and useful Improvements in Apparatus for Disinfecting Rooms, of which the following is a specification.

For the thorough disinfection of rooms it is of greatest importance that the most extensive and active distribution of the disinfecting material in the room takes place, as only by such a distribution a thorough effect in all parts of the room can be obtained. For such an extensive and effective distribution steam is especially appropriate if in its rapid and continuous development it is so employed that it drives out the disinfecting material from its container and, together with the disinfecting material in a very finely-divided state, fills up the room to be disinfected, as a fog. Steam will prove to be especially suitable in the process of disinfecting rooms if the nature of the disinfecting material employed will require that no retroformation of the disinfecting material in its finely-divided state takes place, but an unaltered proportion between steam and disinfecting material is kept up all throughout the room. For arriving at this end with disinfecting means of said quality the development of the steam must not only be a continuous but also a very voluminous one, the steam not only serving for driving out the disinfecting material, but also for converting the latter in a very-finely-divided state.

The apparatus which is the subject of this invention and which is hereinafter described with reference to the accompanying drawings is especially designed for the generation of steam and the charging of it with the finely-divided disinfecting material in the most effective manner.

Figure 1 represents an elevation of the apparatus, partly in longitudinal vertical section. Fig. 2 is a plan of the same, and Fig. 3 shows detail of a distributing-chamber in longitudinal vertical section.

The apparatus mainly consists of a steam-generator, of a container for the disinfecting material to be put under pressure from the steam-generator, and of ejecting-pipes with

distributing-chambers, which latter communicate directly with the pressure in the said container.

The steam-generator consists of a boiler *b* of tubular and annular shape, below which a burner *a*, (for alcohol or such like material,) also of annular shape, is arranged. This arrangement offers a very quick, constant, and voluminous development of steam, which exerts its pressure in the container *c* by entering into the upper part of the latter by means of conduits *d*. Said pressure acts in the container on the surface of the disinfecting material, which partly fills the container *c* in a liquid state, said liquid being forced by the pressure to rise in the ejection-pipes *k* and to issue therefrom. The fine outlet at top of each pipe *k* opens into a short tube *i*, provided at the top of the container and having a screw-cap *h*, provided with a small boring *n*. Into the inner screw-thread of the short tube *i* a plate *l* is screwed, having a boring *m*, which plate may be adjusted in proper height in the tube *i* in order to increase or decrease the extent of the chamber formed by tube *i*, its cap *h*, and plate *l* for increasing or decreasing the fineness of the jet to be issued through the hole *n*. The container *c* is, moreover, provided with a filling-hole and screw-plug *f* and with a safety-valve *e*. If now by the burner a steam is developed in the annular-shaped boiler *b*, which development by the illustrated and described form and arrangement of parts will be a very rapid one, pressure will quickly be got up in the container *c* to such an extent (0.5 to one atmosphere) that a very active ejection of the disinfecting material out of the holes *n* takes place and at the same time a very active ejection of steam through same holes, which steam not only will be in a distinct proportion to the disinfecting material ejected, but which, by its filling up the entire space or room to be disinfected, will carry the said material to all parts of the room and will allow it to act in an unchanged state in all parts of the room.

The position of pipes *k* and their ejecting-cap is preferably chosen so that besides proper direction of the ejecting-rays a whirling motion is created between said rays, which

advantageously contributes to the active distribution of the disinfecting material in the room.

I claim—

- 5 In a disinfecting apparatus, the combination of an annular-shaped steam-generator *b* and annular burner *a* around a container *c* for liquid disinfecting material, pipes *d* connecting said generator and said container,
10 ejecting-pipes *k* dipping into the liquid in the container and distributing-chambers *h l n* at top of said pipes *k* for the issue of the

steam with the disinfecting material in a finely-divided state, substantially as herein described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 20th day of July, 1898.

PAUL KIRSCHEN.

Witnesses:

HERNANDO DE SOTO,
WILHELM WIESENHÜTTER.