

No. 697,363.

Patented Apr. 8, 1902.

I. C. RAMIREZ.
VENTILATOR.

(Application filed Sept. 4, 1901.)

(No Model.)

Fig. 1.

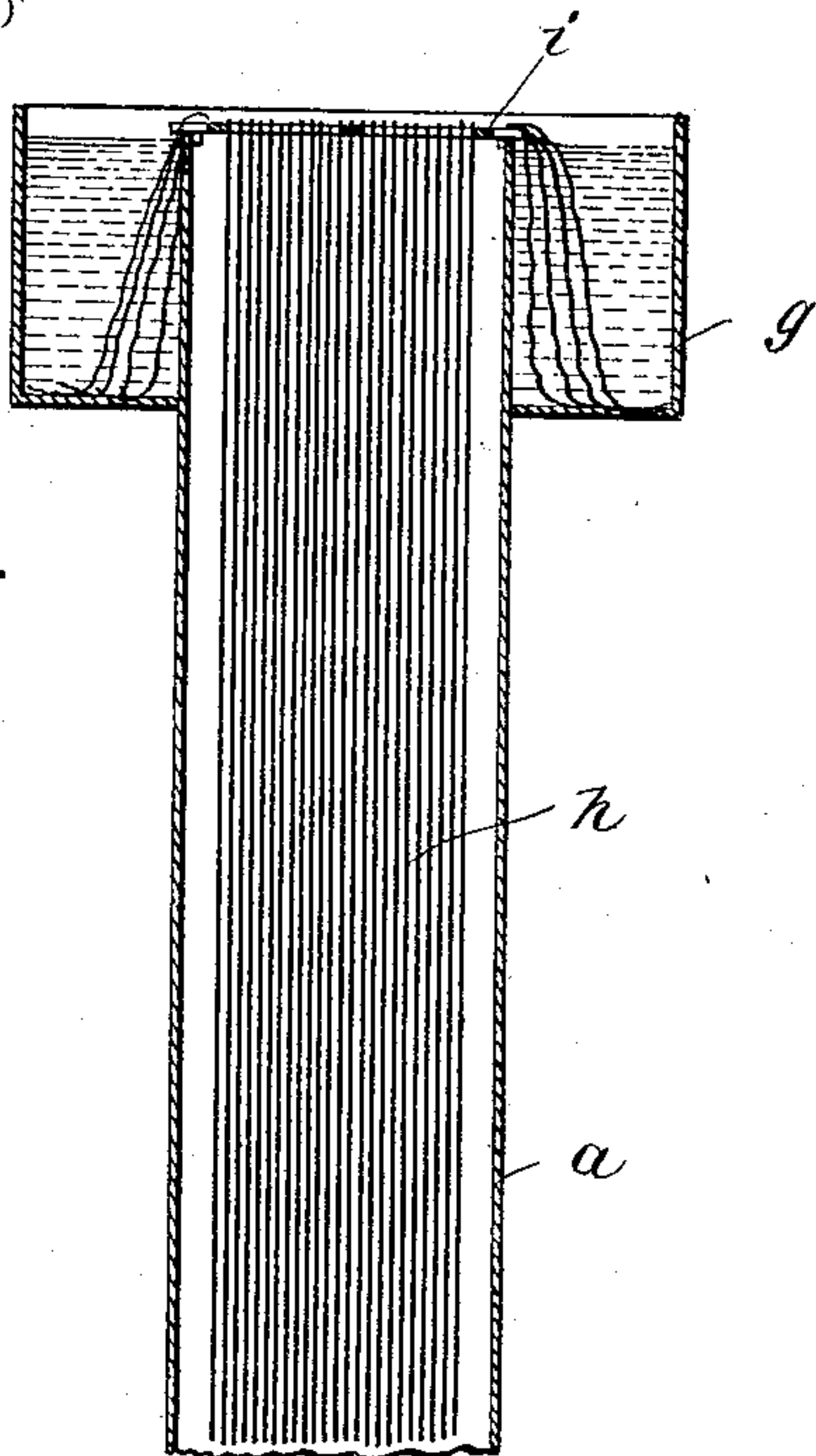


Fig. 2.

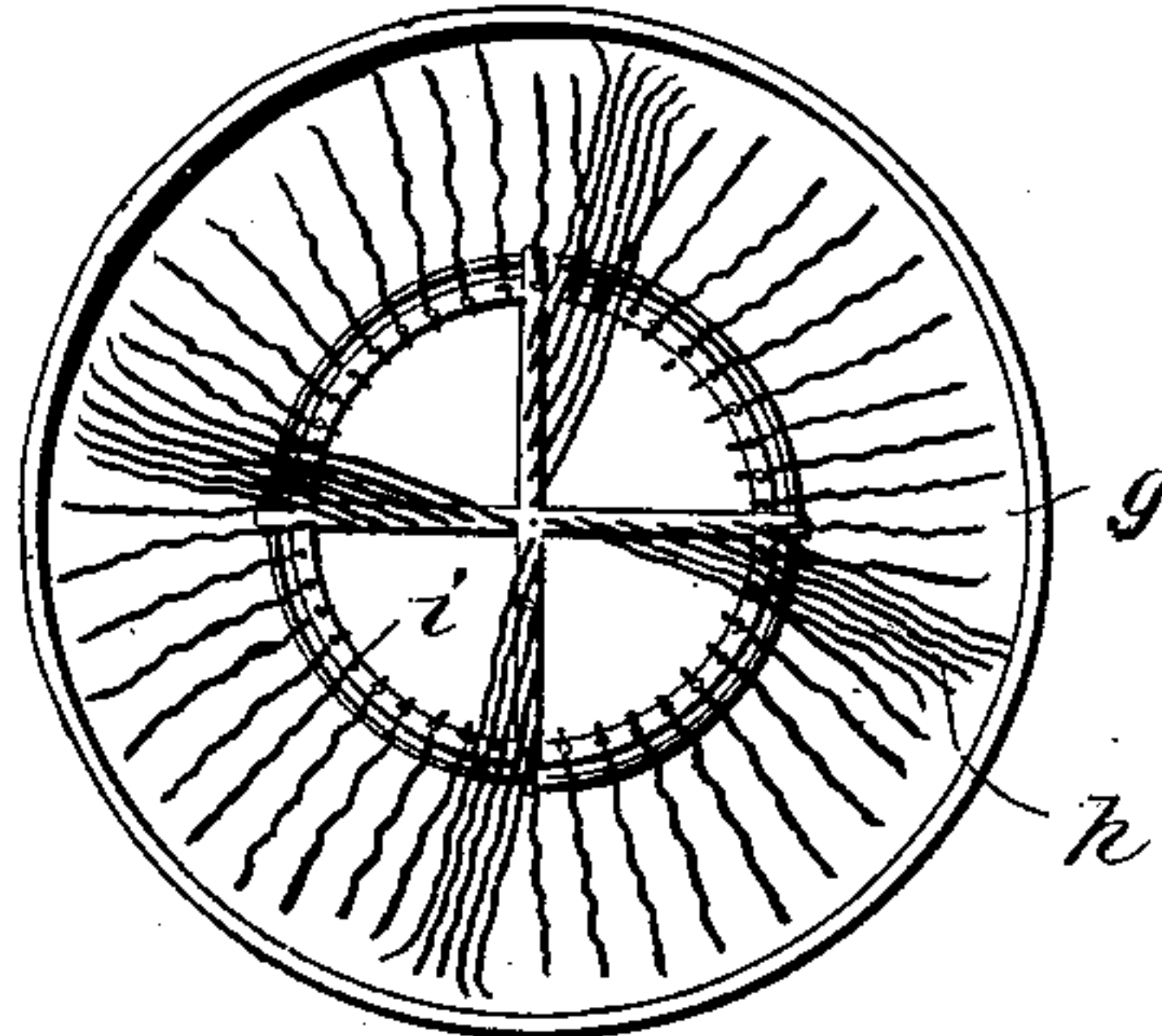


Fig. 4.

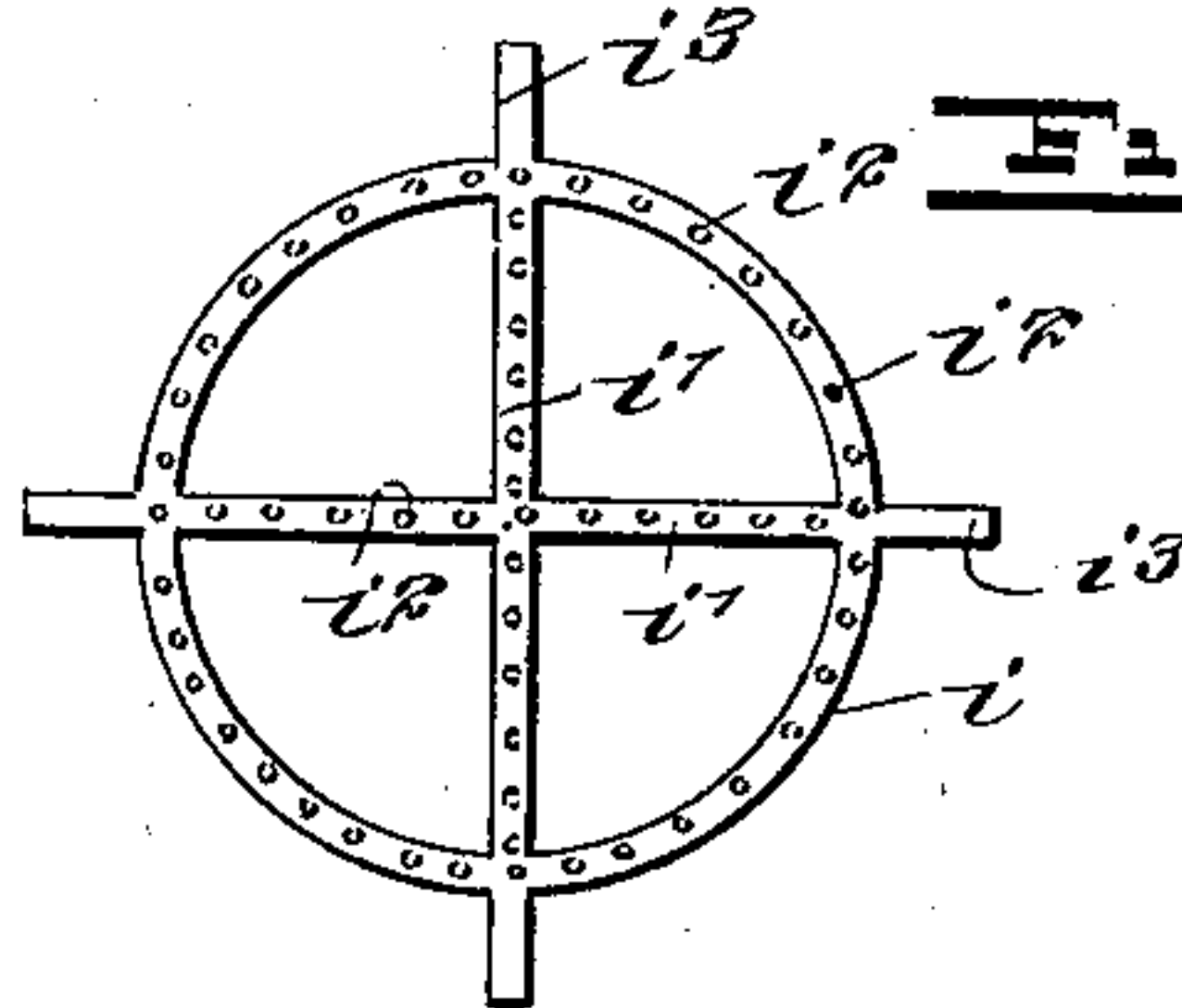


Fig. 3.

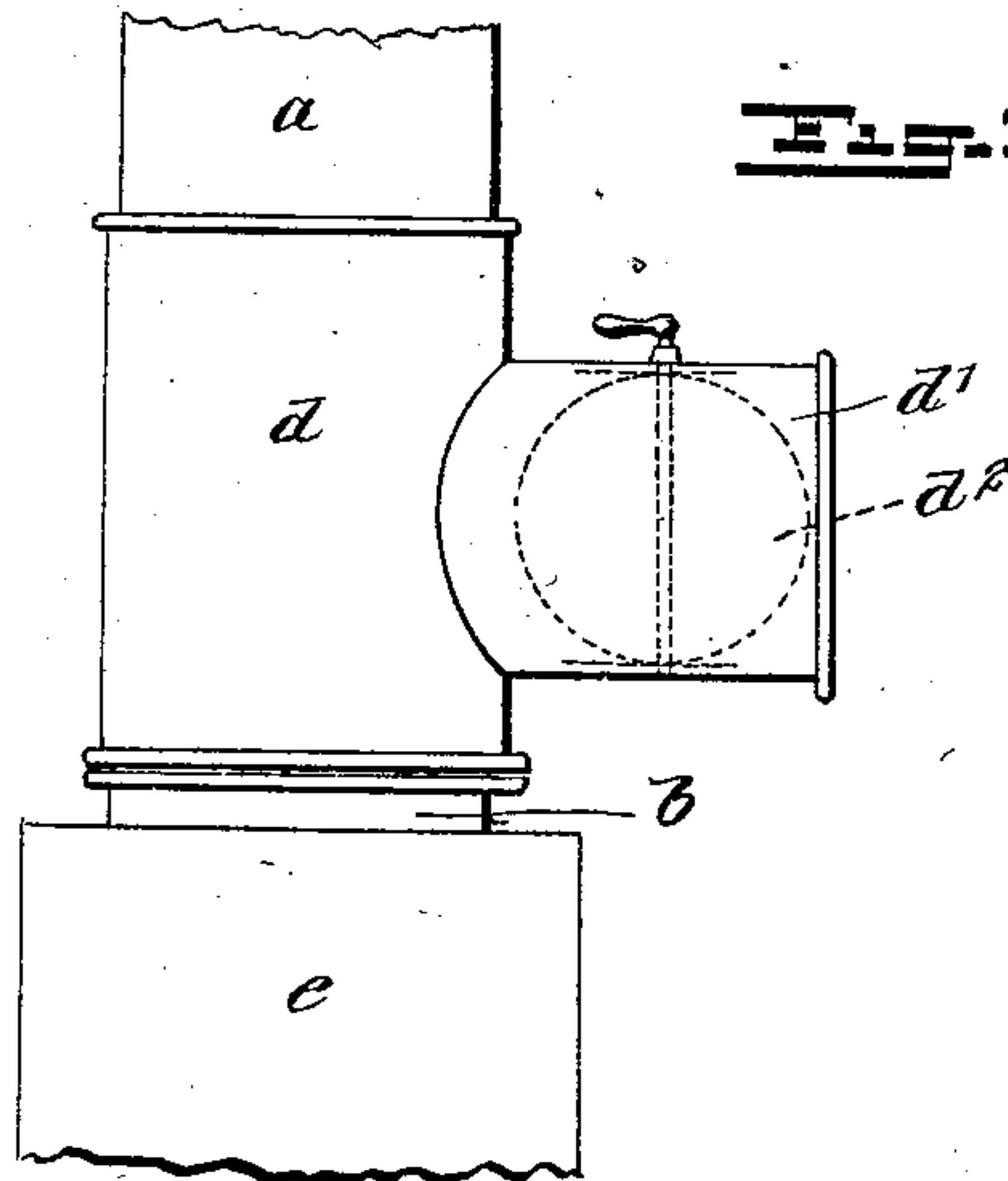
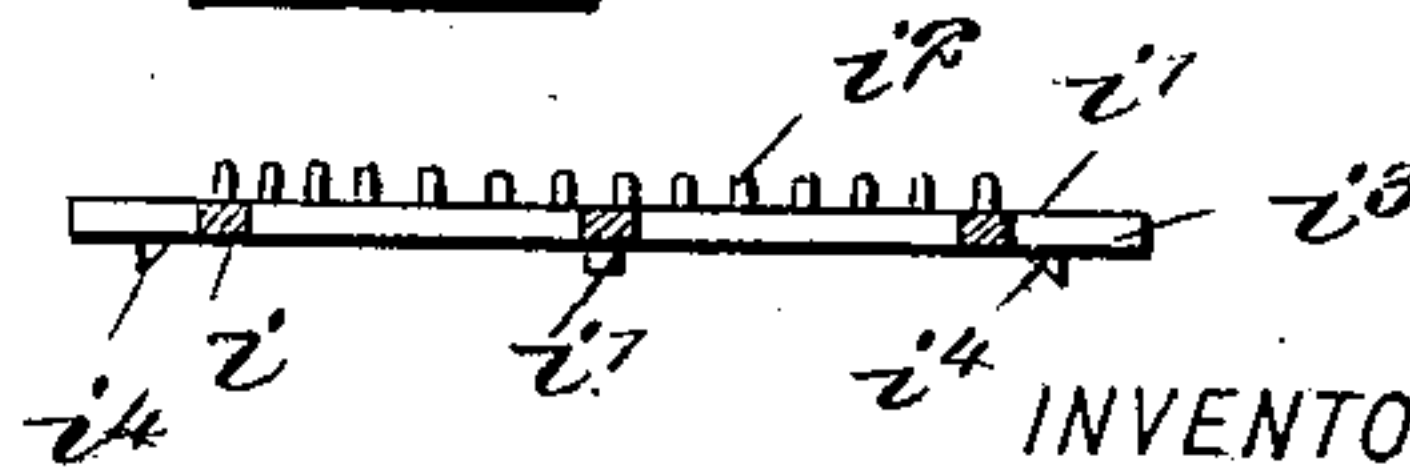


Fig. 5.



WITNESSES:

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IGNACIO C. RAMIREZ, OF PUEBLA, MEXICO.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 697,363, dated April 8, 1902.

Application filed September 4, 1901. Serial No. 74,281. (No model.)

To all whom it may concern:

Be it known that I, IGNACIO C. RAMIREZ, a citizen of the Republic of Mexico, and a resident of Puebla, Mexico, have invented a new and Improved Ventilator, of which the following is a full, clear, and exact description.

This invention relates to a ventilator which by means of evaporation serves to introduce into an apartment a current of cool and pure air.

The invention, generally stated, involves a vertically-extending tube or conduit, with absorbent material therein, in which tube is induced a current of air passing from the atmosphere into the apartment, such current being not only fresh, but being cooled by the evaporation which takes place in the tube.

This specification is a specific description of one form of the invention, while the claims are definitions of the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical section of the invention. Fig. 2 is a plan view of the same. Fig. 3 is a fragmentary side view thereof, and Figs. 4 and 5 are details of the spider which supports the absorbent threads.

The tube or conduit forming the main or body portion of the apparatus is preferably arranged in two parts, (designated *a* and *b*,) of which the part *a* is the major or upper portion and the part *b* the lower portion, the two parts being rigidly connected together by vertically-extending stringers *c*.

d indicates a sleeve or thimble which is set loosely over the adjacent ends of the parts *a* and *b* of the tube and is held in proper position by means of a bead *b'*, formed on the tube-section *b*. This sleeve or thimble may be raised fully on the section *a*, so as to expose the interior of the tube.

d' indicates a horizontal discharge branch of the thimble *d*, said branch being provided with a damper *d''* to regulate the draft.

The tube-section *b* is provided at its bottom with a reservoir *e* for containing the drip-water. According to the preferred arrangement, the tube-section *b* is set into the reservoir *e* and communicates freely therewith at

its bottom, so as to hold the drip-water, as indicated by the broken lines in Fig. 1.

f indicates a wind-break which is placed in the upper portion of the tube-section *b* and which is formed with an orifice *f'*, permitting the drip-water to pass the wind-break *f*. This element, however, breaks the current of air as it passes downward and deflects it outward through the branch *d'* of the thimble *d*.

At the upper end of the tube-section *a* is erected a cup or reservoir *g*, which is adapted to be kept filled or partly filled with water. Into this cup project the upper ends of absorbent cords or threads *h*, which pass longitudinally through the tube-section *a*. These cords are held stretched with a moderate degree of tension between spiders *i* and *k*, the former being arranged at the upper end of the tube-section *a* and the latter at the lower end thereof within the thimble *d*. These spiders may be of any construction desired, so long as they hold the absorbent threads properly within the tube *a* and permit the upper ends of the threads to project into the cup *g*. I prefer, however, to construct the spiders as shown in Figs. 4 and 5—that is to say, with an annular rim having cross-pieces *i'*, said rim and cross-pieces being provided with upwardly-projected pins *i''*, to which the threads *h* may be attached. The spider *i* is provided with radially-projected studs *i'''*, adapted to engage the top of the tube *a*, and these studs have slight shoulders *i''''* formed on their under sides, which prevent the lateral displacement of the spider. The bottom spider *k* is of essentially the same construction as the spider *i*, excepting that the shoulders *i''''* are dispensed with. The bottom spider *k* bears against the under side of the lugs or flanges *l*, secured to the stringers *c*, as shown. The absorbent threads or cords *h* are suitably fastened to the spiders *i* and *k*, so that the threads will be stretched between them, and the upper ends of the threads are turned over into the cup *g*. The thread should be of the most absorbent material obtainable, and if ordinary small cords are employed they should be first boiled or otherwise treated to remove all fatty substances, thus to increase the absorbent capacity of the threads. It will be seen that the spiders, with their circular rims

and diametrical cross-pieces, dispose the threads in the form of a tube with diametric partitions extending through it. As the threads absorb the moisture from the cup *g* 5 and this moisture is transmitted by capillary attraction down the cords or threads the entire interior of the tube *a* becomes pervaded with the moisture, and this induces evaporation, which lowers the temperature within 10 the tube. The temperature within the tube being thus lowered, a downward current will be induced, and this current will enhance the evaporation, and thus in turn increase the downward current. The damper *d*² being 15 opened, this current will flow out of the branch *d*¹ into the apartment. The upper end of the tube-section *a* may be placed in communication with the atmosphere or with any other source of pure air. Such water as may 20 drip from the threads *h* will fall onto the wind-break *f*, and thence into the receptacle *e*. If desired, a small pump or other means may be provided for returning the water from the receptacle *e* to the cup *g*, or, if desired, the 25 water from the receptacle may be permitted to flow out thereof to any point of waste and the cup *g* kept full by a properly-controlled flow from the source of feed.

Various changes in the form, proportions, 30 and minor details may be resorted to without departing from the spirit and scope of my invention. Hence I consider myself entitled to all such variations as may lie within the scope of my claims.

35 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of two tube-sections, means connecting the sections together but 40 holding them spaced from each other, a thimble mounted loosely on the sections and ex-

tending between their adjacent ends, said thimble having a discharge-orifice, an absorbent material arranged in the upper tube-section, a liquid-containing cup at the top thereof, and a drip-cup at the lower tube-section. 45

2. The combination of two tube-sections, means connecting the sections together but holding them spaced from each other, a thimble mounted loosely on the sections and extending between their adjacent ends, said 50 thimble having a discharge-orifice, an absorbent material arranged in the upper tube-section, a liquid-containing cup at the top thereof, a drip-cup in the lower tube-section, and 55 an orificed wind-break arranged above the drip-cup and below the discharge-orifice of the thimble.

3. The combination of two tube-sections, means connecting the sections together but 60 holding them spaced from each other, a thimble mounted loosely on the sections and extending between their adjacent ends, said thimble having a discharge-orifice, an absorbent material arranged in the upper tube-section, a drip-cup in the lower tube-section, an 65 orificed wind-break arranged above the drip-cup and below the discharge-orifice of the thimble, and a cup at the top of the upper tube-section, the upper ends of the absorbent 70 material being turned over the upper end of the upper tube-section and dipped into the cup, such cup serving to receive the primary supply of liquid.

In testimony whereof I have signed my 75 name to this specification in the presence of two subscribing witnesses.

IGNACIO C. RAMIREZ.

Witnesses:

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