

(No Model.)

J. & F. SKOBIS.
VENTILATOR.

No. 482,389.

Patented Sept. 13, 1892.

Fig. 1.

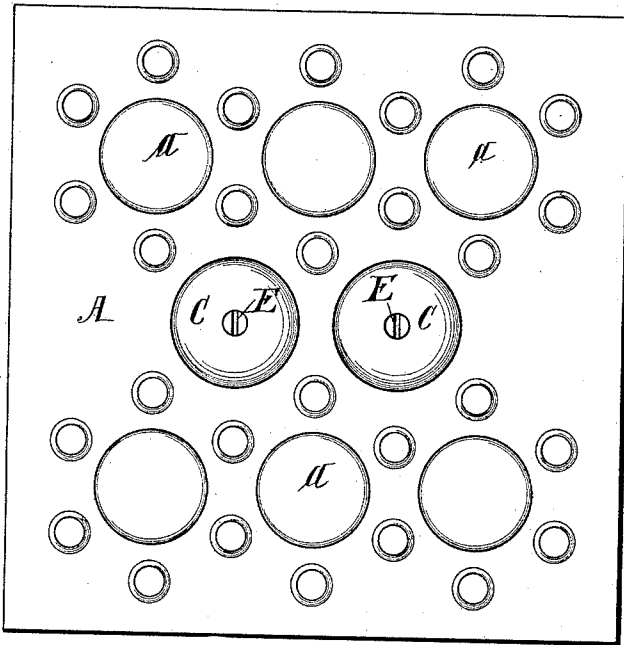


Fig. 2.

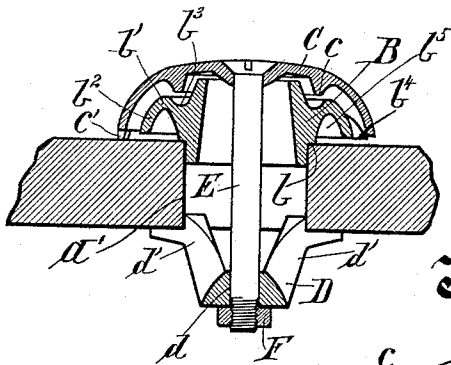


Fig. 3.

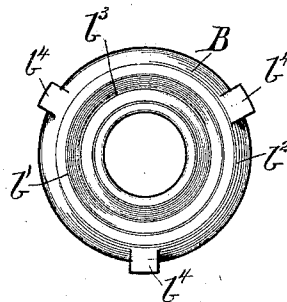
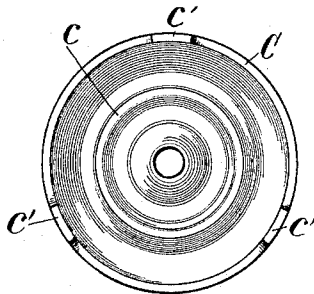


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH SKOBIS AND FRANK SKOBIS, OF MILWAUKEE, WISCONSIN.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 482,389, dated September 13, 1892.

Application filed February 8, 1892. Serial No. 420,671. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH SKOBIS and FRANK SKOBIS, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Ventilators, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

Our invention has relation to ventilators more especially designed for use in connection with manhole plates or doors and the like.

The object had in view is to secure a permanent ventilator in which a free passage for the escape of foul air from the chamber or compartment is always afforded, and at the same time the entrance of water thereto is effectually prevented.

With the above object in view the invention consists in the improved construction and combination of parts, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a plan view of the manhole plate or door. Fig. 2 is a transverse section of a fragment thereof. Fig. 3 is a plan view of the lower tubular piece, and Fig. 4 is an inverted plan of the upper bell-shaped piece.

Like letters of reference refer to like parts throughout the several views.

Referring to the drawings, the letter A indicates the manhole plate or door provided with the usual glass-covered openings *a*. It is also provided with any desired number of supplemental openings *a'*, (two being shown in the drawings,) to which openings our improved device is applied.

This device is composed of two principal parts, (designated by the letters B and C.)

The former comprises a tubular portion which projects into one of the supplemental openings and has formed thereon an annular shoulder *b*, which seats itself against the upper bordering edge of the opening and acts as a stop to prevent the tube being inserted too far. The tube is provided with a medial annular flange *b'*, having the outer portion of its surface convex, as indicated at *b²*, and the inner portion of said surface from the tube proper to the convexity concave forming an annular groove, as indicated at *b³*. The lower edge of the flange, as will be observed, does not touch

the plate or door and is provided with a series of lugs or projections *b⁴*, for the purpose hereinafter set forth. From the groove *b³* the tube B is preferably tapered to the top thereof.

The upper part C of our invention is of substantially bell-shape form, and from Fig. 4 of the drawings it will be seen that it is provided with an interior annular flange *c*, having its inner wall inclining outwardly. When this bell-shaped portion C is properly adjusted, the depending flange thereof will surround the upper surface of the tube B in such a manner as not only to leave an annular space between the two walls of the same, but also a space between the upper edge of the tube and the under side of the top of the bell or cup shaped part C.

Arranged around the periphery or circumferential edge of part C are a series of depending lugs or legs *c'*, which rest upon the top of the plate or door, and thereby form passages between said plate or door and the edge of the top part C. The position of the two parts B and C out of direct contact with each other is maintained by the lugs *b⁴*, hereinbefore referred to, which bear against the top C and properly space the parts.

Beneath the plate or door and in line with the supplemental openings *a'* are yokes D, each provided with an aperture *d*, and also provided with upwardly-extending arms *d'*, preferably three, the ends thereof bearing against the under side of said plate or door. A bolt E passes through an opening in the bell-shaped top through the tube, its end finally passing through the aperture of the yoke and receiving upon its lower threaded end a nut F. This bolt of course serves to retain the parts B and C in proper position.

From the foregoing description, taken in connection with the accompanying drawings, the operation of our improved device will be readily understood. The foul air arising in the chamber or apartment first passes into the supplemental openings and then into the tubular portion, passing up over the top of said tube, and thence beneath the lower edge of the depending flange *c*, and out to the external air through the exit-openings formed by the raised edge or periphery of the top C.

One great advantage which we claim for our invention is that it effectually prevents the

entrance of water to the apartment through the ventilating-openings, this being a serious objection to devices of a similar character now in use.

- 5 In using a hose for cleaning the sidewalk or floor to which my device is applied the tendency of the water will be to pass beneath the non-contacting edges of the bell-shaped top and the lower edge of the medial flange
- 10 and enter the annular chamber b^5 , formed beneath the convexity b^2 . Should this chamber become completely filled from the continued stream of water directed against the ventilator, the surplus water would then enter the space between the inner wall of the top C and the surface of the convexity b^2 , the latter acting as an obstruction thereto. Should, however, the force of the water be sufficient to cause it to rise, it would next
- 20 encounter the depending flange c , and in the event of passing beneath said flange would finally encounter the tapering surface of the tube and be deflected downward, settling in the annular groove b^3 , thus rendering it very
- 25 difficult for water to pass over the top of said tube.

It will be seen that our device consists of but few parts, which can be readily dismantled for the purpose of cleaning or otherwise.

- 30 Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. In a ventilator, the combination, with a plate or door provided with vent-holes, of a
- 35 bell-shaped covering therefor provided with depending lugs bearing upon the plate, exit-openings for the foul air being formed between the non-contacting edge of the covering and the top of the plate, substantially as
- 40 set forth.

2. In a ventilator, the combination of a plate or door having vent-holes therein, tubes fitted in said holes and extending above the plate or door, and a covering for each tube
- 45 free from contact with the upper end thereof, provided with an interior depending annular flange surrounding the upper end of the tube, but free from contact therewith, substantially as set forth.

- 50 3. In a ventilator, the combination of a plate or door having vent-holes therein, tubes

fitted in said vent-holes, each having an externally-tapering upper end and provided with a medial annular flange above the plate or door, said flange having a sigmoidal bend to form an outer annular convexity and an inner annular concavity or groove, and a top or covering for the tube extending over the same and free from contact therewith, provided with a depending internally-tapering flange surrounding the tube, forming an annular space, said flange terminating at a point above the groove, and the edge of the covering supported a slight distance above the top of the plate or door, substantially as set forth.

4. In a ventilator, the combination of a plate or door having a vent-hole therein, a tube inserted in said hole provided with a medial annular flange above the plate or door, said flange having a sigmoidal bend or flexure forming an under outer annular chamber and an inner upper concavity, and a top or cover supported above the tube, so as to leave a free air-space to the top thereof, substantially as set forth.

5. In a ventilator, the combination of a plate or door having vent-holes therein, tubes fitted in said vent-holes, a covering for each tube provided with exit-ports for the passage of the foul air to the external atmosphere, yokes beneath the plate or door provided with upwardly-extending arms, the ends thereof bearing against the under surface of said plate or door, and screws passing through the tubes and having their opposite ends engaging, respectively, the covers and yokes, substantially as set forth.

6. In a ventilator, the combination, with a plate or door having vent-holes therein, of tubes inserted in said vent-holes, each tube provided with a medial annular convex flange, said convexity forming an under annular chamber, and a top or cover supported above the tube, so as to leave a free air-space to the top thereof, substantially as set forth.

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

JOS. SKOBIS.
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Witnesses:

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