Brayton & Curtis,

Respirator,

No. 69,396, Patented Oct. 1, 1867.

Fig. 2.

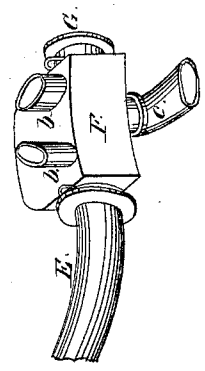


Fig. 4.

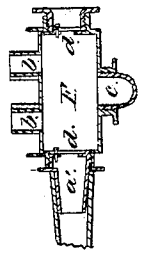


Fig. 1.

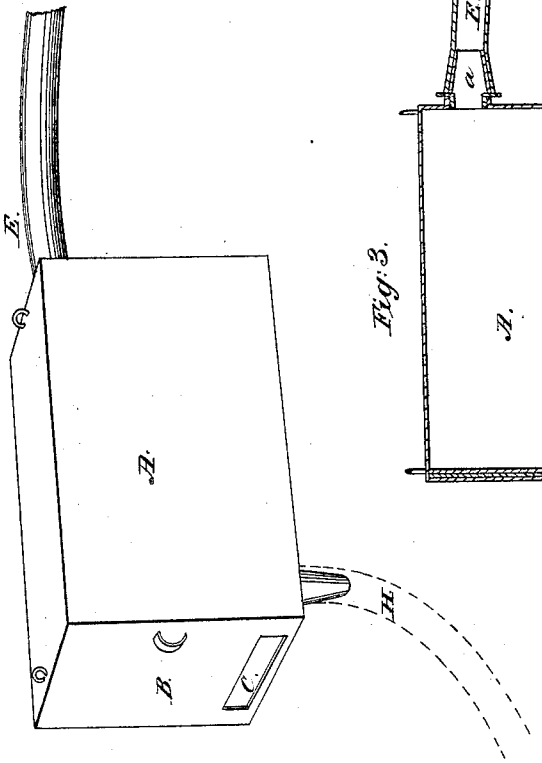
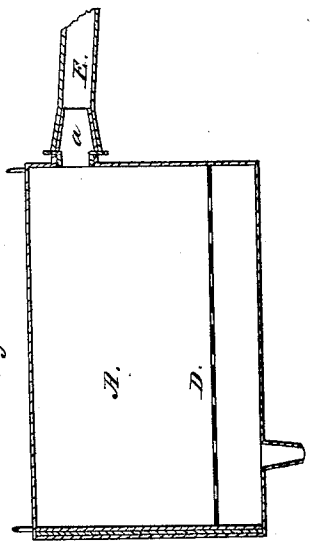


Fig. 3.



Witnesses.

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AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

United States Patent Office.

ROBERT BRAYTON AND SAMUEL CURTIS, OF FREMONT, OHIO.

Letters Patent No. 69,396, *dated October* 1, 1867.

RESPIRATOR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, ROBERT BRAYTON and SAMUEL CURTIS, of Fremont, in the county of Sandusky, and State of Ohio, have invented certain new and useful improvements in Respirators; and we do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the defecating-chamber.

Figure 2 is a perspective view of the air-chamber.

Figure 3 is a longitudinal section of the defecating-chamber.

Figure 4 is a longitudinal section of the air-chamber.

Like letters of reference refer to like parts in the different views.

The nature of our improvement relates to a respirator, arranged with a chamber, to which are connected two pipes or tubes for breathing through the nostril, and by which it may be connected to the said organ, or otherwise. To the said chamber is attached a mouth-piece, for breathing. Also, two other pipes are secured to the said chamber, for inhaling and exhaling. In the last two pipes are valves, so that when a breath is inhaled the valve in this tube opens and the valve in the exhalation pipe closes, and *vice versa*. The inhaling pipe may or may not be connected with a box or chamber, rendered portable or not, with or without the chamber, which may contain ice, wet sponge, or any medical compound, to be used as a remedial agent in respiration, or disinfecting agents may be employed to prevent the breathing of obnoxious gases or odors arising from hospitals, dissecting-rooms, fever-ships, and other infected places, and to prevent the breathing of dust, dirt, or other injurious particles arising in manufactories. By the said respirator the person using it can either breathe through the nose or mouth at pleasure.

A, fig. 1, represents the defecating-chamber, which is a box, with a slide or panel, B, in one end, which can be removed when desired. In this panel, at the lower part, is a slot, C. Above this slot, and extending the entire length and width of the box, is a grate, D, for a purpose hereafter shown. Leading from this defecating-chamber is a tube or pipe, E, which may be made of rubber or any other suitable material. This pipe connects the chamber A with another chamber, F, of the shape shown in fig. 2. The pipe is connected to both chambers by means of the nozzles *a a'*, which are screwed to each chamber, as seen in figs. 3 and 4, so that it can be attached or detached with ease. *b b* are short pipes or tubes connected to the chamber for the purpose of placing in the nostrils, that the air of the chamber may be breathed thereby. *c* is a mouth-piece, to be placed in the mouth for the same purpose, and may be unscrewed and taken off when desired. *d d'* are valves, for a purpose hereafter shown.

The manner in which this respirator may be used is as follows: The panel B may be removed, and any disinfectant, wet sponge, or ice, be placed upon the grate, the panel then closed, and the slot C admitting the air, which has to ascend through the grate and whatever is placed thereon. The chamber F is attached by the tube E, the pipes *b b* entering the nostrils, and the mouth-piece *c* entering the mouth. The air through the slot and grate enters the tube, and is inhaled into the lungs from the chamber F, the valve *d* opening for its admittance into the chamber. On exhaling the air the valve *d* closes and the valve *d'* opens, the exhaled air thus passing out from the exhalation pipe G, and is not permitted to re-enter the chamber A; but at every inhalation fresh air is obtained, the valve *d* only opening to the inside. When the air is exhaled the pressure from the inside closes it, and opens the valve *d'*, which only opens to the outside. When the air is inhaled the pressure from the outside closes it and opens the valve *d*, fig. 4. If desired to breathe only through the nostrils the mouth-piece can be taken off and a cap placed over the end of the pipe, thus making it perfectly secure. Any disinfective agent may be placed in the chamber, and thus the air of hospitals, dissecting-rooms, &c., be breathed with impunity. Wet sponge can be placed thereon, and the air impregnated with dust or other impurities arising in various manufactories can be breathed without injury to the lungs. And in case of pneumonia or inflammation, when desirable to breathe cold air, ice can be placed on the grate in the chamber. In order to allow the water from the melting ice to escape from the chamber a pipe is attached, as shown by the dotted lines H, fig. 1, which can be conducted to any desirable place. Also, this pipe H may be used for conducting the outside atmosphere to any portion of a building, so that, instead of using a disinfectant, the pure air from the

outside may be breathed directly. This respirator can be easily attached to the person, and carried with little or no inconvenience. The defecating-chamber can be carried at the side, and the air-chamber F attached to the head in any desirable way, the tube connecting the two, and not preventing the free action of the arms in the least.

What we claim as our improvement, and desire to secure by Letters Patent, is—

1. The nostril-tubes *b b*, chamber F, and mouth-piece *c*, in combination with the tubes *a a'* and valves *d d'*, substantially as and for the purpose set forth.

2. The box A and tube E, in combination with the air-chamber F, substantially as set forth.

3. We claim a respirator so constructed that it may be connected to either the mouth or nose, and so provided with inhaling and exhaling pipes and valves, that, in breathing, the valves will alternately open and close, when used in the manner and for the purposes substantially as set forth.

ROBERT BRAYTON,
SAML. CURTIS.

Witnesses:

W. H. BURRIDGE,
E. E. WAITE.