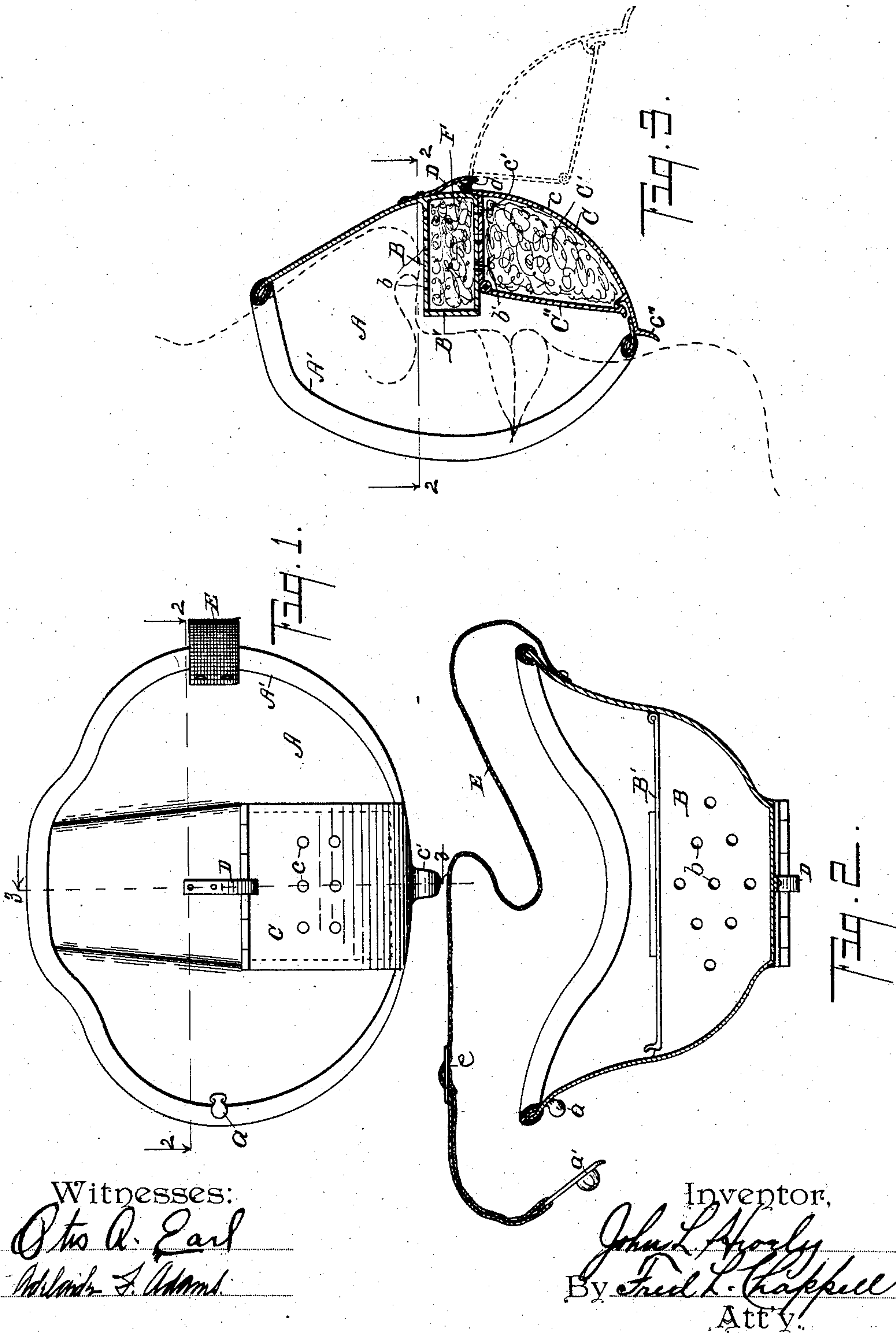


No. 790,057.

PATENTED MAY 16, 1905.

J. L. HIVELY.
RESPIRATOR OR INHALER.
APPLICATION FILED JUNE 22, 1904.



UNITED STATES PATENT OFFICE.

JOHN L. HIVELY, OF ELKHART, INDIANA.

RESPIRATOR OR INHALER.

SPECIFICATION forming part of Letters Patent No. 790,057, dated May 16, 1905.

Application filed June 22, 1904. Serial No. 213,695.

To all whom it may concern:

Be it known that I, JOHN L. HIVELY, a citizen of the United States, residing at the city of Elkhart, county of Elkhart, State of Indiana, have invented certain new and useful Improvements in Respirators or Inhalers, of which the following is a specification.

This invention relates to improvements in respirators or inhalers.

10 The main object of this invention is to provide an improved respirator or inhaler which is comfortable and convenient to use and simple in structure.

15 Further objects and objects relating to structural details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

20 The invention is clearly defined, and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

25 Figure 1 is a front elevation view of my improved respirator or inhaler. Fig. 2 is a horizontal sectional view taken on a line corresponding to line 2 2 of Fig. 1. Fig. 3 is a vertical sectional view taken on a line corresponding to line 3 3 of Fig. 1, the door C being indicated in its open position by dotted lines and the position of the mask in use being indicated by dotted lines.

30 In the drawings the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

40 Referring to the drawings, the mask A is suitably conformed to embrace the nose and mouth of the wearer, as is indicated by dotted lines in Fig. 3. The rim of the mask is provided with a cushion A', preferably of rubber, which insures a perfect fit, to exclude air and also protects the face of the wearer. The

mask A is preferably stamped up from sheet metal, aluminium being preferred on account of its lightness, although any suitable material may be used. A retaining band or strap 50 E, adapted to pass around the back of the head of the wearer, is provided. This band is permanently secured at one end to the mask, and its free end is provided with a snap-button-socket member *a'* to engage the stud 55 member *a* upon the mask, so that it is quickly secured or detached. A slide-buckle *e* is provided for adjusting the band.

Secured within the mask in such position as to be supported beneath the nose of the 60 wearer when adjusted for use is a transversely-arranged receptacle B, having perforations *b b'* in the top and bottom thereof, respectively. This receptacle B is filled with absorbent or medicated material F. 65

The rear wall B' of the receptacle is hinged at one end to serve as a door therefor. The perforations *b* in the top of the receptacle are zigzagged in relation to the perforations *b'* in the bottom. 70

The mask is provided with a door C below the receptacle B for convenience in expectorating or in administering medicine or the like. This door is hinged at the top. Air is admitted to the mask through perforations *c* 75 in the door C. These perforations open into the receptacle C', carried by the door. This receptacle is also provided with a filling of absorbent or medicated material F. The receptacle C' is provided with perforations *c'* in its 80 top, adapted to be brought into register with the perforations *b'* in the bottom of the receptacle B when the door is in its closed position, so that the air is first drawn into the receptacle C' through the perforations *c'* and passes 85 through the same through the receptacle B. The receptacle C' is provided with a door C''. (See Fig. 3.) A finger-piece *c''* is provided for the door C. The door C is held in its open and closed positions by a blade-spring 90 D, which is secured to the mask and projects downwardly. When the door is open, it is

engaged and retained by the lug *d* on the spring D.

With the parts arranged as described they are very compact, and the structure is very
5 convenient and comfortable to use. The material F for packing the receptacles may be any suitable absorbent or medicated material. I preferably provide an absorbent material for the receptacle C', adapted to collect im-
10 purities, and a medicated material for the receptacle F, so that the air inhaled is freed from its impurities and suitably medicated. The medicated material is thus kept comparatively free from impurities, so that it is not
15 necessary to renew the same as frequently as would otherwise be the case.

I have illustrated and described my improved respirator or inhaler mask in detail in the form preferred by me on account of its
20 structural economy and convenience in use. I am, however, aware that it is capable of considerable structural variation without departing from my invention.

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

1. In an inhaler or respirator, the combination of a mask adapted to fit over the nose and mouth of the wearer; a receptacle B arranged
30 in said mask, in position to be supported beneath the nose of the wearer, said receptacle having perforations in the top and bottom thereof, the perforations in the top being arranged in a zigzag manner in relation to those
35 at the bottom; a door having perforations therein, hinged at its top, opening beneath said receptacle B; a receptacle carried by said door, having perforations in the top thereof adapted to be brought into register with the
40 perforations in the bottom of said receptacle B when said door is in its closed position; a spring adapted to retain said door in its open and closed positions; and suitable filling material for said receptacles, for the purpose
45 specified.

2. In an inhaler or respirator, the combination of a mask adapted to fit over the nose and mouth of the wearer; a receptacle B arranged in said mask, in position to be supported
50 beneath the nose of the wearer, said receptacle having perforations in the top and bottom thereof, the perforations in the top being arranged in a zigzag manner in relation to those in the bottom; a door having
55 perforations therein, hinged at its top, opening beneath said receptacle B; a receptacle carried by said door, having perforations in the top thereof adapted to be brought into register with the perforations in the bottom
60 of said receptacle B when said door is in its closed position; and suitable filling material for said receptacles, for the purpose specified.

3. In an inhaler or respirator, the combination of a mask adapted to fit over the nose and mouth of the wearer; a receptacle B arranged
65 in said mask, in position to be supported beneath the nose of the wearer, said receptacle having perforations in the top and bottom thereof; a door having perforations therein, hinged at its top, opening beneath said recep-
70 tacle B; a receptacle carried by said door, having perforations in the top thereof adapted to be brought into register with the perforations in the bottom of said receptacle B when said door is in its closed position; a spring adapted
75 to retain said door in its open and closed positions; and suitable filling material for said receptacles, for the purpose specified.

4. In an inhaler or respirator, the combination of a mask adapted to fit over the nose and
80 mouth of the wearer; a receptacle B arranged in said mask in position to be supported beneath the nose of the wearer, said receptacle having perforations in the top and bottom thereof; a door hinged at the top, having per-
85 forations therein, opening beneath said receptacle B; a receptacle carried by said door, having perforations in the top thereof adapted to be brought into register with the perforations in the bottom of said receptacle B when said
90 door is in its closed position; and suitable filling material for said receptacles, for the purpose specified.

5. In an inhaler or respirator, the combination of a mask adapted to fit over the nose and
95 mouth of the wearer; a receptacle arranged in said mask in position to be supported beneath the nose of the wearer, said receptacle having perforations in the top and bottom thereof, the perforations in the top being ar-
100 ranged in a zigzag manner in relation to those in the bottom; a door having perforations therein opening beneath said receptacle; and suitable filling material for said receptacle, for the purpose specified.
105

6. In an inhaler or respirator, the combination of a mask adapted to fit over the nose and mouth of the wearer; a receptacle arranged in said mask in position to be supported be-
110 neath the nose of the wearer, said receptacle having perforations in the top and bottom thereof; a door opening beneath said receptacle, arranged in front of the mouth of the wearer; a spring adapted to retain said door in its open and closed positions; and suitable
115 filling material for said receptacle, for the purpose specified.

7. In an inhaler or respirator, the combination of a mask adapted to fit over the nose and mouth of the wearer; a receptacle arranged
120 in said mask in position to be arranged beneath the nose of the wearer, said receptacle having perforations in the top and bottom thereof; a door opening beneath said recep-

tacle arranged in front of the mouth of the wearer; and suitable filling material for said receptacle, for the purpose specified.

5 8. In an inhaler or respirator, the combination of a mask adapted to fit over the nose and mouth of the wearer; a perforated receptacle arranged in said mask in position to be supported beneath the nose of the wearer; a door in said mask, opening beneath said receptacle

and arranged in front of the mouth of the 10 wearer; and a suitable filling material for said receptacle, for the purpose specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

JOHN L. HIVELY. [L. s.]

Witnesses:

ELMORE S. HART,

WILLIAM B. HILE.