

T. GOSSACK.
RESPIRATOR.
APPLICATION FILED SEPT. 2, 1915.

1,256,012.

Patented Feb. 12, 1918.

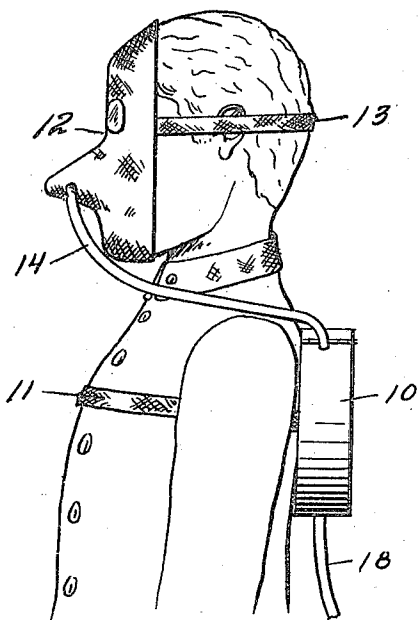


Fig. 1.

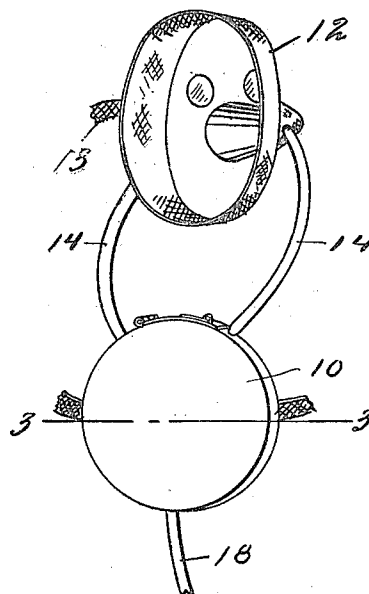


Fig. 2.

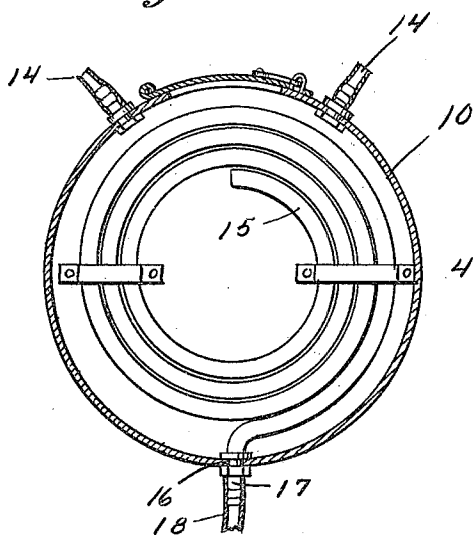


Fig. 4.

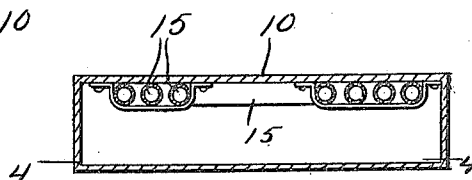


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS GOSSACK, OF BELT, MONTANA.

RESPIRATOR.

1,256,012.

Specification of Letters Patent. Patented Feb. 12, 1918.

Application filed September 2, 1915. Serial No. 48,707.

To all whom it may concern:

Be it known that I, THOMAS GOSSACK, a citizen of the United States, residing at Belt, in the county of Cascade, State of Montana, have invented certain new and useful Improvements in Respirators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to respirators for short-time use when entering a place where the atmosphere is objectionable for any reason.

The object of the invention is to provide a construction embodying a fresh air tank from which the air may be inhaled and into which it may be exhaled and from which tank there may be an outlet through which the outside atmosphere may pulsate during the breathing operation but through which opening the outside atmosphere cannot enter and mix with the air within the tank that is being inhaled.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawing.

In the drawing:

Figure 1 is a side elevation of my invention in applied position,

Fig. 2 is a perspective view of the apparatus removed,

Fig. 3 is an enlarged horizontal section on the line 3—3 of Fig. 2, and

Fig. 4 is an enlarged horizontal section on the line 4—4 of Fig. 3.

Referring particularly to the accompanying drawing, 10 represents a casing which forms the reservoir of the device, disposed on the wearer's back between the shoulders and secured in position by a belt 11 which is passed around the upper part of the body. Covering the face is a mask 12 held in position by an elastic strap 13 passed around the head. Extending from the opposite sides of the nose of the mask and connected to the casing 10 are two hoses 14. Within the casing is a flat coil pipe 15 one end of which is secured within an opening 16 in one side of the casing while the other or inner end re-

mains free to discharge air into the casing. Connected in the said opening 16 is a coupling 17 to which is secured a hose 18 leading out of a building, or other place where there is foul air, to the outside where there is pure air. This hose 18 may be rubber, or in case of use in a burning building where the hose would be liable to be destroyed, I may use a flexible metal hose.

The device is extremely simple in construction and can be quickly and easily applied to the person or removed therefrom. The device is efficient in operation to supply fresh air to the wearer, especially in view of the coil of pipe within the casing. Should the hose 18 become broken there would remain enough fresh air within the coil to permit the wearer to breathe until he reaches the outside air.

It will be understood that with the present construction, the tank 10 and tube 15 are filled with fresh air before entering the objectionable atmosphere. The apparatus is then adjusted and breathing is performed in the usual manner. A breath of air is drawn from the tank 10 and is then exhaled back into the tank. As the air is inhaled and rarefaction of the atmosphere within the tank results, then outside atmosphere enters the pipe 15 to an extent sufficient to compensate. When exhalation takes place, the increased pressure in the tank is relieved through the pipe 15 and outwardly.

When a breath of air is inhaled, from the casing 10, an equal quantity of air is drawn into the casing 10 from the pipe 15 and again an equal quantity of atmosphere exterior to the casing 10 is drawn into the pipe 18 and part-way into the pipe 15. Then, when the breath is exhaled into the casing 10, a quantity of atmosphere in casing 10 is forced back into the inner end of the pipe 15 and the objectionable atmosphere previously drawn into the outer end of the pipe 15 is pushed out. By reason of the pipe 15 being a comparatively small tube, there is an unappreciable mixing of the outer atmosphere with the atmosphere in the tube 15 and the working of exterior atmosphere through the pipe 15 and into the casing 10 will not occur before all of the oxygen of the atmosphere of the casing 10 has been utilized.

What is claimed is:

A respirator comprising an initially closed casing having a tortuous fluid conductor therein opening into the casing at one end and opening exteriorly of the casing at its
5 opposite end and a respiratory tube connected with and opening into the casing and having exterior to the casing, means for

connection with the respiratory organs of the user.

In testimony whereof, I affix my signature, in the presence of two witnesses.

10

THOMAS GOSSACK.

Witnesses:

C. H. PROVIN,

W. C. BLOMQUIST.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."