

W. F. FANNING.
RESPIRATOR.
APPLICATION FILED DEC. 17, 1912.

Patented Nov. 18, 1913.

1,079,227.

Fig. 1.

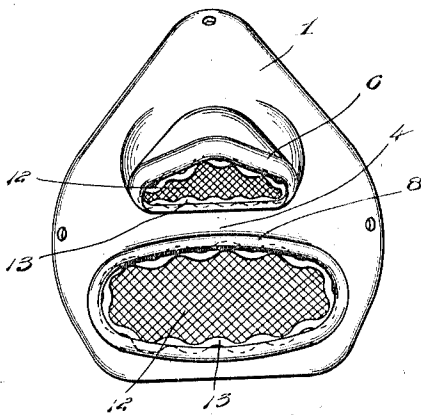


Fig. 2.

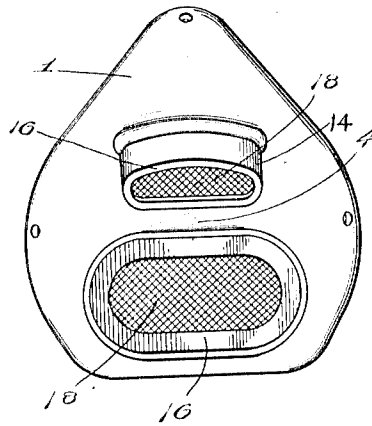


Fig. 3.

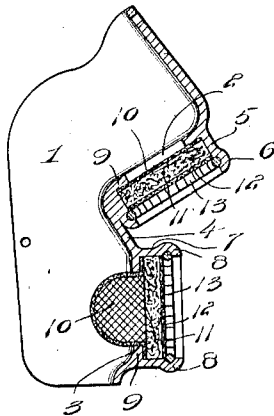
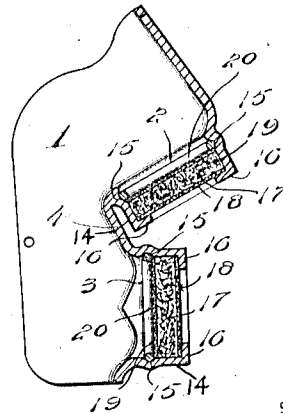


Fig. 4.



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RESPIRATOR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER FRANCIS FANNING, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Respirators, of which the following is a specification.

This invention relates to an improvement in respirators designed for convenient attachment to cover the nose and mouth of the wearer to form a barrier against the inhalation of deleterious agents.

The main object of the present invention is the provision of a respirator in which the absorbent or filtering agent may be readily and conveniently secured in place or removed whereby provision is made for a ready renewal of such agent whenever the same may be necessary.

A further object of the invention is the provision of a respirator in which the mouth and nose openings are so arranged with relation to each other and the face of the wearer as to prevent the formation of air pockets between the face of the wearer and the respirator, whereby each exhalation is fully expelled beyond the respirator and the subsequent inhalation of any portion of a previous exhalation prevented.

The invention in its preferred form of details will be described in the following specification, reference being had to the accompanying drawings, in which:—

Figure 1 is an elevation of the improved respirator showing the preferred form thereof. Fig. 2 is a vertical section of the same. Fig. 3 is a view similar to Fig. 1 showing a slightly modified form of respirator. Fig. 4 is a vertical central section of Fig. 3.

The general form and arrangement of parts in the respirator is practically identical in both types of respirator shown, and may be described as including a mask or face strip 1 of a size and appropriate shape to be secured to the face of the wearer to cover the nose and mouth. The means of attachment of the mask are immaterial so far as the present invention is concerned as I contemplate any convenient or desired means to this end. The strip 1 is formed with a nose opening 2 and a mouth opening 3, both being of appropriate shape and properly located in the strip to overlie the mouth and nose openings. The section of the mask intermediate the upper edge of the

mouth opening and the lower edge of the nose opening is inwardly inclined, as at 4, and so shaped that at its juncture with the nose opening it will provide an edge which when the mask is in place will more or less snugly engage the upper lip and thereby divide the nose and mouth openings so that they are in effect independent.

With reference particularly to Figs. 1 and 2 it will be noted that the outer surface of the mask beyond the marginal edge of the nose opening is formed with an outstanding circumferential flange 5 having its free or marginal edge formed into an approximately semi-circular retaining lip 6. A similar flange 7 and retaining lip 8 is provided about the mouth opening 3. By arranging the flanges 5 and 7 outwardly beyond the edges of the nose and mouth openings, the outer surface of the mask just beyond the edge of each opening will form at the inner ends or bases of the flanges a lip 9, as will be evident from Fig. 2.

The absorbent or filtering material such as cotton, sponge or any other substance dry or medicated as desired is disposed within the flanges 5 and 7 in proper quantities, a strip of gauze or screening as 10 being first arranged within the flange to rest upon the lip 9, the material 11 then placed in position, a second strip of gauze or screen 12 disposed to overlie the material and retaining strip 13 positioned to engage in the lip 6 or 8 as the case may be. The retainer 13 is preferably of sinuous form, as shown in Fig. 1, in order to increase its holding effect and at the same time provide means whereby it may be conveniently slipped from beneath the edge of the lip 6 when it is desired to remove the material for renewal. In the form shown in Figs. 3 and 4 the mask 1 having the previously described nose and mouth openings 2 and 3 are formed with outstanding flanges 14 which are coincident with the edge of the openings and in these flanges slightly beyond what would otherwise be the outer surface of the mask there is formed in each flange a retaining groove 15. The outer or free edges of the flanges are intumed to provide lips 16. In this instance the material 17 placed upon appropriately formed gauze strips or screens 18 and 19 is arranged within the respective flanges, the outer screen 18 bearing against the lip 16 and the inner screen 19 being practically coincident with the re-

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