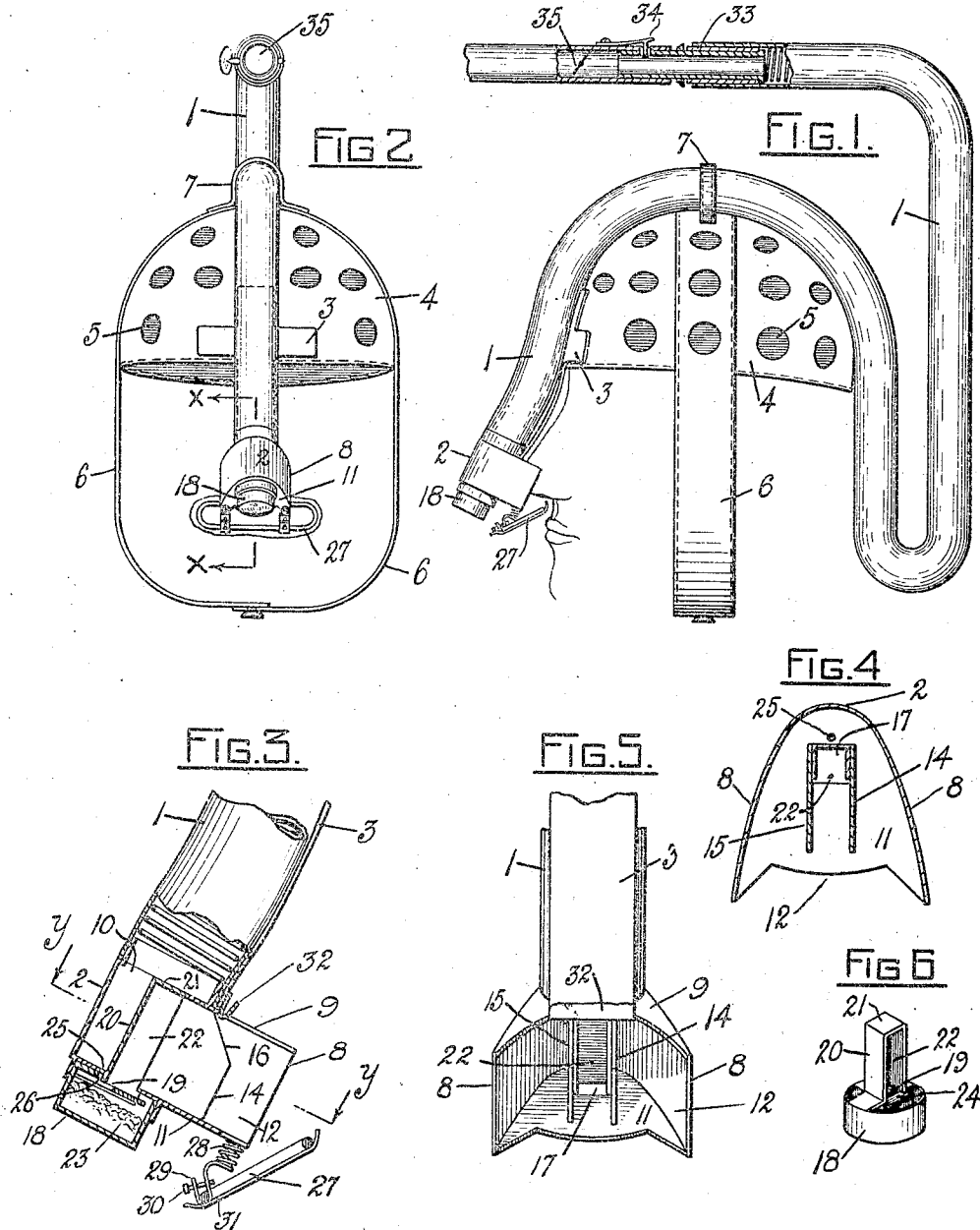


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RESPIRATOR.
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Patented Mar. 25, 1913.



WITNESSES.

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RESPIRATOR.

1,056,988

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SAMUEL WARD GREENE, of East Greenwich, in the county of Kent and State of Rhode Island, have invented certain new and useful Improvements in Respirators; and I do hereby declare the following specification, taken in connection with the accompanying drawings and forming a part of the same, to be a full, clear, and exact description thereof.

The invention relates to improvements in respirators and has for its object to provide a simple, efficient and portable construction by which the user is enabled to breathe fresh air in rooms or other inclosed places without exposing the person to drafts of cold air and the danger of taking cold, said device being especially designed for use by those afflicted with diseases of the lungs, and while sleeping, reading or otherwise engaged.

A further object of the invention is to provide a device by which the pure outside air may be supplied in close proximity to the nostrils of the user without any portion of said device coming in contact with any part of the nose.

A further object of the invention is to provide means for the medication of the air or a portion thereof when desired.

To these ends the invention consists of the novel form of respirator hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective side view of the preferred form of the respirator in position on the head of the user. Fig. 2 is a front view. Fig. 3 is an enlarged vertical sectional view on the line *x—x*, Fig. 2. Fig. 4 is a horizontal sectional view on the line *y—y*, Fig. 3. Fig. 5 is an end view of the delivery or distributing device. Fig. 6 is a perspective view of the medication chamber removed.

In the drawings, 1 represents the air-tube or conduit through which the fresh air is supplied to the nozzle or distributor 2 which is secured to the end of said tubing. The air-tube 1 is preferably constructed of a spiral spring covered with fabric which renders it both light and flexible. Secured to the air-tube 1, or made integral therewith if desired, is a metal supporting plate 3 constructed in the form of a passion cross with the short arm and the upper end of the long arm thereof arranged to rest upon the fore-

head of the user and the lower end of the long arm bent to conform substantially with the profile or outline of the nose of the user and adapted to be held a short distance away from the nose, as shown in Fig. 1. The plate 3 is preferably constructed of aluminum and may be held in position by a cloth cap 4 to which said plate is secured in any convenient manner. The cap 4 is provided with perforations 5 for ventilating purposes, bands 6 for holding the cap in position upon the head of the user, and a loop or eye 7 for holding the air-tube 1 in position.

Secured to the free end of the air-tube 1 adjacent the bottom of the nose is the distributor 2 which consists of a U-shaped shell or casing having sides 8, a top 9 provided with the inlet 10, a bottom 11 and an opening 12 between the free ends of the sides 8. The sides 8 are made flaring to enlarge the opening 12, as shown in Figs. 4 and 5. The distributor 2 is provided upon its interior with two short parallel walls 14 and 15 extending longitudinally as shown in Figs. 4 and 5, and having their forward upper edges cut away at 16, as shown in Fig. 3, so as not to interfere with the end of the nose. The bottom 11 of the distributor is provided with an opening 17 located between the walls 14 and 15 for a purpose to be hereinafter described.

Detachably secured to the bottom of the distributor 2 is a medication chamber 18 having an opening 19 in the top thereof adapted to register with the opening 17 in the bottom 11 and provided with a chimney 20 extending upward through the opening 17 and between the walls 14 and 15. The chimney 20 is provided with a top 21 and an opening 22 in one side which is in line with the opening 12 in the distributor. The medication chamber 18 is adapted to contain a sponge 23 or similar device for holding the medicine, and said chamber is provided with a slide 24 for closing the opening 19 and regulating the supply of medicated fumes. The bottom 11 of the distributor 2 is provided with small opening 25 adjacent the opening 17 which is adapted to register with an opening 26 in the top of the medication chamber 18, said openings forming means of communication between the distributor and the medication chamber for the air to circulate through.

The operation of the device is as follows: The air flows into and through the air tube

1, either under a slight pressure or under the natural draft from out of doors, and through the opening 10 into the distributor 2. Upon entering the distributor 2 most of the air flows around the chimney 20 to the opening 12 where it mingles with the medicated fumes which rise from the chamber 18 through the openings 19 and 17 into the chimney 20 and passing out through the opening 22 in said chimney and between the walls 14 and 15 to the opening 12. A small portion of the fresh air which enters the distributor 2 through the opening 10 flows through the small openings 25 and 26 into the medication chamber 18, thereby causing a steady flow of the medicated fumes out of the opening 22 in the chimney.

It is obvious that, if desired, the medication device may be omitted and a suitable cover, similar in form to the bottom of the medication chamber, may be used to close the openings 17 and 25 in the bottom of the distributor. In such case the air current entering the distributor 2 will flow against the bottom 11 of the distributor and be divided by the walls 14 and 15 into a spray which will flow out of the enlarged opening 12 against the upper lip and directly beneath the nostrils.

In order to protect the mouth of the user from the current of air from the respirator, the distributor is provided with a mouth-shield 27 which is adjustably secured thereto by means of the spiral springs 28, clips 29 and screws 30. With this construction the mouth-shield 27 may be easily adjusted to any desired position. The mouth-shield is preferably covered with chamois or fabric 31 and a strip 32 of similar material is secured to the edge of the top of the distributor 2 to protect the face of the user in case either of said parts should come into contact therewith. As shown in Fig. 1, the air-tube is provided with a detachable swivel coupling 33 which is held in coupled position by means of the spring catch 34. The air tube is also preferably provided with a manually operated damper or valve 35 for regulating the supply of fresh air.

What I claim as my invention and desire to secure by Letters Patent is:

1. A respirator comprising an air-tube, means for holding the air-tube upon the head, a delivery nozzle secured to said air-tube, said delivery nozzle being provided with an air-inlet adjacent the outer side, and an air-outlet upon the inner side adjacent the nostrils.

2. A respirator comprising an air-tube provided with a delivery nozzle at one end thereof, a rigid supporting plate secured to said air-tube, said supporting plate being adapted to rest upon the forehead and being provided with a cantaliver extension adapted to support the delivery nozzle in

close proximity to the nostrils and out of contact with the nose and face, and means for securing said supporting plate in position.

3. A respirator comprising an air-tube provided with a delivery nozzle, a supporting plate secured to said air-tube, said supporting plate being provided with a short arm adapted to rest upon the forehead and a long arm extending in a plane substantially parallel with the nose and out of contact therewith, and means for holding said short arm in place upon the forehead.

4. A respirator comprising an air-tube, a distributing device secured to the end of said air-tube, said distributing device consisting of a U-shaped casing provided with an opening to receive the end of the nose, and means for holding said distributing device out of contact with the nose and face.

5. A respirator comprising an air-tube, means for supporting said air-tube upon the head, a distributing device secured to the end of said air-tube, an opening in said distributing device opposite the end of the nose, and a mouth-shield secured to said distributing device.

6. A respirator comprising an air-tube, means for supporting said air-tube upon the head, a distributing device secured to the end of said air-tube, an opening in said distributing device opposite the end of the nose, and an adjustable mouth-shield secured to said distributing device.

7. A respirator comprising an air-tube, means for supporting said tube upon the head, a distributing device secured to the end of said air-tube and in close proximity to the nostrils, said distributing device being provided with means for dividing the air-current passing therethrough.

8. A respirator comprising an air-tube, means for supporting said tube upon the head, and a distributing device secured to the end of said air-tube and in close proximity to the nostrils, said distributing device being provided upon the interior with two short longitudinal walls.

9. A respirator comprising an air-tube, means for supporting said air-tube upon the head, a distributing device secured to the end of said air-tube and in close proximity to the nostrils, said distributing device being provided with an air-compartment and a detachable medication chamber having a chimney extending into said air-compartment, and an opening in said air-compartment adapted to register with an opening in the medication chamber.

10. A respirator comprising an air-tube, means for supporting said air-tube upon the head, a distributing device secured to the end of said air-tube and in close proximity to the nostrils, said distributing device comprising a U-shaped casing having an open-

ing between the free ends of the sides of said casing, and a medication chamber secured to the bottom of said casing and having a chimney extending into said casing, an opening in said chimney in line with the opening in the casing, and an air-chamber surrounding said chimney.

11. A respirator comprising an air-tube, means for supporting said air-tube upon the

head, a distributing device secured to the end of said air-tube, means for supplying medicated fumes into said distributing device, and means for regulating the supply of said fumes.

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Witnesses:

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