

No. 610,914.

Patented Sept. 20, 1898.

A. R. MOODY.
RESPIRATOR.

(Application filed Dec. 31, 1897.)

(No Model.)

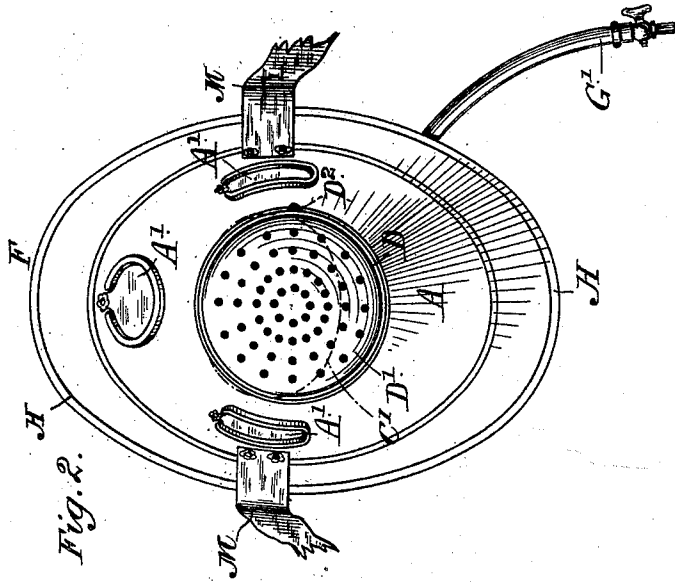


Fig. 2.

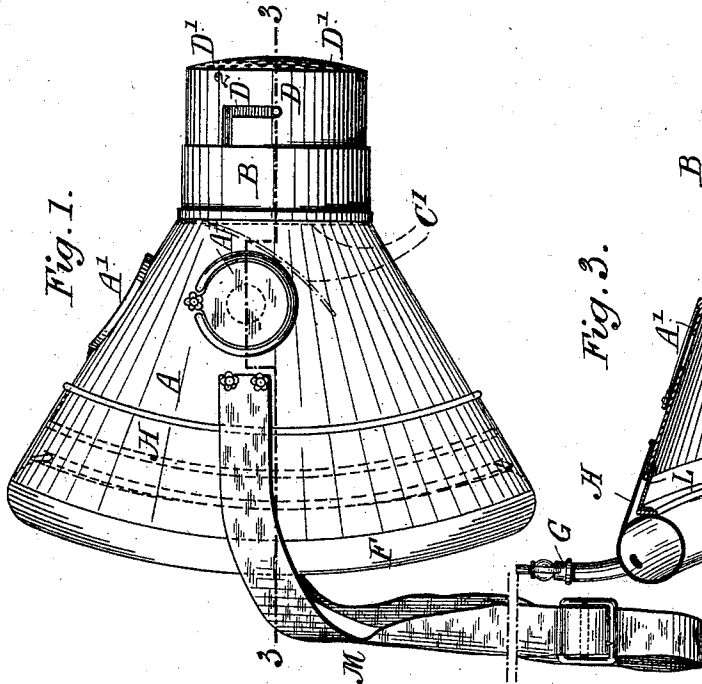


Fig. 1.

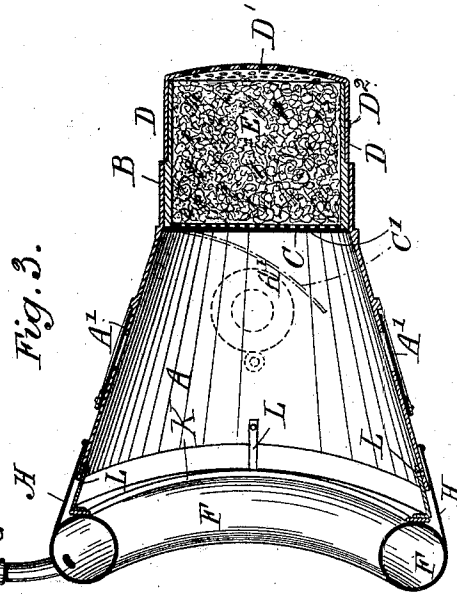


Fig. 3.

Witnesses:
E. W. Fothergill.
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Inventor:
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atly.

UNITED STATES PATENT OFFICE.

ARTHUR ROWLEY MOODY, OF STOKE-ON-TRENT, ENGLAND.

RESPIRATOR.

SPECIFICATION forming part of Letters Patent No. 610,914, dated September 20, 1898.

Application filed December 31, 1897. Serial No. 664,883. (No model.) Patented in England May 19, 1896, No. 10,831.

To all whom it may concern:

Be it known that I, ARTHUR ROWLEY MOODY, a subject of the Queen of England, residing at Stoke-on-Trent, England, have invented certain new and useful Improvements in Respirators, (for which I have obtained Letters Patent of Great Britain, No. 10,831, dated May 19, 1896,) of which the following is a specification.

This invention relates to those respirators that have medicated or absorbent material through which inhaled air must pass and be filtered and which are adapted to be temporarily attached to the head of the user over the mouth and nose.

The object of the invention is to provide a simple inexpensive respirator with the parts so arranged that the absorbent or medicated filtering material is only exposed to air drawn inwardly from the outside and cannot be defiled by exhaled breath, and which can be worn with comfort, without interfering with conversation, by people engaged in occupations inimical to sound lungs or by invalids requiring medicated or purified air for their lungs.

Referring to the accompanying drawings, Figure 1 represents a side elevation of a respirator embodying the invention. Fig. 2 is a view looking at the front end of the respirator, and Fig. 3 is a longitudinal section of the same.

The body A of the respirator is preferably a conical shell and may be formed of metal, celluloid, or other light sheet material. Attached to the walls of the shell adjacent to openings are flap-valves A', of rubber or leather, which open outwardly and close inwardly, so as to permit the free escape of exhaled breath, but prevent the entrance of external air. Attached to the front end of the shell and communicating with the interior is a nozzle B. At the inner end of the nozzle is a perforated diaphragm C, and over the outer end and connected by a bayonet-joint D² is a cap D, with perforations D'.

In the cylindrical chamber in the nozzle, between the perforated diaphragm and perforated cap, absorbent or medicated cotton, wool, or other filtering material E is placed, and all air inhaled by the wearer of the res-

pirator must pass through this filtering material.

A flap-valve C' is placed over the inside of the diaphragm C in such manner that it will open inwardly to permit the free entrance of inhaled air and close outwardly, so as to prevent the passage of any exhaled breath. By means of this valve the absorbent or medicated filtering material is protected from becoming fouled by impurities exhaled by the user.

The edge of the larger end of the shell is provided with a flexible rubber tube F, that may be inflated by any suitable means, so that the respirator may be made to closely and yet comfortably fit the face of the wearer. The tube may be inflated through the pipe G' when the stop-cock G is open, and it is preferably connected with the shell by an elastic connecting-strip H, that may be formed of the same material as the tube. A pliable ring K, of thin metal, can be provided as a backing or support for the face-tube, and this ring may be connected with the shell by small brackets L. By properly manipulating the ring K the tube may be made to permanently assume such a form as will closely fit the contour of the face of the wearer and prevent the passage of air into the shell of the respirator around the edges next to the face.

The respirator may be retained in position by a strap M, that is adapted to be passed around the head of the wearer and secured by a buckle or other common means.

When the cap D is removed, a sufficient quantity of absorbent or medicated wool or other air-filtering material may be introduced into the filtering-chamber. The filtering-chamber can be made as large as desirable, and the area of the openings from the exterior to the filtering-chamber may be as great as necessary. The valves A', that open outwardly for the passage of exhaled breath, and the valve C', that opens inwardly for the passage of inhaled air, may be kept closed by small springs, if necessary.

I claim as my invention—

A respirator consisting of a light hollow shell, a pliable ring attached to one end of the shell, a flexible inflatable rim outside of the

ring and adapted to closely and comfortably conform to the face of the wearer, an air-tight flexible strip connecting the end of the shell near the ring with the rim, means for attaching the respirator over the mouth and nose with the rim fitting the face of the wearer, a chamber containing filtering material open to the exterior and open to the interior of the shell, an inwardly-opening and outwardly-closing valve at the inner end of the filtering-chamber, and an outwardly-opening and in-

wardly-closing valve at an opening through the walls of the shell, substantially as specified.

In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

ARTHUR ROWLEY MOODY.

Witnesses:

HENRY R. KING,
JNO. W. MALLETT.