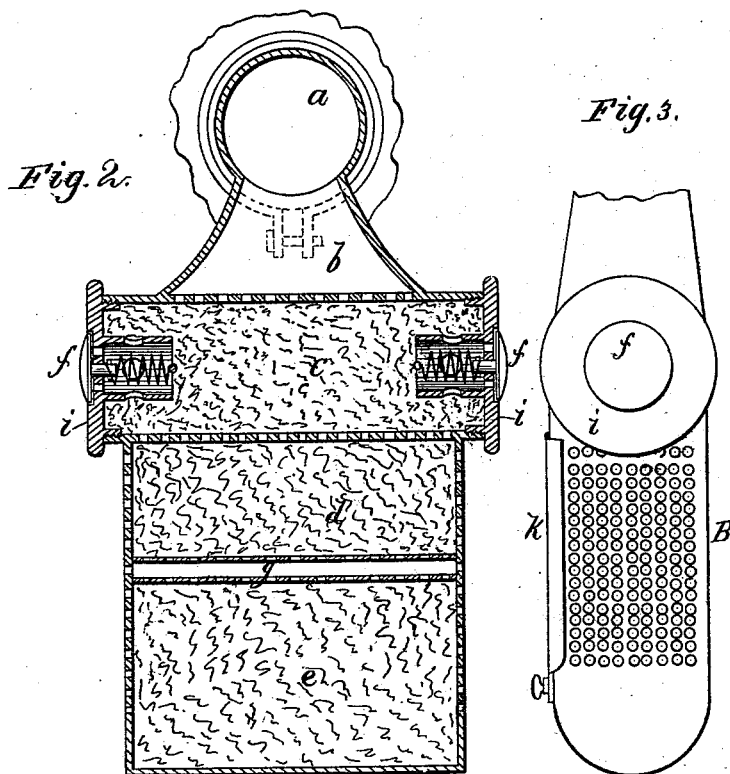
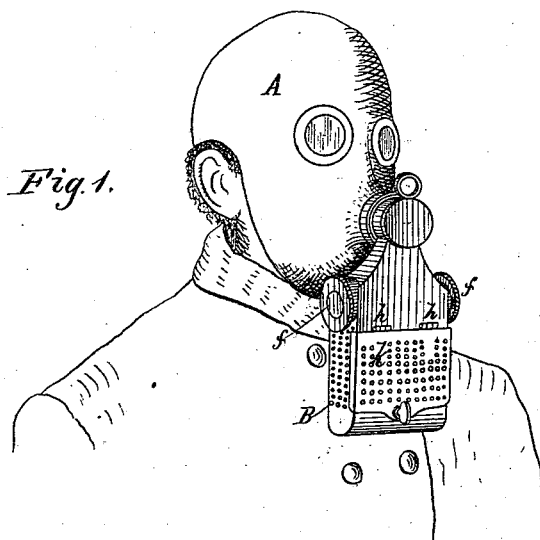


G. NEALLY.
Smoke-Excluding Mask.

No. 212,969.

Patented Mar. 4, 1879.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE NEALLY, OF NEW YORK, N. Y.

IMPROVEMENT IN SMOKE-EXCLUDING MASKS.

Specification forming part of Letters Patent No. 212,969, dated March 4, 1879; application filed January 8, 1879.

To all whom it may concern:

Be it known that I, GEORGE NEALLY, of the city, county, and State of New York, have invented a new and Improved Smoke-Excluding Mask, of which the following is a specification:

In Letters Patent granted to me September 18, 1877, a smoke-excluding mask is described and shown, intended for the use of firemen and others when in burning buildings to prevent suffocation by smoke.

The object of the present invention is to simplify the construction of the mask and render it more compact.

In the accompanying drawings, Figure 1 is a perspective view of the mask with my improvements applied. Fig. 2 is a vertical section of the respiration-box, and Fig. 3 is a side view.

Similar letters of reference indicate corresponding parts.

The mask A is adapted for covering the face of the person using it so as to exclude smoke, as described in the aforesaid Letters Patent, and has a mouth-tube, *a*, to which the respiration-box B is connected.

The upper part of the box B, where it connects with tube *a*, is separated by a perforated partition to form an air space or chamber, *b*, from which the air is drawn to the mouth of the wearer. The box B is divided by horizontal perforated partitions into spaces or chambers *c d e*, and the sides and front of box B are also perforated, except around the lower part of chamber *e*.

The chambers *d e* contain sponge or similar material, and chamber *c* contains wool or cotton and glycerine, or other material which will purify the air passing through it to the mouth. The chamber *c* is fitted at each side with outwardly-opening spring-valves *f*, that permit the discharge of exhalations.

The air will be drawn in through the perforations in box B through the sponges, which are kept wet with the water, and will be filtered of its smoke particles and purified before it reaches the space *b*.

To prevent the sponge from absorbing water too much, the chambers *d e* are separated by a narrow space, *g*, that contains no sponge.

By this construction the moisture will be carried by the air from the lower sponge in the form of a spray, sufficient to keep the upper sponge moist.

By the above-described construction, the rubber tubes shown in my previous patent are dispensed with, rendering the apparatus more compact and less liable to catch in obstructions and be torn from the wearer.

The front *k* of the box B is hinged at *h*, so that it can be opened to give access to the interior of the sponge-chambers. I prefer to form the chamber *c* cylindrical, and close the ends by screw-caps *i*, that carry valves *f*, and may be taken off to insert the cotton and glycerine.

The above-described apparatus may be used to great advantage by any one exposed to fires. For firemen it is especially useful, as they will be able to enter burning buildings with impunity and trace out incipient fires.

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

1. The combination, with the mask A, of the respiration-box B, connected to the said mask by the tube *a*, and having its sides and front perforated nearly to the bottom, and divided horizontally by perforated partitions to form sponge and air spaces, substantially as and for the purposes specified.

2. The combination, with the mask A, of the respiration-box B, perforated as described, divided by perforated partitions to form sponge and air spaces, and having the sponge-chambers separated by a narrow space, *g*, substantially as described and shown, and for the purposes set forth.

3. The combination, with the mask A and respiration-box B, of the chamber *c*, fitted with valves *f*, substantially as and for the purposes set forth.

4. In combination with the respiration-box, the hinged front *k* and screw-caps *i*, as and for the purposes specified.

GEORGE NEALLY.

Witnesses:

C. SEDGWICK,
GEO. D. WALKER.