

(No Model.)

H. N. FRASER.
HOLDING RING FOR RESPIRATORS.

No. 512,952.

Patented Jan. 16, 1894.

Fig. 1.

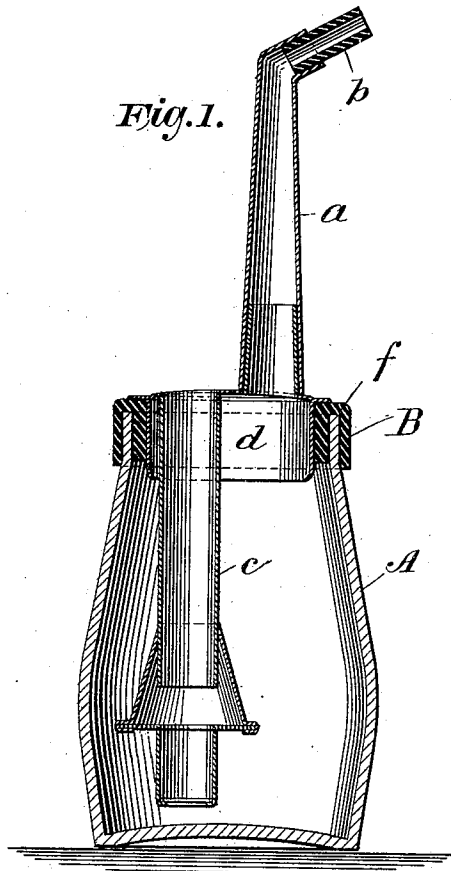


Fig. 2.

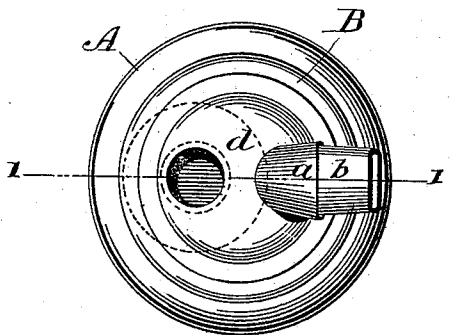
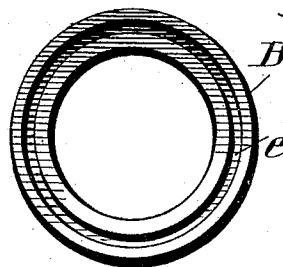


Fig. 3.



WITNESSES:
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UNITED STATES PATENT OFFICE.

HORATIO N. FRASER, OF NEW YORK, N. Y.

HOLDING-RING FOR RESPIRATORS.

SPECIFICATION forming part of Letters Patent No. 512,952, dated January 16, 1894.

Application filed January 23, 1893. Serial No. 459,484. (No model.)

To all whom it may concern:

Be it known that I, HORATIO N. FRASER, a resident of New York, county of New York, State of New York, have invented an Improved Holding-Ring for Respirators, of which the following is a specification, reference being had to the accompanying drawings forming part hereof, in which—

Figure 1 is a vertical central section of a respirator with my holding ring in place. Fig. 2 is a top view of the same; and Fig. 3 is a bottom view of the holding ring detached.

The invention relates to means for securely holding respirators, or other devices, in cups or vessels adapted to contain liquid or other substances, and to form a tight joint or connection to prevent escape of liquids or vapors except through passages provided for that purpose.

The main object of the invention is to provide a device for the purpose mentioned which shall be simple, cheap and efficient.

In the drawings A indicates a jar or cup into which the tube *c* of a respirator is shown extending; *a* is a tube through which vapors may arise to a suitable mouth-piece *b*. The tubes *a* and *c* are secured to the top of the cup shaped stopper *d*. This form of respirator does not constitute a part of this invention used for illustration merely.

The top edge of the jar *A* is provided with an adjustable annular ring or cup *B*. This ring is provided with two parallel downwardly extending flanges, shown in cross section in Fig. 1, one adapted to fit tightly over the outer surface of the upper portion of the jar, and the other adapted to fit tightly over the

inner surface thereof, so as to hold the cap in position on the jar. The diameter of the stopper *d* is slightly larger than the inner diameter of the ring *B*, and is thus held securely in position in the jar, at the same time forming a tight joint and preventing the escape of fluids from the jar. At the same time, the outer part of the rubber ring, by surrounding the edge of the vessel, prevents it from breaking under the strain caused by insertion of the body *d*, or from accidental blows, assists in producing a tight joint and helps to hold the body *d* secure. Owing to the shape of the ring there is no danger of its being forced into the vessel when the body *d* is inserted, since it will be securely held by that part of the ring which is above and around the outside of the vessel.

While the device is very simple it is found perfect in operation, and to possess marked advantages over old devices.

What I claim is—

The combination of a respirator jar *A*, adjustable ring or cap *B* on top of said jar, two parallel annular straight flanges, extending downwardly from said cap, one adapted to bear on the outer surface of the upper portion of the jar, and the other upon the inner surface of the same, and a stopper of a diameter slightly larger than the inner diameter of the ring and adapted to be forced therein, substantially as described and for the purposes set forth.

HORATIO N. FRASER.

Witnesses:

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