(No Model.)

J. C. LOCKE.

RESPIRATOR.

No. 390,027. Patented Sept. 25, 1888.

Fig. 1

Fig. 2.

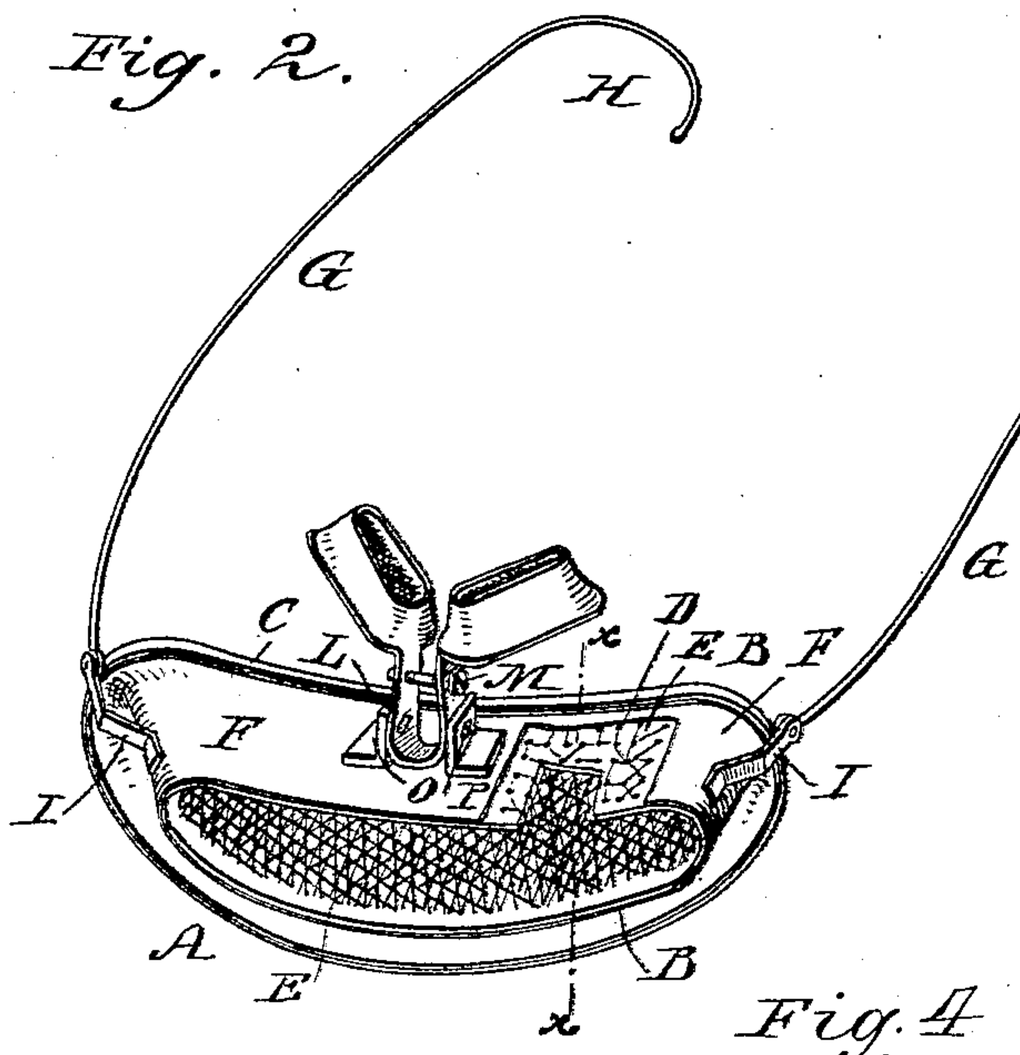


Fig. 3.

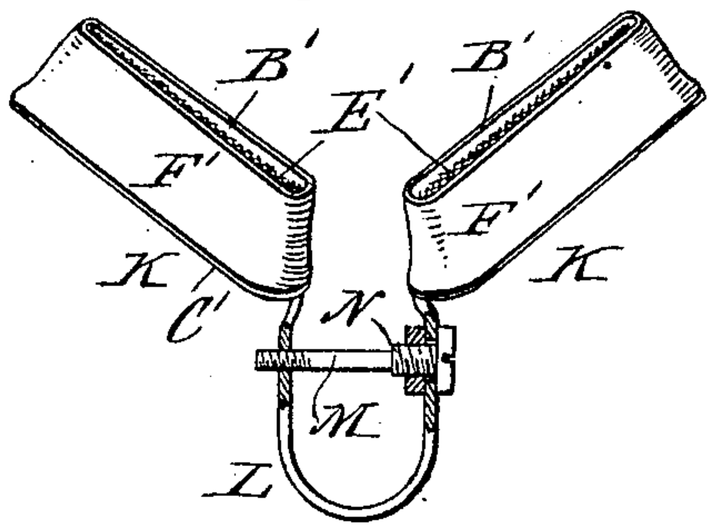
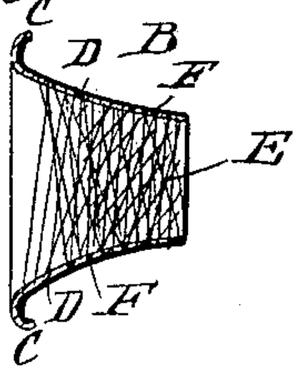


Fig. 4



WITNESSES:

John W. Deemer

C. Sedgwick

INVENTOR:

J. C. Locke

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH C. LOCKE, OF AU SABLE CHASM, NEW YORK.

RESPIRATOR.

SPECIFICATION forming part of Letters Patent No. 390,027, dated September 25, 1888.

Application filed January 19, 1888. Serial No. 261,246. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CURRAN LOCKE, of Au Sable Chasm, in the county of Essex and State of New York, have invented a new and useful Improvement in Respirators, of which the following is a full, clear, and exact description.

This invention relates to an improvement in respirators in which air-filtering devices adapted to the respiratory orifice or orifices—that is, the nose and mouth—are provided with means for retaining them in place.

The object of the improvement is to more perfectly adapt the filtering device to the orifice which it protects, to provide a better filtering medium for such device, to secure protection for both the nose and mouth by a single contrivance, and to render the respirator lighter, more comfortable, more easily and securely applicable, and more readily removable than those heretofore used.

The invention consists of certain novel features of construction and combinations of parts, hereinafter fully described, and distinctly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view illustrating a respirator embodying my improvement in use. Fig. 2 is a perspective view of the said respirator on a larger scale, partly broken out. Fig. 3 is a perspective view, partly in section, of the nasal respiratory contrivance. Fig. 4 is a cross sectional elevation of the air-filtering device for the mouth on the line *x x* of Fig. 2.

The body of the air-filtering device A for the mouth is constructed of a thin tubular shell, B, preferably of non-corrosive metal, of tapering form, open at both ends, and having a flaring end, C, conforming to the shape of the user's mouth, around which it is thus adapted to fit closely, as illustrated in Fig. 1.

The shell B is formed on all sides with superposed series of perforations D, through which fine fibers E, preferably of human hair, are threaded and carried alternately back and forth across the interior of the shell in various directions, so as to form a fine air-filtering mesh-work of considerable thickness, utterly impervious to the particles of dust, &c., contained in the air, which are readily caught and retained by the hair, owing to its naturally moist nature, while not in the least interfering with the passage of air necessary to respiration.

The outside of the shell B is covered by a coating, F, of japan or the like, to conceal both the shell and the exteriorly-lying portions of the fibers E.

For retaining the mouth filtering device in place cheek-bars G, provided with end ear-hooks, H, are pivotally connected to the ends of the shell B, preferably by means of arms I, soldered or otherwise rigidly attached to the shell.

The nasal respiratory contrivance is constructed with a pair of air-filtering devices, K, the body of each of which is formed of a tapering tubular shell, B′, open at both ends, shaped to conform accurately to and adapted for reception within one of the nostrils, and having a flaring outer end, C′, to limit the extent of insertion into the nostril. Each shell B′ is perforated and filled with a thick air-filtering mesh-work of human hair, E′, and is covered with a protective coating, F′, of gold-foil or other non-corrosive material, to avoid irritating the lining of the nose.

The inner ends of the two shells B′ are rigidly connected to a U-shaped spring-yoke, L, so as to permit the shells to yieldingly embrace the septum of the nose, and be thereby retained in place, and an adjusting-screw, M, having a jam-nut, N, is mounted in the two arms of the yoke for regulating the pressure upon the septum.

The tubular shape of the shells B′ gives them an extensive bearing on the interior of the nostrils, so that they are easily and without discomfort retained in place therein, and they further serve to keep the nostrils dilated, and thus facilitate rather than obstruct respiration.

The lower closed end of the yoke L is attached to the upper wall of the mouth-shell B, preferably by lugs O, fixed thereon, and screws P, so that the mouth and nose devices mutually support and sustain each other.

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

1. In a respirator, the combination of a tapering tubular shell, provided with perforations extending all around and throughout the greater portion of the said shell, and a fibrous air-filtering mesh-work, the fibers of which are threaded through the said perforations, substantially as described.

2. In a respirator, the combination of a tapering tubular shell provided with perforations extending all around and throughout the greater portion of said shell, an air-filtering mesh-work formed of human hair, the fibers of which are threaded through the perforations, and an exterior protective coating, substantially as herein shown and described.

3. An improved nasal respirator consisting of two tapering tubular shells provided with perforations extending all around and through the greater portion of the shell, a fibrous air-filtering material, the fibers of which are threaded through the said perforations, an external protective covering, a yoke connecting the two shells, and a screw for adjusting the yoke, substantially as described.

4. In a respirator, the combination, with a filtering device for the mouth, a pair of filtering devices for the nostrils, and an adjustable yoke uniting the nostril filtering devices, of fastening devices connecting the yoke to the mouth filtering devices, substantially as described.

JOSEPH C. LOCKE.

Witnesses:

T. ROBT. LANSKAIL,

DAVID POLLOCK.