

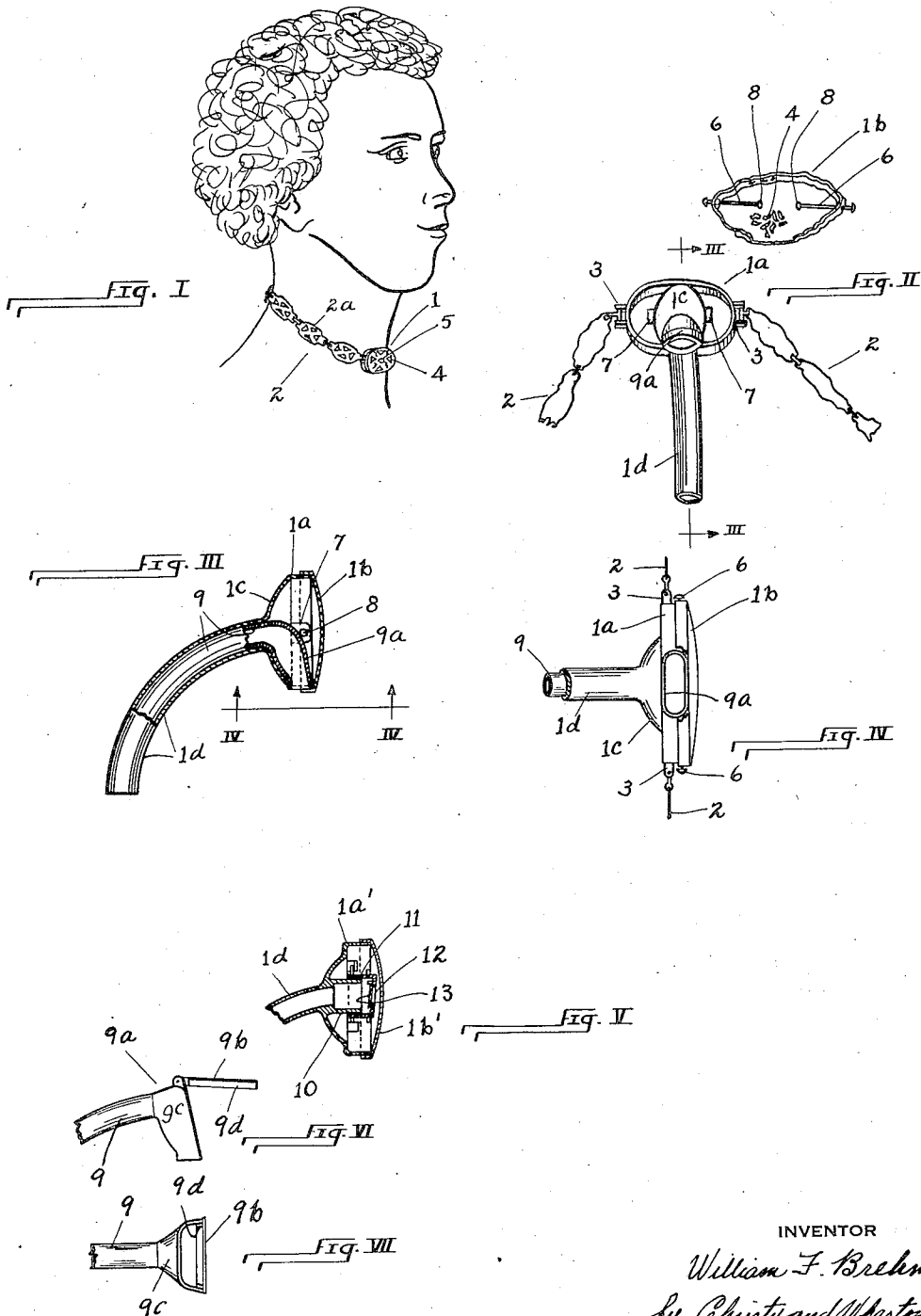
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TRACHEOTOMY TUBE

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TRACHEOTOMY TUBE

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1 Claim. (Cl. 128—351)

The invention relates to surgical appliances, and consists in elaborations and refinements in the structure of tracheotomy tubes.

Persons suffering from goiter or other morbid throat or nasal conditions frequently reach a stage of abnormality in which natural respiration is no longer possible. Surgery affords the remedy.

The surgeon makes an incision in the wall of the patient's throat, below the lower jaw, and communication is established through such opening with the wind pipe or trachea. And thus an abnormal but effective method of respiration is made possible.

Ordinarily, in cases of this kind an instrument known as a tracheotomy tube is projected through the incision and into the trachea, to facilitate the passage of air during breathing. In some cases the patient is able to exhale in normal way through the mouth and nasal passages, and then the mouth of the tracheotomy tube may include a flutter valve which, normally lying in closed position, swings open when the patient inhales. In other cases both inhalation and exhalation are conducted through the tube, and, accordingly, the mouth of the tube is unrestricted. In either form, however, the instrument secured in the patient's throat presents an unpleasant appearance, and persons (particularly women) otherwise normal and healthy, who are forced to wear the tube, feel constrained to remain in seclusion.

More specifically my invention consists in the particularly effective organization of a tracheotomy tube in a necklace. The necklace embodies a medallion element which in service is adapted to overlie the incision or opening in the patient's throat. In addition to providing a cover for the incisional scar, the medallion element receives and is secured to and constitutes a screen upon the outer end of the tube. The face of the medallion is ornamental, and may be decked with jewels, while the neck-encompassing band of the necklace may comprise a string of beads or an ornamental chain of gold or the like. The band of the necklace extends from opposite sides of the medallion, and, in addition to its value and utility as an ornament, the band cooperates with the medallion in securing the tube in proper position in the throat of the wearer. In service, the device appears to be merely a piece of jewelry. The fact is not apparent, that it is additionally a screen upon an unsightly object.

In the accompanying drawing Fig. I shows an embodiment of the invention secured in position of service. Fig. II is a perspective view, showing

the medallion element and tracheotomy tube assembly; the cover of the medallion element is removed, and appears with its inner face turned upward. Fig. III is a view, partly in side elevation and partly in section, on the plane III—III of Fig. II, showing the assembly with the cover in place upon the medallion element. Fig. IV is a view in elevation of the assembled medallion element, seen from below. Fig. V is a view corresponding to Fig. III, and illustrating a modification. And Figs. VI and VII are fragmentary views, illustrating still another modification.

Referring to Fig. I of the drawing, my device comprises a medallion 1 and a band 2 adapted to encompass the neck of the wearer, as shown. The band 2 may consist of a string of beads, an ornamental ribbon, or, as illustrated in this case, a chain of filigree metal links 2a, and, of course, the chain 2 is provided with a separable fastener for closing the band about the neck. The separable fastener is located at the back of the neck and does not appear in the drawing—suffice it to say that any one of the well-known necklace fasteners may be used. The medallion element comprises a metal base 1a and a cover 1b; the base 1a is hollow or recessed, and at its opposite ends or sides carries lugs 3, to which lugs the opposite reaches of the neck-encompassing band 2 are pivotally secured, cf. Figs. II and IV. The cover 1b is of ornate design, and advantageously is a metal cover perforated in filigree design, roughly indicated by the reference numeral 4. Indeed, the cover may carry diamonds or other jewels, as indicated at 5 in Fig. I.

Means are provided for detachably securing the cover 1b to the base 1a, and such means comprise two axially adjustable pins 6 carried by the cover; within the base 1a, two tangs or lugs 7 are rigidly secured; each lug includes a transverse orifice, and, when the cover is placed upon the base, the pins 6 are pressed inward, lodging their inner ends severally in the orifices of such lugs. The inner ends of the pins are provided with round knobs 8, whereby the pins engage the lugs with "snap-fastener" effect, whereby the pins are secured against accidental withdrawal.

As may be observed in Fig. IV, the assembled base and cover constitute a hollow medallion, and the back wall of the base includes a recessed hemispherical portion which (in this case) is extended in an integrally formed, curved, tubular portion 1d. The tube 1d is the tracheotomy tube and is adapted to extend through the wall of the throat and into the trachea of the wearer. The hemispherical portion 1c nests in the depres-

sion of the incisional scar in the wearer's throat, affording a snug closure therefor, and overlying the surface of the throat bordering the scar. The rear wall 1c of the medallion, here shown to be of spherical curvature, may be minutely shaped to fit snugly the scar of the individual wearer.

In case the device is employed for complete respiration, I removably organize within the tubular portion 1d a tube 9; the outer end of the tube 9 extends into the enclosure or chamber within the medallion, and continues in an angular extension 9a which, as shown in Figs. II and IV, is bell-shaped at its mouth. The side walls of the base 1a of the medallion and of the cover 1b are recessed, whereby the mouth of the tube 9 lies flush with the bottom edge of the medallion. The open, bell-shaped mouth 9a imposes minimum restraint upon the inhalation of air; the organization is such that the exhaled air is ejected directly into the open atmosphere, whereby the moisture of the breath is prevented from condensing upon the device in the usual way. And it is especially noteworthy that the filigree cover remains in a clean, sanitary condition.

Advantageously, the bell-shaped mouth 9a may be made in two sections, 9b and 9c, and section 9b may be hinged to section 9c, whereby it (section 9b) may be swung outward, as shown in Fig. VI, readily to permit the passage through of a tube-cleansing brush. As shown in Fig. VII, the section 9b carries a flange 9d which normally insures a snug engagement of the two sections.

From time to time the cover 1b may be lifted and the tube 9 withdrawn from the assembly, whereby the mucus, which normally collects in the tube and tends to block the air passage, may be removed.

In case inhalation only is to enter through the tracheotomy tube (exhalation being through the normal passageways), the inner tube 9 need not be employed; the tube 1d may be made continuous with a mouth portion 10 (Fig. V) within the medallion element. Over this mouth portion 10 a cap 11 is removably secured. The wall of the cap is provided with an inlet 12, covered from within by the flutter valve 13. When in service the patient inhales, the valve swings open, admitting of free passage of air into the tube 1d. When the patient exhales, the valve 13 closes, stopping the passage in tube 1d, and causing the breath to flow out through the mouth and nasal passages. The perforated, filigree cover 1b' is in this case subjected only to the air drawn from the atmosphere into the inlet 12, and not to the moist breath, and accordingly it is unnecessary to turn the end of the tracheotomy tube aside, as in the form shown in Figs. II-IV.

I claim as my invention:

In combination, a necklace and a tracheotomy tube, said necklace including a member secured to and constituting a screen upon the otherwise exposed end of said tracheotomy tube.

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