

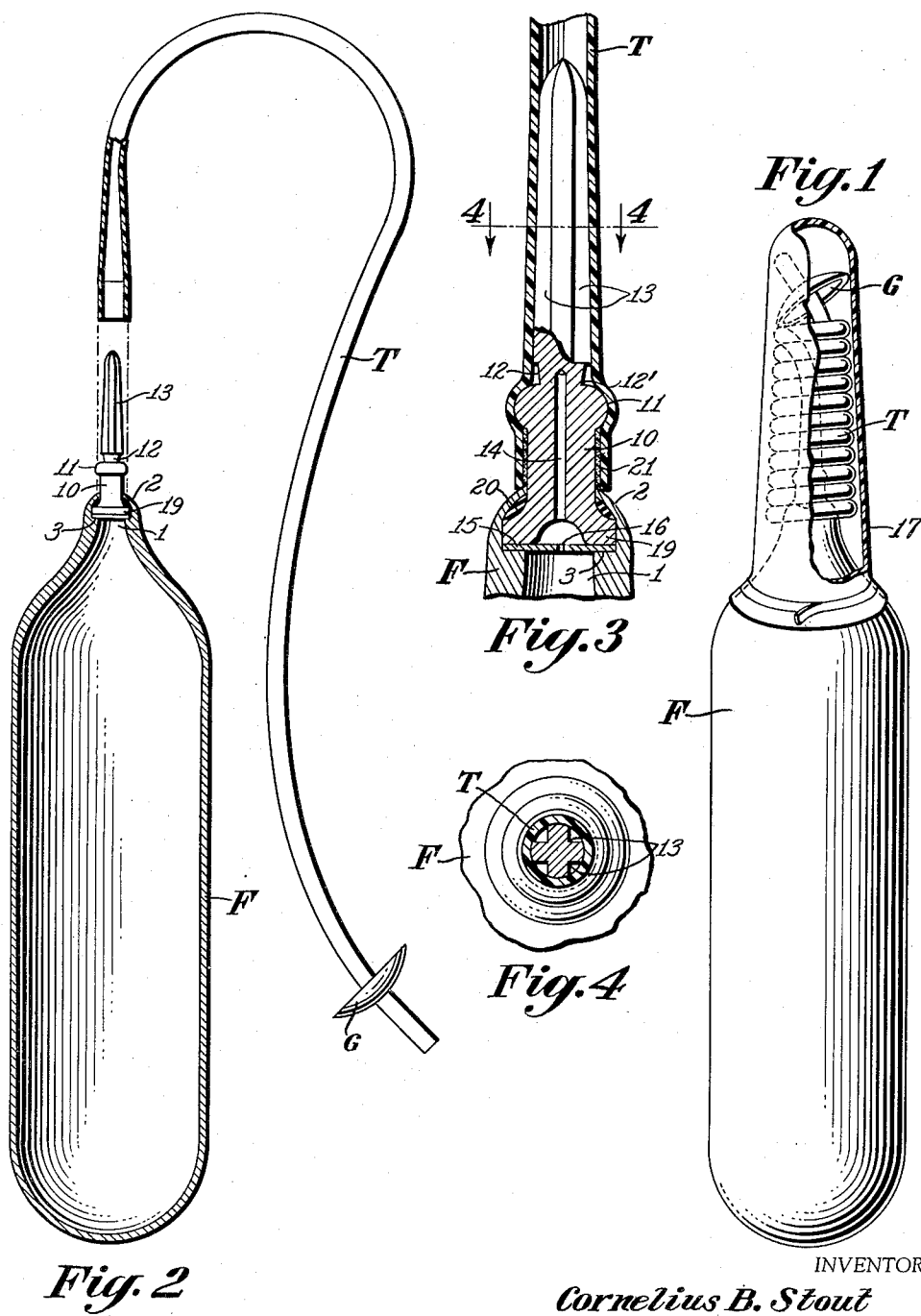
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GAS INHALER APPLICATOR

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GAS INHALER APPLICATOR

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8 Claims. (Cl. 222-5)

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This invention relates to a device for emergency use where a gas such as oxygen is indicated.

An object of the invention is to provide a device, which, associated with a suitable flask containing the medicinal gas under pressure, can be stored with safety both against leakage of the gas and soiling of the applicator tube, and which in an emergency can be quickly placed into operative position without the use of any tools and can be safely applied to the victim without any particular skill in controlling the amount of gas supplied.

A further object of the invention is to provide a connecting nipple between a pressure flask and a flexible applicator tube which will normally serve as a positive stopper to secure the gas under pressure in the flask and which in an emergency can be fractured in such a manner as to provide a positive conduit for the gas under pressure to the tube.

A further object of the invention is to provide a nipple of the character indicated in association with means having a metering orifice by means of which the gas under pressure is supplied to the delivery tube in a predetermined amount, thus requiring no skill in the operator under such circumstances.

Further objects will more particularly appear in the course of the following detailed description.

The invention consists in the novel construction, arrangement and combinations of parts hereinafter more particularly described and claimed.

One sheet of drawings accompanies this specification as part thereof, in which like reference characters indicate like parts throughout.

In the drawing:

Figure 1 is a perspective view of the improved nipple and dispensing tube associated with a flask of compressed gas and protected from contamination as the device would be kept in reserve;

Figure 2 is a cross sectional view through the flask illustrating the application of the nipple to the mouth of the flask and the flexible applicator tube;

Figure 3 is an enlarged detailed longitudinal cross section through portions of the nipple and the flask mouth, illustrating details of construction; and

Figure 4 is a transverse cross sectional view taken on line 4-4 of Figure 3.

In accordance with the present invention and referring to the drawing in which a satisfactory embodiment of the present invention is illustrat-

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ed, the flask for the compressed gas is identified as F, this flask being provided in a conventional manner with a mouth 1 at one end, which mouth 1 is surrounded by an annular lip 2 which lip defines in association with the wall of the mouth 1 a shoulder 3. Against the shoulder 3 is positioned a disk 15 having a central metering orifice 16.

The nipple comprises a body 10 having, in the form herein illustrated, an annular enlargement 11 intermediate its ends, which annular enlargement serves to distend and firmly grip the flexible applicator tube T to secure same in operative relationship with the nipple. On one side of the annular enlargement 11 is an annular groove 12 defining a weakened portion 12' of the nipple and between this weakened portion 12' and one end of the nipple is a bore 14. At that end of the nipple is formed an annular enlargement 19 which seats against the upper face of the disk 15 and against which the lip 2 of the flask is inserted to make a positive connection between the nipple and the flask. A gasket 20 can, if desired, be positioned between the end of the nipple and the lip 2 to assure the tightness of the joint. The bore 14 within the nipple and the metering orifice 16 in the disc 15 are preferably positioned in alignment.

Extending from the weakened portion 12' of the nipple to the other end are flutes or grooves 13 which communicate with the annular groove 12 surrounding the weakened portion 12'.

The end of the flexible applicator tube T which extends over the nipple can, if desired, be further secured to the nipple as by cement 21. On the free end of the applicator tube T is positioned a small mouth guard G.

With the applicator tube connected to the filled flask F in the manner illustrated, the applicator tube is then preferably coiled backwardly upon the nipple, as is illustrated in Figure 1, and an impervious envelope 17 is drawn over the applicator tube and nipple, as well as the mouth guard G, the edge portions of the envelope surrounding the flask being cemented thereto so that the applicator tube and the mouth guard will be fully protected against contamination. The coiled tube will further be effective to protect the nipple against accidental fracture while the device is not being used.

In an emergency when it is desired to supply oxygen to a victim, the envelope 17 will be removed and the flexible tube extended, after which by applying pressure on the nipple, the nipple will be broken at the weakened portion 12' and the fracture, regardless of its direction, will pro-

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vide communication between the bore 14 and the flask, the annular groove 12 surrounding the weakened portion and the fracture and one or more of the flutes 13 in the outer end of the nipple, by reason of which it will be apparent that immediately upon fracturing the nipple at the point indicated a metered supply of oxygen is made available through the applicator tube without any further control on the part of the operator, and this supply being metered in accordance to a predetermined safe quantity, the device can be used by ordinary persons without special training.

Various modifications in the precise form and construction of the nipple and its connection to the flask will readily suggest themselves to those skilled in the art, but within the scope of the present invention as claimed.

Having thus fully described my invention, I claim:

1. Nipple for connecting a flask of compressed gas or the like with a flexible tube comprising, a body of frangible material having one end formed for connection with the flask, an annular rib intermediate its ends to dilate a flexible tube extending over it, an annular groove on one side of said rib, said body having a bore extending from the flask end to said annular groove and that portion extending from the groove to the other end externally fluted.

2. Nipple for connecting a flask of compressed gas or the like with a flexible tube comprising, a body having one end formed for connection with the mouth of the flask, said body of a transverse diameter to snugly fit within and grip a flexible tube and having a breakable area intermediate its ends with a bore extending from the flask end to said breakable area and an exterior groove extending from the breakable area to the other end.

3. Nipple as specified in claim 2 with means having a gas metering orifice associated with the end of the nipple having a bore to restrict the supply of gas from the flask to said bore to a predetermined amount.

4. Nipple as specified in claim 2 in which the weakened area is of less diameter than adjacent portions to provide an annular groove adapted to communicate the bore with the exterior groove

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when the nipple is fractured at said weakened area regardless of the direction of the fracture.

5. In combination, a flask for gas under pressure, said flask formed with a discharge mouth surrounded by an annular lip, a nipple having one end formed with an annular flange to seat in said mouth and having a weakened breakable area intermediate its ends, said nipple having a bore extending from its flanged end to said weakened area and formed with an exterior groove extending from said weakened area to the other end.

6. In combination, a flask for gas under pressure, said flask formed with a discharge mouth surrounded by an annular lip, a nipple having one end formed with an annular flange to seat in said mouth and having a weakened breakable area intermediate its ends, said nipple having a bore extending from its flanged end to said weakened area and formed with an exterior groove extending from said weakened area to the other end, and a disk having a gas metering orifice positioned in the flask mouth with said metering orifice in alignment with the bore in the nipple.

7. In combination, a flask for gas under pressure, said flask formed with a discharge mouth surrounded by an annular lip, a nipple having one end formed with an annular flange to seat in said mouth and having a weakened breakable area intermediate its ends, said nipple having a bore extending from its flanged end to said weakened area and formed with an exterior groove extending from said weakened area to the other end, a disk having a gas metering orifice positioned in the flask mouth with said metering orifice in alignment with the bore in the nipple, and a flexible tube having an end portion expanded over, to firmly grip the nipple, with the weakened area of the nipple spaced from that end of the tube.

8. The combination of claim 7 with the remainder of the flexible tube coiled back around the portion surrounding the nipple and with an impervious envelope imposed over the nipple and coiled tube and having its mouth sealed against the body of the flask.

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No references cited.