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IMPROVED ENDOTRACHEAL CUFF

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Fig. 1

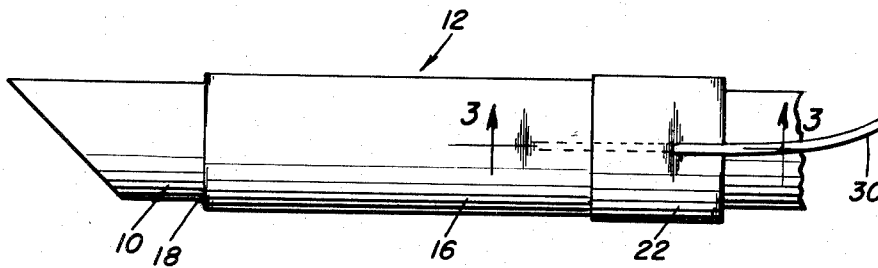


Fig. 2

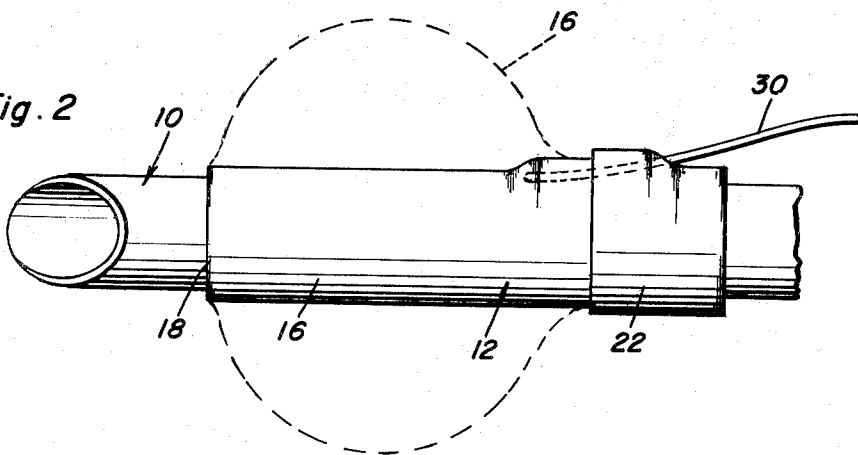
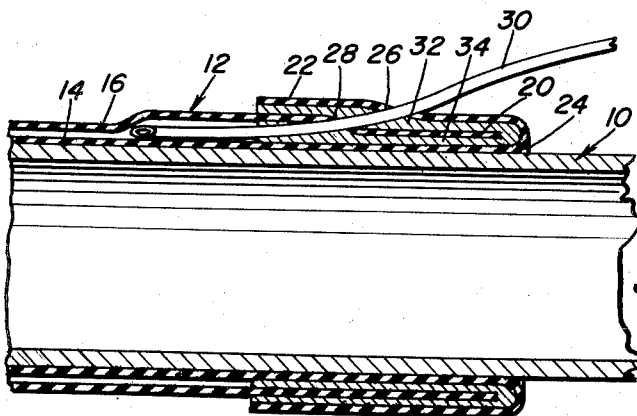


Fig. 3



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IMPROVED ENDOTRACHEAL CUFF

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6 Claims. (Cl. 128—351)

This invention relates to an appliance for use in administering anesthesia, and more particularly to an improved endotracheal cuff.

In the field of anesthesia, endotracheal cuffs have been in use for many years. Use of the endotracheal cuffs has made it possible to provide an almost air-tight system for a closed system for general anesthesia as used in thoracic surgery. Further, in the past, such endotracheal cuffs as have been devised which are satisfactory are rather expensive in construction considering the length of use thereof, and such endotracheal cuffs which are cheaper to produce are generally defective in construction so that air escapes readily when inflated.

The primary object of this invention resides in the provision of an endotracheal cuff which is extremely simple in construction and inexpensive to produce, thereby permitting wide use and distribution while providing a highly efficient and effective closure in use.

These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are obtained by this improved endotracheal cuff, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

Figure 1 is an elevational view of the endotracheal cuff comprising the present invention;

Figure 2 is a plan view of the endotracheal cuff; and

Figure 3 is a horizontal, sectional view as taken along the plane of line 3—3 in Figure 1.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral 10 generally designates an endotracheal tube with which the endotracheal cuff, designated generally by reference numeral 12 is adapted to be utilized in combination to form the present invention. The endotracheal tube 10 is of conventional construction and the endotracheal cuff 12 is mainly formed of a piece of thin rubber tubing as is commonly used for surgical drainage. This tubing is so arranged as to form an inner wall 14 with which an outer wall 16 is integrally formed and attached at the end 18 thereof. The outer wall 16 has an end 20 extending between a flap 22 integrally formed with the inner wall 14 and folded so as to overlie a portion of the outer wall 16. The cuff 12 is cemented or otherwise affixed to the tube 10 by means of rubber cement, as at 24. Other suitable mastics may, of course, be utilized.

Extending through an aperture 26 in the flap 22 and through an aperture 28 in the end portion 20 of the outer wall 16 is an inflating tube 30. The apertures 26 and 28 are normally about one-half the diameter of the tube 30 so as to enable this tube 30 to be received in substantially air-tight relation therein. When, of course, gas is applied under pressure through the tube 30, such as compressed air or the like, a further seal will be effected. In order to assure against leakage of air, a suitable seal, as at 32 and 34, is provided between the flap 22 and the end 20 of the outer wall 16 and the inner wall 14 and the end 20, completely sealing the tube in position and obviating the possibility of escape of air through the sealed end of the cuff. Hence, upon application of air or other gas under pressure into the tube 30, the outer wall 16 will be inflated, as is shown in dotted lines in Figure 2, to provide a seal against the passage of gas or air into the cavities of the patient. Further, the inflation of the outer wall 16 will cause the inner wall 14 to lie flush with the endotracheal tube 10.

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The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An endotracheal cuff for use in combination with an endotracheal tube comprising an inner tubular wall adapted to lie against an endotracheal tube and having a return peripheral flap, an outer tubular wall having one end integral with said inner wall and a free end received between said flap and said inner wall, and means for introducing gas under pressure between said inner wall and said outer wall.

2. An endotracheal cuff for use in combination with an endotracheal tube comprising an inner tubular wall adapted to lie against an endotracheal tube and having a return peripheral flap, an outer tubular wall having one end integral with said inner wall and a free end received between said flap and said inner wall, and an inflating tube extending through said flap and said outer wall for introducing gas under pressure between said inner wall and said outer wall.

3. An endotracheal cuff for use in combination with an endotracheal tube comprising an inner tubular wall adapted to lie against an endotracheal tube and having a return peripheral flap, an outer tubular wall having one end integral with said inner wall and a free end received between said flap and said inner wall, and means for introducing gas under pressure between said inner wall and said outer wall, and a seal of cement between said flap and said free end of said outer wall and between said free end of said outer wall and said inner wall.

4. An endotracheal cuff for use in combination with an endotracheal tube comprising an inner tubular wall adapted to lie against an endotracheal tube and having a return peripheral flap, an outer tubular wall having one end integral with said inner wall and a free end received between said flap and said inner wall, and an inflating tube extending through said flap and said outer wall for introducing gas under pressure between said inner wall and said outer wall, and a seal of cement between said flap and said free end of said outer wall and between said free end of said outer wall and said inner wall.

5. An endotracheal cuff for use in combination with an endotracheal tube comprising an inner tubular wall adapted to lie against an endotracheal tube and having a return peripheral flap, an outer tubular wall having one end integral with said inner wall and a free end received between said flap and said inner wall, and means for introducing gas under pressure between said inner wall and said outer wall, said cuff being bonded to said endotracheal tube.

6. An endotracheal cuff for use in combination with an endotracheal tube comprising an inner tubular wall adapted to lie against an endotracheal tube and having a return peripheral flap, an outer tubular wall having one end integral with said inner wall and a free end received between said flap and said inner wall, and an inflating tube extending through said flap and said outer wall for introducing gas under pressure between said inner wall and said outer wall, and a seal of cement between said flap and said free end of said outer wall and between said free end of said outer wall and said inner wall, said cuff being bonded to said endotracheal tube.

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