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(54) Title: NON-TRACHEAL VENTILATION TUBE

(57) Abstract: A non-tracheal ventilation tube (10) includes a multi-lumen tube shaft (12) having a proximal end and a distal end (18), a proximal cuff (14) and a distal cuff (16). The multi-lumen tube shaft (12) is separated into a ventilation channel (20) extending from a proximal ventilation opening to a distal ventilation opening (32), a suction channel (22) extending from a proximal suction opening (42) to a distal suction opening (44), and an inflation channel (24). The proximal cuff (14) is attached to the tube shaft (12) and is connected to the inflation channel (24) for inflation and deflation. The distal cuff (16) is attached to the tube shaft (12) on the distal side of the proximal cuff (14) and is connected to the inflation channel (24) for inflation and deflation. The proximal suction opening (42) and the proximal ventilation opening are located on the proximal side of the proximal cuff (14). The distal suction opening (14) is located on the distal side of the distal cuff (16). The distal ventilation opening (32) is located between the proximal cuff (14) and the distal cuff (16). The outside diameter of the tube shaft (12) decreases between the proximal cuff (14) and the distal cuff (16) due to the ending of the ventilation channel (20).

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/12387

				
A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : A61M 16/00 US CL : 128/207.14, 207.15				
According to International Patent Classification (IPC) or to both national classification and IPC				
Minimum documentation searched (classification system followed by classification symbols)				
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)				
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C. DOC	UMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a	ppropriate, of the relevant passages	Relevant to claim No.	
			1-27	
Y ·	US 5,499,625 A (FRASS et al) 19 March 1996 (19.03.1996), entire document			
	1 2 50 15 17 10 22			
Y	US 2001/0054425 A1 (BERTRAM) 27 December 2001 (27.10.2001), entire document 1, 3, 5-9, 15-17, 19-23,			
	25, and 26			
· A	US 4,231,365 A1 (SCARBERRY) 04 November 1980 (04.11.1980), entire document 1-27			
Α	US 4,090,518 A (ELAM) 23 May 1978 (23.05.1978), entire document		1-27	
Α	US 5,309,906 A (LABOMBARD) 10 May 1994 (10.05.1994), entire document 1-27		1-27	
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