US005400771A

United States Patent [19]

Pirak et al.

[11] Patent Number: 5,400,771

[45] Date of Patent: Mar. 28, 1995

[54] ENDOTRACHEAL INTUBATION ASSEMBLY AND RELATED METHOD

[76] Inventors: **Leon Pirak**, 500 Mountain Ave., Springfield, N.J. 07081; **Peter J. Wilk**, 185 W. End Ave., New York, N.Y. 10023

[21] Appl. No.: **7,056**

[22] Filed: **Jan. 21, 1993**

[51] **Int. Cl.**[6] **A61B 1/06**; A61M 16/04

[52] **U.S. Cl.** **128/6**; 128/200.26; 128/207.14

[58] **Field of Search** 128/4, 6, 10, 11, 200.26, 128/207.14, 662.06; 358/98, 105, 107; 348/129, 130, 135, 180

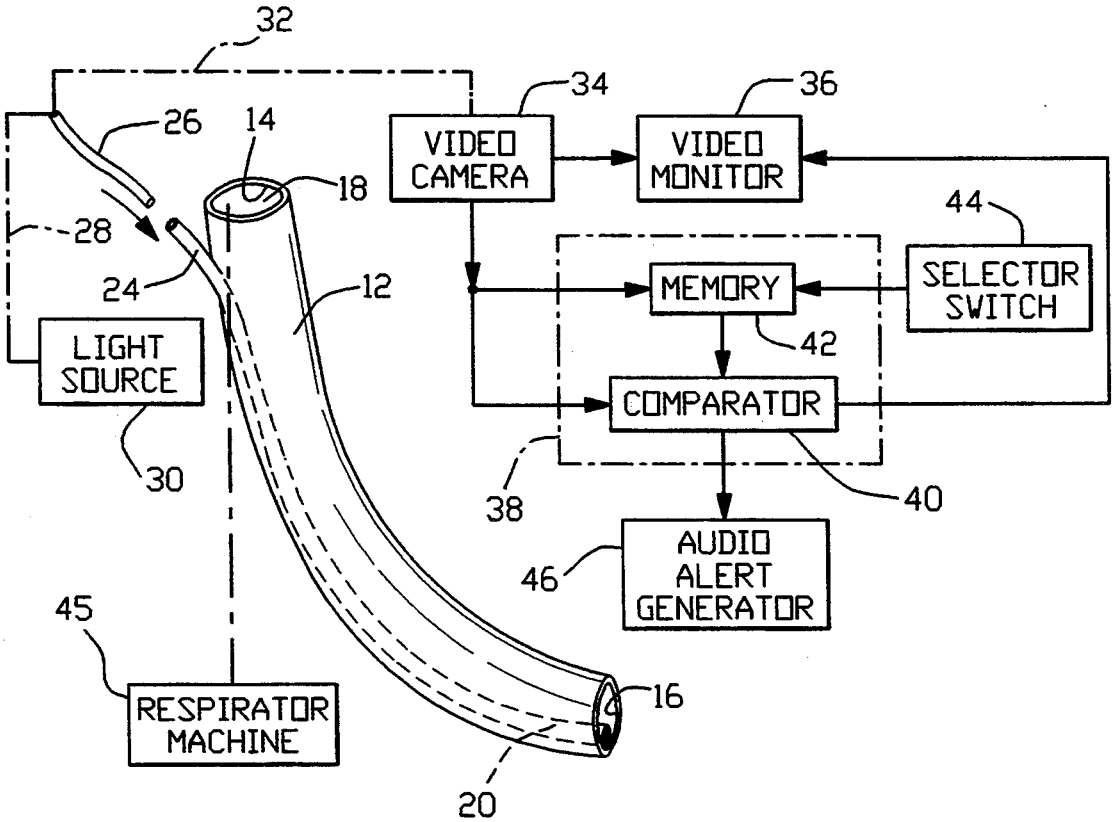
[56] **References Cited**

U.S. PATENT DOCUMENTS

4,592,343	6/1986	Upsher	128/11
4,674,515	6/1987	Andou et al.	128/6 X
4,742,819	10/1988	George	128/6
4,794,911	1/1989	Okada	128/4
4,846,153	7/1989	Berci	128/6
4,877,016	10/1989	Kantor et al.	128/6
4,905,669	3/1990	Bullard et al.	128/11
5,188,111	2/1993	Yates et al.	128/662.06 X
5,261,392	11/1993	Wu	128/200.26
5,285,778	2/1994	Mackin	128/207.14

Primary Examiner—Richard J. Apley
Assistant Examiner—John P. Lenbecker
Attorney, Agent, or Firm—R. Neil Sudol; Henry D. Coleman

[57] **ABSTRACT**

In an endotracheal intubation method, during and after insertion of an endotracheal tube into a trachea of a patient, an image is transmitted along the endotracheal tube from a distal end to a proximal end thereof, thereby enabling an operator to determine proper placement of the endotracheal tube. The image transmitted from the distal end of the endotracheal tube may be automatically monitored by a computer. Upon determination that an incoming image is different from a stored reference image, an alert signal is automatically issued to an operator, thereby indicating that the distal end of the endotracheal tube has moved from a predetermined position within the patient's trachea. A desired image is selected upon insertion of a distal end portion of the endotracheal tube into a patient's trachea.

20 Claims, 2 Drawing Sheets