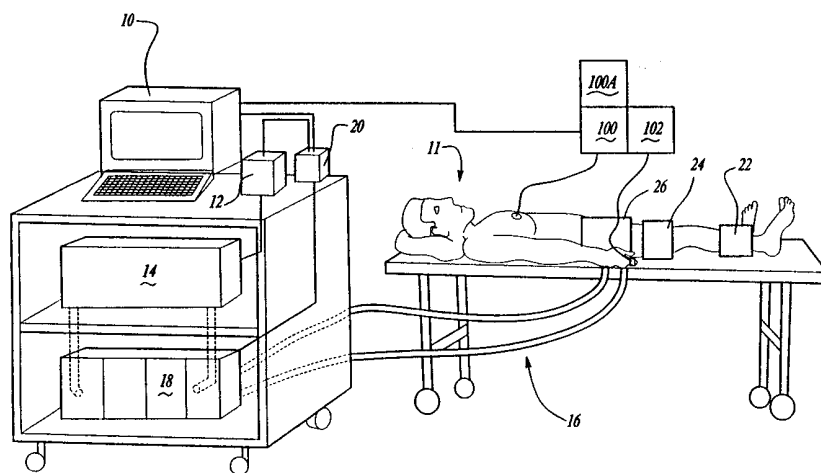




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(21) International Application Number: PCT/US98/16757 (22) International Filing Date: 13 August 1998 (13.08.98) (30) Priority Data: 60/055,976 18 August 1997 (18.08.97) US (71) Applicant: CPC OF AMERICA, INC. [US/US]; Suite 200, 1133 Fourth Street, Sarasota, FL 34236 (US). (72) Inventors: SHABTY, Paul; 510 Givens, Sarasota, FL 34242 (US). FERGUSON, Willard, D., Sr.; 109 77th Street, Holmes Beach, FL 34217 (US). FERGUSON, Willard, D., Jr.; 1290-D Carlton Arms Circle, Bradenton, FL 34208 (US). SMITH, Timothy, D.; 610 18th Avenue W., Palmetto, FL 34221 (US). (74) Agents: GASKEY, David, J. et al.; Howard & Howard Attorneys, P.C., Suite 101, 1400 North Woodward Avenue, Bloomfield Hills, MI 48304 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims</i> <i>and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 27 April 2000 (27.04.00)

(54) Title: COUNTERPULSATION DEVICE USING NONCOMPRESSED AIR

**(57) Abstract**

A counterpulsation device that operates without the use of compressed air or pressurized gas includes at least one inflatable cuff that is adapted to be placed about a selected portion of the patient's body. A conduit (16) connects the inflatable cuff to an air transfer device (14) so that noncompressed air can be transferred from the air transfer device to the cuff through the conduit to inflate the cuff. The conduit also connects the cuff to the air transfer device so that air can flow through the conduit to deflate the cuff. Another conduit (31) is coupled to the first so that the air in the system can be selectively vented into the atmosphere. A series of valves (58, 60) are placed on the conduit to selectively control whether air is supplied to or withdrawn from the inflatable cuff. The air moving device preferably is a cylinder (30) having a piston (32) that moves through the cylinder to move the air from within the cylinder through the conduit and into or out of the cuff as desired. The piston moves through the cylinder through the use of a linear servo actuator (33) that is controlled by an appropriately programmed electronic controller (2) so that the inflation of the cuff is timed with portions of the patient's EKG signal and peripheral plethysmographic wave.

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INTERNATIONAL SEARCH REPORT

 International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

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 US CL : 601/150-152

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 601/148-152

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 4,753,226 A (ZHENG et al.) 28 June 1988, see entire document.	1, 2, 8, 29-34 ----- 3-7, 9-17, 18-28, 35-37
Y	US 5,443,440 A (TUMEY et al.) 22 August 1995, see entire document.	9, 18-28, 35-37
Y	US 5,245,990 A (BERTININ) 21 September 1993, see entire document.	3-7, 10-17

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