

## (12) United States Patent

Soussan et al.

(10) Patent No.: US 6,526,357 B1

(45) **Date of Patent:** Feb. 25, 2003

### (54) ASSOCIATED PARAMETER MEASURING AND/OR MONITORING SUCH AS IN THE EVALUATION OF PRESSURE DIFFERENCES

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 105 days.

(21) Appl. No.: 09/631,204

(22) Filed: Aug. 1, 2000

### Related U.S. Application Data

(60) Provisional application No. 60/147,958, filed on Aug. 9, 1999.

(51)	Int. Cl. <sup>7</sup>	G06F 19/00
(50)	TIO OI	E03/45 503/406

### (56) References Cited

#### U.S. PATENT DOCUMENTS

3,946,731 A	3/1976	Lichtenstein
4,083,777 A	4/1978	Hutchisson
4,161,880 A	7/1979	Prosky
4,168,517 A	9/1979	Lee
4,227,420 A	10/1980	Lamadrid
4,315,309 A	2/1982	Coli
4,370,983 A	2/1983	Lichtenstein
4,403,296 A	9/1983	Prosky
4,600,401 A	7/1986	Kamen
4,661,246 A	4/1987	Ash
4,710,164 A	12/1987	Levin et al.
4,718,891 A	1/1988	Lipps
4,739,492 A	4/1988	Cochran
4,828,543 A	5/1989	Weiss et al.
4,879,040 A	11/1989	Prince et al.
4,954,128 A	9/1990	Ford

5,069,792 A	12/1991	Prince et al.
5,174,894 A	12/1992	Ohsawa et al.
5,200,090 A	4/1993	Ford et al.
5,211,849 A	5/1993	Kitaevich et al.
5,234,608 A	8/1993	Duff

(List continued on next page.)

#### FOREIGN PATENT DOCUMENTS

EP	0967554 A1	12/1999
EP	0990417 A1	4/2000
EP	0990418 A1	4/2000
EP	0992215 A1	4/2000
EP	0993803 A1	4/2000
EP	0997102 A1	5/2000
EP	0997103 A1	5/2000

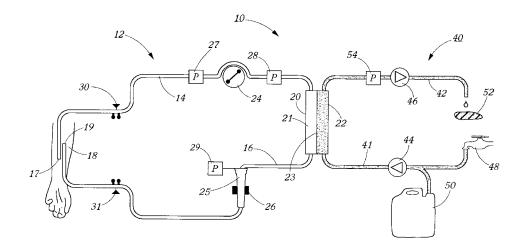
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### (57) ABSTRACT

Correction quantities are generated for yielding closer approximations of actual parameters. These are obtained by preliminarily subjecting parametric transducers to preselected parametric values and recording the measured values for each transducer in a data table for later use as or in correction quantities. An embodiment includes interpolation relative to data table values closest to the operationally measured parametric value and using the resulting interpolated value as a corrected parametric value. Such interpolations may be performed for two parametric transducers relative to two substances. The resulting corrected parametric values may then be subtracted to obtain a parametric difference. A further embodiment may include using correction quantities of a reference parametric transducer in interpolation calculations for the actual parametric transducers. Similarly, other data table correction recordations such as differences between two measured parameters can be used to modify an operationally measured parametric differential. Reference transducer corrections can be used here as well.

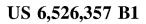
### 22 Claims, 7 Drawing Sheets

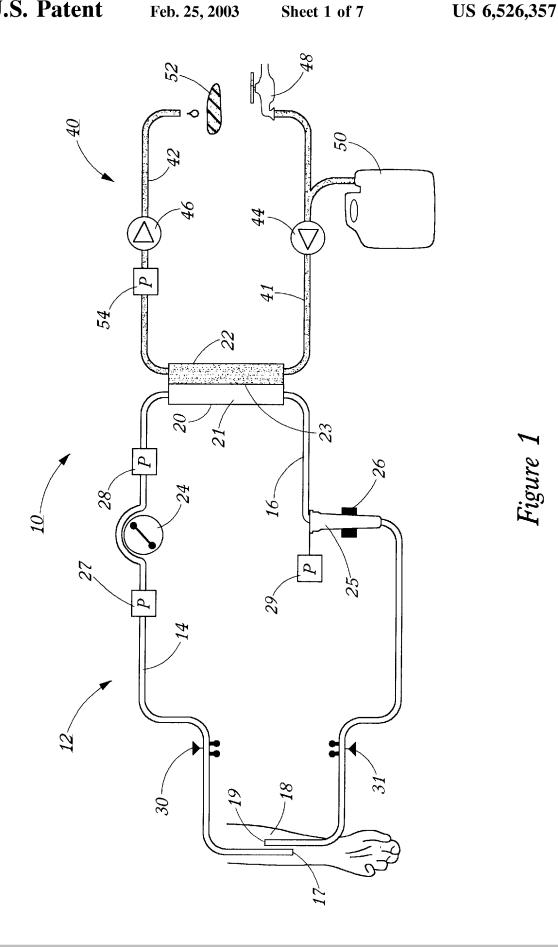




U.S. PATENT	DOCUMENTS	· · · · · · · · · · · · · · · · · · ·	97 Rosa et al.
5,263,924 A 11/1993 5,277,188 A 1/1994 5,326,476 A 7/1994 5,344,568 A 9/1994 5,370,123 A 12/1994 5,372,709 A 12/1994 5,431,811 A 7/1995 5,441,636 A 8/1995 5,473,537 A 12/1995 5,482,049 A 1/1996 5,487,827 A 1/1996 5,497,665 A 3/1996	Mathewson Selker Grogan et al. Kitaevich et al. Shinzato	5,645,642 A 7/19 5,650,071 A 7/19 5,690,831 A 11/19 5,706,661 A 1/19 5,711,302 A 1/19 5,711,883 A 1/19 5,725,776 A 3/19 5,745,377 A * 4/19 5,749,364 A 5/19 5,776,091 A 7/19 5,788,851 A 8/19 5,910,252 A 6/19 6,045,510 A 4/20	77 Kosa et al. 78 Nishizato et al. 79 Nishizato et al. 79 Brugger et al. 70 Kenley et al. 70 Kenley et al. 70 Frank 70 Folden et al. 70 Folden et al. 70 Folden et al. 71 Folden et al. 72 Folden et al. 73 Folden et al. 74 Folden et al. 75 Fruitt et al. 76 Fruitt et al. 77 Truitt et al. 78 Goura et al. 79 Sipin
5,536,237 A 7/1996	Buffaloe, IV et al. Prince et al. Miyawaki	* cited by examiner	31 Sipili 004,05
2,222,	1.11,		









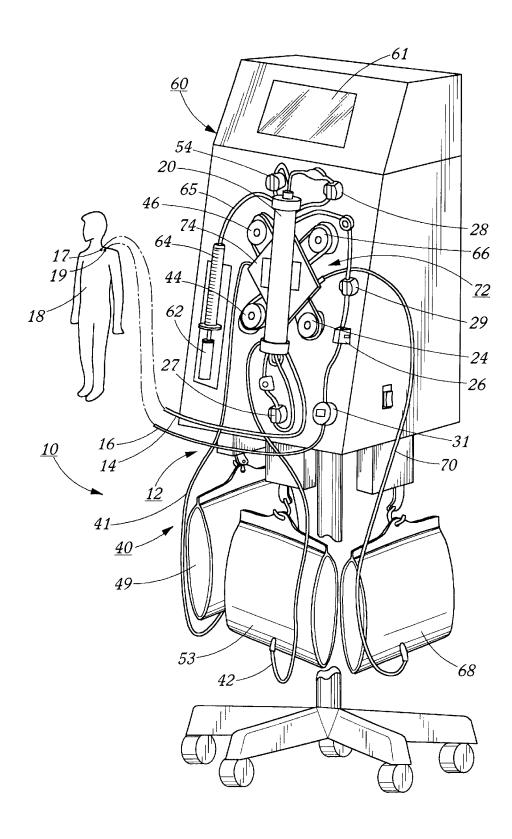


Figure 2



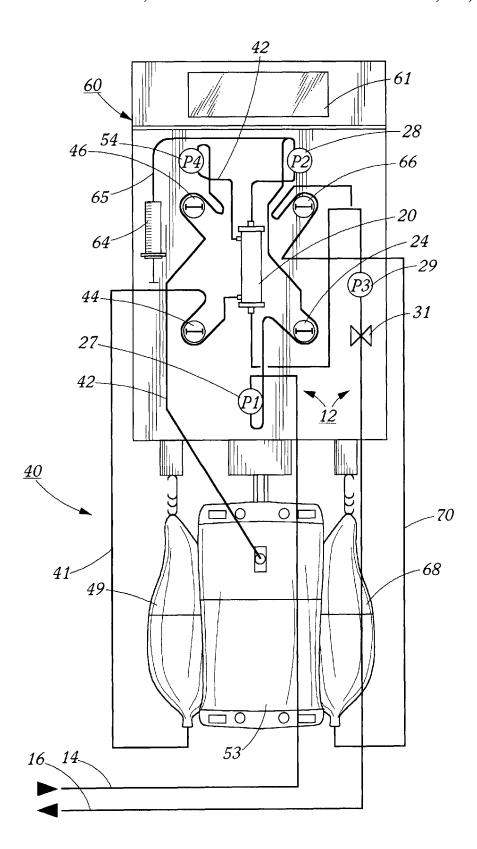


Figure 3



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