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<p>(51) International Patent Classification ⁵ : A61M 5/168, G01V 9/04 G02B 5/10</p>	<p>A3</p>	<p>(11) International Publication Number: WO 92/17227 (43) International Publication Date: 15 October 1992 (15.10.92)</p>
<p>(21) International Application Number: PCT/US92/02435 (22) International Filing Date: 31 March 1992 (31.03.92) (30) Priority data: 678,639 1 April 1991 (01.04.91) US (71) Applicant: SHERWOOD MEDICAL COMPANY [US/US]; 1915 Olive Street, St. Louis, MO 63103-1642 (US). (72) Inventors: YERLIKAYA, Denis, Y. ; 13257 Kenroyal Drive, Des Peres, MO 63131 (US). KROHN, Randall, Jeffrey ; 836 Westbrooke Meadows Court, Ballwin, MO 63021 (US). WALKER, Clarence, Logan ; 643 Foote Avenue, Webster Groves, MO 63119 (US). WILHELM, Michael, John ; 704 B E. 12th Street, Rolla, MO 65401 (US). KINGHORN, Curtis, Durrell ; 3655 Knollstone Drive, Ferguson, MO 63135 (US).</p>		<p>(74) Agents: SMITH, Montgomery, W.; Sherwood Medical Company, 1915 Olive Street, St. Louis, MO 63103-1642 (US) et al. (81) Designated States: AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BJ (OAPI patent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH (European patent), CI (OAPI patent), CM (OAPI patent), CS, DE (European patent), DK (European patent), ES (European patent), FI, FR (European patent), GA (OAPI patent), GB (European patent), GN (OAPI patent), GR (European patent), HU, IT (European patent), JP, KP, KR, LK, LU (European patent), MC (European patent), MG, ML (OAPI patent), MR (OAPI patent), MW, NL (European patent), NO, PL, RO, RU, SD, SE (European patent), SN (OAPI patent), TD (OAPI patent), TG (OAPI patent).</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 12 November 1992 (12.11.92)</p>
<p>(54) Title: DROP DETECTION METHOD AND APPARATUS</p>		
<p>(57) Abstract</p> <p>A drop detector system and method are provided for a drop detector of the type including a drop chamber (30) and an electro-optical sensor (40). The detector system detects drops passing through an optical sensing path between a detector (40) and at least one light source (38). In response to the detection of a drop passing through the optical path, the detector produces an output signal. A capacitor is connected between the detector and an amplifier to block the DC component of the output signal. After amplification, the signal is passed through a low pass filter to further block signals caused by undesirable factors. The cutoff frequency of the low pass filter is controlled by a microprocessor that controls the pump that pumps liquid from the drop chamber. The detector and light source or sources are arranged to detect drops falling in the drop chamber at virtually any angle and in virtually any ambient light condition.</p>		

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INTERNATIONAL SEARCH REPORT

PCT/US 92/02435

International Application No

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)⁶
 According to International Patent Classification (IPC) or to both National Classification and IPC
 Int.Cl. 5 A61M5/168; G01V9/04; G02B5/10

II. FIELDS SEARCHED

Minimum Documentation Searched ⁷	
Classification System	Classification Symbols
Int.Cl. 5	A61M ; G01V ; G02B

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched⁸


III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹

Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
X	WO,A,8 603 597 (BAXTER TRAVENOL) 19 June 1986 see page 3, line 17 - line 20; figure 1 ---	1-6,24
X	EP,A,0 170 984 (ABBOTT LABS) 12 February 1986 cited in the application see page 4, line 17 - page 5, line 7; figures 1,7 ---	1,7,8, 12,25
X	US,A,4 533 350 (DANBY ET AL) 6 August 1985 see abstract; figure 3 ---	1,8,9,25
X	EP,A,0 229 354 (ABBOTT LABS) 22 July 1987 cited in the application see abstract; figure 6 ---	1,8,10, 12,25
X	EP,A,0 209 659 (INTERMEDICAT GMBH) 28 January 1987 see column 4, line 53 - column 5, line 58; figures ---	1,7,8 11,12,25

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IV. CERTIFICATION

Date of the Actual Completion of the International Search 18 AUGUST 1992	Date of Mailing of this International Search Report 24.09.92
International Searching Authority EUROPEAN PATENT OFFICE	Signature of Authorized Officer CLARKSON P. 

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category °	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
X Y	WO,A,8 603 002 (BAXTER TRAVENOL) 22 May 1986 see page 5, line 7 - page 6, line 28; figures	1 15-23, 26,27
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**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO. US 9202435
SA 59559**

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82