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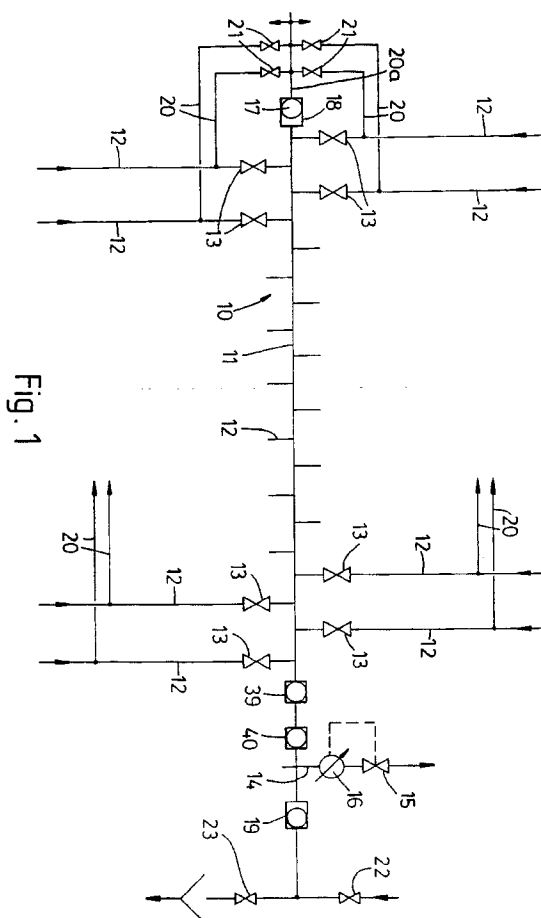
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(54) Liquid product distribution system

(57) A liquid distribution system suitable in use for the substantially contamination free collection of one of a variety of liquid products of differing character from a selected source, and/or the substantially contamination free delivery of a said product to a selected one of a variety of destinations. The preferred embodiment utilises a novel manifold and manifold system and a novel rotary valve unit. The preferred manifold incorporates a pig which travels the length of a common conduit of the manifold between deliveries of different liquids. Satellite conduits are connected at T junctions between the extremities of the common conduit via the novel rotary valve unit. An off-take connection including a main valve is connected at a T junction spaced from the satellite junctions and the nearest extremity of the common conduit. The rotary valve unit is designed to conform to the inner surface of the common conduit in its closed position to provide a smooth unobstructed path for the pig, which is operated by pressure of the product to be delivered.

**Fig. 1****EP 0 682 993 A3**



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EUROPEAN SEARCH REPORT

Application Number
EP 95 25 0112

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
P,X	EP-A-0 646 423 (FUJI OIL CO.LTD)	1-6,8, 14,18-20	B08B9/04 F17D3/08
A	* abstract * * claims 1-7; figures 1,6-8 * ---	11,12	
X	EP-A-0 375 533 (FMC EUROPE S.A.)	1-8,14, 18-20	
A	* column 3, line 45 - line 58 * * column 7, line 23 - column 8, line 47 * ---	11,12	
X	DE-A-41 19 743 (RICHARD FRISSE GMBH)	1-6,8, 15,18	
A	* column 4, line 2 - column 5, line 23 * ---	19,20	
X	WO-A-88 03246 (SOCIETE DES LUBRIFIANTS ELF AQUITAINE)	1-6,8	
A	* page 1, line 1 - line 16 * * page 5, line 11 - page 7, line 14 * * page 10, line 25 - page 11, line 28 * ---	9,10, 18-20	
A	EP-A-0 266 097 (INTERNATIONAL TESTING AND COMMISSIONING LTD) * column 3, line 6 - column 4, line 4 * -----	1,2,4-7, 9,11, 13-19	TECHNICAL FIELDS SEARCHED (Int.Cl.6) B08B F17D F16L
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 7 September 1995	Examiner LILIMPAKIS, E
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document			

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid,
namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions,
namely:

See sheet -B-

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid,
namely claims:
- ☒ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.

namely claims: 1 - 20



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EP 95 25 0112 -B-

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-20: Manifold system for the delivery and/or collection, of a product to a selected destination or from a selected source under contamination free conditions with a pig-formed cleaning means, actuated automatically to clean the main supply or delivery line, and control means to command respective functions of the system (vannes, valves, compressed air) of the liquid distribution/collection system and of the cleaning means
2. Claims 21-25: Rotary valve unit for a liquid distribution system having T-junctions, comprising: a casing (24) forming a connection to a pipe (11) at a T junction, a member (30) rotatable within said casing about an axis lying in a plane parallel to the direction (33) of said pipe (11), between open and closed positions, said rotatable member (30) having a bore (31) perpendicular to said axis so as to communicate with said pipe in said open position, wherein said rotatable member is formed with a part-cylindrical re-entrant surface (36) conforming to the inner surface of said pipe (11) so as to form with the pipe a continuous cylindrical surface when in the closed position