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(54) **Refrigerator for cryogenic gas separation system**

(57) A cryogenic gas separation system which comprises a refrigerator and utilizes cold produced by the refrigerator as a cold source for separation of a gas. The refrigerator incorporates a rotary valve which comprises a rotary element rotatable about an axis thereof and having a circular cross section perpendicular to the axis, and a housing accommodating the rotary element in a rotatable manner. The rotary element has a plurality of ports provided in an outer peripheral portion thereof, the housing having a plurality of ports provided in a peripheral wall thereof in association with the ports of the rotary element, the rotary valve being operative to be switched between a position where predetermined ones of the ports of the rotary element are aligned with corresponding ones of the ports of the housing for communication therebetween and a position where the predetermined ones of the ports of the rotary element are displaced in non-alignment with the corresponding ones of the ports of the housing for non-communication therebetween by rotation of the rotary element. The valve incorporated in the refrigerator has a smaller size and an extended service, and the cryogenic gas separation system can obtain a sufficient amount of cold with the use of the refrigerator.

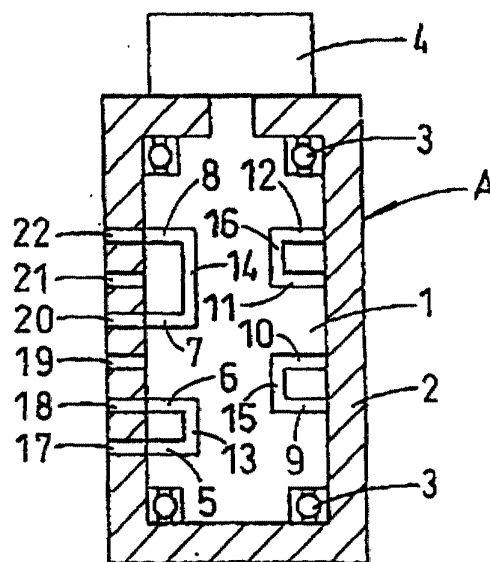


Fig. 1



European Patent
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EUROPEAN SEARCH REPORT

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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 2 August 2002	Examiner Göritz, D
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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