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Remarks:
MISSING OR CORRECT PARTS INCLUDED UNDER RULE 56(3) or RULE 56a(4) EPC

(54) **PROCESS FOR PRECOOLING HYDROGEN FOR LIQUEFACTION WITH SUPPLEMENT LIQUID NITROGEN**

(57) A hydrogen feed stream is introduced into a primary refrigeration system of a precooling system and cooling the hydrogen stream to a first precooling temperature. From there, the precooled hydrogen stream is then introduced to a secondary refrigeration system of the precooling system and cooling the precooled hydrogen stream to a second temperature. Next, the cooled hydrogen stream is then liquefied in the liquefaction system to produce liquid hydrogen.

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EUROPEAN SEARCH REPORT

Application Number
EP 24 21 0931

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	BAKER C R ET AL: "A study of the efficiency of hydrogen liquefaction", INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, ELSEVIER, AMSTERDAM, NL, vol. 3, no. 3, 1 January 1978 (1978-01-01) , pages 321-334, XP023639571, ISSN: 0360-3199, DOI: 10.1016/0360-3199(78)90037-X [retrieved on 1978-01-01]	1,3,4,6, 8-13	INV. F25J1/00
Y	* page 324; figures 3,9; table 2 *	2,5,7	
Y	US 2021/331917 A1 (TURNEY MICHAEL A [US] ET AL) 28 October 2021 (2021-10-28) * paragraph [0007]; figure 3 *	2,5,7	

TECHNICAL FIELDS SEARCHED (IPC)
F25J

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	13 March 2025	Schopfer, Georg

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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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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		US 2021331917 A1	28-10-2021
		WO 2021216742 A1	28-10-2021

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82