

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number:

0 271 464
A3

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 87850378.8

(51) Int. Cl.⁴: **C21B 5/00**

(22) Date of filing: 03.12.87

(30) Priority: 05.12.86 SE 8605226

(43) Date of publication of application:
15.06.88 Bulletin 88/24(84) Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE(88) Date of deferred publication of the search report:
25.10.89 Bulletin 89/43(71) Applicant: **Nonox Engineering AB**
Orrspeldsvägen 4
S-182 75 Stocksund(SE)(72) Inventor: **Collin, Per H.**
Orrspelvägen 4
S-182 75 Stocksund(SE)(74) Representative: **Aslund, Roland**
SSAB SVENSKT STAL AB Patent Department
S-781 84 Borlange(SE)(54) **A method of producing liquid crude iron and high-grade top gas.**

(57) A blast furnace is fed by a charge of conventional composition and a blast is used that contains about 50% oxygen and 20% water vapour, balance nitrogen. Additional fuel in the form of coal dust and/or oil is supplied to the raceways. Normal temperatures are maintained in the hearth and top zones. As compared with conventional operation a very high specific crude iron production per m² of hearth area and 24 hours will result. The molecular ratio CO + H₂/N₂ of the top gas will be higher than 2.8 which makes the top gas suitable for ammonia production.

EP 0 271 464 A3



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.4)
A,D	TRANSACTIONS ISIJ vol. 14, 1974, pages 122-132, Tokyo, Japan; T. OKAMOTO et al.: "Blast Furnace Operation with 25 to 60 % Oxygen-blast to Make Top Gas Composition Suited for Ammonia Synthesis" * table 4 *	1	C 21 B 5/00
A,D	US-A-4 529 440 (R. K. JORDAN) * claim 1 *		
A,D	US-A-4 013 454 (R. K. JORDAN) * claim 1 *		
A,D	US-A-2 593 257 (J. M. BRADLEY et al.) * claim 1 *		
A	US-A-2 776 885 (S. KOOPAL et al.) * claim 1 *		
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			C 21 B 5/00
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 07-08-1989	Examiner SUTOR W
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			