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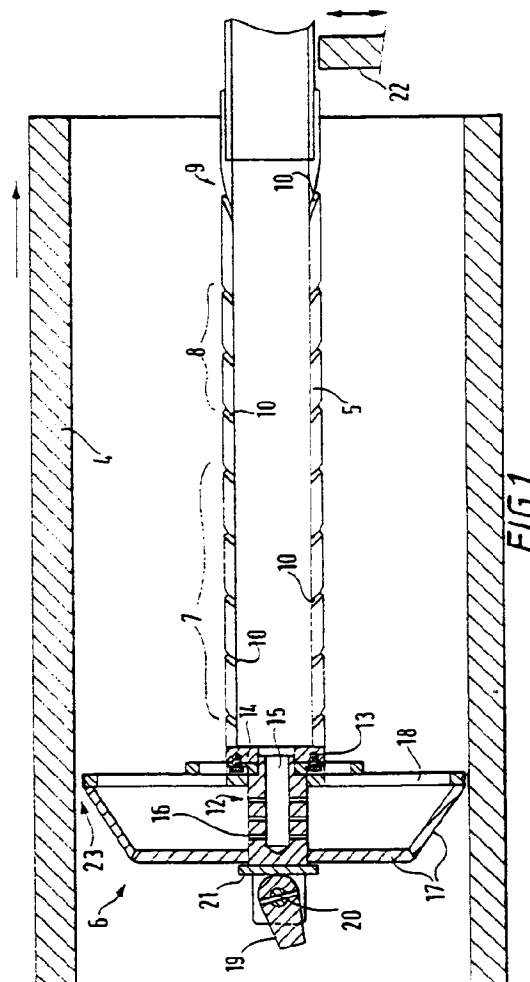
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(54) **Hardening pipes.**

(57) A method of and apparatus for hardening a heated pipe by applying a quenching liquid to the interior surface of the pipe through a tubular lance in line therewith and over which the pipe is moved, the lance having a terminal guide member generally matching the section of, but spaced from, the said interior surface, in which the liquid is propelled through a series of jets passing through the wall of the lance at positions along the lance and being directed away from the terminal guide member, the angle of the jets progressively being more acute to the wall of the lance in the direction of movement of the pipe the further the jets are disposed from the guide members whereby to promote the entrainment of the atmosphere through the space between the guide member and the said interior surface such as to enhance the unidirectionality and uniformity in the flow of water in the said direction.





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EUROPEAN SEARCH REPORT

Application Number

EP 92 30 2981

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.5)
Y	US-A-3 937 448 (Y.FUJII ET AL.) * figure 3 *	1,5	C21D9/08
Y	--- SOVIET INVENTIONS ILLUSTRATED Section Ch, Week D37, 21 October 1981 Derwent Publications Ltd., London, GB; Class M24, AN 67471D/37 & SU-A-789 607 (KOLOMENSKII V K) 28 December 1980 * abstract *	1,5	
A	--- SOVIET INVENTIONS ILLUSTRATED Section Ch, Week 8829, 31 August 1988 Derwent Publications Ltd., London, GB; Class M24, AN 88-203341/29 & SU-A-828 715 (KHEIFETS G N) 23 January 1988 * abstract *	1,5	
A	--- GB-A-1 385 243 (MANNESMANN) * claim 3 *	1,5	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	--- US-A-3 807 714 (J.R.HOLLYER) * figure 1 *	1,5	C21D

The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 29 JULY 1993	Examiner SUTOR W.
<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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