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54 **Pulping apparatus and method.**

57 Pulping apparatus for pulping high consistency paper pulp includes a tub 10 having a bottom wall 13 and a generally cylindrical side wall 14 extending upwardly therefrom, and a rotor 20 mounted centrally of the bottom wall for rotation about a vertical axis and having a hub portion 21, a plurality of vanes 22 extending generally radially outwardly from the hub and having pumping 27 and defibering faces 26 thereon, and a plurality of helical screw flights 33 extending upwardly from the hub. Each flight 33 has a concave undersurface 44 such that rotation of the rotor in the presence of high consistency pulp causes the screw flights to draw pulp inwardly toward the axis of rotation and push it downwardly to the defibering faces 26 of the vanes 22, and the outer surface of each flight 45 being convexly curved and of substantially greater surface area than its undersurface to provide an air foil effect further tending to draw pulp into the path of the undersurface of the following flight. The screw flights 33 preferably include trailing portions 35 having raised peripheral ridges 40 extending upwardly therefrom to prevent stock from flowing outwardly from the rotor until it reaches the vicinity of the vanes. The trailing portions 35 of the screw flights 33 preferably have a width, measured in a radial direction, which is substantially the same as the length of the vanes 22 such that pulp can be pushed downwardly and outwardly into the entire path of the working faces 26-27 of the vanes.

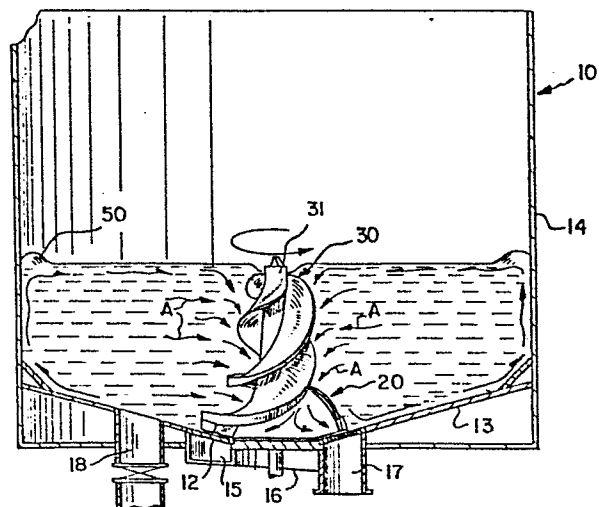


FIG-1



DOCUMENTS CONSIDERED TO BE RELEVANT			EP 84303373.9
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.) 3
A	DE - A1 - 3 027 044 (J.M. VOITH) * Totality * --	1,6,7, 11	D 21 B 1/34
A	US - A - 3 889 885 (COUTURE) * Totality * --	2,9	
D,A	US - A - 4 109 872 (COUTURE) * Totality * --	1,3-8, 10,11	
D,A	US - A - 3 035 781 (WALLEN) * Totality * ----	2,9	
			TECHNICAL FIELDS SEARCHED (Int. Cl.) 3
			D 21 B
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 20-03-1985	Examiner HOFMANN
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	