

Title (en)
Tumbling ozone reactor for paper pulp.

Title (de)
Drehender Ozonreaktor für Zellstoff.

Title (fr)
Réacteur rotatif à ozone pour pâte à papier.

Publication
EP 0492040 A1 19920701 (EN)

Application
EP 91109789 A 19910614

Priority
US 62972890 A 19901221

Abstract (en)
A method of delignifying comminuted cellulosic fibrous material (paper pulp) at a consistency of about 30-45% employing ozone as the active bleaching component, and capable of utilizing a variety of different reactor designs. In each case the paper pulp is fluffed (with 18) and ozone gas is added to it (at 22, 24), and the pulp is maintained in contact with the ozone containing gas while it is tumbled to keep it loose, and homogenous, with a high surface area to volume ratio. The reactor (23, 223) may be just below a fluffer (18), and may include a short screw section (247) only adjacent the pulp inlet (22, 222) and radially extending paddles (64) provided along the rest of the length of the shaft (248). The paddle distal tips (67) have a tangential velocity sufficient to impart a ballistic velocity to the pulp such that the arc described by the particles follows the arc of the vessel shell. Alternatively, tumbling may be provided by rotating a tubular reactor shell (71) about an axis which slants downwardly with respect to the horizontal. Lifters (80) may be provided extending inwardly from the inner circumferential periphery of the rotating shell. The lifters usually being provided just at the discharge end (78) of the shell to lift the treated fluffed pulp into a discharge mechanism (81). <IMAGE>

IPC 1-7
D21C 9/153

IPC 8 full level
B01F 7/00 (2006.01); **B01F 15/00** (2006.01); **D21C 9/10** (2006.01); **D21C 9/153** (2006.01)

CPC (source: EP)
B01F 27/1143 (2022.01); **D21C 9/10** (2013.01); **D21C 9/153** (2013.01)

Citation (search report)
• [AP] DE 4025616 A1 19910221 - ANDRITZ AG MASCHF [AT]
• [A] EP 0308314 A1 19890322 - DEGREMONT [FR]
• [A] FR 2388933 A1 19781124 - MYRENS VERKSTED AS [NO]

Cited by
US6077396A; US6210532B1; EP0627029A4; US5810973A; US5520783A; US6358363B1; US6994831B1; US6989078B1; EP0674731A4; US5942088A; US5944952A; WO9602697A1; WO9705327A1; WO9705324A3; WO9408087A1

Designated contracting state (EPC)
AT DE FR GB IT SE

DOCDB simple family (publication)
EP 0492040 A1 19920701; AU 7916491 A 19920625; BR 9104774 A 19920818; CA 2044898 A1 19920622; FI 915845 A0 19911212; FI 915845 A 19920622; JP H04245990 A 19920902; NO 914100 D0 19911018; NO 914100 L 19920622; ZA 915143 B 19921028

DOCDB simple family (application)
EP 91109789 A 19910614; AU 7916491 A 19910619; BR 9104774 A 19911101; CA 2044898 A 19910618; FI 915845 A 19911212; JP 24344191 A 19910924; NO 914100 A 19911018; ZA 915143 A 19910703