

Title (en)
DEVICE FOR ENRICHING WATER WITH CO₂ GAS IN ORDER TO GENERATE CARBONATED WATER AND USE OF THE DEVICE

Title (de)
VORRICHTUNG ZUM ANREICHERN VON WASSER MIT CO₂-GAS ZUR ERZEUGUNG VON KARBONISIERTEM WASSER UND DEREN VERWENDUNG

Title (fr)
DISPOSITIF POUR ENRICHIR DE L'EAU EN GAZ CARBONIQUE POUR PRODUIRE DE L'EAU GAZEIFIEE ET UTILISATION DU DISPOSITIF

Publication
EP 0610483 B1 19960515 (DE)

Application
EP 93919164 A 19930825

Priority
• DE 4228771 A 19920828
• EP 9302282 W 19930825

Abstract (en)
[origin: US5443763A] Apparatus including a circulating pump inside a carbonator tank which blends CO₂ with still water and which is started and stopped for predetermined time periods in repetitive cycles having an on/off ratio ranging between 1:10 and 1:20. A timing circuit controls the operating and non operating times of the circulating pump so that sufficient carbonation of the water with CO₂ gas is achieved along with the formation of an ice bank on the cooled wall of the storage tank. During intervening periods when the circulating pump is not operating, the carbonated water arranges itself in layers according to its density so that the relatively warmer water sinks while the colder water together with any ice particles or small pieces of ice floating therein join together, becoming fixed to the ice bank in the upper portion of the carbonator. During the next operating cycle of the circulating pump, these particles are frozen together and become relatively harmless to the extent that the shutoff valve and output carbonated water line remains unobstructed. Whenever carbonated water is removed from the storage tank or fresh water is supplied to the storage tank, the circulating pump is again started for an additional on-period time interval which is greater than the normal on-period.

IPC 1-7
B01F 3/04; **B01F 15/00**

IPC 8 full level
A23L 2/00 (2006.01); **B01F 1/00** (2006.01); **B01F 3/04** (2006.01); **B01F 15/00** (2006.01); **B67D 1/00** (2006.01); **B67D 1/08** (2006.01); **F25D 11/00** (2006.01); **B01F 15/06** (2006.01)

CPC (source: EP US)
B01F 23/2362 (2022.01 - EP US); **B01F 35/212** (2022.01 - EP US); **B67D 1/0057** (2013.01 - EP US); **B67D 1/0861** (2013.01 - EP US); **B01F 2035/98** (2022.01 - EP US); **Y10S 261/07** (2013.01 - EP US)

Designated contracting state (EPC)
AT CH DE DK ES FR GB IT LI NL SE

DOCDB simple family (publication)
US 5443763 A 19950822; AT E137991 T1 19960615; AU 4952993 A 19940329; CA 2122053 A1 19940317; CA 2122053 C 19970107; DE 4228771 A1 19940303; DE 59302605 D1 19960620; DK 0610483 T3 19961007; EP 0610483 A1 19940817; EP 0610483 B1 19960515; JP 3187053 B2 20010711; JP H07503183 A 19950406; WO 9405409 A1 19940317; ZA 936289 B 19940405

DOCDB simple family (application)
US 23397194 A 19940428; AT 93919164 T 19930825; AU 4952993 A 19930825; CA 2122053 A 19930825; DE 4228771 A 19920828; DE 59302605 T 19930825; DK 93919164 T 19930825; EP 9302282 W 19930825; EP 93919164 A 19930825; JP 50682894 A 19930825; ZA 936289 A 19930827