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# United States Patent [19]

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Ben-Nasr et al.

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[54] **PROCESS FOR THE QUASI-CONTINUOUS DECAFFEINATION OF RAW COFFEE**

[56] **References Cited**

### FOREIGN PATENT DOCUMENTS

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[57] **ABSTRACT**

A process for decaffeinating raw coffee by selective extraction of the caffeine by means of a solvent that is liquid under normal conditions. Raw coffee beans are extracted for between one and several hours by means of a liquid solvent that is comprised of water and that has been saturated with carbon dioxide or other suitable gas or gas mixture at a temperature of between about 20° C. and 110° C. and a pressure of between about 30 bar and 300 bar to provide a charged liquid solvent. The pressure is reduced abruptly or within a few minutes to a pressure between about 1 bar and 10 bar to expand the raw coffee beans. The expanded raw coffee beans are rinsed in the liquid solvent for a period of between a few minutes and two hours. The expanded raw coffee beans are dried to reduce the water content to that required for subsequent roasting, and the decaffeinated and pre-dried raw coffee beans are then roasted, after which the caffeine is selectively separated from the charged liquid solvent and the caffeine is recovered in pure crystalline form.

[21] Appl. No.: **57,014**

[22] Filed: **May 5, 1993**

### Related U.S. Application Data

[63] Continuation of Ser. No. 899,042, Jun. 16, 1992, abandoned, which is a continuation of Ser. No. 639,203, Jan. 9, 1991, abandoned.

### Foreign Application Priority Data

Jan. 10, 1990 [DE] Fed. Rep. of Germany ..... 4000474

[51] Int. Cl.<sup>5</sup> ..... **A23F 5/20**

[52] U.S. Cl. .... **426/427**

[58] Field of Search ..... **426/427, 428**

**15 Claims, 1 Drawing Sheet**

