United States Patent [19]

Ghodsizadeh

[11] **Patent Number: 5,030,473**

[45] **Date of Patent: Jul. 9, 1991**

[54] **CRYOGENIC AROMA RECOVERY**

[75] Inventor: **Yousef Ghodsizadeh**, Worthington, Ohio

[73] Assignee: **Nestec S.A.**, Vevey, Switzerland

[21] Appl. No.: **49,039**

[22] Filed: **Apr. 30, 1987**

Related U.S. Application Data

[63] Continuation of Ser. No. 729,252, May 1, 1985, abandoned.

[51] **Int. Cl.**[5] **A23F 3/42**; A23F 5/48; A23L 1/221

[52] **U.S. Cl.** **426/650**; 426/651; 426/594; 426/597; 426/613; 426/386; 426/475; 426/478

[58] **Field of Search** 426/475, 386, 613, 594, 426/597, 650, 651, 478

[56] **References Cited**

U.S. PATENT DOCUMENTS

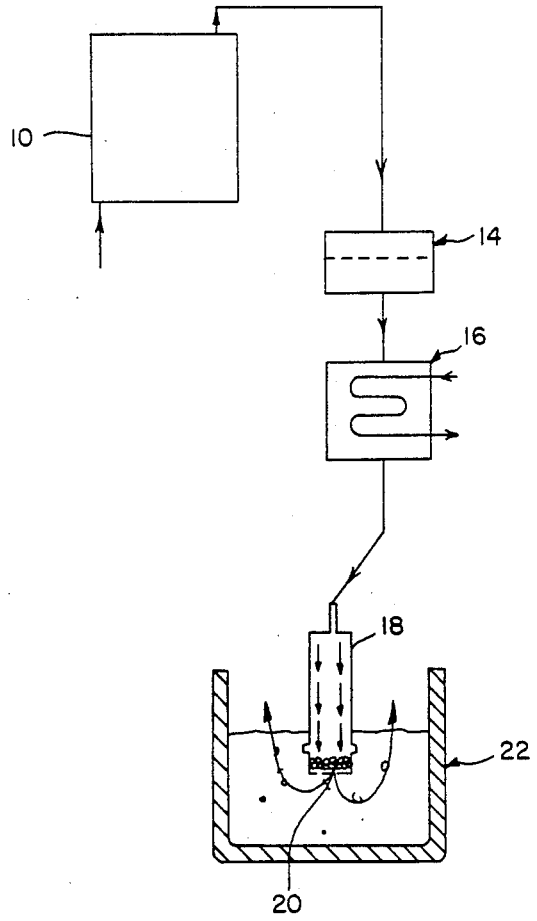
2,306,061	12/1942	Jolinston	426/386 X
2,680,687	6/1954	Lemonnier	426/386
2,738,276	3/1956	Bleuch	426/386 X
3,535,118	10/1970	Klein et al.	426/386
3,783,163	1/1974	Patel	426/386 X
3,821,447	6/1974	Jasovsky et al.	426/386
3,823,241	7/1974	Patel et al.	426/386
4,232,598	11/1980	Hurlow et al.	426/386
4,313,265	2/1982	Dwyer	426/386 X

FOREIGN PATENT DOCUMENTS

0010804	5/1980	European Pat. Off. .	
0028043	5/1981	European Pat. Off. .	
246454	10/1926	United Kingdom	426/386
1480997	1/1977	United Kingdom .	

Primary Examiner—Joseph Golian
Attorney, Agent, or Firm—Vogt & O'Donnell

[57] **ABSTRACT**

A process for recovering volatile aroma components from aroma-bearing vegetable materials such as roast and ground coffee. A carrier gas is passed through the vegetable material to strip aromas therefrom, and the resulting aroma-laden gas is contacted with a cryogenic liquid such as liquid nitrogen to condense the aromas from the gas. The carrier gas has a boiling point equal to or lower than that of the cryogenic liquid. Because the efficacy of the condensation step is substantially independent of the gas flow rate, the optimum gas flow rate for effective stripping may be used without loss of aromas at the condensation step.

16 Claims, 1 Drawing Sheet