



US006289948B1

(12) **United States Patent**
Jeannin et al.

(10) **Patent No.:** **US 6,289,948 B1**
(45) **Date of Patent:** **Sep. 18, 2001**

(54) **REFILL CARTRIDGE FOR A DRINK DISPENSING DEVICE AND DEVICE DESIGNED FOR SUCH A CARTRIDGE**

(75) Inventors: **Bernard Jeannin**, Lausanne; **Petr Masek**, Granges; **Ennio Bardin**, Orbe, all of (CH)

(73) Assignee: **Nestec S.A.**, Vevey (CH)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/497,457**

(22) Filed: **Feb. 3, 2000**

(30) **Foreign Application Priority Data**

Feb. 12, 1999 (EP) 99200394

(51) **Int. Cl.**⁷ **B65B 1/04**; B65B 3/00; B67C 3/00

(52) **U.S. Cl.** **141/351**; 141/352; 141/363; 141/364; 141/365; 141/366; 99/295

(58) **Field of Search** 141/351, 352, 141/363, 364, 365, 366; 99/295; 426/431, 432, 433

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,812,273 5/1974 Schmidt 426/433

4,491,161 *	1/1985	Tamura et al.	141/364
4,523,834 *	6/1985	Pelda et al.	355/3 DD
4,799,591	1/1989	Tajima et al.	206/455
5,169,137	12/1992	Matsuda et al.	271/145
5,237,910	8/1993	Chigira	99/282
6,117,471 *	9/2000	King	426/433

FOREIGN PATENT DOCUMENTS

0 387 986 A2	9/1990	(EP) .
0 419 290 A2	3/1991	(EP) .
1325478	8/1973	(GB) .

* cited by examiner

Primary Examiner—Timothy L. Maust

(74) *Attorney, Agent, or Firm*—Winston & Strawn

(57) **ABSTRACT**

A food substance refill element for an automatic fluid dispensing device. The refill element includes a receptacle containing a quantity of the substance to be refilled into the fluid dispensing device and a closing member that cooperates with the receptacle to form a hermetically enclosed chamber. The closing member includes a detachment portion so that the closing member is at least partially detached from the receptacle when the refill element is introduced into the automatic fluid dispensing device or after the refill element has been introduced in the automatic fluid dispensing device. The invention also relates to a fluid dispensing device for use with the refill element.

35 Claims, 6 Drawing Sheets

