



US007296765B2

(12) **United States Patent**
Rodrian

(10) **Patent No.:** **US 7,296,765 B2**

(45) **Date of Patent:** **Nov. 20, 2007**

- (54) **AUTOMATIC DISPENSERS**
- (75) Inventor: **James A. Rodrian**, Grafton, WI (US)
- (73) Assignee: **Alwin Manufacturing Co., Inc.**, Green Bay, WI (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 341 days.

- 4,270,818 A 6/1981 McCabe
- 4,398,310 A 8/1983 Lienhard
- 4,449,122 A 5/1984 Whitmer
- 4,463,426 A 7/1984 Caddick et al.
- 4,666,099 A 5/1987 Hoffman et al.
- 4,722,372 A 2/1988 Hoffman et al.
- 4,738,176 A 4/1988 Cassia
- 4,765,555 A 8/1988 Gambino
- 4,786,005 A 11/1988 Hoffman et al.
- 4,796,825 A 1/1989 Hawkins
- 4,826,262 A 5/1989 Hartman et al.

(21) Appl. No.: **10/998,464**

(Continued)

(22) Filed: **Nov. 29, 2004**

FOREIGN PATENT DOCUMENTS

(65) **Prior Publication Data**

CA 2294820 5/1999

US 2006/0175341 A1 Aug. 10, 2006

(Continued)

(51) **Int. Cl.**
B65H 63/08 (2006.01)

OTHER PUBLICATIONS

U.S. Appl. No. 60/130,137, filed Apr. 20, 1999, Omdoll et al.

(52) **U.S. Cl.** **242/563.2**; 242/564.1;
242/565; 222/63

(Continued)

(58) **Field of Classification Search** 242/564,
242/564.1, 565, 563, 579, 912, 390, 390.2,
242/563.2; 33/733, 750; 222/52, 192, 61,
222/63

Primary Examiner—Peter M. Cuomo
Assistant Examiner—William E Dondero
(74) *Attorney, Agent, or Firm*—Jansson Shupe & Munger Ltd.

See application file for complete search history.

(56) **References Cited**

(57) **ABSTRACT**

U.S. PATENT DOCUMENTS

Automatic dispensers for dispensing products such as towel, tissue, wipes, sheet-form materials, soap, shaving cream, fragrances and personal care products. A dispenser includes a housing, an electrical power source, a user input device, a dispensing mechanism, and motor control apparatus. The user input device generates a signal responsive to a user request for product. Motor control apparatus de-powers the dispensing mechanism based on a determination of dispenser conditions representing discharge of the product.

- 3,067,364 A 12/1962 Rosso
- 3,317,150 A 5/1967 Summersby
- 3,450,363 A 6/1969 Williams
- 3,505,692 A 4/1970 Forbes
- 3,669,312 A 6/1972 Kuckens et al.
- 3,675,051 A 7/1972 Mioduski
- 3,730,409 A 5/1973 Ratti
- 3,892,368 A 7/1975 Ricards
- 3,971,607 A 7/1976 Schnyder
- 4,119,255 A 10/1978 D'Angelo

48 Claims, 24 Drawing Sheets

