



US009409680B2

(12) **United States Patent**  
**van Alfen et al.**

(10) **Patent No.:** **US 9,409,680 B2**  
(45) **Date of Patent:** **Aug. 9, 2016**

(54) **TAMPER EVIDENT CLOSURE**  
(71) Applicant: **PLASTICUM NETHERLANDS B.V.**,  
Tilburg (NL)  
(72) Inventors: **Jan van Alfen**, Nijmegen (NL); **Shi**  
**Ming Pun**, Arnhem (NL); **Sebastiaan**  
**Wilhelmus Josephus den Boer**, Twello  
(NL); **Gerrit Jan Stegeman**, Lochem  
(NL)  
(73) Assignee: **Plasticum Netherlands B.V.**, Tilburg  
(NL)  
(\* ) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 48 days.

USPC ..... 220/266, 288; 215/252, 250, 330  
See application file for complete search history.

(21) Appl. No.: **14/357,665**  
(22) PCT Filed: **Nov. 13, 2012**  
(86) PCT No.: **PCT/NL2012/050803**  
§ 371 (c)(1),  
(2) Date: **May 13, 2014**  
(87) PCT Pub. No.: **WO2013/077733**  
PCT Pub. Date: **May 30, 2013**

(56) **References Cited**  
**U.S. PATENT DOCUMENTS**  
3,407,976 A 10/1968 Homma  
4,638,917 A 1/1987 Persch  
(Continued)

**FOREIGN PATENT DOCUMENTS**  
DE 3421820 A1 12/1985  
EP 1174359 A2 1/2002  
JP 2010-235167 A 10/2010

**OTHER PUBLICATIONS**  
English machine translation of EP 1174359 A2.  
(Continued)

(65) **Prior Publication Data**  
US 2015/0166225 A1 Jun. 18, 2015

*Primary Examiner* — J. Gregory Pickett  
*Assistant Examiner* — Niki M Eloshway  
(74) *Attorney, Agent, or Firm* — Hoffmann & Baron, LLP

(30) **Foreign Application Priority Data**  
Nov. 22, 2011 (NL) ..... 2007839

(51) **Int. Cl.**  
**B65D 41/46** (2006.01)  
**B65D 41/32** (2006.01)  
(Continued)

(57) **ABSTRACT**  
A tamper-evident dispensing closure includes a body adapted to be attached to a container. The container has a shoulder portion surrounding a dispensing opening. The closure body has a peripheral wall and a top wall which extends over one end of the peripheral wall, such that the corresponding end of the body is closed off by the top wall and an opposite end of the body is open. The open end is in use placed over the shoulder portion of the container. The top wall is provided with a dispensing passage which in use is in line with the dispensing opening of the container. The peripheral wall is provided with tamper-evident means, which cause the peripheral wall to rupture when the closure is removed from the container, thereby indicating tampering.

(52) **U.S. Cl.**  
CPC ..... **B65D 41/32** (2013.01); **B65D 47/06**  
(2013.01); **B65D 47/08** (2013.01); **B65D**  
**2101/0023** (2013.01); **B65D 2101/0053**  
(2013.01)

(58) **Field of Classification Search**  
CPC ..... B65D 41/3428; B65D 41/3404; B65D  
41/3442; B65D 41/3447; B65D 41/0471;  
B65D 47/06; B65D 47/08; B65D 2101/023;  
B65D 2101/0053

**16 Claims, 3 Drawing Sheets**

