US009410836B2

(12) **United States Patent**
Moreau

(10) **Patent No.: US 9,410,836 B2**
(45) **Date of Patent: Aug. 9, 2016**

(54) **DOSING DEVICE**

(71) Applicant: **BAYER CROPSCIENCE AG**, Monheim am Rhein (DE)

(72) Inventor: **Fabrice Moreau**, Tassin la demi Lune (FR)

(73) Assignee: **Bayer CropScience AG**, Monheim (DE)

(*) 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.: **14/394,588**

(22) PCT Filed: **Apr. 18, 2013**

(86) PCT No.: **PCT/EP2013/058120**
§ 371 (c)(1),
(2) Date: **Oct. 15, 2014**

(87) PCT Pub. No.: **WO2013/160193**
PCT Pub. Date: **Oct. 31, 2013**

(65) **Prior Publication Data**

US 2015/0060498 A1 Mar. 5, 2015

(30) **Foreign Application Priority Data**

Apr. 26, 2012 (EP) 12165735

(51) **Int. Cl.**
G01F 11/26 (2006.01)
B65D 50/04 (2006.01)

(52) **U.S. Cl.**
CPC ***G01F 11/26*** (2013.01); ***G01F 11/263*** (2013.01); *B65D 50/041* (2013.01)

(58) **Field of Classification Search**
CPC G01F 11/26; G01F 11/262; G01F 11/263; B65D 50/00; B65D 50/04; B65D 50/041
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,079,859 A * 3/1978 Jennings 222/1
4,474,301 A * 10/1984 Davis B65D 50/041 215/220
4,690,313 A 9/1987 Luine et al.
5,611,443 A * 3/1997 King B65D 50/041 215/220
6,085,920 A * 7/2000 Moretti B65D 41/34 215/220
7,111,746 B2 * 9/2006 Miceli B65D 50/041 215/219

FOREIGN PATENT DOCUMENTS

DE 865810 C 2/1953
EP 0335505 A1 10/1989
EP 0793081 A1 9/1997
EP 2243721 A1 10/2010
FR 2593143 A1 * 7/1987 ..... B65D 25/52

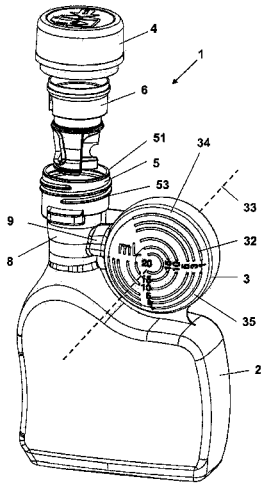
OTHER PUBLICATIONS

International Search Report from corresponding PCT/EP2013/058120, mailed Aug. 16, 2013.

* cited by examiner

Primary Examiner — Nicholas J Weiss
(74) *Attorney, Agent, or Firm* — McBee Moore Woodward Vanik IP LLC

(57) **ABSTRACT**

The invention relates to a dosing device. The dosing device comprises a storage container with a storage chamber disposed therein for accommodating a filling material, a dosing container with a dosing chamber disposed therein, an outlet with an outlet opening for dispensing the filling material, a closure member by means of which the outlet opening can be closed, and a valve wherein the valve is able to assume a dispensing position and a dosing position.

16 Claims, 7 Drawing Sheets