



US010304299B1

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

(10) **Patent No.:** **US 10,304,299 B1**  
(45) **Date of Patent:** **May 28, 2019**

(54) **CONTAINER BREACH DETECTOR**

(56)

**References Cited**

(71) Applicant: **Container Seal Project Partners, LLC**, Stuart, FL (US)

**U.S. PATENT DOCUMENTS**

(72) Inventors: **Enrique Acosta**, Stuart, FL (US); **Michael Ray Wilkinson**, Richardson, TX (US); **Harley Michael Willey**, Garland, TX (US); **Preston Taylor Thorpe**, Dallas, TX (US); **Lyndl Brent Duncan**, McKinney, TX (US); **Gustavo Gerardo Suarez**, San Jose, CA (US); **Warren Katzman**, Monsey, NY (US)

4,793,500 A	12/1988	Harding	
5,524,294 A	6/1996	Richardson et al.	
5,882,116 A	3/1999	Backus	
6,095,355 A	8/2000	Jessen et al.	
6,179,139 B1	1/2001	Heilman	
6,806,807 B2	10/2004	Cayne et al.	
6,877,631 B1	4/2005	Thompson et al.	
7,315,246 B2 *	1/2008	Rajapakse	B65D 90/22 340/545.1
7,436,298 B2	10/2008	Rajapakse et al.	
7,456,738 B2	11/2008	Yoong	
7,586,409 B2	9/2009	Armstrong et al.	
8,022,573 B2 *	9/2011	Powers	E05B 39/005 307/64
8,666,664 B2	3/2014	Chiu et al.	
9,460,593 B2	10/2016	Acosta et al.	
9,483,724 B2	11/2016	Coveley et al.	

(73) Assignee: **E-S Information Systems Inc.**, Stuart, FL (US)

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

(Continued)

*Primary Examiner* — Jack K Wang  
(74) *Attorney, Agent, or Firm* — Albert Bordas, P.A.

(21) Appl. No.: **15/877,511**

(57)

**ABSTRACT**

(22) Filed: **Jan. 23, 2018**

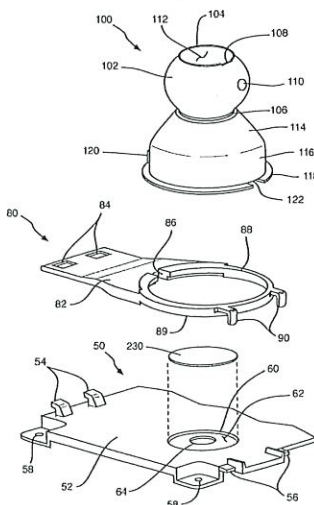
A container breach detector system, which has a self-contained container breach detector having a housing with a mounting plate. At least one retaining clip retains a collapsible detector device. The self-contained container breach detector is mounted onto a door frame of a transportation container to monitor breaches of the transportation container, whereby the collapsible detector device is in a collapsed configuration when the door is closed, and in a neutral configuration when the door is opened. The self-contained container breach detector further has an electrical system having at least one set of sensors having at least one IR proximity and distance sensor that detects a proximity or distance change of the door internal face when the collapsible detector device changes from the collapsed configuration to the neutral configuration indicating that the door is open.

(51) **Int. Cl.**  
**G08B 13/08** (2006.01)  
**G08B 13/02** (2006.01)  
**G08B 13/19** (2006.01)  
**G08B 13/189** (2006.01)

(52) **U.S. Cl.**  
CPC ..... **G08B 13/08** (2013.01); **G08B 13/02** (2013.01); **G08B 13/1895** (2013.01); **G08B 13/19** (2013.01)

(58) **Field of Classification Search**  
CPC .... G08B 13/08; G08B 13/02; G08B 13/1895; G08B 13/19  
USPC ..... 340/545.6  
See application file for complete search history.

**28 Claims, 12 Drawing Sheets**



(12) **United States Patent**  
**Acosta**

(10) **Patent No.:** **US 9,460,593 B2**  
(45) **Date of Patent:** **Oct. 4, 2016**

(54) **CONTAINER BREACH DETECTOR SYSTEM**

(56)

**References Cited**

(71) Applicant: **Enrique Acosta**, Miami, FL (US)

(72) Inventor: **Enrique Acosta**, Miami, FL (US)

(73) Assignee: **Container Seal Project Partners, LLC**, Stuart, FL (US)

(\* ) 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.: **13/828,114**

(22) Filed: **Mar. 14, 2013**

(65) **Prior Publication Data**

US 2015/0254948 A1 Sep. 10, 2015

(51) **Int. Cl.**

- E05B 45/06** (2006.01)
- G08B 13/02** (2006.01)
- G08B 13/08** (2006.01)
- G08B 13/189** (2006.01)
- G08B 13/19** (2006.01)
- G08B 13/16** (2006.01)

(52) **U.S. Cl.**

CPC ..... **G08B 13/02** (2013.01); **G08B 13/08** (2013.01); **G08B 13/1895** (2013.01); **G08B 13/19** (2013.01); **G08B 13/1663** (2013.01)

(58) **Field of Classification Search**

CPC ..... G06K 7/10366; G06K 7/10009; G06K 7/0008; G06K 19/0723; G06K 7/01; G08B 13/22; G08B 13/00; G08B 25/008; G08B 25/08; G08B 13/08; G08B 13/19645; G08B 15/00

USPC ..... 340/10.1-10.6, 541  
See application file for complete search history.

**U.S. PATENT DOCUMENTS**

4,750,197 A	6/1988	Denekamp et al.	
5,389,738 A *	2/1995	Piosenka .....	G01K 7/01 174/528
5,790,025 A *	8/1998	Amer .....	G08B 13/1481 250/221
7,019,683 B2	3/2006	Stevens et al.	
7,135,976 B2	11/2006	Neff et al.	
7,339,469 B2	3/2008	Braun	
7,825,803 B2	11/2010	Neff et al.	
7,828,346 B2	11/2010	Terry et al.	
7,853,210 B2	12/2010	Meyers et al.	
7,961,094 B2	6/2011	Breed	
7,991,357 B2	8/2011	Meyers et al.	
8,022,573 B2	9/2011	Powers et al.	
8,026,792 B2	9/2011	Powers et al.	
8,111,157 B2	2/2012	Diener et al.	
8,115,620 B2	2/2012	Breed	

(Continued)

*Primary Examiner* — Kerri McNally

*Assistant Examiner* — Sharmin Akhtar

(74) *Attorney, Agent, or Firm* — Albert Bordas, P.A.

(57)

**ABSTRACT**

A container breach detector system to monitor breaches of a transportation container. A self-contained container breach detector provides activation, status, and/or breach event date and time stamp data and a unique identification number of a communication tower, for a user to determine when and where authorized and/or unauthorized breaches of the transportation container occurred. Furthermore, the self-contained container breach detector serves as a recording device to record the activation, status, and/or breach event date and time stamp data; and communicates via various communication means including text via short message service, SMS, and/or e-mail. A container breach detector is intended for a one-time use only, to be discarded at destination. Each container breach detector has individual serial numbers. An encapsulating composition ensures that the self-contained container breach detector is used only once, and is not removed, recharged and reused, whereby removal of the encapsulating composition would damage its electrical system.

**20 Claims, 27 Drawing Sheets**

