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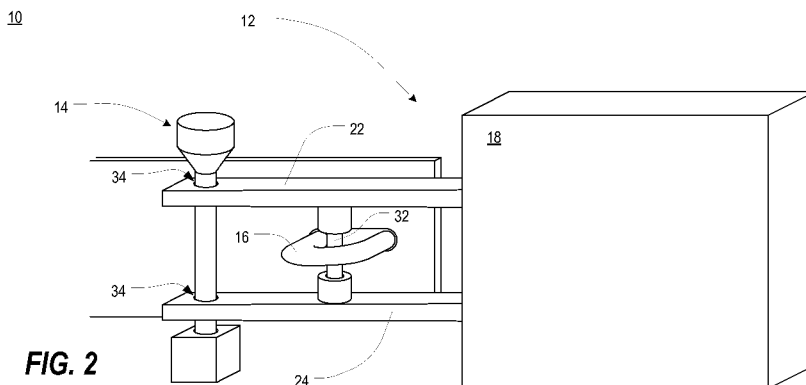
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[Continued on next page]

(54) Title: SYSTEMS AND APPARATUS FOR SECURING A CONTAINER



(57) Abstract: An electronic system for securing a shipping container includes the hasp of the shipping container, a bolt seal, and an electronic locking device. The electronic locking device includes a housing, two arms, a sensing circuit, and electronics. The housing encloses a support carriage, an electronics compartment, and a barrier between the two. The pair of arms extend from the support carriage and couple to the hasp. The arms pivot between locked and unlocked configurations relative to the hasp. The bolt seal locks the arms. The sensing circuit, which includes two sensing contacts, is in a "closed" or "open" state depending on whether the arms are pivoted into the locked or unlocked configuration. The electronics recognize whether the sensing circuit is in the "closed" state or the "open" state and output the state of the sensing circuit, thereby indicating whether the arms are locked or unlocked.

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A. CLASSIFICATION OF SUBJECT MATTER*E05B 47/00(2006.01)i, E05B 49/00(2006.01)i, E05B 65/14(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models since 1975.

Japanese utility models and applications for utility models since 1975.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: electronic, lock, ship, container, sensing, control, circuit

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007-0044524 A1 (RICHARD ALFRED COUTERMARCH et al.) 01 March 2007 See paragraph[0021]-paragraph[0040]; claims 1-29 and figures 1A-1F.	52,54,55
A	US 2002-0119770 A1 (ROBERT W. TWITCHELL) 29 August 2002 See abstract; paragraph[0023]-paragraph[0027]; claims 1-18 and figures 1-2.	1-55
A	WO 2002-012666 A1 (MATTHEWS, DONALD, LINDSAY) 14 February 2002 See abstract; claim 1 and figures 1-4.	1-55
A	US 2004-0155477 A1 (WILLIAM P. LANIGAN et al.) 12 August 2004 See abstract; paragraph[0006]-paragraph[0009]; claims 1-12 and figures 1-18.	1-55

 Further documents are listed in the continuation of Box C. See patent family annex.

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