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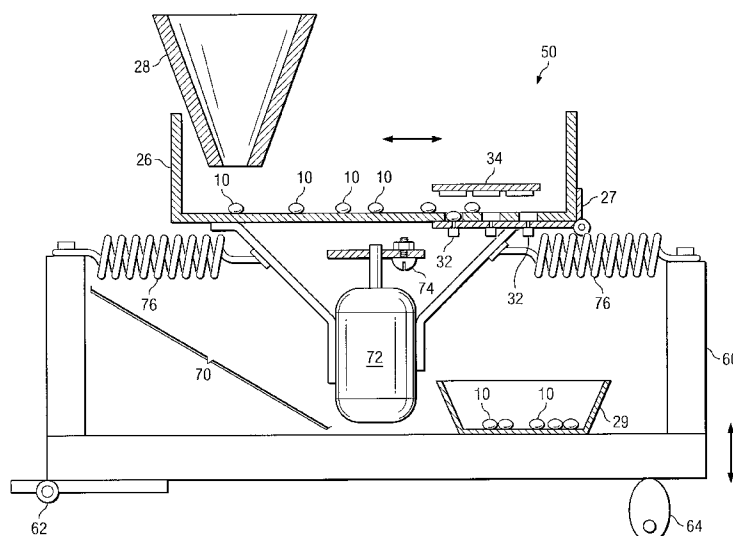
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(54) Title: OPTICAL DEVICE FOR DETECTING LIVE INSECT INFESTATION



(57) Abstract: The disclosure relates to a detection device for detecting movement of a live insect located within a seed or grain. The device may include a light source with a masking arrangement to block stray light. It may also include a detection region sized to contain at least one seed. Finally, the device may include a detection instrument able to detect changes in light from the light source caused by movement of an insect within the seed. The disclosure also relates to a method of detecting an insect in a seed. First, one may pass light through the seed. Then one may detect light passed through the seed and, based on the light passed through the seed, determine whether or not an insect within the seed is moving.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/064494**A. CLASSIFICATION OF SUBJECT MATTER****G01N 21/84(2006.01)i, G01N 33/10(2006.01)i, G01V 8/10(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)

IPC 8 G01N 21/85, G01N 21/35, G06K 9/00

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)

eKIPASS (KIPO internal)

keywords: "grain", "insect", "light source" and "detector"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5245188 A (SATAKE ENGINEERING CO., LTD.) 14 Sep. 1993 See Fig. 1 and column 4, line 21 - column 7, line 15.	1-4, 7, 9, 27-30, 33, 36, 37
Y		6, 32, 19
A		5, 8, 10-18, 20-26, 31, 34, 35, 38, 39
A	JP 2815633 B2 (SATAKE ENGINEERING CO., LTD.) 14 Aug. 1998 (See Fig. 1 and claims.	1-39
Y	US 4572666 A (SATAKE ENGINEERING CO., LTD.) 25 Feb. 1986	6, 32
A	See Fig. 1, abstracts, and column 2, lines 49 - 52.	1-5, 7-31, 33-39
X	US 2003/0048927 A1 (TOSHIYUKI SATO et al.) 13 Mar. 2003	18, 24, 25
Y	See Figs. 13A, 13B and paragraphs 124- 135.	19
A		1-17, 20-23, 26-39



Further documents are listed in the continuation of Box C.



See patent family annex.

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"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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