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(54) **coin handling apparatus.**

(57) A microprocessor-controlled coin handling apparatus, for example for a vending machine, has a plurality of change tubes (22,24,26) each of which is provided with a single level sensor (150,152) for determining whether or not the number of coins in the respective tube (22,24,26) is greater than a predetermined number. The microprocessor (50) keeps a count of the coins in the tube (22,24,26). When the power is turned on, the count is set to zero if the sensor (150,152) indicates that the number of coins is less than the predetermined number, and is set to a predetermined "full" number (FULNUM) otherwise. The microprocessor (50) increments and decrements the counts as coins are delivered to and dispensed from the change tubes (22,24,26). Whenever the level of coins rises or falls such that the sensor output changes, the coin count is automatically corrected.

Also disclosed is a non-volatile memory (60) for storing parameters determining how the coins are handled. Keys (102,104,106) are provided for accessing and altering the contents of the memory (60). Some contents are accessible in a first mode, whereas other contents are inaccessible in this mode, and require a second or third access mode to be entered. At least one location can be altered in a first manner during one of the access modes, and in a second manner only during a different access mode.

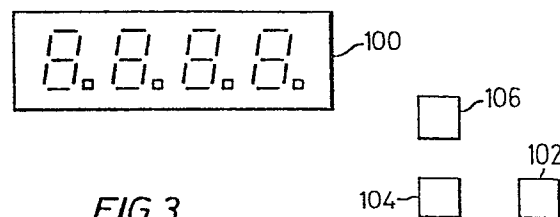


FIG.3



EP 85 11 0175

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
X	US-A-4 056 181 (IKEGUCHI et al.) * Column 1, line 15 - column 3, line 19; column 3, line 55 - column 6, line 28; claims; figures *	1,8	G 07 F 5/24 G 07 F 9/08
A	---	1,2,8, 9,11, 14-17	
A	WO-A-8 000 202 (UMC INDUSTRIES) * Abstract; page 1, line 7 - page 3, line 11; page 6, line 1 - page 8, line 26; claims; figure 1 *	1-3,6- 8,11, 12,14- 20	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
A	GB-A-2 028 539 (AMF) * Page 1, line 27 - page 2, line 5; page 2, line 23 - page 4, line 46; claims; figures *	1-3,6- 8,13- 17,19, 20	G 07 F G 07 D
A	EP-A-0 018 718 (MARS) * Page 26, line 1 - page 30, line 23; figure 9 *	1,3-5, 14-18	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 05-02-1987	Examiner MEYL D.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			



DOCUMENTS CONSIDERED TO BE RELEVANT			Page 2
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
A	GB-A-1 566 201 (NIPPON COINCO) * Page 2, lines 42-102; page 2, line 124 - page 3, line 71; claims; figures *	1,2,18-20	
A	US-A-4 096 933 (MASSA) * Abstract; column 1, lines 26-64; column 6, lines 14-60; figures *	1,18-20	
A	US-A-3 948 377 (HAYASHI et al.) * Column 1, line 37 - column 2, line 56; figure 1 *	1,18	
A	GB-A-1 415 162 (MILLWARD)		
A	US-A-4 286 703 (SCHULLER)		
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