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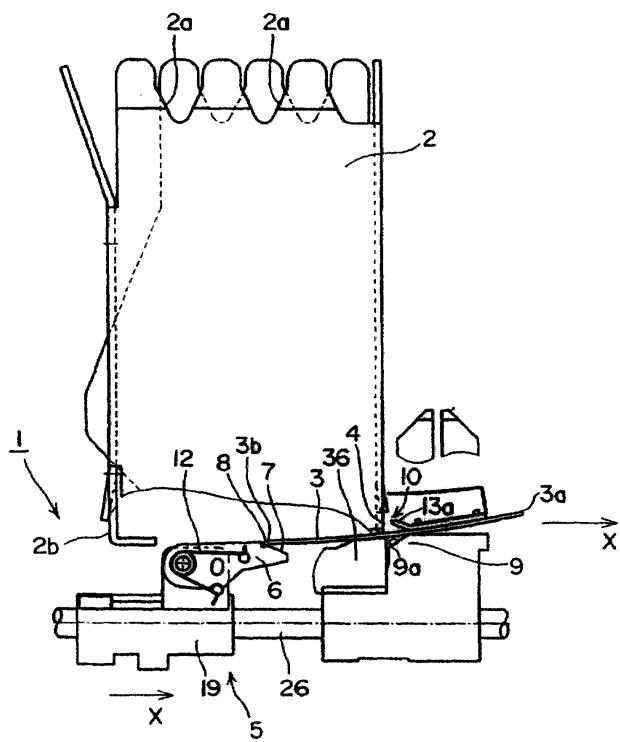
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(54) Mechanism for and method of feeding cards

(57) A card feeding mechanism for feeding cards (3) one by one from a gate portion (4) at the bottom of a hopper (2), which card feeding mechanism is operable to engage the back end (3b) of each card (3), wherein

the gate portion (4) is adapted so that the back end of the card (3b) is pressed against the card feeding mechanism when a part of the card comes through the gate portion (4).

Fig. 6





DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	US 4 344 611 A (MORITA SHIGERU) 17 August 1982 (1982-08-17) * figures 9-14 *	1,3-6,8, 9,11	B65H3/24
X	US 4 405 124 A (WATANABE MICHITOSHI) 20 September 1983 (1983-09-20) * figures 5-10 *	1,3-6,8, 9,11	
X	DE 39 12 112 A (METRONIC GERAETEBAU) 18 October 1990 (1990-10-18) * claim 1; figures *	1,3,6,8, 9,11	
X	FR 2 763 320 A (DELSOL ET COMPAGNIE) 20 November 1998 (1998-11-20) * page 21, line 15 - page 23, line 18; figure 15 *	1,3,6,8, 9,11	
X	US 3 525 518 A (OATEN ALBERT W) 25 August 1970 (1970-08-25) * claim 1; figures *	1,3,6,8, 9,11	
X	PATENT ABSTRACTS OF JAPAN vol. 012, no. 336 (M-739), 9 September 1988 (1988-09-09) -& JP 63 097538 A (KUBOTA LTD), 28 April 1988 (1988-04-28) * abstract; figures *	12-33	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B65H
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 02, 26 February 1999 (1999-02-26) -& JP 10 293818 A (NIPPON CONLUX CO LTD), 4 November 1998 (1998-11-04) * figures 16,17,20-25 *	12-33	
A	US 3 785 637 A (VAN DER DOES L) 15 January 1974 (1974-01-15) * figures *	12-33	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
BERLIN	4 December 2002	Fuchs, H	
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone	T : theory or principle underlying the invention		
Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date		
A : technological background	D : document cited in the application		
O : non-written disclosure	L : document cited for other reasons		
P : intermediate document	& : member of the same patent family, corresponding document		

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims.

Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-11

Gate portion adapted so that the back end of a card is pressed against the card feeding mechanism when a part of the card comes through the gate portion and wherein the card feeding mechanism is adapted to move backward when the part of the card comes through the gate portion, before moving forward again to feed the card through the gate portion.

2. Claims: 12-33

Movable card stopper for selectively opening and closing a gate opening, wherein means are provided for activating the card stopper to open the gate opening dependant on a position of the card feeding mechanism.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 8513

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04-12-2002

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 4344611	A	17-08-1982	JP	1225975 C	31-08-1984
			JP	57013040 A	23-01-1982
			JP	59000387 B	06-01-1984
US 4405124	A	20-09-1983	NONE		
DE 3912112	A	18-10-1990	DE	3912112 A1	18-10-1990
FR 2763320	A	20-11-1998	FR	2763320 A1	20-11-1998
US 3525518	A	25-08-1970	DE	1938239 A1	19-03-1970
			FR	2017605 A5	22-05-1970
			GB	1260429 A	19-01-1972
			JP	48020390 B	20-06-1973
JP 63097538	A	28-04-1988	NONE		
JP 10293818	A	04-11-1998	NONE		
US 3785637	A	15-01-1974	NL	7100002 A	06-07-1972
			CA	941398 A1	05-02-1974
			CH	530649 A	15-11-1972
			DE	2164212 A1	27-07-1972
			FR	2121072 A5	18-08-1972
			GB	1301970 A	04-01-1973
			IT	945838 B	10-05-1973
			JP	52026127 B	12-07-1977
			SE	361742 B	12-11-1973