

AUSTRALIA

Patents Act 1990

646497

NOTICE OF ENTITLEMENT

(To be filed before acceptance)

We, KABUSHIKI KAISHA ACE DENKEN, a Japanese corporation formerly of 20-3, Higashi Ueno 3-Chome, Taito-ku, Tokyo 110, Japan now of 12-9 Higashi Ueno 3-Chome, Taito-ku, Tokyo 110, Japan, being the applicant in respect of Application No. 84481/91 state the following:-

The Person nominated for the grant of the patent: has entitlement from the actual inventors: TAKATOSHI TAKEMOTO, YOSHIHIDE KURIHARA, KOSHIRO NAKAI, TAKASHI KAN, NORIAKI KANO and EIJI ITO by virtue of assignment.

The person nominated for the grant of the patent is the applicant of the application listed in the declaration under Article 8 of the PCT.



The basic application listed on the request form is the first application made in a Convention country in respect of the invention.



KABUSHIKI KAISHA ACE DENKEN

By our Patent Attorneys,
WATERMARK PATENT & TRADEMARK ATTORNEYS



.....
Richard C.T. Smoorenburg
Registered Patent Attorney

1 October 1993

.....
(Date)

being sandwiched in between conveyance members; and wherein said conveyance path is defined by alternatively arranging conveyance guide members and merging guide members which are connected with said introduction path, said merging guide members constituting a merging portion;

a conveyance equipment for paper or the like characterized in that a hole for dropping foreign matter is formed in a bottom portion proximate where said conveyance path and said introduction path merge.

5. A paper money collection system for a game island where game machines are juxtaposed, characterized in that bank note collection means is installed on one end side of said game island, while bank note conveyance belts which run in directions opposite to each other are disposed so as to fall into a communicating state on the other end side of said game island, a lower stream side of one of said bank note conveyance belts being connected so as to join a machine for exchanging a large denomination note, bank note identification machines being disposed in association with individual bank note insertion slots arranged near the respective game machines and being mounted inside the respective bank note insertion slots so as to join said bank note conveyance belts; and that a conveyance equipment is installed having a conveyance path which serves to convey a bank note, and an introduction path which extends inwards from said each bank note insertion slot and merges with said conveyance path, for guiding to said conveyance path the paper or the like to be introduced into the conveyance system, wherein the paper or the like is conveyed in a state in which it is erected within said conveyance path while being sandwiched in between conveyance members, said equipment being formed with means for separating and excluding foreign matter at a bottom of said conveyance path.

PC

OPI DATE 30/03/92

APPLN. ID 84481 / 91



AOJP DATE 14/05/92

PCT NUMBER PCT/JP91/01199

(51) 国際特許分類 5 B65H 5/02, A63F 7/02	A1	(11) 国際 J 92/04264
		(43) 国際公開日 1992年3月19日 (19.03.1992)

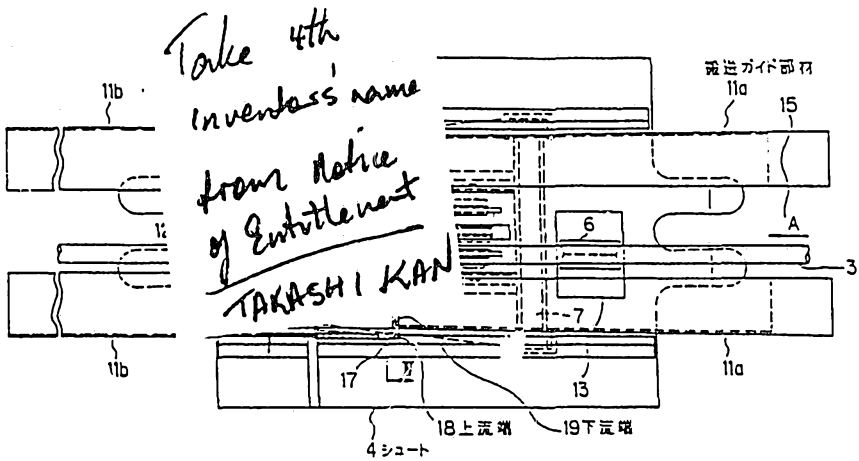
(21) 国際出願番号 PCT/JP91/01199	(81) 指定国 AT (欧州特許), AU, BE (欧州特許), CA, CH (欧州特許), DE (欧州特許), DK (欧州特許), ES (欧州特許), FR (欧州特許), GB (欧州特許), GR (欧州特許), IT (欧州特許), KR, LU (欧州特許), MC, NL (欧州特許), SE (欧州特許), US.
(22) 国際出願日 1991年9月9日 (09. 09. 91)	
(30) 優先権データ 特願平2/238084 1990年9月8日 (08. 09. 90) JP	
(71) 出願人 (米国を除くすべての指定国について) 株式会社 エース電研 (KABUSHIKI KAISHA ACE DENKEN) [JP/JP] 〒110 東京都台東区東上野3丁目20番3号 Tokyo, (JP)	添付公開書類 国際調査報告書
(72) 発明者; および (75) 発明者/出願人 (米国についてのみ) 武本孝俊 (TAKEMOTO, Takatoshi) [JP/JP] 〒110 東京都台東区東上野3丁目20番3号 株式会社 エース電研内 Tokyo, (JP) 栗原良英 (KURIHARA, Yoshihide) [JP/JP] 中井孝四郎 (NAKAI, Koshiro) [JP/JP] 菅 孝志 (SUGA, Takashi) [JP/JP] 狩野則昭 (KANO, Noriaki) [JP/JP] 伊藤栄司 (ITO, Eiji) [JP/JP] 〒025 岩手県花巻市内4番3号 株式会社 新興製作所内 Iwate, (JP)	(71) 12-9 Higashi Ueno 3-chome Taito-ku, Tokyo 110 Japan
(74) 代理人 弁理士 富田和子, 外 (TOMITA, Kazuko et al.) 〒220 神奈川県横浜市西区高島二丁目12番6号 崎陽軒ビル ヨコハマジャスト7階 Kanagawa, (JP)	

646497



(54) Title : DEVICE FOR CONVEYING PAPER SHEETS AND DEVICE FOR RECOVERING BANK NOTES USING SAID CONVEYING DEVICE IN GAME HOUSE

- (54) 発明の名称 紙葉類の搬送装置およびそれを用いた遊技機における紙幣回収装置
- 4 ... chute
 - 11a ... conveyance guiding member
 - 18 ... upstream side
 - 19 ... downstream side



(57) Abstract

A device for conveying paper sheets provided with a conveying path for conveying paper sheets and an introducing path to join said conveying path and to guide paper sheets to be introduced into a conveying system of the device to said conveying path so that paper sheets may be conveyed while clamped with conveying members and kept upright in the conveying path, which is further provided with means formed on the bottom of said conveying path for separating and discharging foreign matters; and a device for recovering bank notes using said conveying device in the game house.

(57) 要約

紙葉類を搬送するための搬送路と、前記搬送路に合流し、当該搬送系に導入される紙葉類を前記搬送路に案内するための導入路とを有し、搬送部材により紙葉類を挾持し前記搬送路内で立てた状態にして紙葉類を搬送する搬送装置において、

前記搬送路底面に、異物を分離排出するための手段を形成した紙葉類の搬送装置、およびこれを用いた遊技島における紙幣回収装置。

情報としての用途のみ

PCTに基づいて公開される国際出願のパブリック第1頁にPCT加盟国を同定するために使用されるコード

AT	オーストリア	ES	スペイン	ML	マリ
AU	オーストラリア	FI	フィンランド	MN	モンゴル
BB	バルバドス	FR	フランス	MR	モーリタニア
BE	ベルギー	GA	ガボン	MW	マラウイ
BF	ブルキナ・ファソ	GI	ギニア	NL	オランダ
BG	ブルガリア	GB	イギリス	NO	ノルウェー
BJ	ベナン	GR	ギリシャ	PL	ポーランド
BR	ブラジル	HU	ハンガリー	RO	ルーマニア
CA	カナダ	IT	イタリア	SD	スーダン
CF	中央アフリカ共和国	JP	日本	SE	スウェーデン
CG	コンゴ	KP	朝鮮民主主義人民共和国	SN	セネガル
CH	スイス	KR	大韓民国	SU	ソビエト連邦
CI	コート・ジボアール	LI	リヒテンシュタイン	TD	チャド
CM	カメルーン	LK	スリランカ	TG	トゴ
CS	チェコスロバキア	LU	ルクセンブルグ	US	米国
DE	ドイツ	MC	モナコ		
DK	デンマーク	MG	マダガスカル		

+SUの指定はロシア連邦の指定としての効力を有する。しかし、その指定が旧ソビエト連邦のロシア連邦以外の他の国で効力を有するかは不明である。

CONVEYANCE EQUIPMENT FOR PAPER OR THE LIKE, AND PAPER
MONEY COLLECTION SYSTEM IN GAME ISLAND EMPLOYING THE SAME

Technical Field:

5

The present invention relates to a conveyance equipment for conveying paper or the like, such as bank notes. More particularly, it relates to a conveyance equipment for paper or the like, which is installed in a game parlor for
10 "pachinko" (a Japanese upright pinball game) and/or a slot machine game, or the like and which serves to convey bank notes from vending machines, which dispense a game medium, e. g., pachinko balls or gaming medals or coins, into a paper money receiving box. Further, the present invention relates
15 to a paper money collection system in a game island which employs such a conveyance equipment.

Background Art:

20

In a game Parlor for "pachinko" and/or slot machine games, or the like, a plurality of game machines are aligned in two rows back to back, thereby forming a game island. Usually, in the game island, game medium vending machines for
25 dispensing a game medium such as pachinko balls or gaming medals or coins are interposedly installed between the respectively adjacent game machines. A polisher for cleaning the game medium is mounted at the end of the game island. As

a method of cleaning by the polisher, there has been known one wherein the game medium is polished up with an abrasive obtained by granulating a plastic material.

5 After having been polished up with the abrasive, the game medium is carried into the game island again so as to be reused in the game machines. In this regard, oily dust sometimes adheres to the game medium even after the polishing. Also, the game medium is sometimes carried to its passage in the game island while bearing the abrasive on
10 account of electrostatic charges etc. stored in this game medium.

A conveyance equipment for conveying bank notes is arranged as a constituent of the island under such a game medium passage. In the conveyance equipment, a U-groove is
15 formed in the base, and the bank note is conveyed along the U-groove into a paper money receiving box mounted at the end of the game island.

Since, however, the game medium passage includes diverging points etc. for replenishing the individual game
20 machines and game medium vending machines with the game medium, the granular abrasive which adheres to the game medium is expelled out of the diverging points etc. to occasionally intrude into the conveyance path of the bank notes. Therefore, the conveyance equipment in the prior art
25 might get clogged by the bank notes and has had the problem that, each time clogging ascribable to the bank notes occurs,

a clerk in the game parlor must remove the abrasive, so labor is expended on the maintenance of the conveyance equipment.

An object of the present invention is to provide a conveyance equipment for paper or the like which can exclude
5 an abrasive having intruded into a conveyance path for bank notes and can be prevented from getting clogged by the bank notes.

Besides, in a game island to which the present invention is applied, bank notes used in the game island are identified
10 while being collected.

Heretofore, in such a collection system, there has been known a structure wherein bank note identification machines are disposed in a state in which they are orthogonal to bank note conveyance belts, and wherein bank notes are conveyed
15 into game fee receiving boxes by both the conveyance belts which are respectively extended unidirectionally along both the rows of game machines.

With such a structure, however, a conveyance equipment for the bank notes collides against the conduit or chute of a
20 ball resupply device because it is attached to the part of a curtain board. In order to avoid the collision, the mounting position of the conduit or chute is shifted upwards. This measure, however, is unfavorable in design for the reason that the height of the island increases to inflict a sense of
25 oppression on game players.

Another object of the present invention is to provide a paper money collection system in which, in order to eliminate the drawback as stated above, a conveyance equipment for bank notes is mounted outside a conduit or chute so as not to interfere with the conduit or chute, and in which identification machines are attached aslant or laterally so as to prevent an island from widening to the extent of mounting the conveyance equipment outside.

A further object is to provide a paper money collection system which is so constructed that an exchange machine for changing a large denomination note is installed on one end of an island, and that bank notes carried by conveyors are introduced into the large denomination note changing machine so as to be recycled for changing the money.

Disclosure of the Invention:

According to the present invention, there is provided, in a conveyance equipment having a conveyance path which serves to convey paper or the like, and an introduction path which merges with the conveyance path, for guiding to the conveyance path the paper or the like to be introduced into the conveyance system, wherein the paper or the like is conveyed in a state in which it is erected within the conveyance path while being sandwiched in between conveyance members; a conveyance equipment for paper or the like

characterized in that means for separating and excluding foreign matter is formed at the bottom of the conveyance path.

5 Further, according to the present invention, there is provided, in a conveyance equipment having a conveyance path which serves to convey paper or the like, and an introduction path which merges with the conveyance path, for guiding to the conveyance path the paper or the like to be introduced into the conveyance system, wherein the paper or the like is
10 conveyed in a state in which it is erected within the conveyance path while being sandwiched in between conveyance members; a conveyance equipment for paper or the like characterized in that a hole for dropping foreign matter is formed in the bottom of the portion where the conveyance path
15 and the introduction path merge.

The conveyance path is defined by alternately arranging conveyance guide members and merging guide members which are connected with the introduction path, the merging guide members constituting the merging portion. The bottom of an
20 upper stream end of each merging guide member is located below the bottom of a lower stream end of the corresponding conveyance guide member arranged upstream of each merging guide member, and the hole is formed in that part of the bottom of each merging guide member which is near the
25 underneath of the lower stream end of the corresponding conveyance guide member.

The paper or the like, such as a bank note, inserted into the introduction path is guided from the introduction path to the conveyance path and is conveyed in the state in which it is erected within the conveyance path while being sandwiched in between the conveyance members, such as a belt and a roller.

When granules of an abrasive or the like exist on the conveyance path, the paper or the like moving within the conveyance path drops and expels the granular matter from the hole which is formed in the bottom of the next merging portion.

In the case where the bottom of the merging guide member is located below that of the conveyance guide member arranged upstream of this merging guide member, the paper or the like is conveyed without being caught in the hole of the merging portion.

Further, according to the present invention, there is provided a paper money collection system for a game island where game machines are juxtaposed, wherein bank note collection means is installed on one side of the end of the game island, while bank note conveyance belts which run in directions opposite to each other are disposed so as to fall into a communicating state which terminates on the other side of the end of the game island. The lower stream side of one of the bank note conveyance belts is connected so as to join the machine for exchanging a large denomination note. Bank

note identification machines are disposed in association with individual bank note throwing slots arranged near the respective game machines and are mounted inside the respective bank note throwing slots so as to join said bank note conveyance belts. The conveyance equipment is installed having a conveyance path which serves to convey a bank note, and an introduction path which extends inwards from each bank note throwing slot and merges with the conveyance path to guide the paper or like to the conveyance path and so introduce it into the conveyance system, wherein the paper or the like is conveyed in a state in which it is erected within the conveyance path while being sandwiched in between conveyance members. The equipment is further formed with means for separating and ejecting foreign matter at the bottom of the conveyance path. The bank note identification machines are mounted aslant to, or in parallel with, the extending direction of each bank note conveyance belt.

Also, the bank note collection means can be constructed as an exchange machine for changing a large denomination note.

In this way, the bank notes to be used for the individual game machines can be efficiently delivered from the respective bank note identification machines to the bank note conveyance belts, and all the bank notes can be sent from the single conveyance path to the large denomination note changing machine while meeting one another. Because the

large denomination note changing machine is installed at the end of the game island, the bank notes can be recycled and used.

5

Brief Description of the Drawings:

Fig. 1 is a schematic plan view showing a game island to which a conveyance equipment according to the present invention is applied.

10

Fig. 2 is an elevational view showing the conveyance equipment of the present invention.

Fig. 3 is a cross-sectional view of the conveyance equipment in Fig. 2.

15

Fig. 4 is a vertical sectional view of the upper stream side of the conveyance equipment in Fig. 2.

Fig. 5 is a partial sectional view showing a merging guide member in Fig. 2.

Fig. 6 is a schematic plan view showing a paper money collection system according to the present invention.

20

Fig. 7 is a front view showing a part of a game island to which the paper money collection system in Fig. 6 is applied.

Fig. 8 is a sectional view showing a ~~bank note~~ ^{ball vending} ~~identification~~ machine in the game island depicted in Fig. 7.

25

Fig. 9 is a schematic view showing another example of a paper money collection system.

Best Modes for Carrying Out the Invention:

Now, an embodiment of a conveyance equipment according
 5 to the present invention will be described with reference to
 the drawings. By way of example, there will be explained a
 case where paper or the like to be conveyed is paper money or
 bank notes.

In a game parlor, vending machines V for dispensing a
 10 game medium are installed between the respectively adjacent
 game machines G as shown in Fig. 1. The conveyance equipment
 for the paper or the like is connected to the rear sides of
 the game medium vending machines V, and it is used for
 accepting the bank notes from these machines and then
 15 conveying them to a ^{exchanging machine Ex} ~~paper money receiving box S~~ through a
 conveyance path. In general, the conveyance equipment is
 arranged with its lengthwise direction held horizontal and
 its widthwise direction held vertical.

As shown in Fig. 2, the conveyance equipment has such a
 20 unit construction that a base 4 constitutes one unit and that
 a plurality of units in lengthwise succession constitute this
 conveyance equipment. On one surface of the base 4, two
 conveyance guide members 11a are provided in a manner spaced
 in the widthwise direction, and other conveyance guide
 25 members 11b are provided downstream of the conveyance guide
 members 11a in a spaced manner. The conveyance guide members

11a, 11b have deep grooves which confront each other in the widthwise direction, and between which the conveyance path 15 for conveying the paper money is defined.

5 A belt 3 is endlessly wound round the base 4 in the lengthwise direction thereof, at a position intermediate between the pairs of conveyance guide members 11a, 11b which extend in the lengthwise direction of the base 4. The base 4 is formed with openings 12, 13, in which a conveyance roller 5 and an upper stream side feed roller 6 are respectively
10 arranged so that their peripheral surfaces may guide the belt 3 in contact therewith. The belt 3, conveyance roller 5 and upper stream side feed roller 6 constitute conveyance means for the bank note. The conveyance means conveys the bank note in the state in which this bank note is held in
15 sandwiched fashion and is erected within the conveyance path 15.

In figure 2, the
~~The~~ belt 3 is normally revolved in the direction of an arrow A by a power source (not shown). The bank note is conveyed downstream within the conveyance path 15 in the
20 sandwiched state by the belt 3, conveyance roller 5 and upper stream side feed roller 6 until it is received in the ~~paper-exchanging machine~~ *Ex (*
~~money-receiving box (S~~ in Fig. 1) installed at the end part of a game system.

In figures 2 and 3, the
~~The~~ base 4 has an introduction member 14 connected
25 thereto at a position intermediate between the conveyance guide members 11a and 11b. The introduction member 14 has an

introduction path 8. One end of the introduction path 8 forming a bank note intake port 7 is joined with the game medium vending machine (V in Fig. 1), while the other end thereof is joined to the conveyance path 15. The
 5 introduction path 8 merges with the conveyance path 15, and guides the bank note thereto. Star wheels 9 for propelling the bank note toward the base 4 are arranged in the introduction path 8.

The star wheels 9 are rotated by a timing belt 10 which
 10 is driven by the conveyance roller 5. A tension pulley 22 is disposed in contact with the outer side of the timing belt 10 at a position intermediate between the star wheels 9 and the conveyance roller 5.

Referring to figures 2, 3 and 5, in
~~In~~ addition, the connection part among the introduction
 15 member 14 and the conveyance guide members 11a, 11b is formed with two, upper and lower merging guide members 16 unitary with the base 4, as shown by a section in Fig. 5. The merging guide members 16 define the merging portion between the conveyance path 15 and the introduction path 8. These
 20 merging guide members 16 are respectively formed with deep grooves in a manner to be spaced from each other in the widthwise direction of the base 4, and a hole 17 for dropping granular matter is provided in the bottom of the merging guide member 16 located on the lower side of the base 4.

Referring to figure 2, each
 25 ~~Each~~ of the merging guide members 16 has the bottom surface of its upper stream end 18 arranged below the bottom

surface of the lower stream end 19 of the conveyance guide member 11a located upstream of the pertinent member 16, so that a level difference h is involved between the bottom surfaces of the upper stream end 18 and the lower stream end 19. The hole 17 of the merging guide member 16 lies at the bottom part thereof near under the lower stream end 19 of the conveyance guide member 11a.

The conveyance equipment has the merging guide members 16 arranged downstream of the conveyance guide members 11a, and has the conveyance guide members 11b arranged downstream of the members 16. The conveyance path 15 is defined by alternately arranging the conveyance guide members and the merging guide members 16.

Next, the operation of the equipment will be described. Referring to figures 2 and 3, when a bank note is inserted from the game medium vending machine into the bank note intake port 7 of the introduction member 14, it is sent from the introduction path 8 into the conveyance path 15 by the star wheels 9 which are rotated in the introduction path 8 by the conveyance roller 5 and the timing belt 10. The bank note is sent toward the conveyance guide members 11b on the lower stream side while being guided by the merging guide members 16, in the state in which it is erected within the conveyance path 15 with both its surfaces sandwiched in between the driven upper stream side feed roller 6 and belt 3.

referring to figure 2,
Likewise, a bank note sent from the upper stream of the conveyance guide members 11a by these members is carried to the conveyance guide members 11b by the feed roller 5 immediately after having passed the merging guide members 16.

5 In this case, when the granules of an abrasive or the like are adherent to the game medium for any reason, e. g., due to electrostatic charges, they are expelled so that they only occasionally intrude into the conveyance path 15 corresponding to the upper stream conveyance guide members 10 11a. On this occasion, the bank note which is carried from the upper stream to the conveyance guide members 11a is conveyed while pressing the granular matter at its lower end. Then, when the bank note has approached the merging members 16, it drops and expels the granular matter downwards from 15 the conveyance guide members 11a and through the holes 17 of the merging members 16.

Thereafter, the bank note is carried to the conveyance guide members 11b by the feed roller 5. In the course of the bank note being conveyed from the conveyance guide 20 members 11a toward the merging guide members 16, it is not caught in the hole 17 owing to the level difference h based on the fact that the bottom surface of the upper stream end 18 of each merging guide member 16 is located below the bottom surface of the lower stream end 19 of the 25 corresponding conveyance guide member 11a.

The granular matter which has intruded into the path corresponding to the lower stream conveyance guide members 11b are carried while being pressed by the lower end of the bank note, in the same manner as in the case of the conveyance guide members 11b. Near the merging members 16, the granules are dropped and expelled downwards from the conveyance guide members 11a and through the holes 17 of the merging members 16.

In the above embodiment, the foreign matter such as granular matter is dropped and expelled through the holes which are provided in the bottom of the merging portion. However, a position where the means for excluding the foreign matter such as granular matter is not restricted to the bottom of the merging portion, but it may be anywhere within the conveyance path. Moreover, the exclusion means may have any construction as long as it can separate the foreign matter such as granular matter from the object to-be-conveyed such as paper money. Specifically, apart from the holes, discontinuous parts such as net-like parts can be provided in the bottom so as to form foreign matter exclusion paths which diverge from the conveyance path.

Incidentally, although the conveyance equipment for paper money has been exemplified in the above embodiment, the conveyance equipment of the present invention can be used for conveying, not only paper money, but also other paper items including, e. g., post cards or cheques.

Now, examples of a paper money collection system to which the foregoing conveyance equipment is applied will be described with reference to Figs. 6 ~ 9. Fig. 7 shows a part of that game island I being a

5 "pachinko" island within a parlor in which a large number of game machines G2 being "pachinko" machines are installed in juxtaposition. Ball vending machines between the game machines, V2 each of which includes a ball counter 24, a ball pot 25, a nozzle 26, a coin returning port 27, 10 etc. are respectively interposed between the adjacent game machines G2. Besides, a bank note inserting slot 23 for a 1,000-yen note 28 and a coin inserting slot 30 into which a 500-yen or 100-yen coin 29 can be inserted are respectively provided in the upper part of each vending machine between 15 the game machines, V2, while a coin selector 31 and a coin conveyor 32 for the coins are disposed inside each vending machine. An exchange machine for a large denomination note, EX into which the 10,000-yen note can be inserted so as to be changed for 1,000-yen notes is installed on one end side of 20 the game island I.

Bank note conveyance belts 21, each of which can convey the bank note 28 toward the large denomination note exchange machine EX, are disposed in alignment on the rear side of one row of the game machines G2 being the inner side of the game 25 island I. Also, bank note conveyance belts 22, each of which can convey the bank note 28 while traveling in the opposite

direction to the traveling direction of the bank note conveyance belt 21, are disposed in alignment on the rear side of the other row of the game machines G2 so as to lie near the bank note conveyance belts 21 in parallel therewith.

5 A relay belt 33, which can relay the bank note ~~28~~ from the bank note conveyance belt 22 to the bank note conveyance belt 21 while diverting the flowing direction of this bank note, is extended on the end side of the game island I remote from the exchange machine. A feed belt 34 is interposed between
10 the terminal side of the aligned bank note conveyance belts 21 and the exchange machine EX for the large denomination note.

In addition, bank note identification machines C, each of which can identify the bank note 28, for example, confirm
15 the denomination and integrity of the paper money and then deliver this bank note to the belt side, are respectively interposed between the inner ends of the individual bank note insertion slots 23 and the bank note conveyance belts 21 and 22. Herein, the bank note identification machines C are
20 arranged inclining at an angle θ downstream relative to the extending direction of the bank note conveyance belts 21, 22 as illustrated in Fig. 6, or they are arranged in parallel with the above extending direction.

Accordingly, when the bank notes 28 are inserted into
25 the bank note insertion slots 23 as indicated by arrows a in order to obtain "pachinko" balls, they are efficiently

delivered to the bank note conveyance belts 21, 22 while
being identified by the bank note identification machines C.
The bank note 28 delivered to the bank note conveyance belt
22 has its flowing direction diverted and is relayed to the
5 bank note conveyance belt 21 by the relay belt 33, while the
bank note 28 delivered to the bank note conveyance belt 21 is
joined with the bank note 28 conveyed from the upper stream.
In this manner, all the bank notes 28 are conveyed as
indicated by arrows in Fig. 6, whereupon they are delivered
10 from the feed belt 34 into the large denomination note
exchange machine EX so as to be stocked therein. Thus, the
large denomination note exchange machine EX permits the bank
notes to be recycled and used.

Fig. 9 shows another example, which is so constructed
15 that both the confronting bank note conveyance belts 21, 22
are formed of a single belt.

As described above, according to the present invention,
bank notes to be bet for the respective game machines of a
game island can be efficiently delivered from corresponding
20 bank note identification machines to bank note conveyance
belts. Moreover, all bank notes to be bet in the game island
can be favorably fed from one conveyance path to a large
denomination note exchange machine while being joined, and
they can be recycled and effectively used owing to the large
25 denomination note exchange machine installed at the end of
the game island. Furthermore, the bank note conveyance belts

and the bank note identification machines can be arranged in a simple scheme, and the island can be prevented from widening, to bring forth the advantages that the game islands can be efficiently installed within a parlor and that the
5 work of the installation is facilitated.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A conveyance equipment having a conveyance path which serves to convey paper or the like, and an introduction path which merges with the conveyance path, for guiding to the conveyance path the paper or the like to be introduced into the conveyance system, wherein the paper or the like is conveyed in a state in which it is erected within the conveyance path while being sandwiched in between conveyance members; and wherein said conveyance path is defined by alternatively arranging conveyance guide members and merging guide members which are connected with said introduction path, said merging guide members constituting a merging portion;

a conveyance equipment for paper or the like characterized in that means for separating and excluding foreign matters is formed at a bottom of said conveyance path.

2. A conveyance equipment having a conveyance path which serves to convey paper or the like, and an introduction path which merges with the conveyance path, for guiding to the conveyance path the paper or the like to be introduced into the conveyance system, wherein the paper or the like is conveyed in a state in which it is erected within the conveyance path while being sandwiched in between conveyance members; and wherein said conveyance path is defined by alternatively arranging conveyance guide members and merging guide members which are connected with said introduction path, said merging guide members constituting a merging portion;

a conveyance equipment for paper or the like characterized in that a hole for dropping foreign matter is formed in a bottom portion proximate where said conveyance path and said introduction path merge.

3. A conveyance equipment as defined in Claim 1, characterized in:

that a bottom of an upper stream end of said each merging guide member is located below a bottom of a lower stream end of the corresponding conveyance guide member arranged upstream of said each merging guide



member, a hole being formed in that part of the bottom of said each merging guide member which is near under said lower stream end of said corresponding conveyance guide member.

4. A conveyance equipment as defined in Claim 2, characterized in:
that a bottom of an upper stream end of said each merging guide member is located below a bottom of a lower stream end of the corresponding conveyance guide member arranged upstream of said each merging guide member, the hole being formed in that part of the bottom of said each merging guide member which is near the underneath of said lower stream end of said corresponding conveyance guide member.

5. A paper money collection system for a game island where game machines are juxtaposed, characterized in that bank note collection means is installed on one end side of said game island, while bank note conveyance belts which run in directions opposite to each other are disposed so as to fall into a communicating state on the other end side of said game island, a lower stream side of one of said bank note conveyance belts being connected so as to join a machine for exchanging a large denomination note, bank note identification machines being disposed in association with individual bank note insertion slots arranged near the respective game machines and being mounted inside the respective bank note insertion slots so as to join said bank note conveyance belts; and that a conveyance equipment is installed having a conveyance path which serves to convey a bank note, and an introduction path which extends inwards from said each bank note insertion slot and merges with said conveyance path, for guiding to said conveyance path the paper or the like to be introduced into the conveyance system, wherein the paper or the like is conveyed in a state in which it is erected within said conveyance path while being sandwiched in between conveyance members, said equipment being formed with means for separating and excluding foreign matter at a bottom of said conveyance path.



6. A paper money collection system as defined in Claim 5, wherein said bank note identification machines are mounted aslant to, or in parallel with, the extending direction of said each bank note conveyance belt.

7. A paper money collection system as defined in claim 5, wherein said bank note collection means is an exchange machine for a large denomination note.

8. Conveyance equipment as claimed in claim 1 or 2, substantially as herein described with reference to the accompanying drawings.

9. A system as claimed in claim 5, substantially as herein described with reference to the accompanying drawings.

DATED this 23rd day of August, 1993.

KABUSHIKI KAISHA ACE DENKEN

WATERMARK PATENT & TRADEMARK ATTORNEYS
THE ATRIUM
290 BURWOOD ROAD
HAWTHORN VICTORIA 3122
AUSTRALIA

SKP:RCTS:BB
AU8448191.WPC DOC 39



Abstract:

In a conveyance equipment having a conveyance path which serves to convey paper or the like, and an introduction path which merges with the conveyance path, for guiding to the conveyance path the paper or the like to be introduced into the conveyance system, wherein the paper or the like is conveyed in a state in which it is erected within the conveyance path while being sandwiched in between conveyance members; a conveyance equipment for paper or the like is so constructed that means for separating and excluding foreign matter is formed at a bottom of the conveyance path. Also, a paper money collection system in a game island is constructed using the conveyance equipment.

FIG. 1

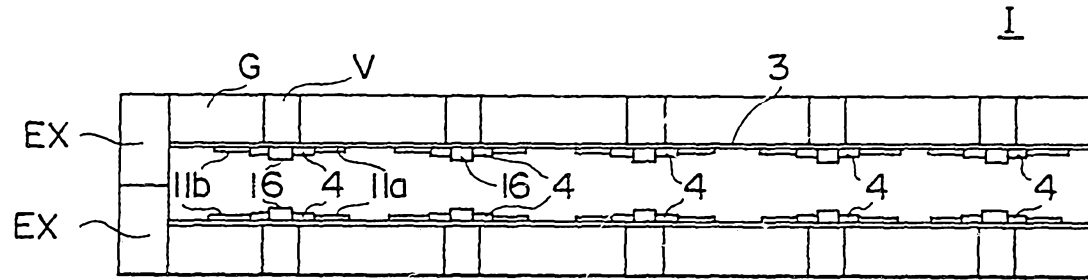
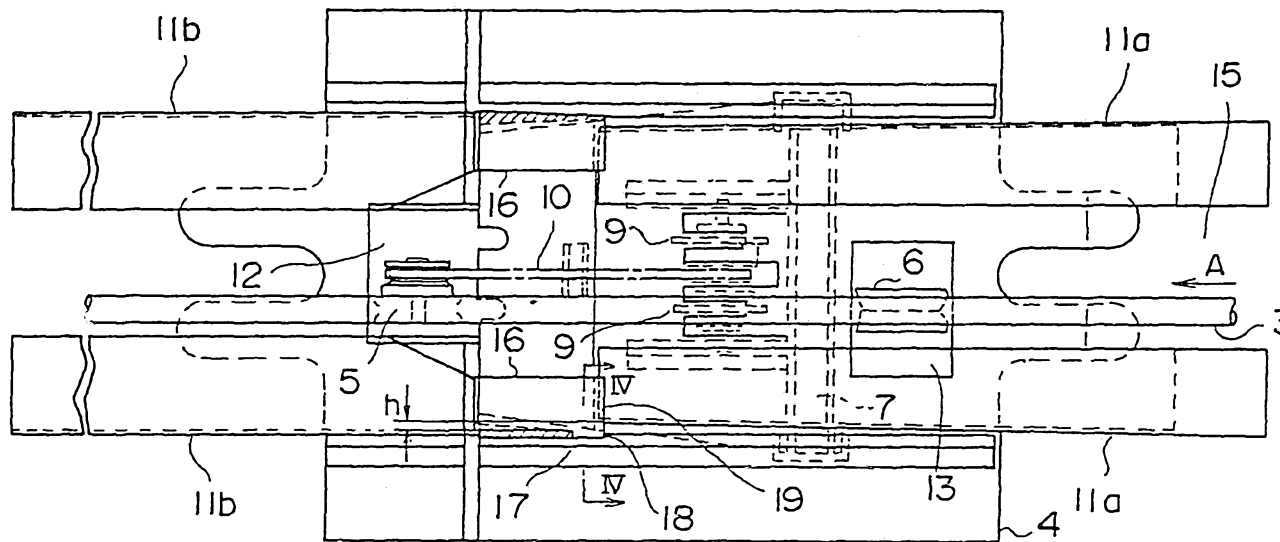


FIG. 2



1/5
34,481/91

FIG. 3

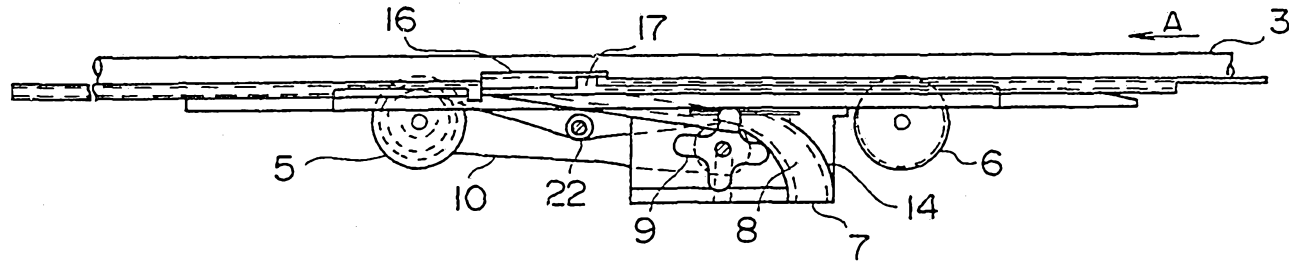


FIG. 4

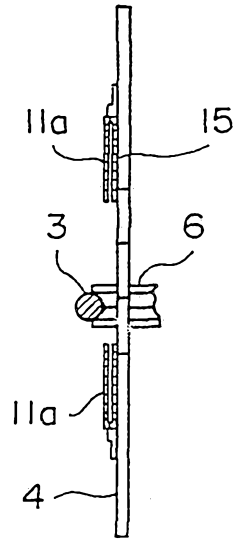


FIG. 5

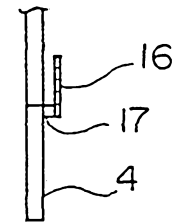


FIG. 6

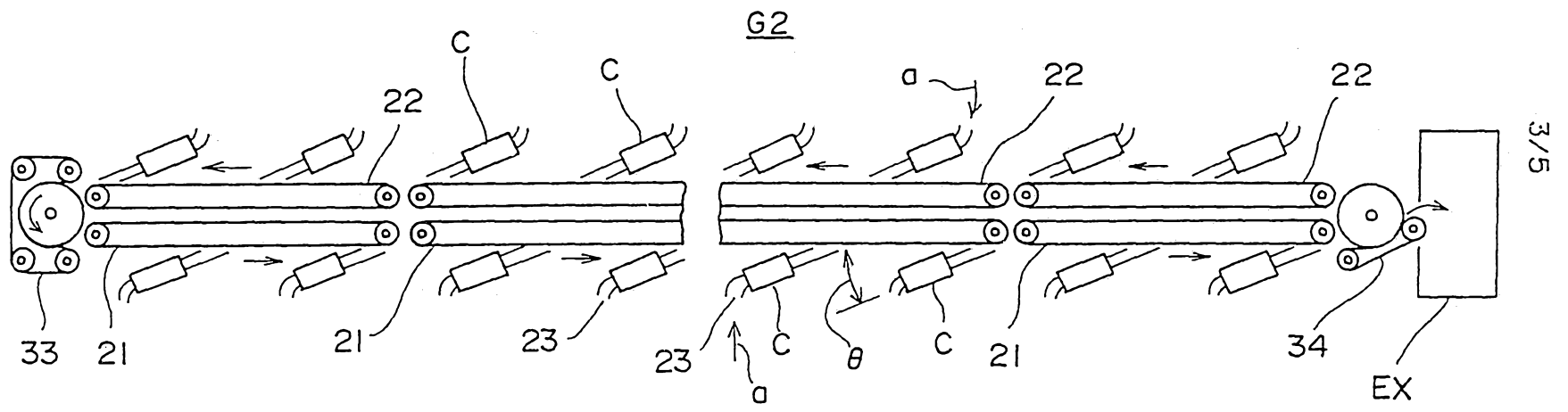


FIG. 7

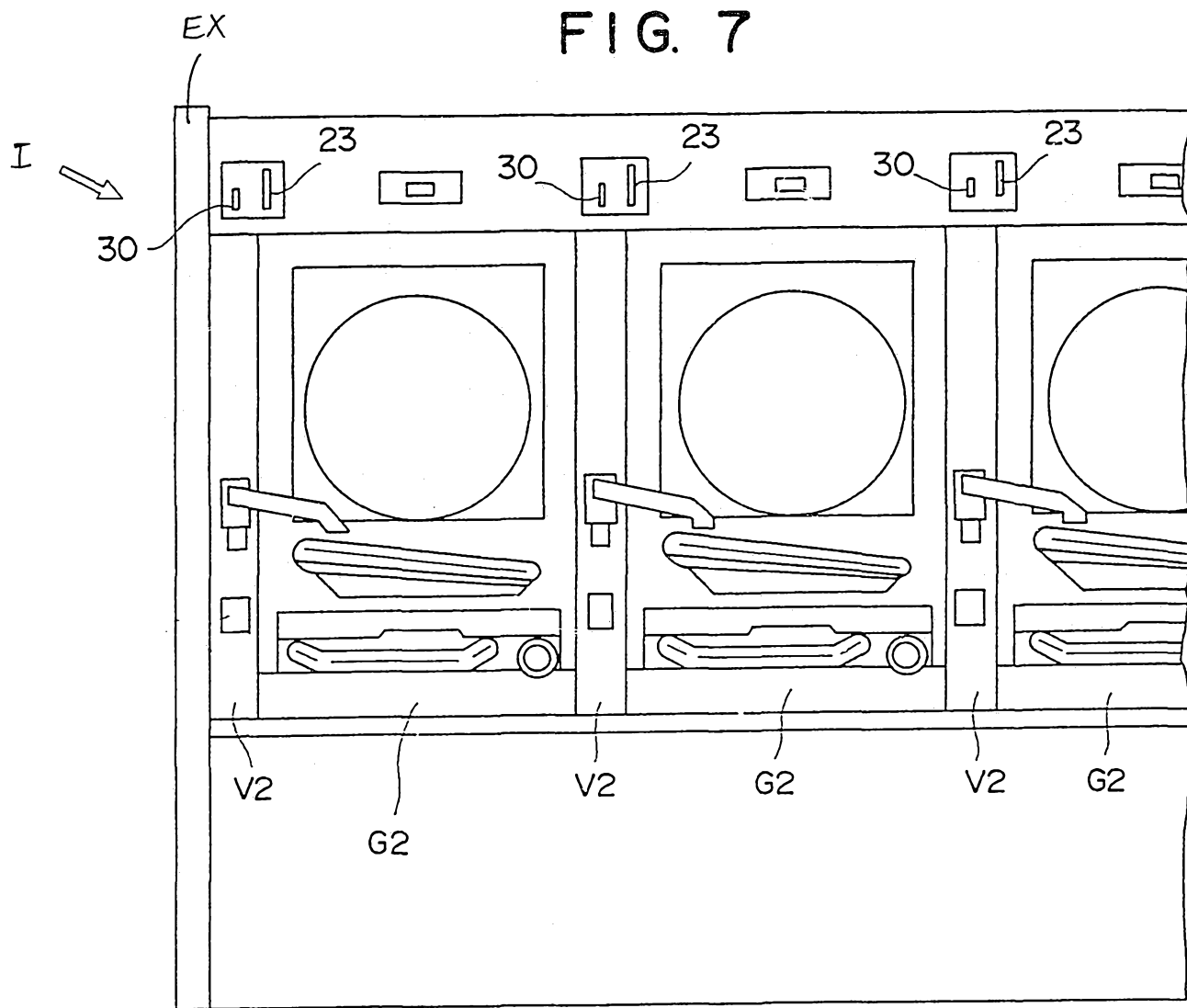


FIG. 8

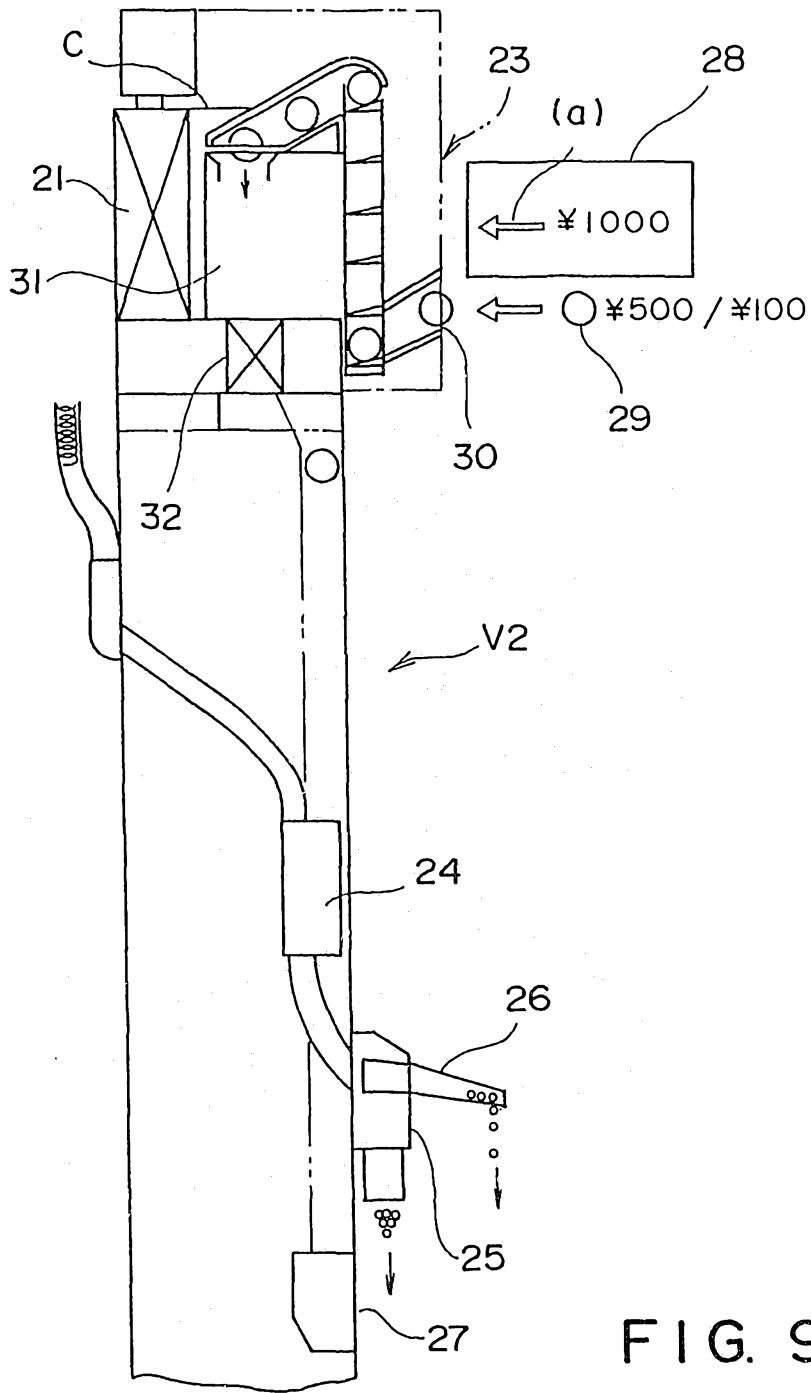
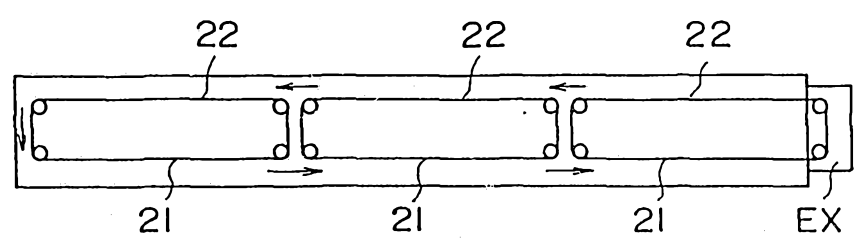


FIG. 9



INTERNATIONAL SEARCH REPORT

International Application No PCT/JP91/01199

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification IPC		
Int. Cl. ⁵ B65H5/02, A63F7/02		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
IPC	B65H5/02, B65H1/00, G07F7/04, G07D9/00, A63F7/02	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
Jitsuyo Shinan Koho	1926 - 1990	
Kokai Jitsuyo Shinan Koho	1971 - 1990	
III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹		
Category [*]	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
Y ₁	JP, U, 60-132784 (Kiyoto Uchida), September 4, 1985 (04. 09. 85)	1, 2, 5-7
Y ₁	JP, U, 60-190756 (Kiyoto Uchida), December 17, 1985 (17. 12. 85)	1, 2, 5-7
Y ₁	JP, U, 60-190760 (Kiyoto Uchida), December 17, 1985 (17. 12. 85)	1, 2, 5-7
Y ₂	JP, U, 62-124939 (Oki Electric Industry Co., Ltd.), August 8, 1987 (08. 08. 87)	1, 2, 5-7
Y ₂	JP, A, 56-165644 (Fujitsu Ltd.), December 19, 1981 (19. 12. 81), (Family: none)	1, 2, 5-7
Y ₂	JP, Y, 47-42368 (Toshiba Corp.), December 21, 1972 (21. 12. 72)	1, 2, 5-7
Y ₃	JP, U, 60-119480 (Ese Denken K.K.), August 12, 1985 (12. 08. 85)	5-7
<p>[*] Special categories of cited documents: ¹⁰</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search		Date of Mailing of this International Search Report
November 15, 1991 (15. 11. 91)		November 25, 1991 (25. 11. 91)
International Searching Authority		Signature of Authorized Officer
Japanese Patent Office		

FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET

Y₃ | JP, A, 60-244751 (Shinko Electric
Co., Ltd.),
December 4, 1985 (04. 12. 85),
(Family: none)

5-7

V. OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE ¹

This international search report has not been established in respect of certain claims under Article 17(2) (a) for the following reasons:

1. Claim numbers . because they relate to subject matter not required to be searched by this Authority, namely:
2. Claim numbers . because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. Claim numbers . because they are dependent claims and are not drafted in accordance with the second and third sentences of PCT Rule 6.4(a).

VI. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING ²

This International Searching Authority found multiple inventions in this international application as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.
2. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:
3. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:
4. As all searchable claims could be searched without effort justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

Remark on Protest

- The additional search fees were accompanied by applicant's protest.
- No protest accompanied the payment of additional search fees.

国際調査報告

国際出願番号 PCT/JP91/01199

I. 発明の属する分野の分類		
国際特許分類 (IPC) Int. Cl ⁵ B 65 H 5 / 0 2 , A 6 3 F 7 / 0 2		
II. 国際調査を行った分野		
調査を行った最小限資料		
分類体系	分類記号	
IPC	B 6 5 H 5 / 0 2 , B 6 5 H 1 / 0 0 , G 0 7 F 7 / 0 4 , G 0 7 D 9 / 0 0 , A 6 3 F 7 / 0 2	
最小限資料以外の資料で調査を行ったもの		
日本国実用新案公報 1926-1990年 日本国公開実用新案公報 1971-1990年		
III. 関連する技術に関する文献		
引用文献の カテゴリー ※	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	請求の範囲の番号
Y ₁	JP, U, 60-132784 (内田 清人), 4. 9月. 1985 (04. 09. 85)	1, 2, 5-7
Y ₁	JP, U, 60-190756 (内田 清人), 17. 12月. 1985 (17. 12. 85)	1, 2, 5-7
Y ₁	JP, U, 60-190760 (内田 清人), 17. 12月. 1985 (17. 12. 85)	1, 2, 5-7
Y ₂	JP, U, 62-124939 (沖電気工業株式会社), 8. 8月. 1987 (08. 08. 87)	1, 2, 5-7
Y ₂	JP, A, 56-165644 (富士通株式会社), 19. 12月. 1981 (19. 12. 81), (ファミリーなし)	1, 2, 5-7
Y ₂	JP, Y, 47-42368 (株式会社 東 芝),	1, 2, 5-7
<p>※ 引用文献のカテゴリー</p> <p>「A」 特に関連のある文献ではなく、一般的技術水準を示すもの 「E」 先行文献ではあるが、国際出願日以後に公表されたもの 「L」 優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献 (理由を付す) 「O」 口頭による開示、使用、展示等に言及する文献 「P」 国際出願日前で、かつ優先権の主張の基礎となる出願の日の後に公表された文献</p> <p>「T」 国際出願日又は優先日の後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの 「X」 特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの 「Y」 特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの 「&」 同一パテントファミリーの文献</p>		
IV. 認 証		
国際調査を完了した日 15. 11. 91	国際調査報告の発送日 25.11.91	
国際調査機関 日本国特許庁 (ISA/JP)	権限のある職員 特許庁審査官 面 野 健 二 ⊕	3 F 7 1 1 1

第2ページから続く情報

(III欄の続き)

21. 12月. 1972 (21. 12. 72)

Y₃ JP, U, 60-119480 (株式会社 エース電研) , 5-7
12. 8月. 1985 (12. 08. 85)

Y₃ JP, A, 60-244751 (神鋼電機株式会社) , 5-7
4. 12月. 1985 (04. 12. 85) , (ファミリーなし)

V. 一部の請求の範囲について国際調査を行わないときの意見

次の請求の範囲については特許協力条約に基づく国際出願等に関する法律第8条第3項の規定によりこの国際調査報告を作成しない。その理由は、次のとおりである。

1. 請求の範囲 _____ は、国際調査をすることを要しない事項を内容とするものである。
2. 請求の範囲 _____ は、有効な国際調査をすることができる程度にまで所定の要件を満たしていない国際出願の部分に係るものである。
3. 請求の範囲 _____ は、従属請求の範囲でありかつPCT規則6.4(a)第2文の規定に従って起草されていない。

VI. 発明の単一性の要件を満たしていないときの意見

次に述べるようにこの国際出願には二以上の発明が含まれている。

1. 追加して納付すべき手数料が指定した期間内に納付されたので、この国際調査報告は、国際出願のすべての調査可能な請求の範囲について作成した。
2. 追加して納付すべき手数料が指定した期間内に一部分しか納付されなかったため、この国際調査報告は、手数料の納付があった発明に係る次の請求の範囲について作成した。
請求の範囲 _____
3. 追加して納付すべき手数料が指定した期間内に納付されなかったため、この国際調査報告は、請求の範囲に最初に記載された発明に係る次の請求の範囲について作成した。
請求の範囲 _____
4. 追加して納付すべき手数料を要求するまでもなく、すべての調査可能な請求の範囲について調査することができたため、追加して納付すべき手数料の納付を命じなかった。

追加手数料異議の申立てに関する注意

- 追加して納付すべき手数料の納付と同時に、追加手数料異議の申立てがされた。
- 追加して納付すべき手数料の納付に際し、追加手数料異議の申立てがされなかった。