

/103

BICENTENARIO  
2010

AVISO DE NOTIFICACION  
CORREO CERTIFICADO

**Industria y Comercio**  
SUPERINTENDENCIA

Radicación : 4-2375- -8-0 Fecha: 2010-02-22 08:11:56  
Trámite : 11 PATENTE IYII  
Evento : 379 FASE NACIONAL II  
Actuación : 432 COMUNICACTOADM  
Destinatario : DILIA MARIA RODRIGUEZ DALEMAN Folios 1

Señor (a) (es)  
DILIA MARIA RODRIGUEZ DALEMAN  
CARRERA 11 NO. 86-53 PISO 6  
BOGOTA D.C.

Referencia RESOLUCION : 9185  
Fecha : 19/02/2010  
Expediente : 4-2375  
Trámite : 11 PCT-PATENTE DE INVENCION CAPITULOS I Y II  
Evento : 379 FASE NACIONAL INCLUIDO CAPITULO II  
Actuación : 432 COMUNICACION ACTO ADMINISTRATIVO

Comedidamente le solicito presentarse a este Despacho ubicado en la Carrera 13 No. 27 - 00 Piso Quinto (5), de la ciudad de Bogotá D.C., dentro del término de cinco (5) días hábiles contados a partir del envío de la presente citación, en horario de 8:00 a.m. a 4:30 p.m. jornada continua, con el fin de notificarle personalmente el contenido de la resolución de la referencia proferida dentro del expediente tramitado con el número de radicación citado en el asunto.

De no hacerse presente en el término indicado anteriormente, la providencia en mención se notificará por edicto, el cual se fijará por el término de diez (10) días en el Centro de Documentación e Información.

Para su comodidad el texto completo de la resolución se encontrará disponible en la página web de la Entidad desde el día hábil siguiente al de su notificación, la cual podrá ser consultada desde un computador con acceso a Internet, en la página [www.sic.gov.co](http://www.sic.gov.co), con el número de resolución a través de la opción servicios en línea bases de datos - otros servicios - consulta actos administrativos.

En caso de que se haya notificado, haga caso omiso de este aviso.

Secretaría General  
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Al contestar favor Indique el número de radicación consignado en el sticker

Sede Centro: Carrera 13 No. 27-00 pisos 2, 5, 7 y 10 PBX: 5870000  
Sede CAN: Av. Carrera 50 No. 26- 55 Int. 2 Tel 5880070  
Call Center 8513240 . Línea 01800-910165  
Web: [www.sic.gov.co](http://www.sic.gov.co) e-mail: [Info@sic.gov.co](mailto:Info@sic.gov.co)  
Bogotá D.C. Colombia

**REPUBLICA DE COLOMBIA**

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO**

**RESOLUCION 006185**

Por la cual se niega una patente de invención

Rad. PCT/04-2375

**EL SUPERINTENDENTE DE INDUSTRIA Y COMERCIO**

En ejercicio de sus facultades legales, en especial de las que se confirieron en el artículo 3, numeral 30 del decreto 3523 de 2009, y

**CONSIDERANDO:**

**PRIMERO:** Que la solicitud de patente de invención titulada "VISOR CON DISPLAY Y DOBLE TAMBOR PARA MAQUINAS RECREATIVAS", que corresponde a la solicitud internacional PCT/ES2002/000288 de fecha 12 de junio del 2002, fue radicada en esta Superintendencia el 15 de enero del 2004 bajo el número 04-002375-00000-0000, para que se iniciara la fase nacional en virtud del Tratado de Cooperación en Materia de Patentes (PCT).

**SEGUNDO:** Que efectuado el examen de forma en cuanto a los requisitos que debe llenar la solicitud y cumplidas las exigencias legales, se ordenó publicar el extracto sin que se hubieran presentado oposiciones por parte de terceros.

**TERCERO:** Que el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina establece que: *"Si la oficina nacional competente encontrara que la invención no es patentable o que no cumple con alguno de los requisitos establecidos en esta Decisión para la concesión de la patente, lo notificará al solicitante. Este deberá responder a la notificación dentro del plazo de sesenta días contados a partir de la fecha de la notificación. Este plazo podrá ser prorrogado por una sola vez por un período de treinta días adicionales.(...) Si el solicitante no respondiera a la notificación dentro del plazo señalado, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, la oficina nacional competente denegará la patente"*.

**CUARTO:** Que realizado el examen de fondo, se requirió al solicitante en los términos del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, para que presentara respuesta a las observaciones de carácter técnico visibles a folios 147 a 159 del cuaderno administrativo, relacionadas con la patentabilidad o cumplimiento de los requisitos establecidos por esta Decisión para la concesión de la patente. Frente a dicho requerimiento no hubo pronunciamiento alguno por parte del solicitante, por lo cual es procedente negar el privilegio de patente solicitado con fundamento en lo dispuesto en el artículo 45 de la Decisión 486.

**REPUBLICA DE COLOMBIA**

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO**

**RESOLUCION 009185**

Por la cual se niega una patente de invención

Rad. PCT/04-2375

**RESUELVE:**

**ARTICULO PRIMERO:** Negar el privilegio de patente de invención para la solicitud correspondiente a "VISOR CON DISPLAY Y DOBLE TAMBOR PARA MAQUINAS RECREATIVAS", que entró en fase nacional en virtud del Tratado de Cooperación en Materia de Patentes (PCT).

**ARTICULO SEGUNDO:** Notificar personalmente el contenido de la presente a la doctora Dilia María Rodríguez D'Alemán, en su calidad de apoderada de PROINDUMAR S.L., o a quien haga sus veces, entregándole copia de la misma, advirtiéndole que contra ella procede el recurso de reposición interpuesto ante el Superintendente de Industria y Comercio, al momento de la notificación o dentro de los 5 días hábiles siguientes a ella.

**NOTIFÍQUESE Y CUMPLASE**

Dada en Bogotá, D.C., a los

**19 FEB. 2010**

EL SUPERINTENDENTE DE INDUSTRIA Y COMERCIO (E),

  
**GIANCARLO MARCENARO JIMENEZ**

Doctora  
**DILIA MARIA RODRIGUEZ D'ALEMAN**  
Carrera 11 No. 86-53 Piso 6  
Bogotá D.C.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

EL SECRETARIO GENERAL

Certifica que la Resolución 2185 de fecha 19/02/2010

fué notificado mediante listado número 32

fijado el 02/03/2010 y desfijado el 15/03/2010

## INTERNATIONAL SEARCH REPORT

 International application No.  
 PCT/ES02/00288

## A. CLASSIFICATION OF SUBJECT MATTER

CIP<sup>2</sup> G 07 F 17/34

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)

CIP<sup>2</sup> G 07 F

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

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

EPODOC, WIPL, PAJ, CIBEPAT

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                      | Relevant to claim No. |
|-----------|---------------------------------------------------------------------------------------------------------|-----------------------|
| X<br>Y    | Base de datos PAJ en EPOQUE, JP 2000 116 843 A (EVER PROSPECT INT) 25.04.2000, <b>abstract, figures</b> | 1, 2<br>3             |
| Y<br>A    | US 5 395 111 A (INOUE) 07.03.1995, <b>column 2, page 33 - column 4, line 12; figures 1-3</b>            | 3<br>4, 6             |
| P, X      | GB 2 365 191 A (GAMESMAN LIMITED) 13.02.2002, <b>page 8, line 12 - pages 13, 18; figures 1,2</b>        | 1, 2                  |
| A         | Base de datos PAJ en EPOQUE, JP 8 238 352 A (NICHIKOMU) 17.09.1996, <b>abstract, figures</b>            | 1, 5                  |

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

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

02 August 2002 (02.08.2002)

Date of mailing of the international search report

02 August 2002 (02.08.2002)

Name and mailing address of the ISA/

S.P.T.O.

Authorized officer

Facsimile No.

Telephone No.

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International Application No  
PCT/ES02/00288

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|-------------------------------------------|---------------------|----------------------------|---------------------|
| JP 2000 116 843 A                         | 25.04.2000          | JP 2001 302 777 A          | 31.10.2001          |
| US 5 395 111 A                            | 07.03.1995          | CA 2 112 717 A             | 01.07.1995          |
| GB 2 365 191 A                            | 13.02.2002          | NO HAY                     |                     |
| JP 08 238 352                             | 17.09.1996          | NO HAY                     |                     |

# INFORME DE BÚSQUEDA INTERNACIONAL

Solicitud internacional n°  
PCT/ES02/00288

## A. CLASIFICACIÓN DEL OBJETO DE LA SOLICITUD

CIP<sup>7</sup> G 07 F 17/34

De acuerdo con la Clasificación Internacional de Patentes (CIP) o según la clasificación nacional y la CIP.

## B. SECTORES COMPRENDIDOS POR LA BÚSQUEDA

Documentación mínima consultada (sistema de clasificación, seguido de los símbolos de clasificación)

CIP<sup>7</sup> G 07 F

Otra documentación consultada, además de la documentación mínima, en la medida en que tales documentos formen parte de los sectores comprendidos por la búsqueda

Bases de datos electrónicas consultadas durante la búsqueda internacional (nombre de la base de datos y, si es posible, términos de búsqueda utilizados)

EPODOC, WIPL, PAJ, CIBEPAT

## C. DOCUMENTOS CONSIDERADOS RELEVANTES

| Categoría* | Documentos citados, con indicación, si procede, de las partes relevantes                        | Relevante para las reivindicaciones n° |
|------------|-------------------------------------------------------------------------------------------------|----------------------------------------|
| X<br>Y     | Base de datos PAJ en EPOQUE, JP 2000 116 843 A (EVER PROSPECT INT) 25.04.2000, resumen, figuras | 1, 2<br>3                              |
| Y<br>A     | US 5 395 111 A (INOUE) 07.03.1995, col 2, pag 33-col 4, lin 12; fig 1-3                         | 3<br>4, 6                              |
| P, X       | GB 2 365 191 A (GAMESMAN LIMITED) 13.02.2002, pag 8, lin 12-pag 13, 18; fig 1, 2                | 1, 2                                   |
| A          | Base de datos PAJ en EPOQUE, JP 8 238 352 A (NICHU KOMU) 17.09.1996, resumen, figuras           | 1, 5                                   |

☐ En la continuación del recuadro C se relacionan otros documentos ☒ Los documentos de familia de patentes se indican en el anexo

\* Categorías especiales de documentos citados:

"A" documento que define el estado general de la técnica no considerado como particularmente relevante.

"B" solicitud de patente o patente anterior pero publicada en la fecha de presentación internacional o en fecha posterior.

"L" documento que puede plantear dudas sobre una reivindicación de prioridad o que se cita para determinar la fecha de publicación de otra cita o por una razón especial (como la indicada).

"O" documento que se refiere a una divulgación oral, a una utilización, a una exposición o a cualquier otro medio.

"P" documento publicado antes de la fecha de presentación internacional pero con posterioridad a la fecha de prioridad reivindicada.

"T" documento ulterior publicado con posterioridad a la fecha de presentación internacional o de prioridad que no pertenece al estado de la técnica pertinente pero que se cita por permitir la comprensión del principio o teoría que constituye la base de la invención.

"X" documento particularmente relevante; la invención reivindicada no puede considerarse nueva o que implique una actividad inventiva por referencia al documento aisladamente considerado.

"Y" documento particularmente relevante; la invención reivindicada no puede considerarse que implique una actividad inventiva cuando el documento se asocia a otro u otros documentos de la misma naturaleza, cuya combinación resulta evidente para un experto en la materia.

"Z" documento que forma parte de la misma familia de patentes.

Fecha en que se ha concluido efectivamente la búsqueda internacional. 02.08.2002

Fecha de expedición del informe de búsqueda internacional

02 AGO 2002

02.08.02

Nombre y dirección postal de la Administración encargada de la búsqueda internacional. O.E.P.M.

C/Panamá 1, 28071 Madrid, España.  
n° de fax +34 91 349 53 79

Funcionario autorizado:

Juan Luis León Prieto  
+34 91 349 53 82

**INFORME DE BÚSQUEDA INTERNACIONAL**  
Información relativa a miembros de familias de patentes

Solicitud internacional n°

PCT/ES02/00288

| Documento de patente citado<br>en el informe de búsqueda | Fecha de<br>publicación | Miembro(s) de la<br>familia de patentes | Fecha de<br>publicación |
|----------------------------------------------------------|-------------------------|-----------------------------------------|-------------------------|
| JP 2000 116 843 A                                        | 25.04.2000              | JP 2001 302 777 A                       | 31.10.2001              |
| US 5 395 111 A                                           | 07.03.1995              | CA 2 112 717 A                          | 01.07.1995              |
| GB 2 365 191 A                                           | 13.02.2002              | NO HAY                                  |                         |
| JP 08 238 352                                            | 17.09.1996              | NO HAY                                  |                         |

|                                                            |                                                                                                                                                                                |                                                                   |
|------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Referencia del expediente del solicitante o del mandatario | <b>PARA CONTINUAR LA TRAMITACIÓN</b> ver la notificación de transmisión del informe de búsqueda internacional (Formulario PCT/ISA/220) y, en su caso, el punto 5 de esta hoja. |                                                                   |
| Solicitud internacional n°<br>PCT/ES02/00288               | Fecha de presentación internacional (día/mes/año)<br>Doce de junio de dos mil dos (12.06.2002)                                                                                 | Fecha de prioridad (la más antigua) (día/mes/año)<br>(16.07.2001) |
| Solicitante<br>PROINDUMAR S.L. y otros                     |                                                                                                                                                                                |                                                                   |

El presente informe de búsqueda internacional, elaborado por esta Administración encargada de la Búsqueda Internacional, se transmite al solicitante, conforme al artículo 18. Se remite una copia del mismo a la Oficina Internacional.

Este informe de búsqueda internacional comprende un total de 3 hojas.

- ☒ Se adjunta una copia de cada uno de los documentos citados en el informe relativos al estado de la técnica.

#### 1. Consideraciones sobre el informe

a. En lo que se refiere al idioma, la búsqueda internacional se ha realizado sobre la solicitud internacional en el idioma en el cual se depositó, salvo indicación en contra señalada en este apartado.

- ☐ la búsqueda internacional se ha realizado sobre una traducción de la solicitud internacional facilitada a esta Administración (Regla 23.1 b)).

b. En lo que se refiere a las secuencias de nucleótidos y/o de aminoácidos divulgadas en la solicitud internacional (en su caso), la búsqueda internacional se ha basado en la lista de secuencias:

- ☐ contenida en la solicitud internacional en formato escrito.
- ☐ presentada conjuntamente con la solicitud internacional en soporte legible por ordenador.
- ☐ facilitada posteriormente a esta Administración por escrito.
- ☐ facilitada posteriormente a esta Administración en soporte legible por ordenador.
- ☐ se ha entregado la declaración, según la cual la lista de secuencias presentada por escrito posteriormente no va más allá de la divulgación hecha en la solicitud internacional tal y como fue presentada.
- ☐ se ha entregado la declaración, según la cual la información grabada en el soporte legible por ordenador es idéntica a la lista de secuencias presentada por escrito.

2. ☐ Se estima que algunas reivindicaciones no pueden ser objeto de búsqueda (ver recuadro I).

3. ☐ Falta unidad de invención (ver recuadro II).

4. Con respecto al título,

- ☐ el texto se aprueba según fue remitido por el solicitante.
- ☒ el texto ha sido establecido por esta Administración con la siguiente redacción:

Visor con display y doble tambor para máquinas recreativas.

5. Con respecto al resumen,

- ☒ el texto se aprueba según fue remitido por el solicitante.
- ☐ el texto (reproducido en el recuadro III) ha sido establecido por esta Administración de conformidad con la regla 38.2b). El solicitante puede presentar observaciones a esta Administración en el plazo de un mes a contar desde la fecha de expedición del presente informe de búsqueda internacional.

6. La figura de los dibujos a publicar junto con el resumen es la siguiente: Figura n° 8

- ☒ propuesta por el solicitante.
- ☐ por no haber propuesto el solicitante ninguna figura.
- ☐ por caracterizar mejor, esta figura, la invención.
- ☐ No debe publicarse ninguna figura.

# INFORME DE BÚSQUEDA INTERNACIONAL

Solicitud internacional n°  
PCT/ES02/00288

## A. CLASIFICACIÓN DEL OBJETO DE LA SOLICITUD

CIP<sup>7</sup> G 07 F 17/34

De acuerdo con la Clasificación Internacional de Patentes (CIP) o según la clasificación nacional y la CIP.

## B. SECTORES COMPRENDIDOS POR LA BÚSQUEDA

Documentación mínima consultada (sistema de clasificación, seguido de los símbolos de clasificación)

CIP<sup>7</sup> G 07 F

Otra documentación consultada, además de la documentación mínima, en la medida en que tales documentos formen parte de los sectores comprendidos por la búsqueda

Bases de datos electrónicas consultadas durante la búsqueda internacional (nombre de la base de datos y, si es posible, términos de búsqueda utilizados)

EPODOC, WIPL, PAJ, CIBEPAT

## C. DOCUMENTOS CONSIDERADOS RELEVANTES

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| P, X<br>/  | GB 2 365 191 A (GAMESMAN LIMITED) 13.02.2002, pag 8, lin 12-pag 13, 18; fig 1, 2                | 1, 2                                   |
| A          | Base de datos PAJ en EPOQUE, JP 8 238 352 A (NICHU KOMU) 17.09.1996, resumen, figuras           | 1, 5                                   |

☐ En la continuación del recuadro C se relacionan otros documentos ☒ Los documentos de familia de patentes se indican en el anexo

|                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| * Categorías especiales de documentos citados:                                                                                                                                               | "I" documento ulterior publicado con posterioridad a la fecha de presentación internacional o de prioridad que no pertenece al estado de la técnica pertinente pero que se cita por permitir la comprensión del principio o teoría que constituye la base de la invención.     |
| "A" documento que define el estado general de la técnica no considerado como particularmente relevante.                                                                                      | "X" documento particularmente relevante; la invención reivindicada no puede considerarse nueva o que implique una actividad inventiva por referencia al documento aisladamente considerado.                                                                                    |
| "E" solicitud de patente o patente anterior pero publicada en la fecha de presentación internacional o en fecha posterior.                                                                   | "Y" documento particularmente relevante; la invención reivindicada no puede considerarse que implique una actividad inventiva cuando el documento se asocia a otro u otros documentos de la misma naturaleza, cuya combinación resulta evidente para un experto en la materia. |
| "L" documento que puede plantear dudas sobre una reivindicación de prioridad o que se cita para determinar la fecha de publicación de otra cita o por una razón especial (como la indicada). | "&" documento que forma parte de la misma familia de patentes.                                                                                                                                                                                                                 |
| "O" documento que se refiere a una divulgación oral, a una utilización, a una exposición o a cualquier otro medio.                                                                           |                                                                                                                                                                                                                                                                                |
| "P" documento publicado antes de la fecha de presentación internacional pero con posterioridad a la fecha de prioridad reivindicada.                                                         |                                                                                                                                                                                                                                                                                |

Fecha en que se ha concluido efectivamente la búsqueda internacional.

Fecha de expedición del informe de búsqueda internacional

Nombre y dirección postal de la Administración encargada de la búsqueda internacional O.E.P.M.

Funcionario autorizado:

C/Panamá 1, 28071 Madrid, España.  
n° de fax +34 91 349 53 79

**INFORME DE BÚSQUEDA INTERNACIONAL**  
Información relativa a miembros de familias de patentes

Solicitud internacional n°  
PCT/ES02/00288

| Documento de patente citado<br>en el informe de búsqueda | Fecha de<br>publicación | Miembro(s) de la<br>familia de patentes | Fecha de<br>publicación |
|----------------------------------------------------------|-------------------------|-----------------------------------------|-------------------------|
| JP 2000 116 843 A                                        | 25.04.2000              | JP 2001 302 777 A                       | 31.10.2001              |
| US 5 395 111 A                                           | 07.03.1995              | CA 2 112 717 A                          | 01.07.1995              |
| GB 2 365 191 A                                           | 13.02.2002              | NO HAY                                  |                         |
| JP 08 238 352                                            | 17.09.1996              | NO HAY                                  |                         |

D1 87  
86

(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開2000-116843

(P2000-116843A)

(43) 公開日 平成12年4月25日 (2000.4.25)

| (51) Int. Cl. | 識別記号  | F I          | 特許庁 (参考)          |
|---------------|-------|--------------|-------------------|
| A 6 3 F 5/04  | 6 1 1 | A 6 3 F 5/04 | 5 1 1 F 2 C 0 8 8 |
| 7/02          | 3 1 9 | 7/02         | 8 1 9             |

審査請求 有 請求項の数 2 O L (全 11 頁)

(21) 出願番号 特願平10-296808

(22) 出願日 平成10年10月19日 (1998.10.19)

(71) 出願人 588120104

エヴァー プロスペクト インターナショナル リミテッド

ホンコン, クールーン, チムチャツイ, カントンロード33, ホンコンシティ, チャイナ, タワー-3, B/F, ユニット 900 A

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東京都千代田区九段北一丁目9番14-302号

(74) 代理人 100074561

弁理士 柳野 隆生

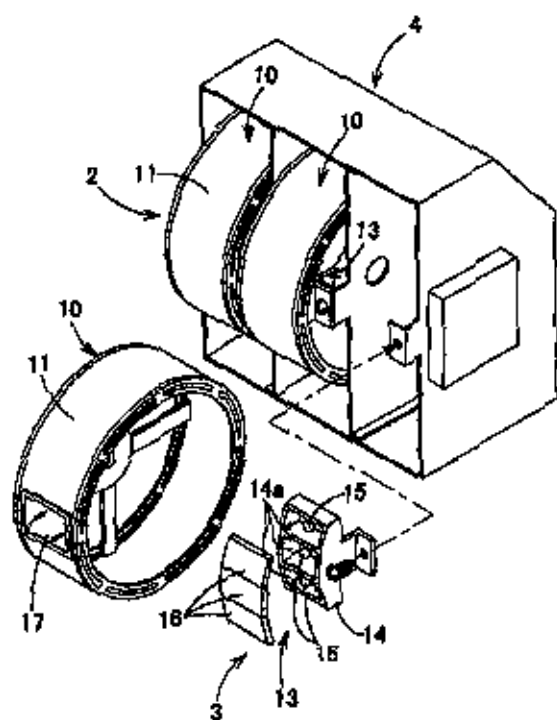
Fターム (参考) 2C088 AA35 AA36 AA42 EB56 EB58 EB60

(54) 【発明の名称】 遊戯機

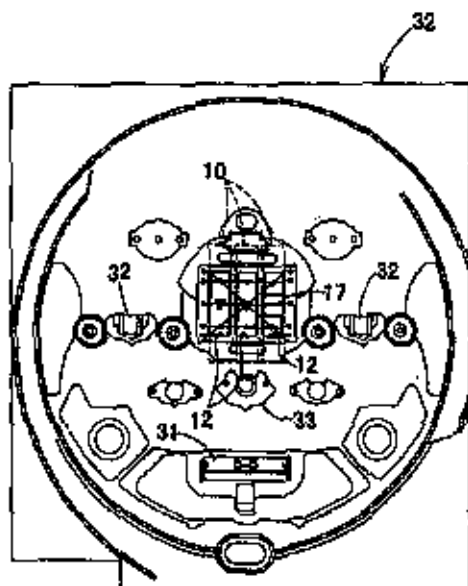
(57) 【要約】

【課題】 表示動作に変化を持たせ、遊戯の興趣を向上し得る遊戯機を提供する。

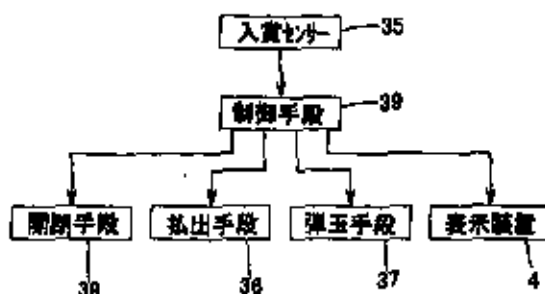
【解決手段】 円周方向に一定間隔おきに文字や数字や絵柄などの識別記号を付した複数の回転ドラム10を有し、視認可能な有効表示領域に回転ドラム10の回転角度に応じて識別記号を可変表示する第1表示手段2と、少なくとも1つの回転ドラム10の少なくとも1つの特定表示部位における識別記号を第1表示手段2とは異なる表示機構で可変表示する第2表示手段3とを備えた。回転ドラム10の特定表示部位に透視窓17を設け、第2表示手段3として、有効表示領域の後方に透視窓17を通して視認可能な液晶表示パネル16を有する液晶表示手段を設けた。



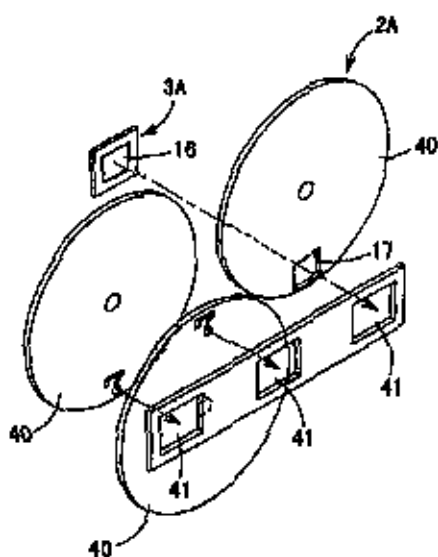
【図5】



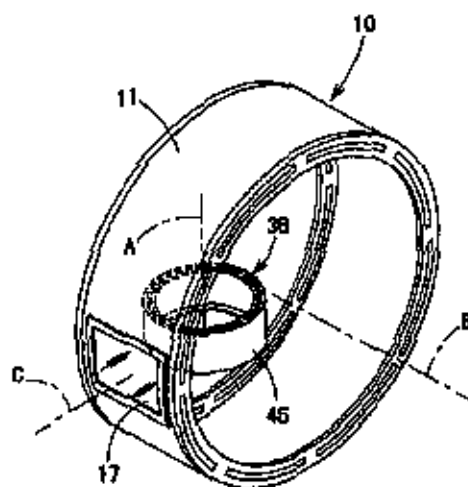
【図6】



【図7】



【図8】



【手続補正書】

【提出日】平成11年8月30日(1999.8.30)

【手続補正1】

【補正対象書類名】明細書

【補正対象項目名】全文

【補正方法】変更

【補正内容】

【書類名】明細書

【発明の名称】遊戯機

【特許請求の範囲】

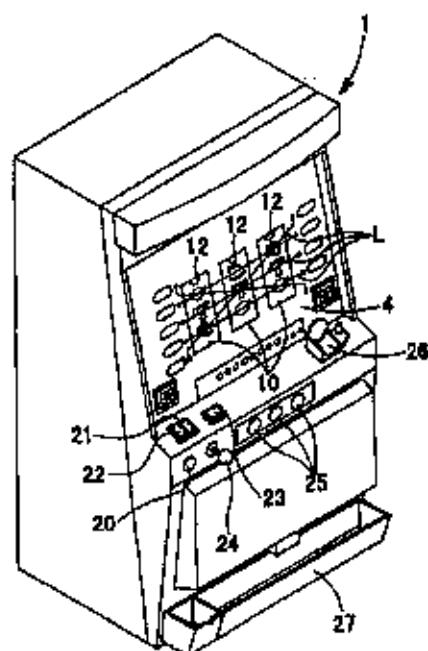
【請求項1】 円周方向に一定間隔おきに文字や数字や絵柄などの識別記号を付した複数の回転ドラムを有し、視認可能な有効表示領域に回転ドラムの回転角度に応じて識別記号を可変表示する第1表示手段と、少なくとも1つの回転ドラムの少なくとも1つの特定表示部位における識別記号を第1表示手段とは異なる表示機構で可変表示する第2表示手段であって、回転ドラムの特定表示部位に透視窓を設け、有効表示領域の後方に

3B 第2表示手段

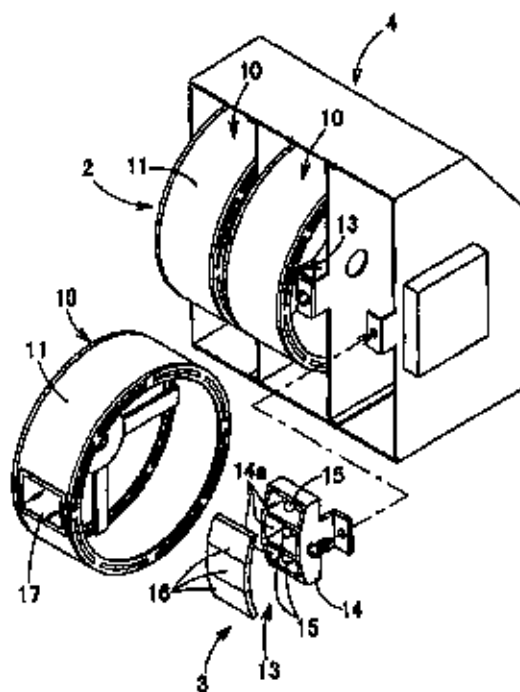
45 補助回転ドラム

ラム

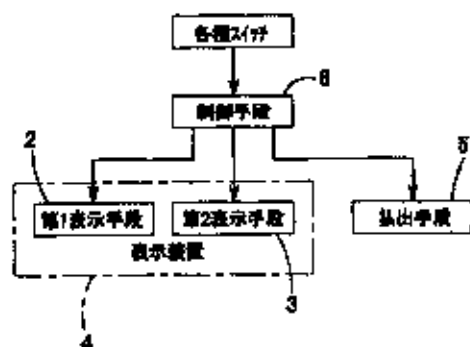
【図1】



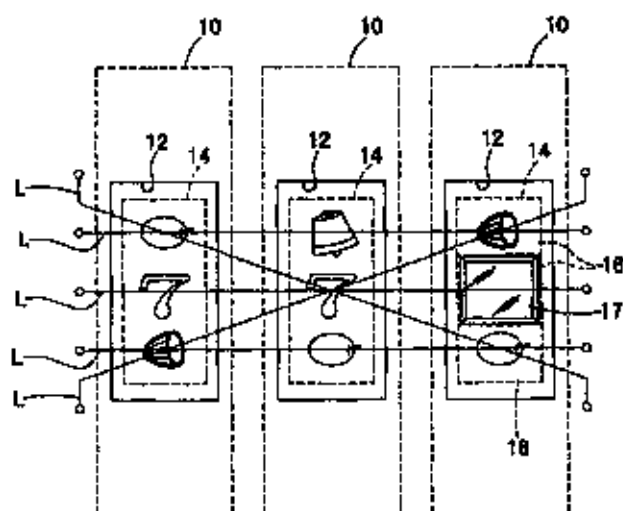
【図2】



【図3】



【図4】



## TI- GAME MACHINE

AB- PROBLEM TO BE SOLVED: To improve a game machine capable of providing the variable display movements and improving the interest in a game.

- SOLUTION: This game machine comprises a first display means 2 comprising a plurality of rotary drums 10 provided with the identification marks such as the characters, numbers and pictures in the peripheral direction at constant intervals, and variably displaying the identification marks onto a visible effective display zone corresponding to the rotation angle of the rotary drums and a second display means 3 variably displaying the identification marks on at least one specific display position of at least one rotary drum 10 by a display mechanism different from the first display means. A see-through window 17 is mounted on the specific display position of the rotary drum 10, and a liquid crystal display means having a liquid crystal display panel 16 visible through the see-through window 17, is mounted at the back of the effective display zone.

PN- JP2000116843 A 20000425

PD- 2000-04-25

ABD- 20000929

AP- 200007

AP- JP19980296806 19981019

PA- EVER PROSPECT INTERNATL LTD

IN- CHIHARA MITSUO

I- A63F5/04 ;A63F7/02

WPI

TI- Game machine displays information variably based on ID symbol obtained by rotating rotator which has viewable transparent window

AB- JP2000116843 NOVELTY - Variable displays (2,3) display information variably based on rotation angle of rotator (10). The rotator is provided with viewable transparent window (17).

- USE - Game machine e.g. pachinko machine, slot machine.

- ADVANTAGE - Since variable display is performed easily, charm of play is improved.

- DESCRIPTION OF DRAWING(S) - The figure shows the exploded perspective view of slot machine.

Variable displays 2,3

- Rotator 10

- Transparent window 17

- (Dwg.2/8)

PN- JP2000116843 A 20000425 DW200031 A63F5/04 011pp

PR- JP19980296806 19981019

PA- (EVER-N) EVER PROSPECT INT LTD

MC- W04-X02A1

DC- P36 W04

IC- A63F5/04 ;A63F7/02

AN- 2000-357905 [31]

United States Patent [19]  
Inoue



US005395111A

[11] Patent Number: 5,395,111  
[45] Date of Patent: Mar. 7, 1995

[54] SLOT MACHINE WITH OVERLYING  
CONCENTRIC REELS

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[21] Appl. No.: 177,545  
[22] Filed: Jan. 5, 1994

[51] Int. Cl.<sup>6</sup> ..... A63F 5/04  
[52] U.S. Cl. .... 273/143 R; 273/138 A  
[58] Field of Search ..... 273/143 R, 143 A, 143 B,  
273/143 C, 143 D, 143 E, 138 R, 138 A, 142 R,  
142 HA, DIG. 28, 142 H, 85 CP; 364/410, 411,  
412

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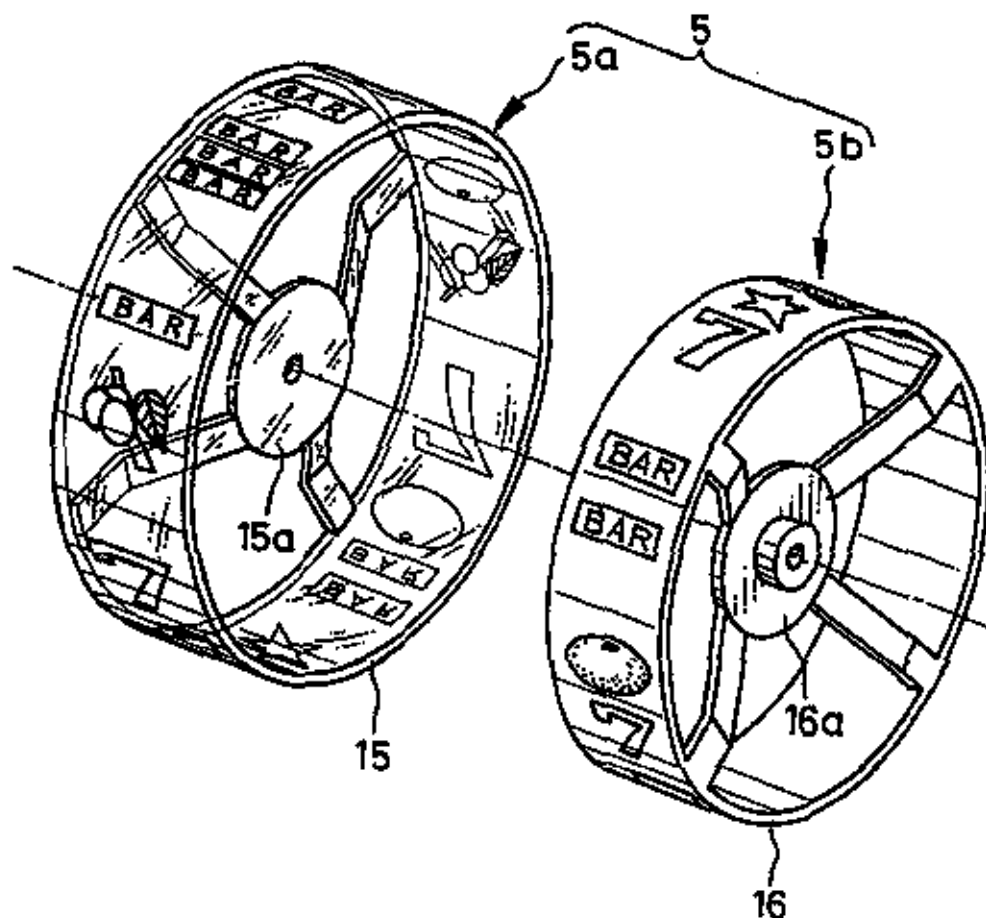
2062326 5/1981 United Kingdom .  
2073929 10/1981 United Kingdom ..... 273/143 R  
2105891 3/1983 United Kingdom .  
2165074 4/1986 United Kingdom ..... 273/143 R  
2165387 4/1986 United Kingdom ..... 273/143 R  
2193025 1/1988 United Kingdom ..... 273/143 R  
2194093 2/1988 United Kingdom ..... 273/143 R  
2233806 1/1991 United Kingdom ..... 273/138 A

Primary Examiner—Sebastiano Passaniti  
Attorney, Agent, or Firm—Young & Thompson

[57] ABSTRACT

A slot machine has inner and outer coaxial overlying reels. Each reel is formed with symbols on its transparent outer circumferential frame. The inner and outer reels are rotated independently by motors. The outer reel has a transparent outer circumferential frame to allow a player to see symbols on the inner reels. A combined symbol of superposed inner and outer reel symbols is produced.

3 Claims, 7 Drawing Sheets



# SLOT MACHINE WITH OVERLYING CONCENTRIC REELS

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

The present invention relates to a reel-type slot machine, and more particularly to a slot machine which presents combined symbols visible on overlying concentric reels.

### 2. Description of the Related Art

Slot machines are grouped into two types, namely, a mechanical reel type in which reels are rotated, and a video type in which an electronic display is used to simulate the rotation of reels. In a slot machine of the video type, the rotation and stopping of mechanical reels are simulated by using graphical data and displayed on a display such as a CRT. Many players prefer the mechanical reel type because they suspect that the results of play have been intentionally controlled with the video type.

In a slot machine of the mechanical reel type, three reels for example are rotated at the same time, mechanically upon actuation of a start lever, or electrically with the help of motors, upon actuation of the start lever. The three reels are thereafter stopped sequentially by operating a stop button provided for each reel or by a stop signal randomly generated by a random timer. A win or hit is determined by a combination of symbols on the three stopped reels along a winning line viewed from the observation windows. If the symbol combination is a winning symbol combination, dividend coins are paid out or a special favor such as a bonus game is given to the player.

A drawback of conventional mechanical reel type slot machines is that the game is simple and monotonous because the conventional machines have all adopted the same method whereby a winning symbol combination is determined by a sequence of starting and stopping a single set of reels appearing in the observation windows. Moreover, the number of symbols on the outer circumference of each reel is limited by the outer diameter of the reel, it being impossible to increase the number of symbols above a certain limit. Therefore, the number of symbol combinations is limited, which reduces the interest in playing the game.

## SUMMARY OF THE INVENTION

It is an object of the present invention to provide a slot machine capable of providing complicated and thrilling games.

It is another object of the present invention to provide a slot machine capable of displaying a larger number of symbols without using reels of a large size.

The above and other objects of the present invention can be achieved by providing, in a slot machine, an outer reel having at least one transparent part on the outer circumferential frame of the outer reel, and an inner reel mounted within coaxially with the outer reel and being capable of rotating independently from the outer reel. Symbols formed on the outer circumference of the outer reel can be viewed through transparent parts. As a result, symbols on the inner and outer reels are combined, it being possible to view the combined symbols through an observation window. The combined symbol is a new symbol, different from two original symbols, composed of an inner reel symbol visible

through a transparent area on the outer reel, plus an outer symbol on the outer reel.

According to the present invention, a greatly increased number of symbols can be formed without using a reel having a large diameter. By independently rotating the inner and outer reels, the combined display of the two reels provides a novel game sense and eliminates the monotony of a conventional slot machine. By stopping the reels at different times, interest in the game is increased.

## BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objects and advantages of the present invention will become apparent from the detailed description of the preferred embodiments when read in conjunction with the accompanying drawings, in which:

FIG. 1 is a front view of a slot machine according to an embodiment of the present invention;

FIG. 2 is an exploded perspective view showing the structure of the reels;

FIG. 3 is a cross section showing the main parts of a reel assembly;

FIG. 4 is a functional block diagram showing an arrangement of electronic components of the slot machine of the invention;

FIG. 5 is a flow chart explaining the game sequence; FIG. 6 shows an example of displayed symbols; and FIG. 7 shows another example of displayed symbols.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 1 showing the slot machine of the invention, three observation windows 2, 3 and 4 are formed at the central area of the housing 17 of the slot machine, and first to third reels 5, 6 and 7 are rotatably mounted behind the observation windows 2, 3 and 4. Symbols (including blank regions) are spaced about the outer periphery of the first to third reels 5 to 7 at a preferred pitch. When all the reels 5 to 7 stop, three symbols per reel, or a total of nine symbols, can be viewed via the observation windows 2 to 4. Winning lines 8 are used for identifying combinations of symbols for each game when the reels 5 to 7 stop. The number of winning lines to be made effective is determined by the number of coins inserted into a coin inlet 9 prior to starting each game.

When a start lever 10 is operated after inserting a coin or coins, the first to third reels 5 to 7 start rotating at the same time, and after a predetermined time lapse, a stop operation is permitted. The stop operation is effected independently for each reel by using stop buttons 11, 12 and 13. If a combination of three symbols on an effective winning line 8 appearing when the reels 5 to 7 stop is a winning symbol combination, as many coins as have been predetermined for the winning symbol combination are paid out onto a saucer 14.

Each of the first to third reels 5 to 7 has an outer reel and an inner reel. FIG. 2 shows the structure of the first reel 5. An outer reel 5a has a transparent plastic outer circumferential frame 15 on which a plurality of symbols are formed including "BAR", "3BAR", "star", "7", "cherry", and the like. An inner reel 5b has an opaque outer circumferential frame 16 like a conventional reel on which a plurality of symbols are formed.

Mounting plates 15a and 16a are integrally formed with the outer circumferential frames 15 and 16, the plates being coupled to the shafts of stepping motors.

FIG. 3 shows a reel assembly of the first to third reels 5 to 7. Reel retaining brackets 19 are fixed to a base plate 18. Fixed to the brackets 19 by means of, for example, hexagonal bolts, are two stepping motors 20a and 20b, 21a and 21b, 22a and 22b for each reel and rotation support plates 23 and 24 formed with central openings 23a and 24a for each reel.

The shafts of the stepping motors 20a, 21a and 22a are fixed to the outer reels 5a, 6a and 7a of the first to third reels, and the shafts of the stepping motors 20b, 21b and 22b are fixed to the inner reels 5b, 6b and 7b of the first to third reels. Each of the outer reels 5a to 7a rotates while sliding on the inner surface of the rotation support plate 23, and each of the inner reels 5b to 7b rotates while sliding on the inner surface of the rotation plate 24.

The arrangement of electronic components of the slot machine of the illustrated embodiment is shown in FIG. 4. In FIG. 4, a microprocessor unit (MPU) 30 controls each game in accordance with a sequence program stored in a program ROM 31. A coin sensor 32 detects the number of coins entered into the coin inlet 9 and supplies the number to MPU 30 to determine the number of effective winning lines 8. When a start signal generator 33 detects an operation of the start lever 10, it supplies a start signal to MPU 30 which in turn rotates the first to third reels 5 to 7.

The first to third reels 5 to 7 start rotating when MPU 30 supplies clock pulses to drivers 35a, 35b, 36a, 36b, 37a and 37b. As each of the drivers 35a to 37b receives clock pulses from CPU 30, it supplies drive pulses corresponding to the frequency of clock pulses to each of the stepping motors 20a to 22b. Each stepping motor 20a to 22b rotates by a predetermined angle each time a drive pulse is supplied. Therefore, by counting the number of drive pulses, the angle of rotation of each stepping motor can be known. Drive pulses outputted from each driver 25a to 37b are counted by a corresponding one of the counters 38a to 40b. The stepping motors 20a to 22a are used for rotating the outer reels 5a to 7a, and the stepping motors 20b to 22b are used for rotating the inner reels 5b to 7b. The rotation direction of the stepping motors 20b to 22b is opposite to the rotation direction of the stepping motors 20a to 22a.

Reset pulses are applied to reset terminals of the counters 38a to 40b each time the stepping motors 20a to 22b pass by the rotation origin, and the counters are cleared to "0". As a result, the counts of the counters 38a to 40b correspond to the rotary angles during one rotation of the stepping motors. Since the order of disposing symbols on the outer circumferential frame of each reel 5a to 7b is known, symbols on the winning line 8 can be identified based on the counts of the counters 38a to 40b.

A stop signal generator 42 supplies an outer reel stop signal to MPU 30 when one of the stop buttons 11 to 13 is depressed. Upon reception of the outer reel stop signal, MPU 30 stops the rotation of the corresponding one of the outer reels 5a to 7a. For example, when the stop button 11 is depressed while the first reel 5 rotates, a supply of clock pulses to the driver 35a and a supply of drive pulses to the stepping motor 20a are intercepted, thereby to stop the rotation of the outer reel 5a.

A random timer 43 starts operating after the rotation of the outer reels 5a to 7a is stopped in response to the outer reel stop signals. The random timer 43 generates three inner reel stop signals at random timings and supplies them to MPU 30 which in turn stops the rota-

tion of the inner reels 5b to 7b as in the stopping of the outer reels.

After the rotation of the first to third reels 5 to 7 has been stopped, a winning judgment unit 44 judges whether a symbol combination of an effective winning line is a win or not. The types of the symbols on the effective winning line can be identified from the counts of the counters 38a to 40b as described previously. If the winning judgment indicates a win, a coin pay-out unit 45 operates in response to an instruction from MPU 30 and pays out dividend coins corresponding in number to the win rank.

The operation of the above embodiment will be described with reference to the flow chart of FIG. 5. If one coin is inserted from the coin inlet 9, the center winning line 8 No. 1 is made effective and lamps on opposite ends of this line are turned on. If two coins are inserted, two winning lines 8, namely No. 1 and No. 2 are made effective and lamps on opposite ends of these lines are turned on. If three coins are inserted, all three winning lines 8 are made effective.

When the start lever 10 is operated after inserting three coins, for example, MPU 30 supplies clock pulses to all the drivers 35a to 37b which supply drive pulses to the stepping motors 20a to 22b. These stepping motors 20a to 22b start at the same time to rotate all the first to third reels 5 to 7. Of the first to third reels 5 to 7, the outer reels 5a to 7a rotate in the counterclockwise direction as viewed in FIG. 2, and the inner reels 5b to 7b rotate in the clockwise direction. The symbols on the outer reels 5a to 7a which move downward can be observed, and those on the inner reels 5b to 7b which move upward can be observed through the transparent outer reels 5a to 7a. Two series of symbol trains moving in opposite directions can be observed via the observation windows 2 to 4, providing a fresh impression to a game player. Even if two series of symbol trains are moved in the same direction, a similar fresh impression can be given to a player by changing the rotation speed of each of the two series of symbol trains so that they do not move in unison.

As the stop buttons 11 to 13 are depressed at desired timings, the outer reels 5a to 7a are stopped in response to the outer reel stop signals from the stop signal generator 32. Let it be supposed that symbols on the outer reels 5a to 7a stop on winning lines.

Such symbol combinations on winning lines can be determined as in the case of a conventional slot machine, and the game is over. However, in the embodiment slot machine, even at this time the stepping motors 20b to 22b continue to be driven. Therefore, the inner reels 5b to 7b are still rotating, and moving symbols can be observed through transparent outer circumferential frames of the outer reels 5a to 7a.

After all the outer reels 5a to 7a have stopped, the random timer 43 starts operating, and three inner reel stop signals are sequentially supplied to MPU 30. As a result, the three inner reels 5b to 7b are sequentially stopped. At this time, as shown in FIG. 6, the symbols on the outer reels 5a to 7a superposed upon the symbols of the inner reels 5b to 7b are viewed through the observation windows 2 to 4. Of the symbols on only the outer reels 5a to 7a, a winning symbol combination of "Cherry" " " " is obtained on the winning line 8b. However, from the symbols of both the outer and the inner reels 5a to 7a and 5b to 7b, winning symbol combinations are formed on three winning lines 8a, 8b and 8c. On the winning line 8a in particular, although the sym-

bol combination of only the outer reels 5a to 7a is "1 BAR" "3BAR" "1 BAR", which is a miss, the symbol combination of both the outer and the inner reels 5a to 7a and 5b to 7b is "3BAR" "3BAR" "3BAR" which is a high rank hit.

The inner reels 5b to 7b are stopped by use of the random timer 43. They may be stopped by generating inner reel stop signals in response to the depression of the stop buttons 11 to 13 after the outer reels 5a to 7a have stopped. The stop buttons 11 to 13 may be omitted and the outer reels 5a to 7a stopped in response to stop signals from the random timer 43, thereby to provide a self-stopping slot machine.

Thereafter, MPU 30 identifies the types of symbols on the winning lines 8 by referring to the counts of the counters 38a to 40b. In accordance with the symbol combination data, the winning judgment unit 44 judges whether there is a win. The coin pay-out unit 35 pays out dividend coins corresponding in number to the wins on the winning lines 8a, 8b and 8c, to thereafter terminate one game.

Since the reels 5 to 7 are of composite structure, having the outer and inner reels 5a to 7a and 5b to 7b, the number of symbols that can be displayed by the slot machine can be increased. Namely, a symbol on the inner reel appears in the observation window via the blank symbol on the outer reel, and another symbol is formed by a combination of two symbols on the inner and outer reels. For example, if three combined symbols of the "star" and "T", shown in the upper area of the outer circumferential frame of the second reel 6 in FIG. 6, are on a winning line, a jack pot is allotted to thereby give a unique interest in game which a conventional slot machine cannot provide.

Symbols may be formed only on certain ones of the outer reels a to 7a and inner reels 5b to 7b, and background colors in place of symbols can be displayed on the other reels. In this case, various winning ranks are determined by combinations of background colors on winning lines, by combinations of symbols on winning lines, and by combinations of symbols and background colors on winning lines.

FIG. 7 shows examples of symbols used by a slot machine for playing poker. Similar to the first embodiment, first to fifth reels include outer reels and inner reels. Symbols of "heart", "club", "diamond" and "spade" suits are formed on the outer circumferential frames of the outer reels, and alphanumeric symbols including "A" to "10" and "J" to "K" are formed for the inner reels. Various combinations of symbols of the reels are produced from the symbols on the outer reels.

In a conventional slot machine of the driven reel type for playing a poker game, the number of trump cards per reel is limited by the outer diameter of the reel, the reel being unable to use the whole set of cards. In this embodiment, the whole set of trump cards can be prepared, allowing a player to have a simulation of a real poker game.

In the above embodiment, one of the first to third reels may be of a two-stage structure having an outer reel and an inner reel, and the remaining two reels may be conventional reels. The inner reels may be first stopped, and then the outer reels stopped. The winning judgment and dividend coin pay-out may be effected when the outer reels stop, or they may be effected later when the inner reels thereafter stop.

Although the present invention has been described with reference to the preferred embodiments shown in the drawings, the invention should not be limited by the embodiments but, on the contrary, various modifications, changes, combinations and the like of the present invention can be effected without departing from the spirit and scope of the appended claims.

What is claimed is:

1. A slot machine having a plurality of rotatable reels comprising an outer reel and an inner reel disposed coaxially within said outer reel;

2. said outer reel having a transparent outer circumferential frame, a plurality of symbols being disposed on said transparent outer circumference frame; said inner reel having a plurality of symbols formed at an equal pitch on an outer circumferential frame of said inner reel; and means to rotate said reels simultaneously in opposite directions.

3. A slot machine having a plurality of rotatable reels comprising an outer reel and an inner reel disposed coaxially within said outer reel;

4. said outer reel having a transparent outer circumferential frame, a plurality of symbols being disposed on said transparent outer circumference frame; said inner reel having a plurality of symbols formed at an equal pitch on an outer circumferential frame of said inner reel;

wherein said symbols of one of said outer and inner reels include "spade", "heart", "diamond" and "club" symbols, and said symbols of the other of said outer and inner reels include alphanumeric symbols "A" to "10" and "J", "Q" and "K".

5. A slot machine having a plurality of rotatable reels comprising an outer reel and an inner reel disposed coaxially within said outer reel;

6. said outer reel having a transparent outer circumferential frame, a plurality of symbols being disposed on said transparent outer circumference frame; said inner reel having a plurality of symbols formed at an equal pitch on an outer circumferential frame of said inner reel;

wherein said symbols of said outer and inner reels are equally peripherally spaced apart about said reels, a said symbol on one of said outer and inner reels comprising two identical spaced markings and a said symbol on the other of said outer and inner reels comprising an identical marking which, when said reels are stopped in one position, it is disposed between said two spaced markings in the line of sight of a user of said machine.

\* \* \* \* \*

FIG. 1

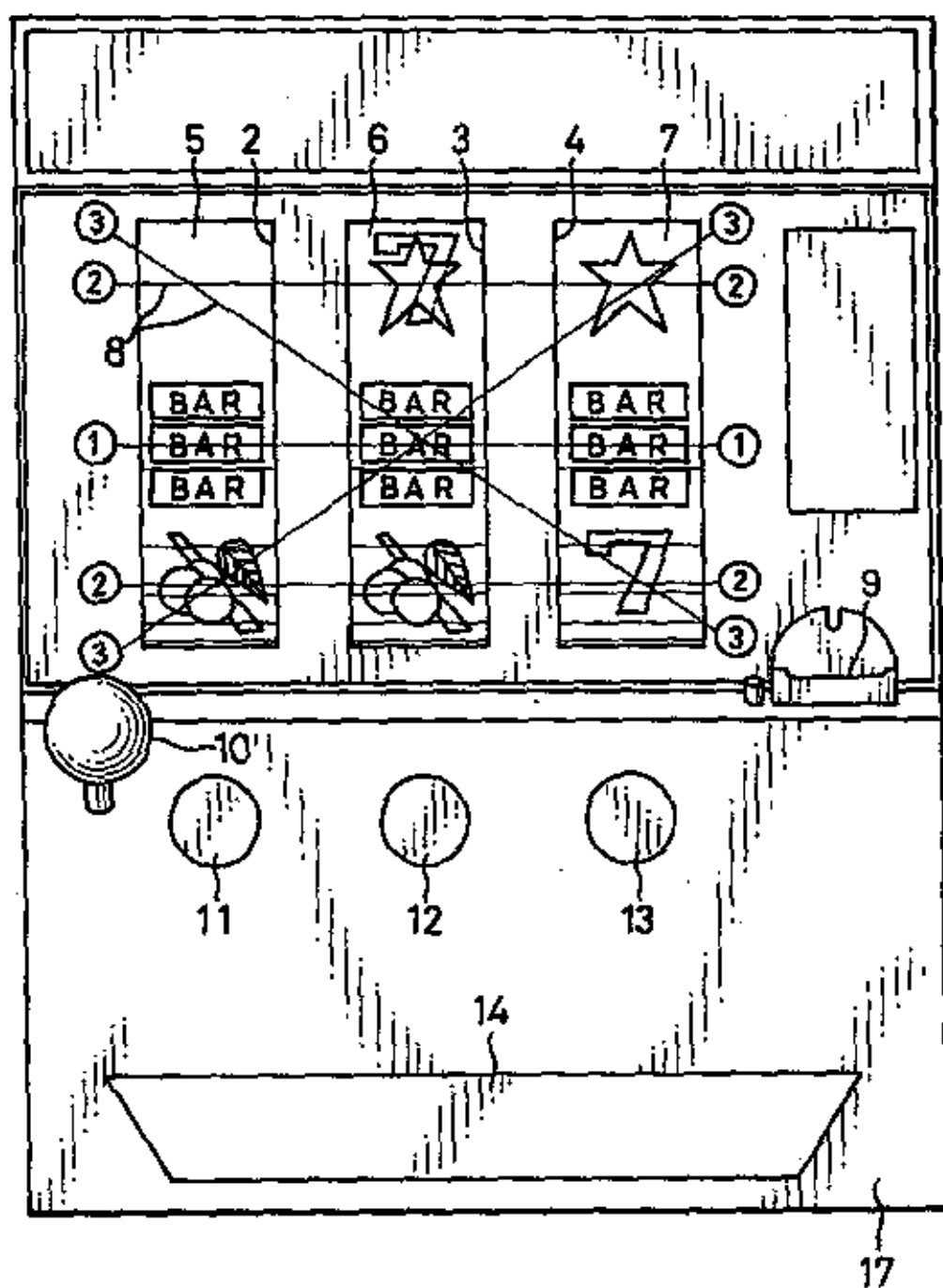


FIG. 2

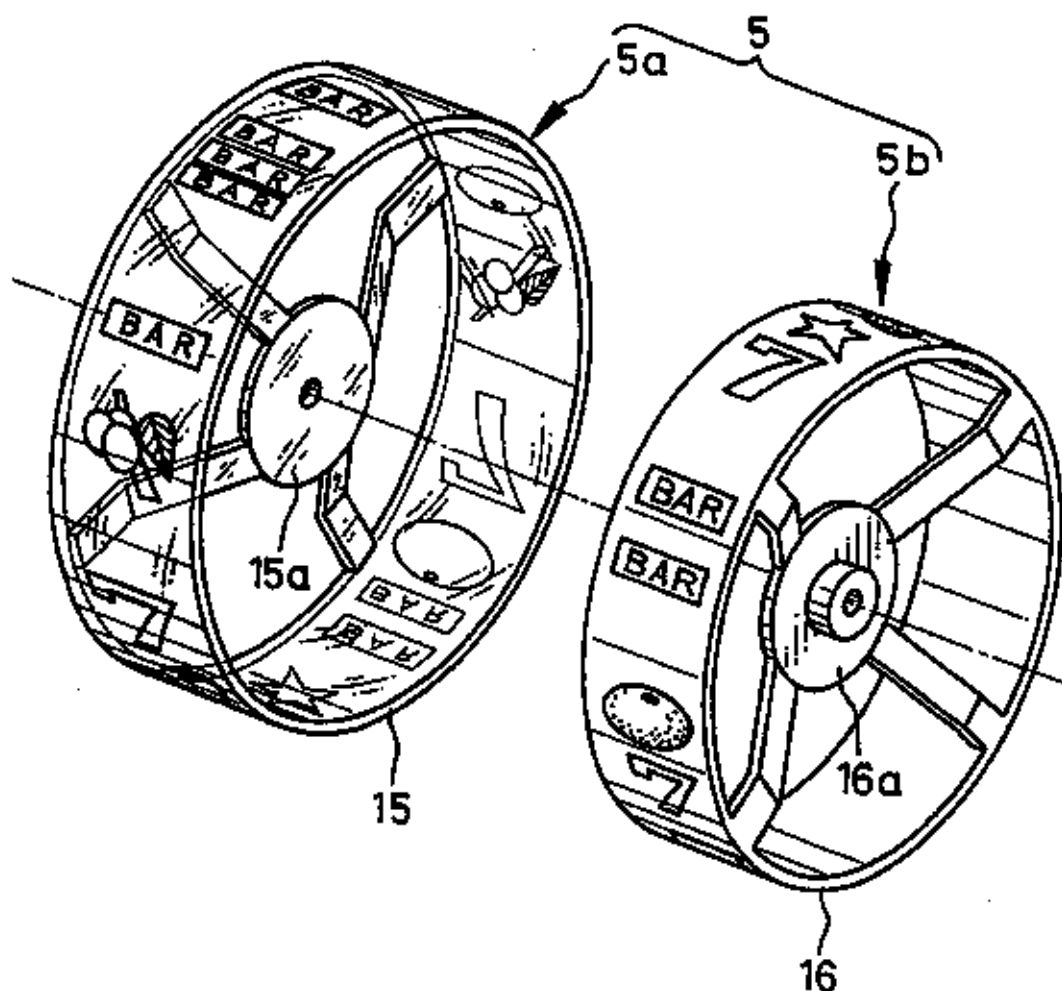
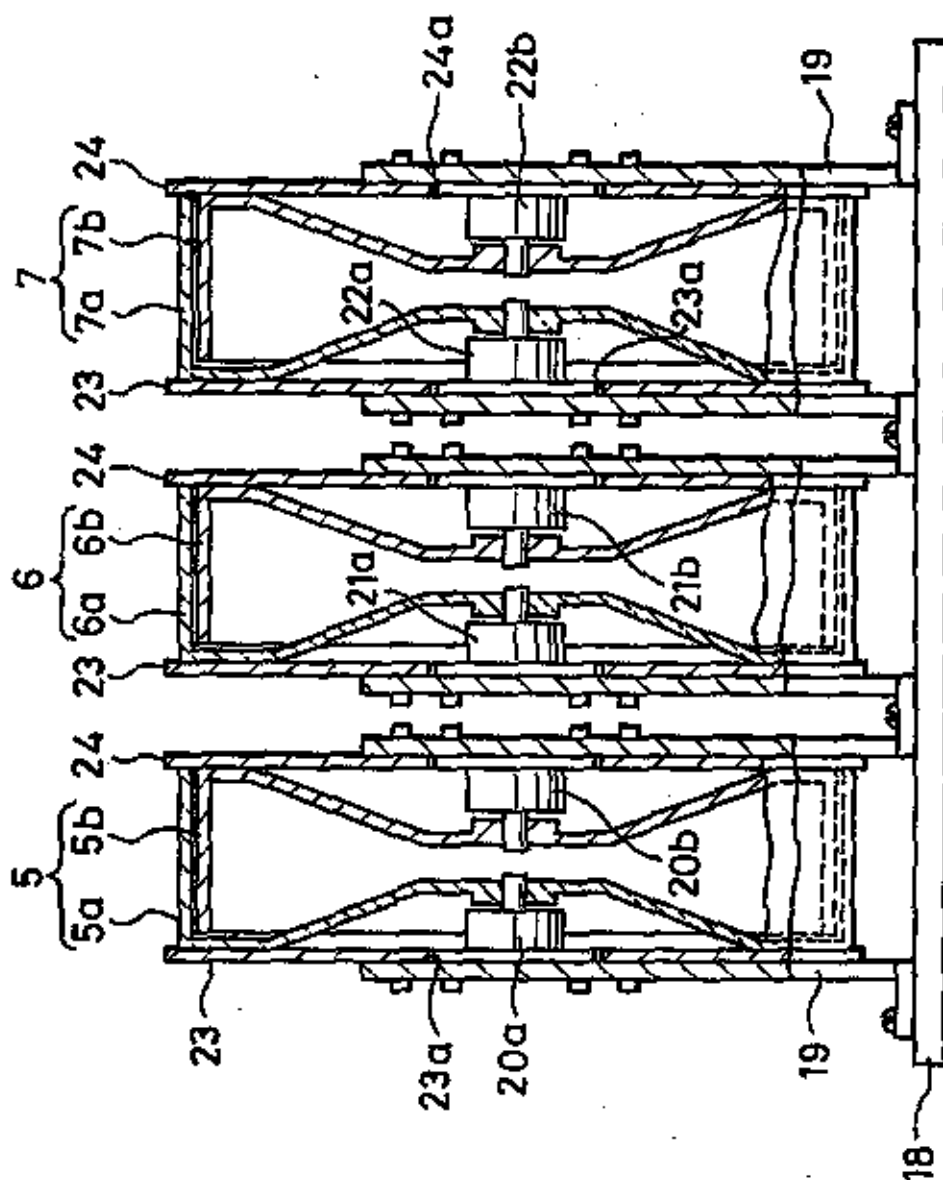
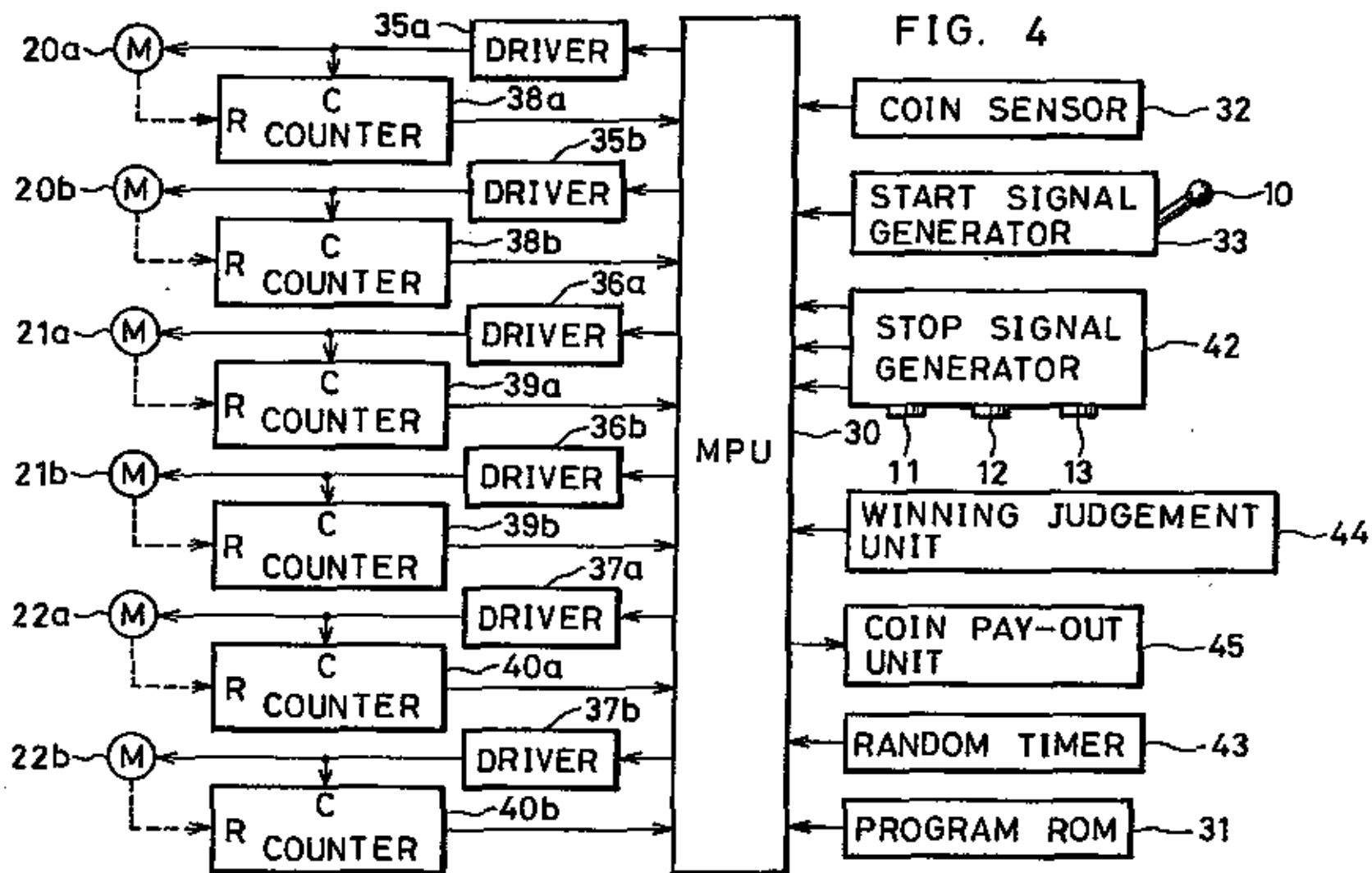


FIG. 3





94

FIG. 5

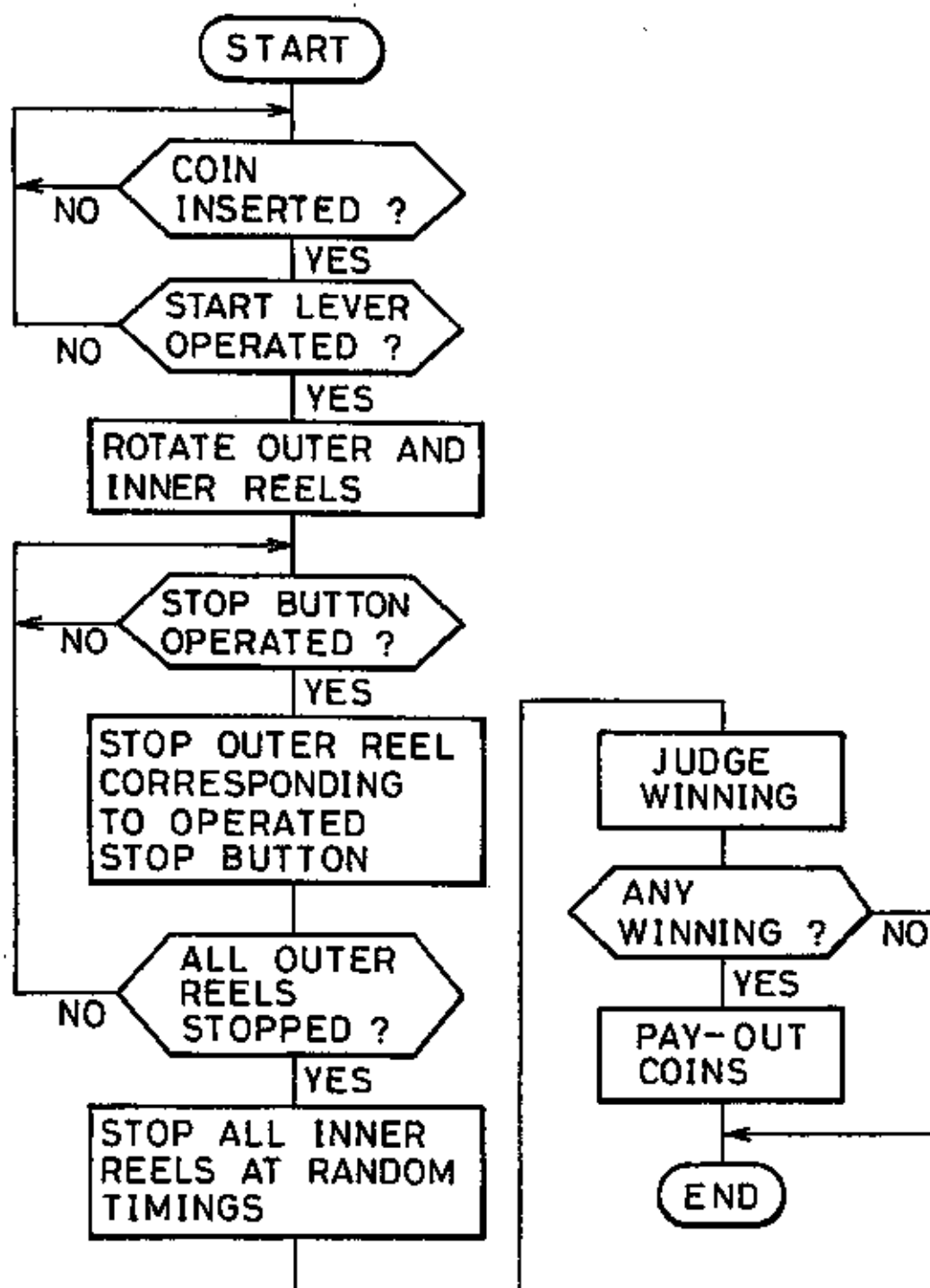
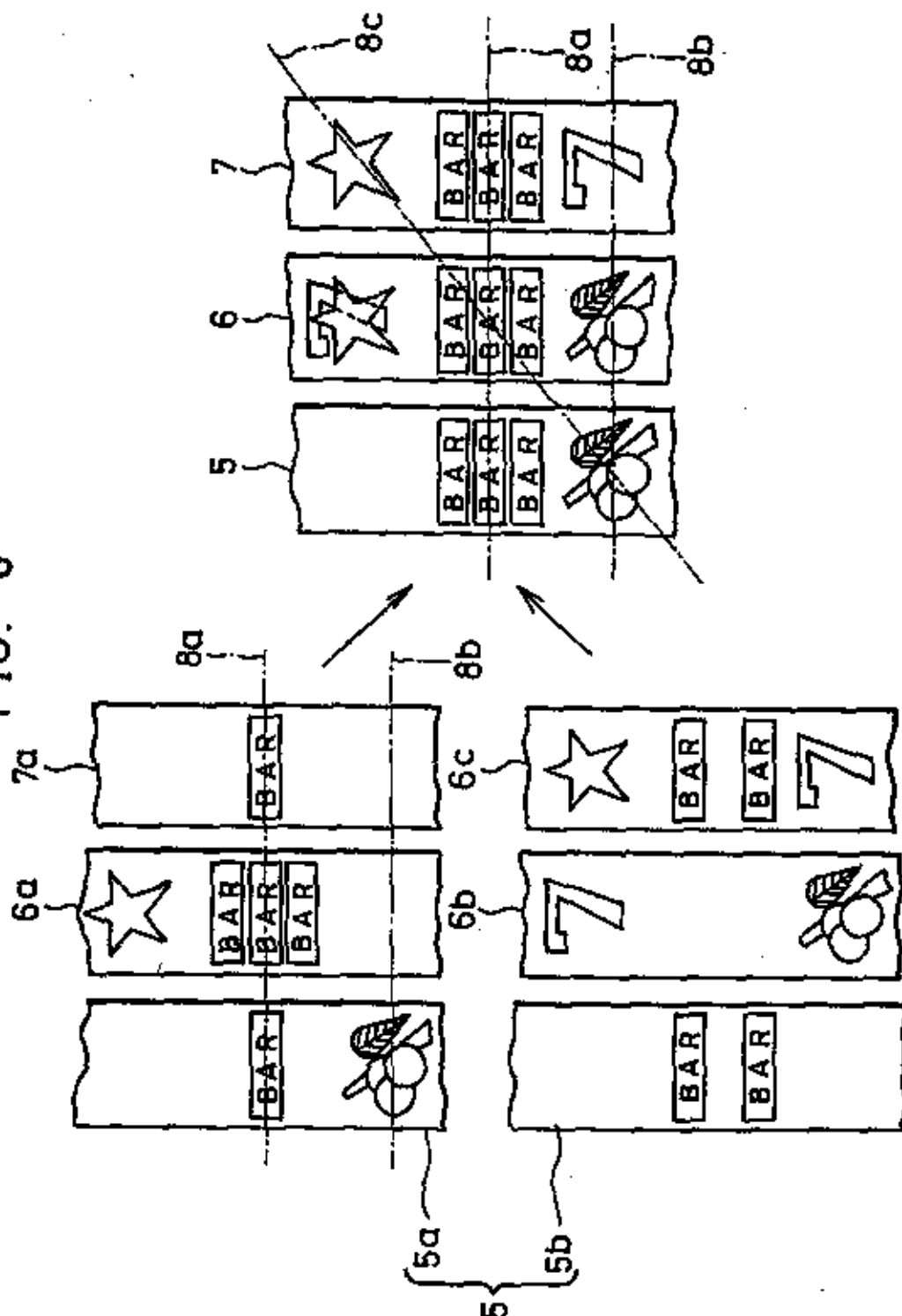


FIG. 6



97

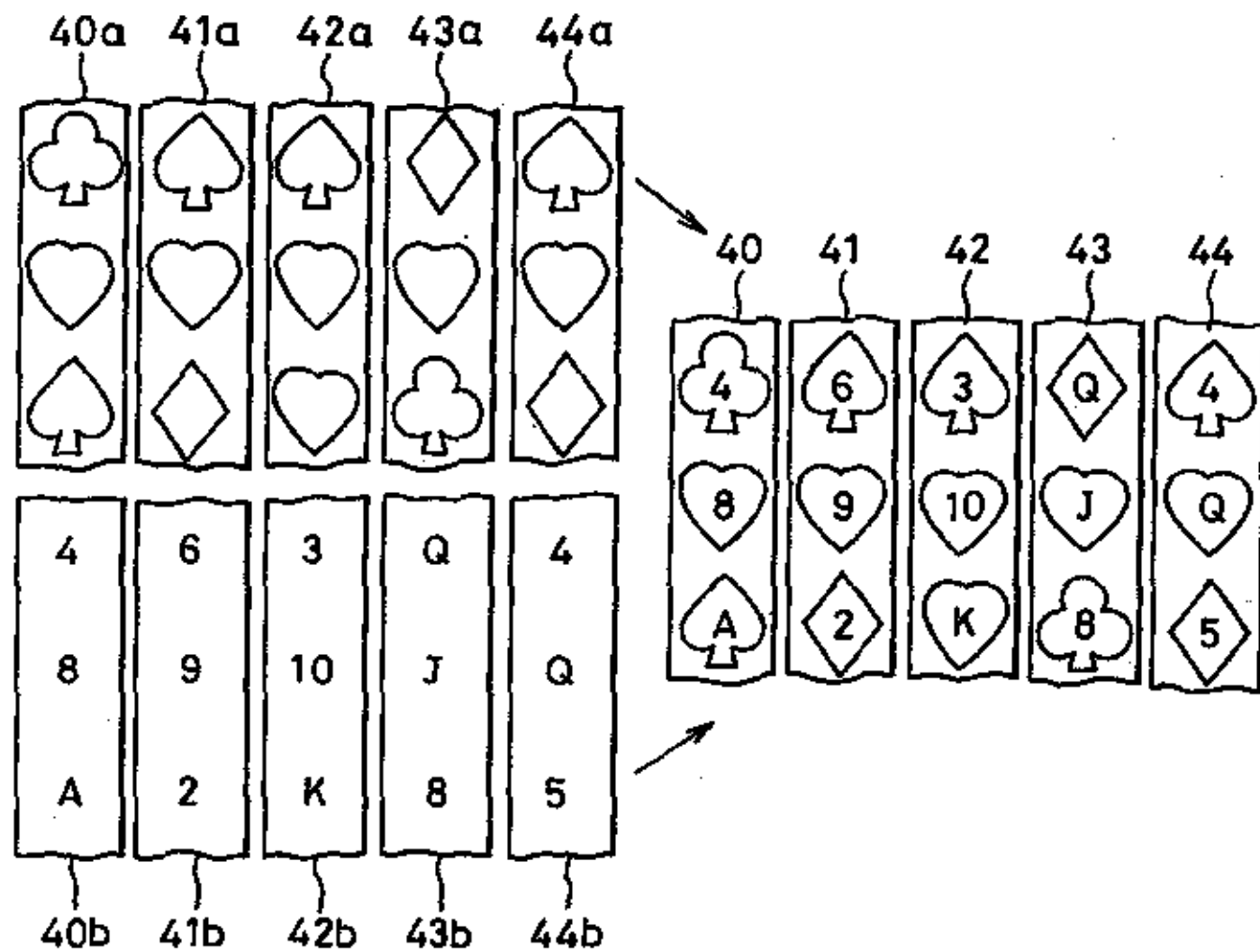
U.S. Patent

Mar. 7, 1995

Sheet 7 of 7

5,395,111

FIG. 7



93  
105

(12) **UK Patent Application** (19) **GB** (11) **2 365 191** (13) **A**

(43) Date of A Publication 13.02.2002

(21) Application No 0114876.6

(22) Date of Filing 19.06.2001

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(31) 0014838

(32) 20.06.2000

(33) GB

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G07F 17/32

(52) UK CL (Edition T)

G4V VAA V118

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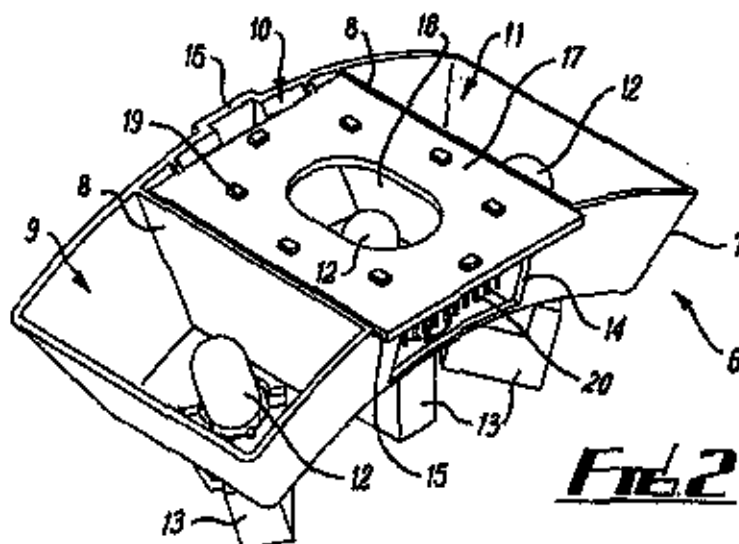
(58) Field of Search

UK CL (Edition S) G4V VAA  
INT CL<sup>7</sup> A63F 5/04, G07F 17/32 17/34  
ONLINE: EPODOC, WPI & JAPIO

(54) Abstract Title

**Back-lit Symbol with Variable Colour Lighting of Symbol Periphery**

(57) An illumination device 7 has back-lighting of a light transmitting structure (4) comprising one or more light sources 12 surrounded by colour-variable light sources 19, such as tri-colour LEDs, physically arranged to illuminate the periphery (6a) of the symbol (5). Preferably the device is used to illuminate reels in a fruit machine.



GB 2 365 191 A

ILLUMINATION DEVICE FOR SYMBOL DISPLAY

This invention relates to an illumination device for symbol display equipment, particularly for a player-operable entertainment machine.

Player operable entertainment machines of the 'fruit' or 'poker' kind  
5 have a main display device for displaying a selected combination of symbols at a win zone.

This main display device may comprise an assembly of multiple side by side symbol-bearing reels which are rotatable about a common horizontal axis mounted within a housing behind a window in a printed glass panel.  
10 Typically, each reel is a drum-shaped skeleton structure with a translucent flexible band printed with symbols at say 20 positions around its periphery. Within the reel there is a static light box which back-illuminates one or more of the symbols at the win zone. Usually three symbols on each reel (when at rest) are displayed at the win zone and may be back illuminated: a central  
15 symbol on a horizontal win line and two other symbols respectively above and below the central symbol.

With this known arrangement, the light box, indexed rotation and stopping of the reel, and the positioning of the reel band all have to be carefully set to ensure proper registration of symbols with the win line and  
20 with the back illumination. Any inaccuracy in this could give rise to uncertainty as to whether or not a winning symbol or combination of symbols is in fact selected.

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Moreover, with this known arrangement, the number of combinations is limited by the number of symbols which can be displayed simultaneously which is typically three symbols for each real. With a view to increasing the number of combinations, GB 2336233-A proposes backlighting the symbols with different light colours instead of using only white light. However, the symbols are typically multicoloured to give an attractive display and this raises problems in that colour backlighting can undesirably conflict with the symbol colours.

An object of the present invention is to provide an illumination device which can be conveniently aligned or registered with displayed symbols and which can be used to provide different illumination effects in a convenient and attractive manner.

According to one aspect of the invention therefore there is provided an illumination device for symbol display equipment comprising at least one source of illumination arranged to be mounted behind a light-transmitting structure bearing at least one symbol to provide back-illumination therefor, characterised in that at least one said source of illumination comprises a colour-variable boundary illumination source to provide back illumination at least partially around the periphery of at least one said symbol.

With this arrangement, the use of a boundary source of illumination has the advantage that it need not adversely conflict visually with the symbol irrespective of the respective colours of the symbol and the

boundary source, since the boundary source does not have to overlap or directly backlight the symbol itself. A wide range of different colours can therefore be conveniently used for the boundary source as desired.

Moreover, the use of a boundary source facilitates alignment or registration in so far as it can be readily seen on which symbol the source is centred even if it is off-centre or slightly misaligned.

Preferably the (or each) boundary source is provided in combination with a backlight illumination source which may be a white light lamp or any other suitable light source of any desired colour. In this case the backlight source may be located within the boundary source i.e. such that the boundary source extends around at least part of the periphery of the zone of illumination of the backlight source.

Conveniently the (or each) boundary source may be formed from a plurality of individual lighting elements such as LED devices.

The (or each) boundary source may be arranged in any suitable disposition such as to extend wholly or partially around the respective symbol. Conveniently the source may be disposed along a closed circular path but other path shapes are also possible as also are part-circular and other part-closed shapes.

Any suitable colour arrangement may be used for the (or each) boundary source. Colour variation may be achieved in any suitable manner including use of colour-controllable devices such as LEDs, and/or

changeable colour filters, and/or differently coloured individual lighting elements which can be selectively actuated.

Conveniently, tricolour LEDs capable of operation to provide amber, green or red light are used.

5           The (or each) boundary source may be operable to give special lighting effects in addition to colour variation, as desired. Thus for example the source, or individual elements of the source may be capable of being switched on or off, or varied in intensity to produce simulated rotation or other movement or flashing or the like.

10           The (or each) boundary source may extend (partially or wholly) around multiple paths of the same or different dispositions which may lie within each other, such as concentric circles, or which may intersect each other, as desired. These different paths may be individually operable to give desired lighting effects.

15           The illumination device of the invention may be in the form of a light box having an open-topped box-shaped receptacle for the (or each) boundary source and an associated backlight source as mentioned above. The backlight source may be located within the box-shaped receptacle to direct illumination centrally of the open top, and the boundary source may  
20           be disposed at the open top around the periphery thereof. Conveniently, the boundary source may comprise a ring of LEDs on a printed circuit board having a central aperture.

The illumination device of the invention may also incorporate one or more light sources different from and not used in combination with any boundary source as described above. In particular, there may be one said boundary source for illumination of one symbol possibly combined with one  
5 said backlight source, and one or more backlight sources not combined with any boundary source for illuminating one or more adjacent symbols. Alternatively, there may be multiple boundary sources.

There may be three backlight sources in three connected said box-shaped receptacles which may be disposed in an arcuate configuration for  
10 use in backlighting an arcuate symbol-bearing structure, only a central said receptacle also having said boundary source.

The light-transmitting symbol-bearing structure may comprise a transparent or translucent structure, such as a flexible strip or sheet, with symbols applied thereto by printing or in any other suitable manner. The  
15 symbols may be multicoloured and patterned as desired.

Most preferably, the symbol-bearing structure has a separate region around the (or each) symbol which is intended to overlie the (or each) boundary source to coact therewith and provide an enhanced visual effect when the source is actuated. Thus, for example the region may be a  
20 translucent region which incorporates a dispersive pattern or elements e.g. to give a sparkle effect when illuminated. The region may be a ring-shaped region or of any suitable closed or part-closed shape depending on the

disposition of the boundary source.

Most preferably, the illumination device of the invention is for use with a symbol-bearing structure which is arranged to be movable relative to the (or each) boundary source, so as to bring successive symbols on the structure successively into alignment with the (or each) boundary source.

Thus the symbol bearing structure may be a structure, such as a band, at the periphery of a rotatable reel, particularly a reel of a 'fruit' or 'poker' machine as described above in which the reel rotates and comes to rest to display one or more selected symbols. In this case, the possible number of selections can be increased by also selecting the colour of the (or each) boundary source from the range of available colours. Where multiple, typically three or four, reels are used side by side to select combinations of symbols at one or more win lines in a window, the possible number of combinations can be increased by also selecting the colours of the boundary sources. The result may be such that an award corresponding to a selected winning symbol or combination of symbols is enhanced (e.g. doubled or tripled) in dependence on the boundary source colour.

In accordance with a second aspect of the invention there is provided symbol display equipment comprising an illumination device and at least one structure bearing multiple symbols and which can be moved relatively to the device and arrested to bring at least one selected symbol into alignment with the illumination device to be illuminated thereby, characterised in that

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the illumination device has at least one light source operable to provide illumination along at least one path across or adjacent to the respective selected symbol. Preferably this light source is the boundary light source as described above.

5           In accordance with third aspect of the invention there is provided symbol display equipment comprising an illumination device and at least one structure bearing multiple symbols and which can be moved relatively to the device and arrested to bring at least one selected symbol into alignment with the illumination device to be illuminated thereby, characterised in that  
10           the illumination device has a main light source arranged to effect illumination of the selected symbol and a supplementary colour-variable light source.       Preferably the colour variable light source is the boundary light source as described above.

          The second and third aspects of the invention may be used in  
15           combination with each other and with the first aspect of the invention.

          The illumination device of the various aspects of the invention may be used with appropriate control circuitry to control switching of the (or each) light source. In the case of a main light source, such as the described backlight source, and a secondary light source, such as the boundary  
20           source, these are preferably independently operable such that for example, the backlight source is permanently illuminated but the secondary source is only illuminated on occasions on a regular or random or other basis.

The invention will now be described further by way of example only and with reference to the accompanying drawings in which:-

Figure 1 is a perspective view of a fruit machine reel shown with part of a reel band and incorporating one form of a light box in accordance with the present invention; and

Figure 2 is an enlarged perspective view of the light box of Figure 1.

Referring to Figure 1, this shows a reel for a 'fruit' or poker machine.

The reel has a skeletal drum-shaped structure 1 fixed by radial spars 2 to a central hub 3, formed integrally as a plastics moulding,

The hub 3 contains a stepper motor (not shown) by means of which the reel can be mounted and rotatably driven.

Around the outer periphery of the drum structure there is attached a translucent flexible plastics band 4 printed with symbols 5 at equally spaced positions. The symbols 5 may be of the kind conventionally used such as fruit symbols, the number 7, bells, bars, etc. These symbols 5 are coloured or multicoloured so as to emphasise their differences and to provide an attractive appearance. There may be say 20 symbols 5 and these may be of several different kinds, whereby certain symbols are repeated, in a predetermined sequence.

The symbols 5 are all bounded by printed translucent rings 6 which incorporate 'sparkle' elements or patterns.

Within the confines of the drum structure 1 there is mounted a light

box 6. The box is mounted on an adjacent fixed structure (not shown) so that the reel is rotatable relative to the light box.

The light box 6 comprises an elongate arcuate structure essentially in the form of an open-topped trough 7 with two internal walls 8 which  
5 separate the trough into three similar open-topped box-shaped receptacles 9, 10, 11 which are disposed side-by-side longitudinally of the structure 6.

Each receptacle 9-11, is tapered away from the open top and has a substantially coplanar rim around the open top. Collectively, the rims of the  
10 respective receptacles 9-11 are substantially coplanar with each other and have a concave curvature essentially identical to that of the inner periphery of the drum structure 1. The light box 6 is mounted such that the curved coplanar rims are very close to, but slightly spaced from, the inner periphery of the drum structure 1.

15 At the base of each box 9-11 there is mounted a respective white-light lamp 12 which is directed centrally of the box and the open top thereof. Each lamp 12 is inserted through a central hole in the box base and engages a respective lamp holder 13.

The central box 10 differs from the two outer boxes 9, 11 in that it  
20 has a cut out 14 in one side wall, it has recessed peripheries 15 adjacent to this cut out 14, and it has an outwardly deflected central channel part 16 at the opposite side wall.

This channel part 16 is used to mount the light box as mentioned above.

A printed circuit board 17 is mounted over the top of the central light box 10. The board 17 is rectangular with a central aperture 18. The board is mounted within the confines of the walls 8 and is seated within the recesses 15 so that the board is substantially level with the coplanar rims of the boxes 9-11.

Tri-colour LEDs 19 are mounted on the top of the board 17 in a ring around the aperture 18. The LEDs have connections 20 beneath the board 17 which are accessible through the cut out 14. The LEDs can be operated to produce amber, green or red illumination selectively.

The reel is used in a 'fruit' or poker machine generally in conventional manner. That is, the reel is mounted within a machine cabinet with two or three like reels so that all reels are rotatable about a common horizontal axis by operation of the respective stepper motors.

The reels can be brought to rest after different random periods of time so that three adjacent symbols 5 of each reel are displayed through a window defined as an area of transparency in a glass panel of the machine, with the central symbol 5 of the three symbols aligned with a central horizontal win line and the other two symbols displayed respectively above and below.

The combination of three (or four) symbols 5 from the three (or four)

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reels on the win line is assessed to determine whether this is a predetermined winning combination and if so an appropriate award procedure is initiated.

For each reel, the three white-light lamps 12 are permanently  
5 operated by the control circuitry of the machine so that the selected three symbols 5 are illuminated within the window.

The ring of LEDs 19 may also be illuminated so as to produce a ring of light around the periphery of the central symbol 5 which is on the win line. This ring of light coincides at least generally with the respective  
10 printed translucent ring 5a around the symbol 5 so as to produce a sparkle effect as well as defining a coloured ring of illumination.

The operation of the LEDs 19 for each reel is such as to produce a colourful light display. It may also be associated with winning combination selection. That is, an award procedure, or an enhancement of an existing  
15 award procedure, may be initiated in correspondence with the operation of the LEDs 19.

By way of example, in the case where the combination of symbols 5 for the three or four reels on the win line is a winning combination, the award value may be varied in dependence on the LED colour. Amber may  
20 correspond to normal payout, green for double and red for triple.

Thus, the LEDs 19 may be illuminated each time as the reels come to rest, and all LEDs for all reels may be illuminated with the same selected

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colour as selected on a random, or pseudo random or other basis as desired.

The LEDs 19 when illuminated may flash, or light independently e.g. to simulate movement, or may be constant, as desired.

5           In addition to providing a decorative display and providing an additional or enhanced winning combination, the LEDs 19 provide a ring of illumination around the selected symbol 5 to help define the symbol which is selected on the win line irrespective of any misalignment. Thus, in the case where there is some error in setting up of the reels such that the  
10           symbols are not precisely aligned with the win line on stopping, the ring of illumination will help identify the symbol which is nearest to the win line.

          Thus, the light box provides attractive illumination which is independent of, and does not interfere with the illumination of the coloured symbols themselves, it provides further opportunities for winning  
15           combinations, and it assists in defining the selected symbol on the win line.

          It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only. In particular, the LEDs 19 can be illuminated other than as described. For example they can be illuminated on a different basis  
20           for each reel, they need not be illuminated on each occasion, etc. Also, instead of using one complete ring of LEDs there may be a part ring or other shape which may extend part or wholly around the symbol or which may

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extend in a path across or otherwise identify the respective symbol additionally to the backlighting thereof by the white-light lamp 12. Moreover, all boxes 9-11 may have LEDs 19, rather than solely the central box 10, and this can be of use e.g. in the case where diagonal or other win lines are provided additionally to or instead of the central horizontal win line. The light box can also be used on a single or double selector reel, such as is conventionally used in a fruit or poker machine for selection of a numerical value or other symbol on a so-called feature game.

The pcb 17 need not have a cut out 18 for the exposure of the respective lamp 12. Instead, it is possible to use a pcb which is transparent or transiucent (or has a transparent or translucent section) e.g. being formed from a thin, translucent material, or otherwise has a light-transmitting section preferably at least centrally thereof.

The light boxes 9, 10, 11 may be of different shape from those shown in the drawings and may be mounted in any suitable manner, usually although not necessarily for illuminating 3 symbols. The cut out 14 and the channel 16 need not be provided or arranged in the manner shown.

The invention is preferably although not exclusively applicable to coin-operated entertainment machines of the 'fruit' or 'poker' kind having a main display device for displaying a selected combination of symbols at a win zone. As used, herein, the term coin-operated is intended also to cover operation by tokens, charge or credit cards or any other means of

CLAIMS

1. An illumination device for symbol display equipment comprising at least one source of illumination arranged to be mounted behind a light-transmitting structure bearing at least one symbol to provide back-illumination therefor, characterised in that at least one said source of illumination comprises a colour-variable boundary illumination source to provide back illumination at least partially around the periphery of at least one said symbol.  
5
2. A device according to claim 1 wherein the (or each) boundary source is provided in combination with a backlight illumination source.  
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3. A device according to claim 2 wherein the backlight source is a white light lamp.
4. A device according to claim 2 or 3 wherein the boundary source extends around at least a part of the periphery of the zone of illumination of the backlight zone.  
15
5. A device according to any one of claims 1 to 4 wherein the boundary source is arranged to extend along at least one path wholly around the respective symbol.
6. A device according to claim 5 wherein the path is a closed circular path.  
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7. A device according to any one of claims 1 to 6 wherein the boundary source is formed from a plurality of individual lighting elements.

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8. A device according to claim 7 wherein the lighting elements are LEDs.
9. A device according to claim 7 or 8 wherein the lighting elements are colour-controllable.
10. A device according to claim 8 and 9 wherein the colour controllable lighting elements are tri-colour LEDs.
- 5 11. A device according to any one of claims 1 to 10 wherein the boundary source is switchable or variable to give lighting effects.
12. A device according to claim 2 to any claim dependant on claim 2 comprising a light box having an open-topped box-shaped receptacle for the (or each) boundary source and an associated backlight source.
- 10 13. A device according to claim 12 wherein the backlight source is located with the open-topped box-shaped receptacle to direct illumination centrally of the open top.
14. A device according to claim 13 wherein the boundary source is disposed at the open top around the periphery thereof.
- 15 15. A device according to claim 14 wherein the boundary source comprises a ring of LEDs on a printed circuit board having a central light-transmitting section.
16. A device according to any one of claims 12-15 wherein there are three connected said box-shaped receptacles each with a respective backlight source and at least one with a said boundary source.
- 20 17. A device according to claim 16 wherein there is a said boundary

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source only in a central said receptacle.

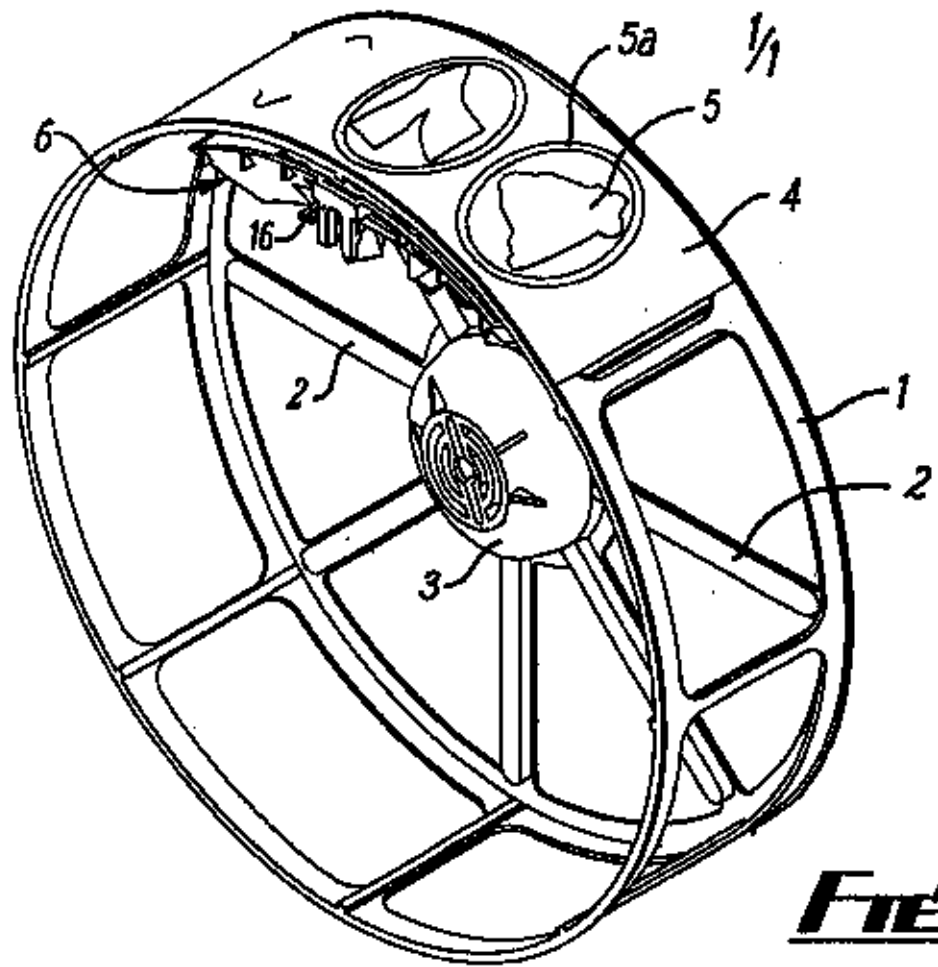
18. A device according to claim 16 or 17 wherein the three receptacles are arranged in arcuate configurations.
19. Symbol display equipment comprising an illumination device and at  
5 least one structure bearing multiple symbols and which can be moved relatively to the device and arrested to bring at least one selected symbol into alignment with the illumination device to be illuminated thereby, characterised in that the illumination device has at least one light source operable to provide illumination along at least one path  
10 across or adjacent to the respective selected symbol.
20. Equipment according to claim 19 wherein the illumination device is as claimed in any one of claims 1 to 19, the said light source being the said boundary light source.
21. Equipment according to claim 19 or 20 wherein said symbol-bearing  
15 structure comprises a translucent or transparent band with the symbols applied thereto.
22. Equipment according to claim 21 wherein the band has a separate region around at least one said symbol arranged to overlie at least one said boundary source.
23. Equipment according to claim 22 wherein the said separate region is  
20 a ring-shaped region.
24. Equipment according to claim 22 or 23 wherein the said separate

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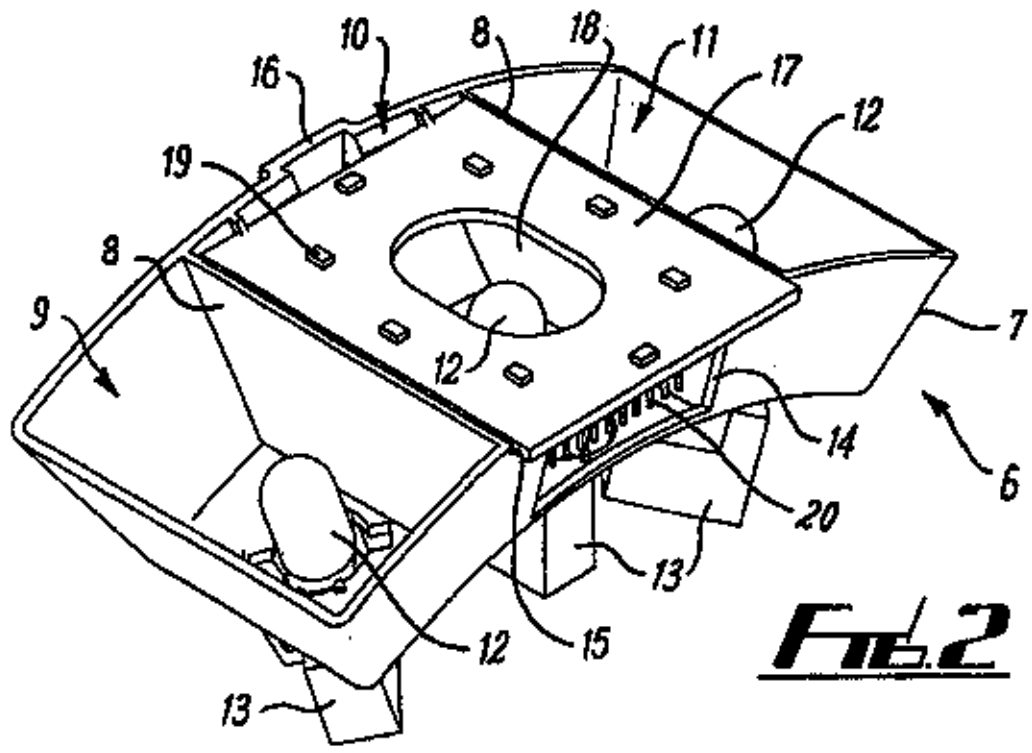
region incorporates a light-dispersing pattern or elements to give a sparkle effect when illuminated.

- 5
25. Equipment according to any one of claims 19 to 24 wherein the symbol-bearing structure is arranged to be movable relative to the (or each) boundary source.
26. Equipment according to claim 25 wherein the symbol-bearing structure is provided at the periphery of a rotatable reel.
- 10
27. Symbol display equipment comprising an illumination device and at least one structure bearing multiple symbols and which can be moved relatively to the device and arrested to bring at least one selected symbol into alignment with the illumination device to be illuminated thereby, characterised in that the illumination device has a main light source arranged to effect illumination of the selected symbol and a supplementary colour-variable light source.
- 15
28. Symbol display equipment according to claim 27 which is equipment according to any one of claims 19, 21-27, the illumination device being as claimed in any one of claims 1-19, and the said light source being the said boundary light source.
- 20
29. A player-operable entertainment machine incorporating equipment according to any one of claims 19-28.
30. A player-operable entertainment machine according to claim 29 which is a coin-operated machine of the 'fruit' or 'poker' kind.

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**FIG. 1**



**FIG. 2**

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TI- REEL CONTROLLER FOR SLOT MACHINE

AB- PURPOSE: To provide a reel controller for a slot machine capable of accurately detecting a rotating pattern, reducing the number of parts and time for working for detection, reducing a fault and a reading error and furthermore, accurately stopping the pattern at a prescribed position of a reel window.

- CONSTITUTION: A slit 2b corresponding to the pattern and a strobe hole 2a to detect the position are formed inside/outside an annular plate body 2 mounted on the side face of a rotary reel 1 in the circumferential direction. A photosensor 5a detects the strobe hole 2a, and a photosensor 5b starts to read the slit 2b at the timing of a detection signal. A read timing is set to the driving pulse of a stepping motor which drives the rotary reel 1. The slit is read and a pattern signal is outputted bit by bit every output of the driving pulse. When a player depressed a stop button, a stopping signal is outputted, however, when a strobe signal is outputted after the stopping signal is outputted, the rotary reel 1 stops at that time.

PN- JP8238352 A 19960917

PD- 1996-09-17

ABD- 19970131

ABV- 199701

JP19950047379 19950307

PA- NICHIKOMU:KK

IN- UESHIMA MINORU

I- A63F5/04 ;G07F17/34

TI- Control device for rotating reel of slot machine - has strobe detector that detects strobe pattern and stop button which generates stop signal that stops reel from rotating so as pattern may stop at predetermined position of reel window

AB- J08238352 The device includes combination of patterns aligned in a reel window when the reel (1) stops rotating. A strobe detector (5a) detects a strobe pattern (2a) provided at a detection board (2) interlocked with the reel.

- A stop button generates a stop signal when pressed causing the reel to stop rotating so that the pattern may stop at the predetermined position of the reel window.

ADVANTAGE - Correctly controls stop position since stepping motor is used to drive reel. Simplifies composition of photo sensor by using clock pulse of stepping motor for timing. Correctly detects rotating pattern. Eliminates reading trouble and error.

- (Dwg.2/14)

PN- JP8238352 A 19960917 DW199647 A63F5/04 010pp

PR- JP19950047379 19950307

PA- (NICH-N) NICHIKOMU KK

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DC- P36 T05 W04

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| G 0 7 F 17/34             |       |        | G 0 7 F 17/34 |         |

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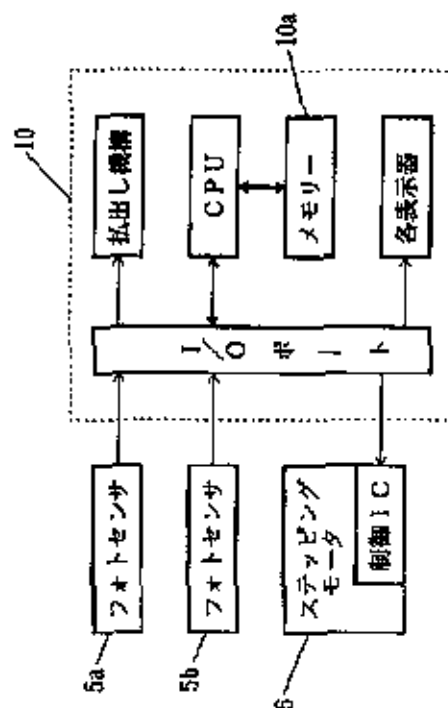
(74) 代理人 弁理士 杉本 勝雄 (外1名)

(54) 【発明の名称】 スロットマシンのリール制御装置

(57) 【要約】

【目的】 回転中の図柄を正確に検出すると共に、検出するための部品や工作の時間が少なく済み、しかも故障や読み取りエラーもなく、更に、図柄がリール窓の所定の位置に正確に停止するスロットマシンのリール制御装置を提供する。

【構成】 回転リール1の側面に取り付けた環状板体2の周方向の内外2重に図柄に対応するスリット2bと位置を検出するストローブ孔2aを設ける。このストローブ孔2aをフォトセンサ5aが検出し、その検出信号のタイミングでフォトセンサ5bがスリット2bを読み取り始める。その読み取りタイミングは回転リール1を駆動するステッピングモータの駆動パルスである。駆動パルスが1つ出力されるごとに、スリットを読み取って図柄信号を1ビットずつ出力する。遊戯者がストップボタンを押すと停止信号が出力されるが、この停止信号の出力後にストローブ信号が出力されたら、その時点で回転リール1が停止する。



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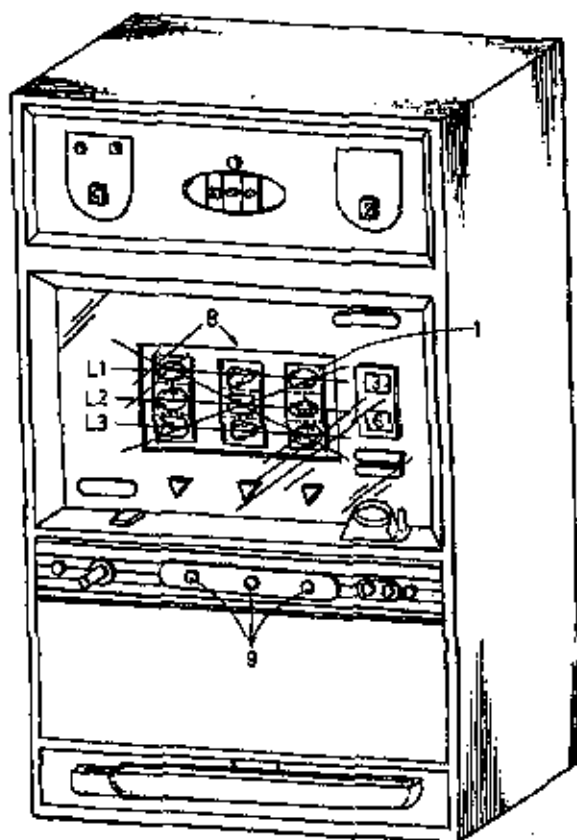
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【符号の説明】

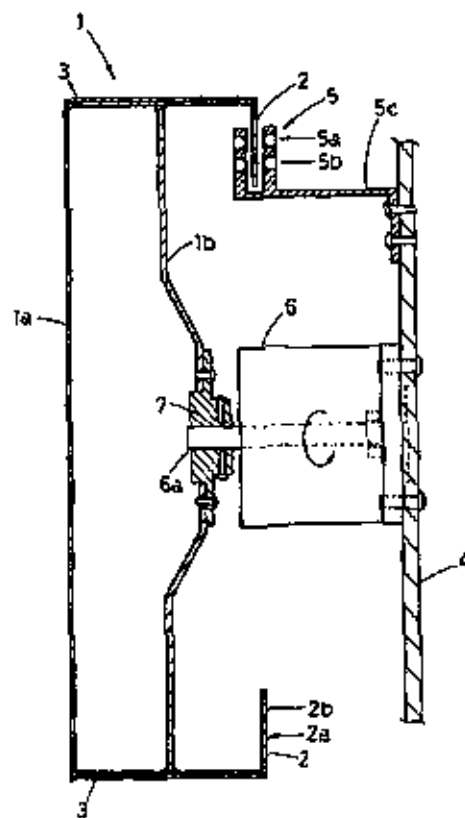
- 1, 11 回転リール (リール)  
1a リール本体  
2 環状板体 (検出板)  
2a, 12a ストロープ孔 (ストロープパターン)  
2b スリット (図柄パターン)  
3, 13 図柄シール (図柄)  
4, 14 取付枠  
5, 15 検出部  
5a, PS1 フォトセンサ (ストロープ検出手段)  
5b フォトセンサ (図柄読み取り手段)

- 5c, 15c 取付金具  
6 ステッピングモータ  
6a, 16a 回転軸  
7 円形金具  
8 リール窓  
9 ストップボタン  
10 処理部  
12 スリット円板 (検出板)  
12b スリット組  
10 PS2, PS3, PS4 フォトセンサ

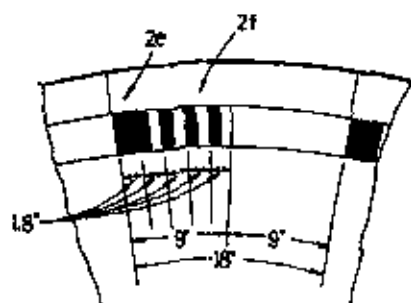
【図1】



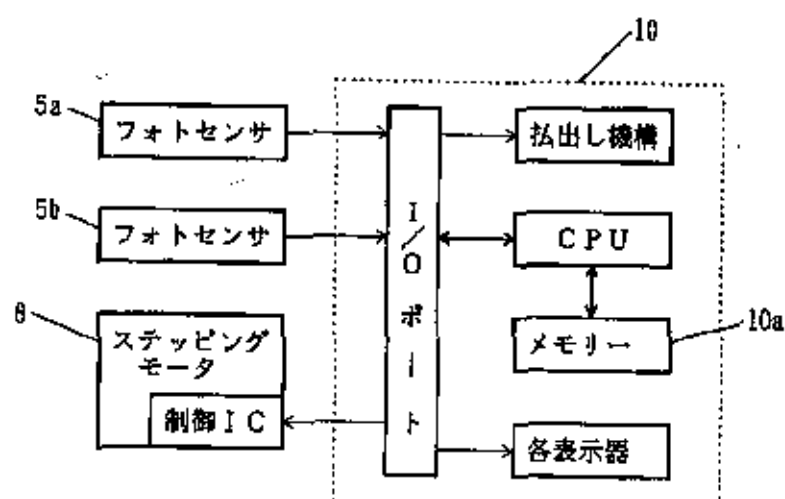
【図2】



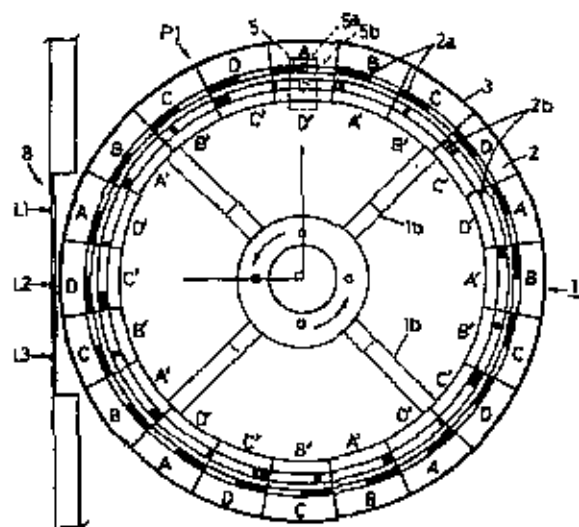
【図10】



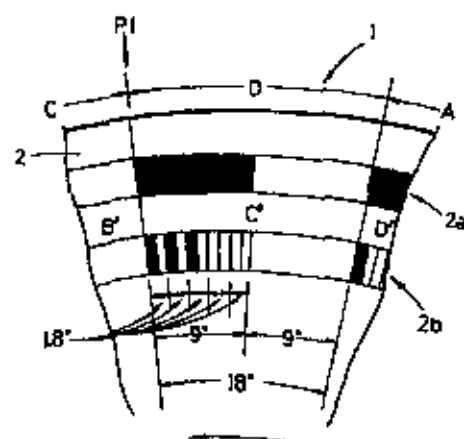
【図3】



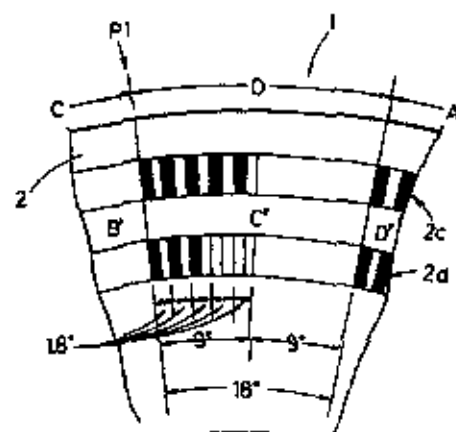
【図4】



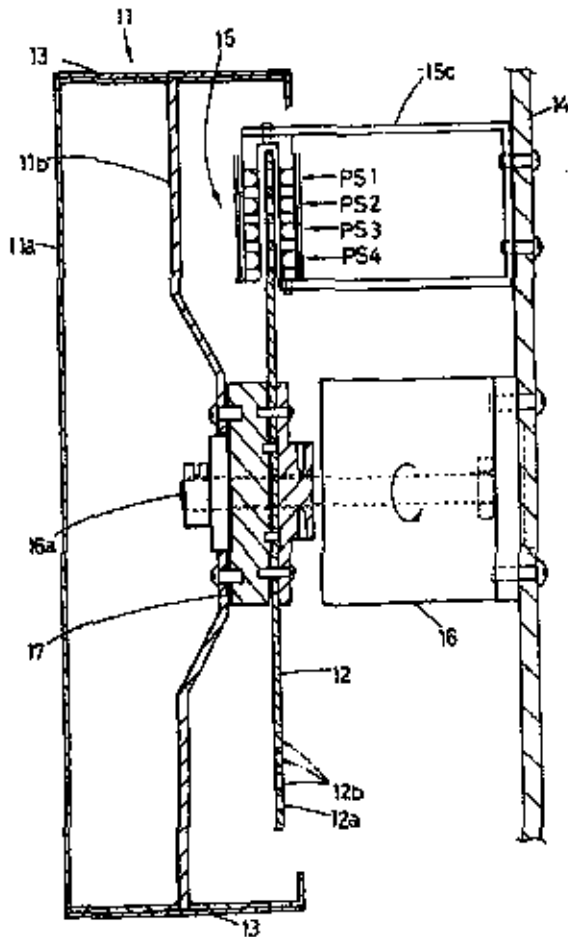
【図6】



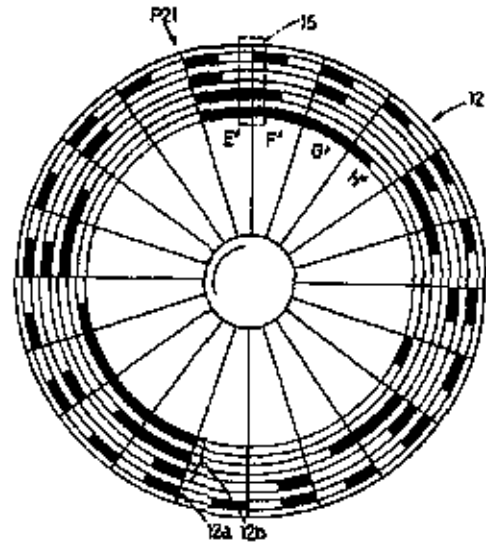
【図9】



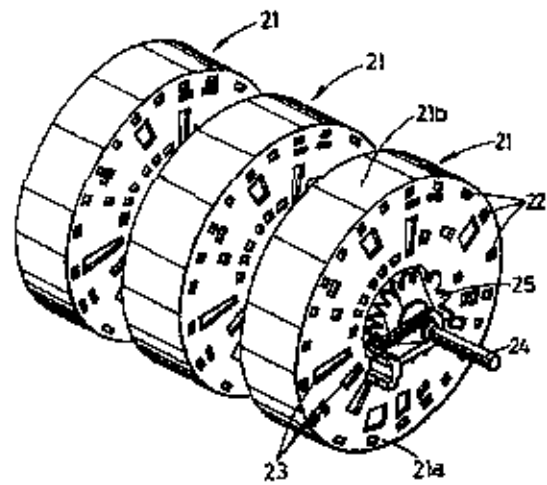
【図11】



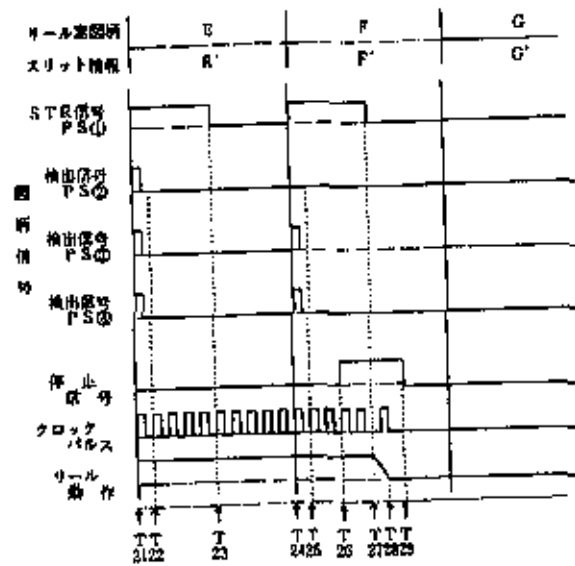
【図12】



【図14】



【図13】



Folios 723 y 724  
Extracte pubescens



426  
123  
125

2020  
Bogotá, D.C.,

**Doctora:**  
Dilia María Rodríguez D'Aleman

**Oficio N°** 03247

|                |                            |                  |
|----------------|----------------------------|------------------|
| <b>ASUNTO:</b> | Radicación N°              | 04-2375          |
|                | Solicitud internacional    | PCT/ES2002/00288 |
|                | Fecha inicio fase nacional | 16/02/2004       |
|                | Trámite                    | 011              |
|                | Evento                     | 379              |
|                | Actuación                  | 430              |
|                | Folios                     | 001              |

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, artículo 27 del Tratado de Cooperación en Materia de Patentes (PCT), regla 51 bis del Reglamento y Circular Única de la Superintendencia de Industria y Comercio, se le comunica que:

- La solicitud no contiene la copia del documento en que consta la cesión del derecho a la patente del inventor al solicitante o a su causante. (Art. 26-k) Decisión 486).
- La solicitud no contiene el poder debidamente otorgado, con el lleno de los requisitos exigidos por los artículos 63 y subsiguientes del Código de Procedimiento Civil. Adicionalmente, deberá presentar el documento que acredita la existencia y representación legal de la sociedad solicitante, cuando ésta fuere persona jurídica.

En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.

  
**ALIX CARMENZA CESPEDES DE VERGEL**  
Jefe de la División de Nuevas Creaciones.

El anterior requerimiento fue notificado por fijación en lista de fecha, 21 de mayo de 2004.