[0006] ~~The~~Embodiments of the present invention ~~has been made in view of the above problem, and aims~~ seek to provide a card disposal system that may enable~~s~~ a perfect disposal operation in which disposal of cards that are to be discarded after the use thereof on the game table is performed only after confirming that the predetermined number of cards are all there (for example, in the case where eight decks of cards are used, there should be 416 cards (52 cards x 8 sets)). Also, the system is capable of making a void hole or a notch on the cards after verifying the number of cards to make it impossible to reuse such cards, thereby completely preventing any fraudulent reuse of such cards.

Solution to Problem

[0007] According to an aspect of the present invention, there is provided a card disposal system for disposing of cards that are housed in a card dealing apparatus (dealing shoe) placed on a game table and manually dealt onto the game table after the use thereof in a game, the card disposal system comprising: a set of cards made up of a plurality of decks of cards that can be housed in the dealing shoe; and a card disposal apparatus for disposing the cards collected from the game table, wherein a cut card for stopping a game is included in the set of cards, the card disposal apparatus includes: a discharge opening for receiving a card to be disposed of from the game table; a number counter for counting and storing the number of cards received from the discharge opening; a card carton for receiving cards for disposal; and a deck examination means for determining whether the number of cards placed in the discharge opening matches the number of cards corresponding to a predetermined number of decks, the discharge opening for receiving the cards that are manually dealt onto the game table thereafter got collected therein, and the cards left unused in the dealing shoe, and the deck examination means adds the number of cards manually dealt onto the game table and used in each game and the number of the cards left unused in the dealing shoe after the last game has stopped, and determines whether the added total number of the cards received by the discharge opening matches the number of cards corresponding to a predetermined number of decks that have been previously housed in a card dealing apparatus before games for the examination of any loss in the games.

According to another aspect of the present invention, there is provided a card disposal system for disposing of cards that are housed in a card dealing apparatus (dealing shoe) placed on a game table and manually dealt onto the game table after the use thereof in a game, the card disposal system comprising: a set of cards made up of a plurality of decks of cards that can be housed in the dealing shoe; and a card disposal apparatus for disposing the cards collected from the game table, wherein the card disposal apparatus includes: a discharge opening for receiving a card to be disposed of from the game table; a number counter for counting and storing the number of cards received from the

discharge opening; a card carton for receiving cards for disposal; and a deck examination means, wherein the deck examination means examines at predetermined timing(s) at least whether or not each numbers of the cards received by the discharge opening which have the same rank match the numbers of the cards in every ranks sent by the dealing shoe through a communication means and outputs the result of the examination.

~~To solve the above conventional problems, the present invention provides a card disposal system for disposing of cards that are housed in a card-dealing apparatus (dealing shoe) placed on a game table and manually dealt onto the game table after the use thereof in a game, the card disposal system including: a set of cards made up of a plurality of decks of cards that can be housed in the dealing shoe; and a card disposal apparatus for disposing the cards collected,~~

~~wherein a cut card for stopping a game is included in the set of cards, the card disposal apparatus includes:~~

~~a discharge opening for receiving a card to be disposed of;~~

~~a number counter for counting and storing the number of cards received from the discharge opening;~~

~~a voiding means for making a void hole or a notch on a card placed in the discharge opening;~~

~~a disposed card stocker for receiving a card that has passed through the voiding means in a disposed card carton; and~~

~~a deck examination means for determining whether the number of cards placed in the discharged opening matches the number of cards corresponding to a predetermined number of decks,~~

~~the discharge opening sequentially receives the cards that are used in each game and thereafter get collected therein, and is configured to be capable of receiving all cards left unused in the dealing shoe when the game is stopped at a predetermined time after the cut card is drawn from the dealing shoe,~~

~~the deck examination means adds the number of cards used in each game, that number being counted by the number counter, and the number of the cards left unused in the dealing shoe at the predetermined time after the cut card is drawn from the dealing shoe, and determines whether the number of the cards disposed of matches the number of cards corresponding to a predetermined number of decks, and~~

~~the disposed card stocker has a closed passage for disposed cards with which no card~~

~~can be removed after it is placed in the discharge opening before it reaches the disposed card carton.~~

[0008] In addition, with the card disposal system for a table game according to embodiments of the present invention ~~that solves the conventional problems~~, the disposed card carton of the disposed card stocker is configured to be capable of housing a scrap generated from making the void hole together with the card to be disposed of in the disposed card stocker.

Advantageous Effects of Invention

[0009] With the card disposal system for a table game according to embodiments of the present invention, it is possible to detect the incorporation of any false cards, and furthermore, to examine whether with respect to the cards that have been put inside a discharge opening, there are a predetermined number of genuine cards for each number (rank), thereby confirming that the cards used in a table game on the game table are a complete set of genuine cards that include the predetermined number of cards for each number (rank).

Brief Description of Drawings

[0010] [Fig. 1] Fig. 1 is a plan view of a table game system according to an embodiment of the present invention.

[Fig. 2] Fig. 2 is a cross-sectional view of a card disposal apparatus according to Embodiment 1 of the present invention as viewed from the side.

[Fig. 3] Fig. 3 is a plan view of a card according to Embodiment 1 of the present invention.

[Fig. 4] Fig. 4 is a diagram showing the relation between the codes formed with a mark/marks M printed as information on a card, and the output waves from two UV sensors of a card information acquiring sensor.

[Fig. 5] Fig. 5 is a perspective view of a card disposal apparatus of a table game system according to Embodiment 2 of the present invention.

[Fig. 6] Fig. 6 is a cross-sectional view of the card disposal apparatus as viewed from the side.

[Fig. 7] Figs. 7(a), 7(b) and 7(c) are perspective views each illustrating the function of a weight of the card disposal apparatus.

[Fig. 8] Fig. 8 is a cross-sectional view of a main portion of a punching device (voiding means) of the card disposal apparatus.

[Fig. 9] Fig. 9 is a plan view showing a card with a void hole made by the punching device.

[Fig. 10] Figs. 10(a), 10(b), 10(c) and 10(d) are perspective views of the card disposal apparatus each illustrating the procedure for attaching and removing a disposed card carton to and from a disposed card stocker of the card disposal apparatus.

Claims

[Claim 1] A card disposal system for disposing of cards that are housed in a card dealing apparatus (dealing shoe) placed on a game table and manually dealt onto the game table after the use thereof in a game, the card disposal system comprising:
a set of cards made up of a plurality of decks of cards that can be housed in the dealing shoe; and
a card disposal apparatus for disposing the cards collected,
wherein a cut card for stopping a game is included in the set of cards,
the card disposal apparatus includes:
a discharge opening for receiving a card to be disposed of;
a number counter for counting and storing the number of cards received from the discharge opening;
a voiding means for making a void hole or a notch on a card placed in the discharge opening;
a disposed card stocker for receiving a card that has passed through the voiding means in a disposed card carton; and
a deck examination means for determining whether the number of cards placed in the discharged opening matches the number of cards corresponding to a predetermined number of decks,
the discharge opening sequentially receives the cards that are used in each game and thereafter get collected therein, and is configured to be capable of receiving all cards left unused in the dealing shoe when the game is stopped at a predetermined time after the cut card is drawn from the dealing shoe, and
the deck examination means adds the number of cards used in each game, that number being counted by the number counter, and the number of the cards left unused in the dealing shoe at the predetermined time after the cut card is drawn from the dealing shoe, and determines whether the number of the cards disposed of matches the number of cards corresponding to a predetermined number of decks.

[Claim 2] The card disposal system according to claim 1, wherein the disposed card carton of the disposed card stocker can be attached/detached to/from the disposed card stocker, is made of paper or a plastic material, and can be disposed of or shredded while containing therein the cards to be disposed of.

[Claim 3] The card disposal system according to claim 1 or 2, wherein the

voiding means is configured to make a void hole or a notch on each of the cards.

[Claim 4] The card disposal system according to any one of claims 1 to 3, wherein the voiding means is configured such that a scrap from the void hole made on the card is disposed of in the disposed card carton together with the card to be disposed of, and with the scrap from the void hole being placed on the card to be disposed of.

[Claim 5] The card disposal system according to any one of claims 1 to 4, further comprising a printing means or a stamping means that exhibits a result of the determination made by the deck examination means on the disposed card carton of the disposed card stocker.

[Claim 6] The card disposal system according to any one of claims 1 to 5, wherein the disposed card carton is provided with a bar code different for each of the disposed card carton.

[Claim 7] The card disposal system according to claim 6, further comprising a data management means for storing and managing the result of the determination made by the deck examination means based on each of the bar code.

[Claim 8] The card disposal system according to any one of claims 1 to 7, wherein a code with information on the number (rank) is added to the card such that the code is invisible under a normal condition;
the card disposal apparatus includes a disposed card information acquiring means for obtaining the code with information on the number (rank),
the deck examination means has a function of obtaining information from the code relating to the number (rank) obtained by the disposed card information acquiring means, counting the number of cards for each number (rank) of the cards, and determining whether the cards that were placed in the discharge opening includes, for each number (rank), such number of cards that corresponds to a predetermined number of decks.

[Claim 9] The card disposal system according to claim 8, wherein in said data management means, the result of determination by the deck examination means is stored in association with the bar code.

[Claim 10] The card disposal system according to any one of claims 1 to 9, wherein each of the cards further includes group information indicating a group of the card, and
the card disposal apparatus comprises a authenticity determination

means that acquires the group information of each card received from the discharge opening, compares that group information with a predetermined group information, and determines whether that group information matches the predetermined group information, thereby determining the authenticity of that cards.

[Claim 11] The card disposal system according to claim 10, wherein in the voiding means, the number or the shape of the void hole or notch made on the card is differentiated depending on the result of the determination made by the authenticity determination means.

[Claim 12] The card disposal system according to claim 10, wherein in the data management means, the result of the determination made by the authenticity determination means is stored in association with the bar code.

[Claim 13] The card disposal system according to any one of claims 10 to 12, wherein the group information is added to the back pattern or to the ink used to print the mark or code indicating the number (rank) or the type (suit) of the card, or is contained in the coating material, the anchor coating material or the ink on the card.

[Claim 14] A card disposal system for disposing of cards that are housed in a card dealing apparatus (dealing shoe) placed on a game table and manually dealt onto the game table after the use thereof in a game, the card disposal system comprising:
a set of cards made up of a plurality of decks of cards that can be housed in the dealing shoe; and
a card disposal apparatus for disposing the cards collected,
wherein
the card disposal apparatus includes:
a discharge opening for receiving a card to be disposed of;
a number counter for counting and storing the number of cards received from the discharge opening;
a voiding means for making a void hole or a notch on a card placed in the discharge opening;
a disposed card stocker for receiving a card that has passed through the voiding means in a disposed card carton; and
a deck examination means for determining whether the number of cards placed in the discharged opening matches the number of cards corresponding to a predetermined number of decks,
wherein the deck examination means adds every numbers of cards

which have the same rank received by the discharge opening and examines at predetermined timing(s) at least whether or not each numbers of the cards which have the same rank match the numbers of the cards in every ranks sent by the dealing shoe through a communication means and outputs the mismatch of the result of the examination.

[Claim 15] The card disposal system according to claim 14, wherein the set of cards made up of a plurality of decks of cards is a shuffled playing cards shuffled to have a unique arrangement order and packaged in a package and a uniquely identifiable shuffled card ID being different each other attached to each shuffled playing cards set as an ID code or RFID (IC tag); and the system has a barcode or RFID(IC tag) reader to reads the ID code.

[Claim 16] The card disposal system according to claim 15, wherein the deck examination means outputs the mismatch of the result of the examination with the ID code of the shuffled playing cards.

Claims:

1. A card disposal system for disposing of cards that are housed in a card dealing apparatus (dealing shoe) placed on a game table and manually dealt onto the game table after the use thereof in a game, the card disposal system comprising:

a set of cards made up of a plurality of decks of cards that can be housed in the dealing shoe; and

a card disposal apparatus for disposing the cards collected from the game table, wherein a cut card for stopping a game is included in the set of cards,

the card disposal apparatus includes:

a discharge opening for receiving a card to be disposed of from the game table;

a number counter for counting and storing the number of cards received from the discharge opening;

a card carton for receiving cards for disposal; and

a deck examination means for determining whether the number of cards placed in the discharge opening matches the number of cards corresponding to a predetermined number of decks,

the discharge opening for receiving the cards that are manually dealt onto the game table thereafter got collected therein, and the cards left unused in the dealing shoe, and

the deck examination means adds the number of cards manually dealt onto the game table and used in each game and the number of the cards left unused in the dealing shoe after the last game has stopped, and determines whether the added total number of the cards received by the discharge opening matches the number of cards corresponding to a predetermined number of decks that have been previously housed in a card dealing apparatus before games for the examination of any loss in the games.

2. The card disposal system according to claim 1,

wherein the system further have the voiding means configured to make a void hole or a notch on the cards.

3. The card disposal system according to claim 1, further comprising a printing means or a stamping means that exhibits a result of the determination made by the deck examination means on the card carton.

4. The card disposal system according to claim 1,

wherein the card carton is provided with a bar code different for each of the card carton.

5. A card disposal system for disposing of cards that are housed in a card dealing apparatus (dealing shoe) placed on a game table and manually dealt onto the game table after the use thereof in a game, the card disposal system comprising:

a set of cards made up of a plurality of decks of cards that can be housed in the dealing shoe; and

a card disposal apparatus for disposing the cards collected from the game table,

wherein the card disposal apparatus includes:

a discharge opening for receiving a card to be disposed of from the game table;

a number counter for counting and storing the number of cards received from the discharge opening;

a card carton for receiving cards for disposal; and

a deck examination means,

wherein the deck examination means examines at predetermined timing(s) at least whether or not each numbers of the cards received by the discharge opening which have the same rank match the numbers of the cards in every ranks sent by the dealing shoe through a communication means and outputs the result of the examination.

6. The card disposal system according to claim 1 or 5,

wherein the set of cards made up of a plurality of decks of cards is a shuffled playing cards shuffled to have a unique arrangement order and packaged in a package and a uniquely identifiable shuffled card ID being different each other attached to each shuffled playing cards set as an ID code or RFID (IC tag); and the system has a barcode or RFID(IC tag) reader to reads the ID code.

7. The card disposal system according to claim 6,

wherein the deck examination means outputs the result of the examination and the system stores the results with the ID code of the shuffled playing cards.

8. The card disposal system according to claims 5,

wherein the card carton is disposed with a bar code.

9. The card disposal system according to claims 5,

wherein the system further has the voiding means configured to make a void hole or a notch on the cards.

10. The card disposal system according to claim 5,

wherein the discharge opening for receiving the cards that are used in each game and thereafter got collected therein, and the cards left unused in the dealing shoe, and

wherein the deck examination means determines whether the total number of the cards which have the same rank received by the discharge opening matches the number of each rank of the cards corresponding to a predetermined number of decks.