[0009]

Fig. 10 shows a schematic diagram of a stack of conventional game tokens with built-in RFID tags. As shown in Fig. 10, if the security part 520 is provided on one surface side of the game token 500, when such game token 500 are stacked in any direction, the distance between the plural RFID tags 550 embedded in two adjacent game token 500 is no longer uniform, and the difference in the distances becomes relatively large. This makes the reading or writing of the RFID tags 550 by electromagnetic waves unstable.

[0010]

When stacking RFID tags, the distance between adjacent RFID tags can be made uniform by adopting an appearance design in which the surface on which the security part 520 is embedded is distinguishable from the surface on the opposite side, and stacking the game tokens so that they are facing the same direction while checking the front and back. However, it is clear that such an operation is cumbersome.

[0011]

On the other hand, a conventional gaming chip with the configuration shown in Fig. 11 is also known. In this gaming chip 500', a capsule 551 having a built-in RFID tag 550 is used as a security part 552, a receiving part 510 is provided around the capsule 551, and a step is provided between the receiving part 510 and the capsule 551 to form indents. Then, by attaching the central parts 520 and 530 to the indents, the gaming chip 500' is completed.

[0012]

According to such a gaming chip 500', there is little bias of the RFID tag 550 when the gaming chips 500' are stacked as described above, and there is no instability in reading or writing. However, such a gaming chip 500' requires an RFID tag 550 to be housed inside the capsule 551, which is a costly process and does not produce a high yield.

[0013]

Embodiments of the present invention seek to provide a game token that incorporates an RFID tag by means of a security part, in which a plurality of RFID tags embedded in a

plurality of stacked game tokens can be read in a relatively stable manner even when the plurality of game tokens are stacked in any direction.

[0014]

Embodiments of the present invention also seek to provide a game token that can ensure security at a low cost.

[0014a]

An aspect of the present invention provides a game token comprising a receiving part including a first recessed portion wherein a depth of the first recessed portion is 25% or more of a thickness of the game token; an RFID tag housed in the first recessed portion; a plate-shaped plastic layer housed in the first recessed portion and covering the RFID tag; and a first central part housed in the first recessed portion and fixed to the plastic layer, wherein the first central part and the receiving part construct a first surface of the game token wherein the first surface is flat with no substantial step.

[0014b]

Another aspect of the present invention provides a game token comprising a receiving part including a first recessed portion with a first depth on one side surface thereof and a second recessed portion with a second depth shallower than the first depth on other side surface thereof; a second central part fitted into the second recessed portion; a plate-shaped plastic layer fitted into the first recessed portion; a first central part fitted into the first recessed portion and constructing a flat surface with no substantial step together with the receiving part; and an RFID tag disposed at a position deeper than the second depth in the first recessed portion.

[0015]

There is also disclosed a game token comprising a security part and a receiving part that accepts the security part, wherein the security part has: a shape with a diameter smaller than the diameter of the receiving part; a structure consisting of a plurality of laminated plastic layers, an RFID tag; and a visible print layer indicating the type or ID of the game token, wherein the receiving part has a recessed portion on its surface to accept at least one of the security part, wherein the depth of the recessed portion is at least 25% of the thickness of the game token.

[0016]

With this configuration, since the depth of the recessed portion for accepting the security part in the receiving part is 25% or more of the thickness of the game token, the RFID tag can be placed closer to the center of the game token in the thickness direction compared to the conventional game token. Therefore, even when a plurality of game tokens are stacked in any direction, the difference in distance between the RFID tags can be made relatively small, and the reading of the RFID tags can be stabilized.

[0017]

The RFID tags may be positioned less than 25% above and below the center of the thickness direction of the game token.

[0018]

With this configuration, even when a plurality of game tokens are stacked in any orientation, the difference in distance between the RFID tags becomes relatively small, and the reading of the RFID tags becomes stable.

[0019]

The RFID tags may be disposed between the plurality of plastic layers.

[0020]

With this configuration, even if the security part is removed from the receiving part, the RFID tag cannot be easily removed, thus improving security.

[0021]

The RFID tag may be provided on the inner surface of the security part.

[0022]

This configuration facilitates manufacturing.

[0023]

The RFID tag may store information related to the type or ID of the game token represented in the visible print layer.

[0024]

With this configuration, the type or ID of the game token can be identified by reading the RFID tag.

[0025]

The RIFD tag may store information associated with the appearance of the receiving parts.

[0026]

With this configuration, information related to the appearance can be obtained by reading the RFID tag.

[0027]

The security part may comprise a thermo-compression bonded plastic layer.

[0028]

This configuration enables a structure in which a plurality of plastic layers are laminated by the method of thermo-compression.

[0029]

The security part may be composed of the plastic layer bonded with an adhesive.

[0030]

This configuration enables a structure in which a plurality of plastic layers are laminated by way of adhesive bonding.

[0031]

There is also disclosed a game token comprising: a receiving part having a first recessed

thereby reducing the weight imbalance caused by the security parts.

[0040]

With this configuration, the weight of the game token can be balanced in the thickness direction using the weight member.

[0041]

There is also disclosed a game token comprising: a receiving part having a recessed portion on at least one side; and a security part having an RFID tag, wherein the security part is inserted into the recessed portion, wherein the depth of the recessed portion is 25% or more of the thickness of the receiving part, and wherein the RFID tag is positioned less than 25% above and below the center of the thickness direction of the game token.

[0042]

With this configuration, the RFID tag can be disposed at a position less than 25% above and below the center of the thickness direction of the receiving part, so that even when a plurality of game tokens are stacked in any direction, the difference in distance between the RFID tags can be made relatively small, thereby stabilizing the reading of the RFID tag.

[0043]

There is also disclosed a game token comprising: a receiving part having a recessed portion on at least one side, and a security part that is inserted into the recessed portion, wherein the security part has a laminated structure including a plurality of plastic layers, and RFID tags are embedded between the plastic layers.

[0044]

With this configuration, a game token with a built-in RFID tag can be configured simply by attaching the security part having a laminated structure to the recessed portion of the receiving part.

[0045]

There is also disclosed a method for manufacturing a game token, comprising: manufacturing, by molding, a receiving part having a recessed portion; manufacturing a security part by integrating a plurality of plastic layers with an RFID tag

between the layers; and bonding the security part to the recessed portion.

[0046]

With this configuration, it is possible to configure a game token with a built-in RFID tag simply by attaching the security parts of the laminated structure to the recessed portion of the receiving part.

[0047]

There is also disclosed a method for manufacturing a game token, comprising: manufacturing, by molding, a receiving part having a recessed portion; manufacturing a security part by integrating a plurality of plastic layers with an RFID tag between the layers; and bonding the security part to the recessed portion.

[0048]

With this configuration, the security part can be easily manufactured, and a game token with a built-in RFID tag can be easily manufactured.

Brief description of the drawing

[0049]

Fig. 1 shows a diagram of a game token use in accordance with the first embodiment of the present invention;

Fig. 2 shows a schematic cross-sectional view of a portion of the cross-section of a game token in accordance with the first embodiment of the present invention;

Fig. 3 shows the manufacturing process of a game token in accordance with the first embodiment of the present invention;

Fig. 4 shows a schematic diagram of a plurality of game token in accordance with the first embodiment of the present invention;

Fig. 5 shows a cross-sectional view of a portion of the cross-section of a game token in accordance with the second embodiment of the present invention;

Fig. 6 shows a manufacturing process of a game token in accordance with the second embodiment of the present invention.

Fig. 7 shows a schematic diagram of a cross-section of a game

Claims:

1. A game token comprising:

a receiving part including a first recessed portion wherein a depth of the first recessed portion is 25% or more of a thickness of the game token;

an RFID tag housed in the first recessed portion;

a plate-shaped plastic layer housed in the first recessed portion and covering the RFID tag; and

a first central part housed in the first recessed portion and fixed to the plastic layer,

wherein the first central part and the receiving part construct a first surface of the game token wherein the first surface is flat with no substantial step.

2. The game token according to claim 1, wherein

the receiving part includes a second recessed portion on an opposite side to the first recessed portion wherein a depth of the second recessed portion is shallower than the depth of the first recessed portion,

the game token further comprises a second central part housed in and fixed to the second recessed portion to construct a second surface of the game token together with the receiving part, and

an appearance of the first surface and an appearance of the second surface are the same.

3. The game token according to claim 2, wherein

a surface constructing the first surface in the first central part is at a lower position than a surface of the receiving part constructing the first surface, and

a surface constructing the second surface in the second central part is at a lower position than a surface of the receiving part constructing the second surface.

4. The game token according to claim 1, wherein

the RFID tag is disposed at a position less than 25% above or

below from a center of the game token with respect to a thickness direction of the game token.

5. The game token according to claim 1, wherein

the first central part includes a print layer, and

the RFID tag stores information related to a type or an ID of the game token represented by the print layer.

6. The game token according to claim 5, wherein

the first central part includes the print layer on an inner surface thereof.

7. The game token according to claim 1, wherein

the RFID tag stores information associated with an appearance of the receiving part.

8. A game token comprising:

a receiving part including a first recessed portion with a first depth on one side surface thereof and a second recessed portion with a second depth shallower than the first depth on other side surface thereof;

a second central part fitted into the second recessed portion;

a plate-shaped plastic layer fitted into the first recessed portion;

a first central part fitted into the first recessed portion and constructing a flat surface with no substantial step together with the receiving part; and

an RFID tag disposed at a position deeper than the second depth in the first recessed portion.

9. The game token according to claim 8, wherein

the receiving part is constructed to include a weight member inside, and the weight member has a higher specific gravity than a member other than the weight member constructing the receiving part.

10. The game token according to claim 9, wherein

the weight member is disposed at a position deviating from a center with respect to a thickness direction of the game token and/or has an asymmetrical shape with respect to the thickness direction of the game token, thereby reducing the weight imbalance caused by the second central part.