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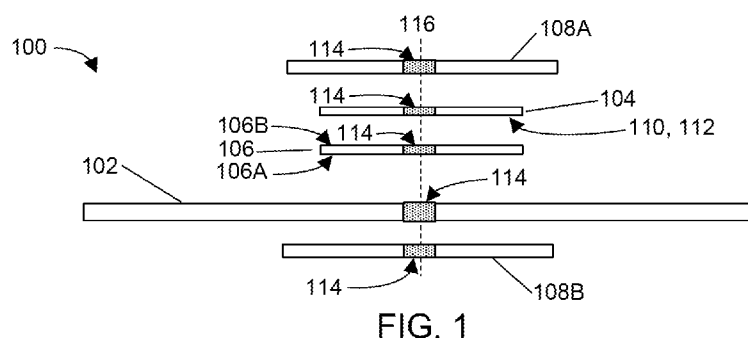


FIG. 1

(57) Abstract: A record (100) may include a disk (102), an embedded electronic authentication tag (104), a cover (106) between the disk and the electronic authentication tag, and one or more record labels (108A, 108B). The disk, electronic authentication tag, and cover have a spindle hole (114) and a common centerline (116). The electronic authentication tag contains a unique identification code pointing to information regarding the record stored as a non-fungible token. This information may be used to verify the authenticity and ownership of the record. A puck used to create the disk may include segments of different colors so that, when the record is pressed the different segments produce a visual pattern unique to that record. A picture may be taken after pressing, recorded, recorded as part of the information in the non-fungible token, and later used to verify the authenticity of the record.



VINYL RECORD WITH INTEGRATED AUTHENTICITY

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the priority of U.S. Provisional Patent Application Serial No. 63/228,375 filed August 2, 2021, entitled "VINYL RECORD WITH INTEGRATED AUTHENTICITY", and which is incorporated herein in its entirety.

SUMMARY

[0002] A record has a disk and an authentication tag, the authentication tag being embedded within the disk and having stored therein certain information related to the record.

[0003] A method for making a record includes encoding an authentication tag with certain information relating to the record, providing a desired material for the disk, providing an elastic material by heating the desired material, aligning the authentication tag, the elastic material, and a pair of stampers, the authentication tag and the elastic material being between the stampers, each stamper having information tracks for the record on the surface thereof, forcing the stampers together, wherein the information tracks are impressed on the elastic material and the authentication tag is embedded in the elastic material, cooling the elastic material to provide a record, and removing the record from the stampers.

[0004] A method of identifying an object includes storing non-fungible token information and a for the object as a data entry, for example, a blockchain data entry, assigning a first identification code to the data entry, the first identification code being unique to the data entry, receiving a query, the query including a second identification code, determining that the second identification code is the same as the first identification code, retrieving the data entry corresponding to the first identification code, and sending a reply to the query, the reply including at least one of the non-fungible token information.

BRIEF DESCRIPTION OF THE DRAWING

[0006] FIG. 1 is an exploded view illustration of a record.

[0007] FIG. 2 is an illustration of various components of the record prior to pressing.

[0008] FIG. 3 illustrates a method of manufacturing a vinyl record with an integrated authentication tag.

- [0009] FIG. 4 illustrates a process for authenticating a record.
- [0010] FIG. 5 is an exploded view showing a record, a sleeve, a printed registration code, album cover, and a shrink-wrap.
- [0011] FIG. 6 illustrates a process for use of a non-fungible token, a visual pattern, and a registration code.
- [0012] FIG. 7 is an illustration of an electronic authentication tag embedded within a record.
- [0013] FIG. 8 is an illustration of a record with a label designed with space for a unique identification code.
- [0014] FIG. 9 is an exploded view illustration of another embodiment of a record.
- [0015] FIG. 10 is an illustration of an electronic ledger system having a non-fungible token, and an authentication manager.
- [0016] FIG. 11 is an illustration of an alternative embodiment of a record prior to pressing.

DETAILED DESCRIPTION

[0017] When limited editions, such as collectors' editions, of records are made, such as vinyl records, counterfeiting can be an immediate problem. Making a copy of a record and a label are simple tasks and determining whether a record is a valued original or a worthless copy can be difficult or even impossible. Even a serial number on a record can be copied or new serial numbers generated to make a copy even harder to detect. Counterfeiting can lead to people paying substantial money to a limited edition, only to later find they have bought a worthless copy. Counterfeiting can also lead to diminution of the value of the real items due to an inability to tell whether a record is an original or a copy.

[0018] A record with integrated authenticity, and a method for making same, are disclosed herein. The record may include a disk, an embedded authentication tag, an embedded visual pattern, at least one label, and/or a unique identification code on the label.

[0019] Also, a method for authenticating a purchase or transfer of an original record is disclosed herein. The method includes a non-fungible token, a registration code, and one or more pictures of the record.

[0020] Also, a method for identifying an object is disclosed herein. The method includes a non-fungible token, a visual pattern, and a registration code for the object.

[0021] FIG. 1 is an exploded view illustration of a record **100** and FIG. 2 is an illustration of the various components of the record **100** prior to pressing, including the vinyl “biscuit” or “puck” **102** which will become the disk **102** after pressing. The record **100** has a disk **102**, such as a vinyl disk, an electronic authentication tag **104**, a cover **106** between the disk **102** and the authentication tag **104**, and one or more record labels **108A**, **108B**.

[0022] In an embodiment, the electronic authentication tag **104** is a Near Field Communication (NFC) tag. In alternative embodiments, the electronic authentication tag **104** can be any electronic device which can be embedded within the record **100**, and which will allow reading of the information **110** contained therein from a position on, or external to, the record **100**. For convenience of discussion herein, the electronic authentication tag **104** may subsequently be referred to herein as a tag **104**.

[0023] One side **106A** of the cover **106** adheres to the disk **102** and the other side **106B** of the cover **106** adheres to the tag **104**. In an implementation, side **106A** includes a material, such as a heat sensitive bonding material or heat sensitive bonding promoter, which adheres to the disk **102**, and side **106B** includes an adhesive, such as a silicone based, heat stabile adhesive, which adheres to the tag **104**. This holds the tag **104** so that it does not slip out of alignment during the pressing process. The material on one side **106A** may be, if desired, the same as the material on the other side **106B**. In addition to holding the tag **104** in place on the disk **102** during pressing of the disk **102**, the cover **106** also protects the tag **104** during the pressing process.

[0024] In an alternative implementation, a material, such as paper or polyamide film, is placed between the tag **104** and the label **108**, primarily to protect the tag **104** and improve the adherence between the carrier film of the tag **104** and the PVC of the record **102**, and also to hold the tag **104** in place on the label **108** so that the tag **104** does not slip out of alignment during the pressing process.

[0025] In an implementation, the tag **104** is under the back side of a record label **108** so that the tag **104** does not cover, obscure, or reduce the area available for, information about the record **100**, such as the record name, the artist, the songs on the various tracks, the duration of the various songs or the record, etc.

[0026] The tag **104** has certain desired information **110** encoded therein, and the tag **104** is locked after the desired information **110** has been encoded therein. “Encoded” includes, but does not require, any compression and/or encryption desired for a particular application

and/or level of security. The tag **104** may also have an included tag identification code programmed into it by the manufacturer. The desired information **110** includes a unique identification code (UIC) **112**, which is a link or a pointer to a Non-Fungible Token (NFT) **118**. In an embodiment, the unique identification code (UIC) **112** may include the tag identification code. The NFT **118** is a token which may be unique to a particular record, may be unique to a particular set of records, or may be unique to a particular series of records, e.g., a limited edition of a record, set of records, or series of records. In an embodiment, the NFT **118** is stored as a data entry on an electronic ledger system **1000** (see FIG. 10), preferably a secured electronic ledger system, such as a blockchain system.

[0027] The tag **104**, bearing the unique identification code **112**, is integrated into the record **100** at the time of manufacture of the record. In an implementation, the tag **104**, and the labels **108**, are circular in shape and have a spindle hole **114** along the centerline **116** to accommodate a spindle in a record player.

[0028] The tag **104** may be under the “A” side label **108A** or under the “B” side label **108B**, as desired.

[0029] As the record **100** is being made and the record labels **108** are being impressed into the disk **102**, the tag **104** becomes embedded within the disk **102** and therefore becomes an integrated part of the record **100**.

[0030] In an implementation, the unique identification code **112** is encoded in the tag **104** prior to the tag **104** being embedded within the disk **102**. The tag **104** is then locked so that it cannot be written on again or modified.

[0031] In an implementation, the unique identification code **112** is encoded in the tag **104** after the record **100** has been made. The tag **104** is then locked so that it cannot be written on again or modified.

[0032] FIG. 2 also shows the stampers **120A**, **120B** of a conventional vinyl record stamping machine (not shown) and also shows the vinyl biscuit **102** which will become the record **102** after stamping. Also shown is a spindle **120B1** which makes the spindle hole **114** in the vinyl biscuit **102**. Although spindle **120B1** is shown on stamper **120B**, it could be on stamper **120A** if desired. Preferably, but not necessarily, the tag **104**, the cover **106**, and the labels **108A**, **108B** have the spindle holes **114** in them prior to being placed between the stampers **120**.

[0033] FIG. 3 illustrates a method **300** of manufacturing a vinyl record with an integrated authentication tag. A tag **104** is manufactured or obtained **302** from another party. The tag

104 is then encoded **304** with the desired information **110**, including the unique identification code **112**.

[0034] The vinyl material is obtained, i.e., the vinyl biscuit **102**, is then heated **306** so that it is elastic.

[0035] The labels **108A 108B**, the tag **104**, the cover **106**, the biscuit **102**, and the stampers **120** are then aligned **308** along the centerline **116**.

[0036] The record **100** is pressed **310** by forcing the stampers **120** together to mash the biscuit **102** into a vinyl record **100**. The pressing operation impresses the sound tracks onto the disk **102** and also integrates the labels **108**, tag **104**, and cover **106** into the record **100**.

[0037] The record **100** is then cooled, **312**, which fixes the sound information, labels **108**, tag **104**, and cover **106** into the record **100**.

[0038] The record **100** is then trimmed and removed **314** from the stampers **120**. In an implementation, the record **100** is also inspected, visually or by machine, for defects.

[0039] In an embodiment, the unique identification code **112** is written onto one or both labels **108**. If the interested person does not have a smartphone or device which is capable of reading the tag **104** to retrieve the information in the NFT **118**, the person may directly enter the unique identification code **112** at a website to retrieve the information.

[0040] In an embodiment, as shown in FIG. 8, the label **108** is designed with space for the unique identification code **112**, and the unique identification code **112** may be laser engraved into the label **108**.

[0041] In an implementation, the biscuit **102** may, in addition to a base color vinyl, include one or more pieces (“sprinkles”) of vinyl having different colors. This produces a visually distinct pattern which may be called a “splash pattern”, a “splatter pattern”, or a “whirl” in the industry. For convenience of discussion, a visually distinct pattern is referred to herein simply as a “visual pattern.”

[0042] FIG. 4 illustrates a process **400** for authenticating the particular record. After the record **100** has been manufactured, such as discussed above with respect to FIG. 3, then a picture is taken **402** of the visual pattern on one side (front or back). In an implementation, there are at least two pictures: one of the visual pattern on the front side and another of the visual pattern on the back side. There may be more pictures if there are two or more albums in a particular set or package.

[0043] The NFT **118** is generated **404** for the record, set, or collection. The NFT **118** preferably contains information such as the visual pattern(s), author(s), song(s), tag **104** identification information, ownership information, and ownership history. The NFT **118** may also contain other desired information.

[0044] The unique identification code **112** is generated for the NFT **118**.

[0045] A registration code **504** is generated **408** for the corresponding NFT **118**. In an implementation, the registration code **504** is printed and placed in a pressure sealed envelope, such as used for tax forms, bank items, and other valuable documents. To obtain the registration code **504** the shrink-wrap will need to be opened and the envelope opened. Preferably, the registration code **504** is printed at the same time as, or approximately the same time as, the tag **104** is programmed.

[0046] The record **100** is placed **410** in a sleeve.

[0047] The sleeve, with the record **100** inside it, and the printed registration code **504**, are placed **412** in the album cover.

[0048] A protective wrap, such as shrink-wrap, is then applied **414** to the album cover, thereby sealing the record **100** and the registration code **504** inside the album cover.

[0049] FIG. 5 is an exploded view **500** of record **100**, sleeve **502**, printed registration code **504**, album cover **506**, and shrink-wrap **508**.

[0050] FIG. 6 illustrates a process **600** for use of the NFT **118** and registration code. The NFT **118** and registration code **504** are uploaded **602** to an authentication manager **1010** (see FIG. 10) which generates the unique identification code **112** for the NFT **118**. The unique identification code **112**, as mentioned elsewhere herein, is stored in the tag **104**.

[0051] A potential purchaser, before buying an album, scans **604** the tag **104** to obtain the unique identification code **112** for the NFT **118**, such as by using a smartphone which can read an NFC tag, an NFC tag scanner and a computer, or other desired means of reading the tag **104** to obtain the unique identification code **112**. The smartphone sends the unique identification code **112** to the authentication manager **1010** to obtain information about the album stored as the non-fungible token **118**. It should be noted that the tag **104** can be scanned to obtain the unique identification code **112** without breaking the shrink-wrap. As noted above, the unique identification code **112** may also be printed on the record in a manner which allows it to be viewed, entered, and sent to the authentication manager **1010** to obtain the NFT **118** information.

[0052] The authentication manager **1010** returns **606** information to the smartphone, such as whether the NFT **112** is valid, whether the album has been previously registered, the visual pattern(s), the author(s), the title(s), etc.. If the information is satisfactory to the potential purchaser then the potential purchaser may choose to purchase the album.

[0053] In an implementation, the purchaser, formerly the potential purchaser, then breaks the shrink-wrap to obtain the registration code, scans the tag **104**, and sends **608**, to the authentication manager **1010**, the unique identification code **112** for NFT **118**, the registration code **504**, and updates to the NFT **118**, such as purchaser information, or “wallet information” in Ethereum™.

[0054] In an implementation, after the purchaser scans the tag **104**, the authentication manager **1010** presents a web page displaying the visual pattern first uploaded to the authentication manager **1010**. In an implementation the purchaser compares the visual pattern of the record **100** just obtained to the visual pattern first uploaded to verify that the record **100** is authentic.

[0055] In another implementation, the purchaser also takes a picture of the visual pattern on one or both sides of the record **100** and also sends **608** the picture(s) to the authentication manager **1010**. The authentication manager **1010** uses photo image recognition software to perform a comparison between the picture(s) and the visual pattern first uploaded, and provides a report listing the results of the comparison to the smartphone.

[0056] In an implementation, if the authentication manager **1010** displays the visual pattern to a purchaser or a potential purchaser, the displayed visual pattern is at a resolution less than the visual pattern first uploaded. This resolution is still satisfactory for inspection by the purchaser or potential purchaser, but a copy or photo of the displayed visual pattern will not have the resolution of the visual pattern first uploaded. This reduces the likelihood of someone being able to use a copy of the displayed visual pattern to be able to thwart the authentication manager **1010**.

[0057] If the unique identification code **112** and the registration code match then the authentication manager **1010** updates or supplements **610** the NFT **118** information about the record **100**, such as to identify the purchaser as the first owner or a new owner.

[0058] Thus, the album has been verified as authentic, and the owner has been registered. The owner may then, if desired, re-sell the record **100** as the authenticity has been verified. A subsequent potential purchaser can then scan the tag **104** and send the unique

identification code **112** information to obtain current information about the record **100** before purchasing the record **100**.

[0059] In an implementation, the authentication manager **1010** is an Ethereum™ contract manager.

[0060] In an implementation, the NFT **118** is created on an Ethereum blockchain as a ERC721 smart contract with the data of the **104** and the picture(s) of the visual patterns. The blockchain includes an identification of NFT **118** or a link to the NFT **118**.

[0061] In an implementation, data for all pressed records **100**, such as the picture(s) and tag **104** information for each record **100**, is bundled as a collection, and that data bundle is used to create an Ethereum contract for the collection of records **100**. An NFT **118** is mapped in that contract for each record **100**, and that NFT **118** is non-fungible because of the associated information from the tag **104** and the visual pattern(s). The NFT **118** may also contain additional data, if desired, such as a picture of the artist, a video showing the manufacture of the vinyl record.

[0062] FIG. 7 is an illustration of tag **104** embedded within the record **100**, but without the labels **108**.

[0063] Although the discussion above refers to a record **102**, such as a vinyl record, in an implementation the tag **104**, the unique identification code **112**, and the NFT **118** may be used with other items where the tag **104** may be permanently attached to or embedded with an object, such as a Compact Disk (“CD”) or a Digital Video Disc or Digital Versatile Disc (“DVD”).

[0064] Although the discussion above refers to use with a registration code **504**, in an implementation a registration code **504** is not included with the record **102**. For example, an artist conducts an auction or a contest, and then sends the winner(s) the album, such as by mail or a delivery service. The artist may include a link to the NFT **118** with the album, or may send, such as by text message, email, or letter, a link to the NFT **118**. The winner can then proceed to register ownership of the record **102**.

[0065] FIG. 9 is an exploded view illustration of another embodiment of a record **100**. The record **100** comprises a disk **102**, labels **108A**, **108B**, clear Mylar™ films **130A**, **130B** having spindle holes **132A**, **132B**, respectively, and an authentication tag **134** having a hole **136**, and between the films **130A**, **130B**. The hole **136** may be a spindle hole but is preferably larger. The antenna, and preferably also the associated electronics of the tag **134**, are positioned facing toward the label **108A**, that is, away from the disk **102**.

[0066] Film **130A** and tag **134** preferably each have a thin layer of glue **140A**, **140B**, respectively, such as an acrylic adhesive, on their top surfaces so that films **130A**, **130B**, and tag **134** bind together as a single component.

[0067] Label **108A** has either a large hole or a transparent area **138**, and the film **130B** is transparent, so that a person may view the tag **134**.

[0068] This implementation allows a person to know where the NFC tag **134** is located so that a person will know where to place a smartphone which can read an NFC tag, an NFC tag scanner, or other desired means of reading the NFC tag **134**, so as to obtain the unique identification code **112** in the tag **134**.

[0069] FIG. 10 is an illustration of an electronic ledger system **1000** having an NFT **118**, and an authentication manager **1010**.

[0070] FIG. 11 is an illustration of an alternative embodiment of a record **100** prior to pressing. In this embodiment, two pucks **102A**, **102B** are used, each having approximately one-half the volume of the single puck **102** of FIG. 2. This results in the tag **104** being completely embedded in the record **100**.

[0071] The two pucks **102A**, **102B** may be the same color, may be different colors, may not have a splash pattern, may have a splash pattern for only one puck, or may have a splash pattern for both pucks.

[0072] Preferably, but not necessarily, two covers, **106-1**, **106-2** are used, one on each side of the tag **104**. Clear Mylar™ films **130A**, **130B**, such as shown in FIG. 9, may also be used, if desired, instead of the covers **106-1**, **106-2**.

[0073] In an embodiment, label **108A** has a diameter of approximately 100 mm, and the hole **138** has a diameter of approximately 38 mm.

[0074] In an embodiment, films **140A** and **140B** each have a thickness of approximately 5 mm, film **140A** has a diameter of approximately 46 mm, and film **140B** has a diameter of approximately 38 mm.

[0075] In an embodiment, tag **134** has a diameter of approximately 38 mm.

[0076] It will be appreciated that the thicknesses and other dimensions of tags **104**, **134**, cover **106**, labels **108**, and films **130** are preferably selected to meet current record industry specifications for vinyl records so as to assure compatibility and playability of the vinyl records.

[0077] The various implementations disclosed herein therefore address problems of counterfeiting, authenticity, proof of ownership, proof of rarity/scarcity, and provenance.

[0078] The figures and descriptions provided herein may have been simplified to illustrate aspects that are relevant for a clear understanding of the herein described devices, systems, and methods, while eliminating, for the purpose of clarity, other aspects that may be found in typical devices, systems, and methods. Those of ordinary skill may recognize that other elements and/or operations may be desirable and/or necessary to implement the devices, systems, and methods described herein. Because such elements and operations may be well known in the art, and because they do not facilitate a better understanding of the present disclosure, a discussion of such elements and operations is not provided herein. The present disclosure is deemed to inherently include all such elements, variations, and modifications to the described aspects that would be known to those of ordinary skill in the art, particularly in view of reading the present disclosure. Any headings used herein are for organizational purposes only and are not meant to be used to limit the scope of the description or the claims.

[0079] The terminology used herein is for the purpose of describing particular example embodiments or implementations only and is not intended to be limiting. As used herein, the singular forms “a”, “an”, and “the” may be intended to include the plural forms as well, unless the context clearly indicates otherwise.

[0080] The terms “comprises,” “comprising,” “includes,” “including,” “has,” “having,” and variations in form thereof are inclusive or variations in form thereof are intended to be inclusive in a manner similar to the term “comprises” as that term is interpreted when employed as a transitional word in a claim, and therefore specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof unless explicitly stated otherwise or the context clearly requires otherwise.

[0081] The method steps, processes, and operations described herein are not to be construed as necessarily requiring their performance in the particular order discussed or illustrated, unless specifically identified as an order of performance. It is also to be understood that additional or alternative steps may be employed.

[0082] When an element or layer is referred to as being “on”, “engaged to”, “connected to” or “coupled to” another element or layer, it may be directly on, engaged, connected or

coupled to the other element or layer, or intervening elements or layers may be present. In contrast, when an element is referred to as being “directly on,” “directly engaged to,” “directly connected to” or “directly coupled to” another element or layer, there may be no intervening elements or layers present. Other words used to describe the relationship between elements should be interpreted in a like fashion (e.g., “between” versus “directly between,” “adjacent” versus “directly adjacent,” etc.). As used herein, the term “and/or” includes any and all combinations of one or more of the associated listed items.

[0083] Although the terms first, second, third, etc., may be used herein to describe various elements, components, regions, layers and/or sections, these elements, components, regions, layers and/or sections should not be limited by these terms. These terms may be only used to distinguish one element, component, region, layer or section from another element, component, region, layer or section. Terms such as “first,” “second,” and other numerical terms when used herein do not imply a sequence or order unless clearly indicated by the context. Thus, a first element, component, region, layer or section discussed below could be termed a second element, component, region, layer or section without departing from the teachings of the exemplary embodiments and implementations.

[0084] Unless otherwise defined, all terms (including technical and scientific terms) used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this subject matter belongs. It will be further understood that terms, such as those defined in commonly used dictionaries, should be interpreted as having a meaning that is consistent with their meaning in the context of the specification and relevant art and should not be interpreted in an idealized or overly formal sense unless expressly so defined herein. For brevity and/or clarity, well-known functions or constructions may not be described in detail herein.

[0085] The terms “for example” and “such as” mean “by way of example and not of limitation.” The subject matter described herein is provided by way of illustration for the purposes of teaching, suggesting, and describing, and not limiting or restricting. Combinations and alternatives to the illustrated embodiments and implementations are contemplated, described herein, and set forth in the claims.

[0086] The term “exemplary” is used herein to mean serving as an example, instance, or illustration. Any aspect or design described herein as “exemplary” is not necessarily to be construed as preferred or advantageous over other aspects or designs. Similarly, examples

are provided herein solely for purposes of clarity and understanding and are not meant to limit the subject innovation or portion thereof in any manner.

[0087] For convenience of discussion herein, when there is more than one of a component, that component may be referred to herein either collectively or singularly by the singular reference numeral unless expressly stated otherwise or the context clearly indicates otherwise. For example, components N (plural) or component N (singular) may be used unless a specific component is intended. Also, the singular forms “a,” “an,” and “the” are intended to include the plural forms as well, unless expressly stated otherwise or the context indicates otherwise.

[0088] The terms “includes,” “has,” “having,” or “exhibits,” or variations in form thereof are intended to be inclusive in a manner similar to the term “comprises” as that term is interpreted when employed as a transitional word in a claim.

[0089] It will be understood that when a component is referred to as being “connected” or “coupled” to another component, it can be directly connected or coupled or coupled by one or more intervening components unless expressly stated otherwise or the context clearly indicates otherwise.

[0090] The term “and/or” includes any and all combinations of one or more of the associated listed items.

[0091] As used herein, phrases such as “between X and Y” and “between about X and Y” should be interpreted to include X and Y unless expressly stated otherwise or the context clearly indicates otherwise.

[0092] Terms such as “about,” “approximately,” “around,” and “substantially” are relative terms and indicate that, although two values may not be identical, their difference is such that the apparatus or method still provides the indicated or desired result, or that the operation of a device or method is not adversely affected to the point where it cannot perform its intended purpose. As an example, and not as a limitation, if a height of “approximately X inches” is recited, a lower or higher height is still “approximately X inches” if the desired function can still be performed or the desired result can still be achieved.

[0093] While terms such as vertical, horizontal, upper, lower, bottom, top, and the like may be used herein, it is to be understood that these terms are used for ease in referencing the drawing and, unless otherwise indicated or required by context, does not denote a required orientation.

[0094] The different advantages and benefits disclosed and/or provided by the implementation(s) disclosed herein may be used individually or in combination with one, some or possibly even all of the other benefits. Furthermore, not every implementation, nor every component of an implementation, is necessarily required to obtain, or necessarily required to provide, one or more of the advantages and benefits of the implementation.

[0095] Conditional language, such as, among others, “can”, “could”, “might”, or “may”, unless specifically stated otherwise, or otherwise understood within the context as used, is generally intended to convey that certain embodiments and implementations preferably or optionally include certain features, elements and/or steps, while some other embodiments and implementations optionally do not include those certain features, elements and/or steps. Thus, such conditional language indicates, in general, that those features, elements and/or steps are used in a permissive sense rather than a mandatory sense, and may not be required for every implementation or embodiment.

[0096] The subject matter described herein is provided by way of illustration only and should not be construed as limiting the nature and scope of the claims herein. While different embodiments and implementations have been provided above, it is not possible to describe every conceivable combination of components or methodologies for implementing the disclosed subject matter, and one of ordinary skill in the art may recognize that further combinations and permutations that are possible. Furthermore, the nature and scope of the claims is not necessarily limited to implementations that solve any or all disadvantages which may have been noted in any part of this disclosure. Various modifications and changes may be made to the subject matter described herein without departing from the spirit and scope of, the exemplary embodiments, implementations, and applications illustrated and described herein.

[0097] Although the subject matter presented herein has been described in language specific to components used therein, it is to be understood that the scope of the claims is not necessarily limited to the specific components or characteristics thereof described herein; rather, the specific components and characteristics thereof are disclosed as example forms of implementing the disclosed subject matter. Accordingly, the disclosed subject matter is intended to embrace all alterations, modifications, and variations, that fall within the scope and spirit of any claims included herein or that may be written.

[0098] The foregoing Detailed Description is intended only to convey to a person having ordinary skill in the art the fundamental aspects of the disclosed subject matter and is not intended to limit, and should not be construed as limiting, the scope of any claims. Further, in the foregoing Detailed Description, various features may be grouped together in a single embodiment or implementation for the purpose of streamlining the disclosure. This method of disclosure is not to be interpreted as reflecting an intention that a claimed embodiment, implementation, or application requires more features than are expressly recited in a claim. Rather, claims reflect patentable subject matter which may lie in less than all features of a single disclosed embodiment, implementation, or application. Thus, all claims which may be present herein are hereby incorporated into the Detailed Description, with each claim standing on its own as a separate embodiment, implementation, or application.

CLAIMS

1. A record, comprising:
a disk (102) having information tracks, a first centerline (116), and a first hole (114) on the centerline; and
an electronic authentication tag (104) embedded within the disk, the electronic authentication tag having stored therein certain information related to the record, a second centerline (116) aligned with the first centerline, and a second hole (114) aligned on the second centerline.
2. The record of claim 1, and further comprising a cover between the disk and the electronic authentication tag, wherein the cover includes an adhesive contacting the electronic authentication tag.
3. The record of claim 1, wherein the disk is a vinyl disk.
4. The record of claim 1 and further comprising at least one label, wherein the electronic authentication tag is between the label and the disk.
5. The record of claim 1, wherein the certain information includes a unique identification code pointing to a non-fungible token (NFT).
6. The record of claim 5, wherein the NFT is one of: unique to a particular record, unique to a particular set of records, or unique to a particular series of records.
7. The record of claim 5 wherein the unique identification code is programmed into the electronic authentication tag prior to the electronic authentication tag being embedded into the disk.
8. The record of claim 5 wherein the electronic authentication tag is locked after the unique identification code is stored in the electronic authentication tag.
9. The record of claim 5 wherein the unique identification code is encoded.

10. The record of claim 1 and further comprising:
a first film interposed between the electronic authentication tag and the disk;
a label;
a second film interposed between the electronic authentication tag and the label;
wherein the first and second film are also embedded within the disk.
11. The record of claim 10 and further comprising:
a first adhesive on a surface of the first film, the first adhesive adhering the first film to the electronic authentication tag; and
a second adhesive on a surface of the authentication tag, the second adhesive adhering the electronic authentication tag to the second film.
12. The record of claim wherein the disk has a plurality of colors which produce a visual pattern.

13. A method for making a record, comprising:
encoding (304) an electronic authentication tag with certain information relating to the record;
providing a desired material;
providing an elastic material by heating (306) the desired material;
aligning (308) the electronic authentication tag, the elastic material, and a pair of stampers, the electronic authentication tag and the elastic material being between the stampers, each stamper having information tracks on the surface thereof;
forcing (310) the stampers together, wherein the information tracks are impressed on the elastic material and the electronic authentication tag is embedded in the elastic material;
cooling (312) the elastic material to provide a record; and
removing (314) the record from the stampers.

14. The method of claim 13, and further comprising:
providing a cover between the desired material and the electronic authentication tag prior to forcing the stampers together;
wherein the cover is embedded in the elastic material when the stampers are forced together.

15. The method of claim 14, wherein the stampers comprise a first stamper and a second stamper, and further comprising:
providing a label between the electronic authentication tag and the first stamper prior to forcing the stampers together;
wherein the label is integrated into the record when the stampers are forced together.

16. The method of claim 13, wherein the stampers comprise a first stamper and a second stamper, and further comprising:
providing a label between the electronic authentication tag and the first stamper prior to forcing the stampers together, wherein the label is integrated into the record when the stampers are forced together; and
after removing the record from the stampers, writing the unique identification code onto the label.

17. The method of claim 13:

wherein providing the desired material comprises providing a material having a plurality of different colors;

wherein forcing the stampers together spreads the different colors to produce a visual pattern; and

further comprising: taking a picture of the visual pattern;

generating a registration code for the record; and

associating the registration code and the visual pattern.

18. The method of claim 17 and further comprising:

printing the registration code to provide a printed registration code;

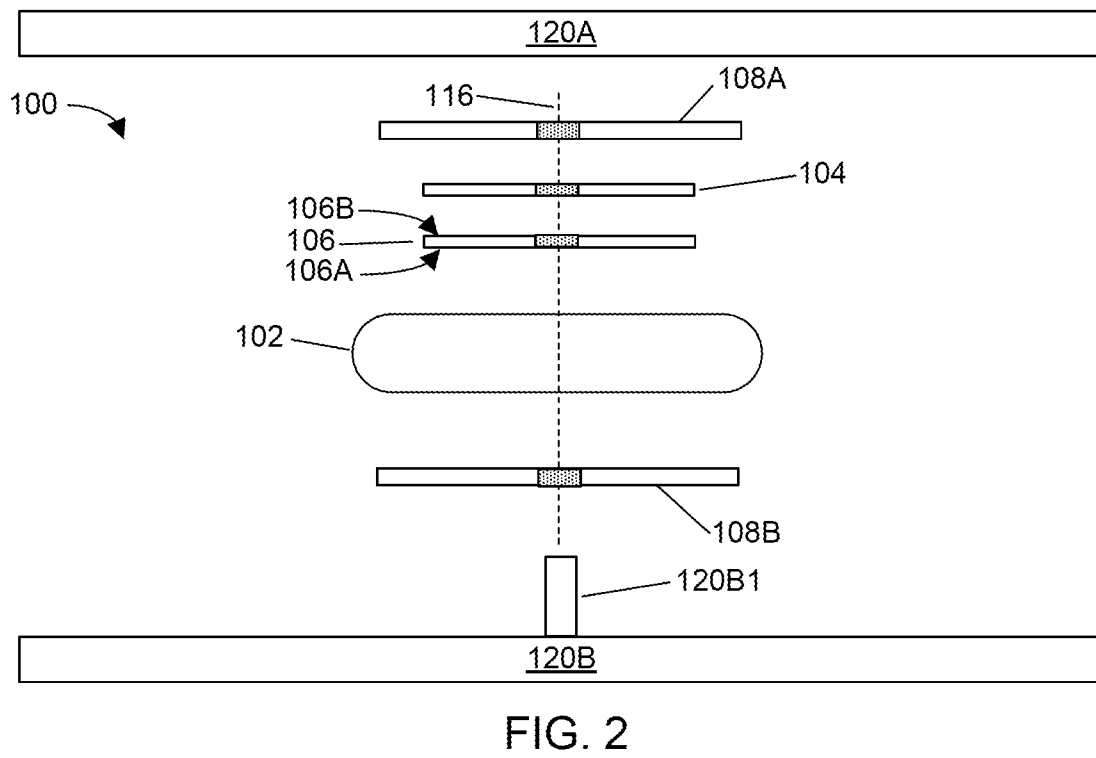
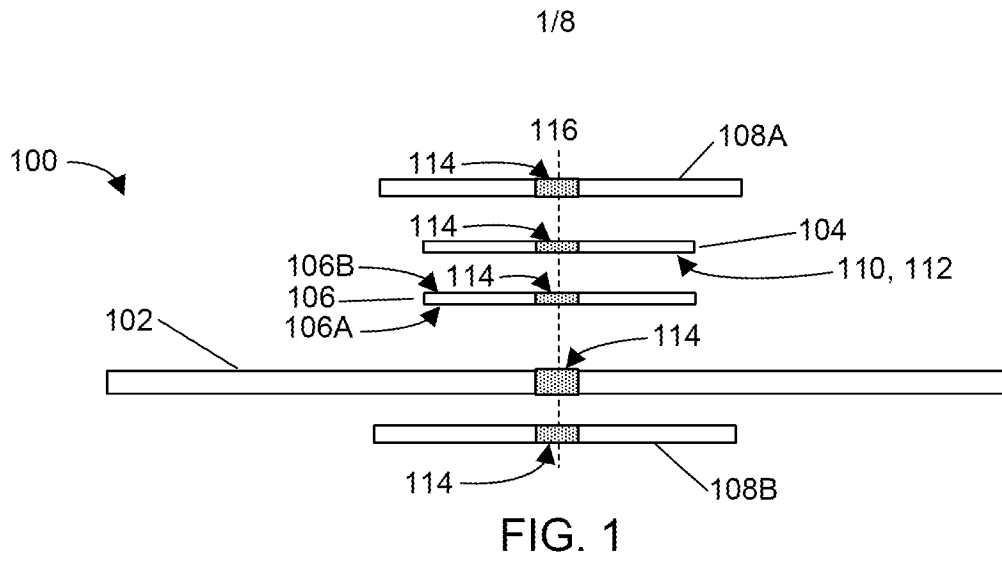
placing the record in a sleeve;

placing the sleeve and the printed registration code in a cover; and

applying a protective wrap to the cover.

19. A method of identifying an object, the method comprising:
storing (402, 404, 602) Non-Fungible Token (NFT) information, a first visual pattern, and a registration code for the object;
generating (406) a unique identification code for the NFT information;
receiving (604) a query, the query including an identification code;
determining (606) that the identification code is the same as the unique identification code; and
sending (606) a reply to the query, the reply including at least some of the NFT information.

20. The method of claim 19, wherein the query also includes a second visual pattern, and further comprising:
determining that the second visual pattern is comparable to the first visual pattern;
wherein the reply further includes an indication that the second visual pattern is valid.



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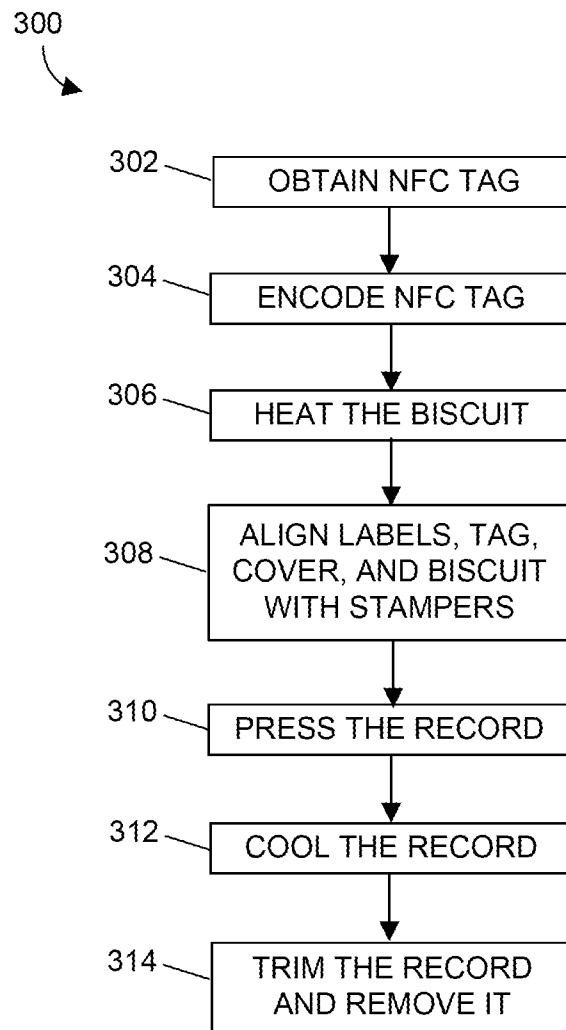


FIG. 3

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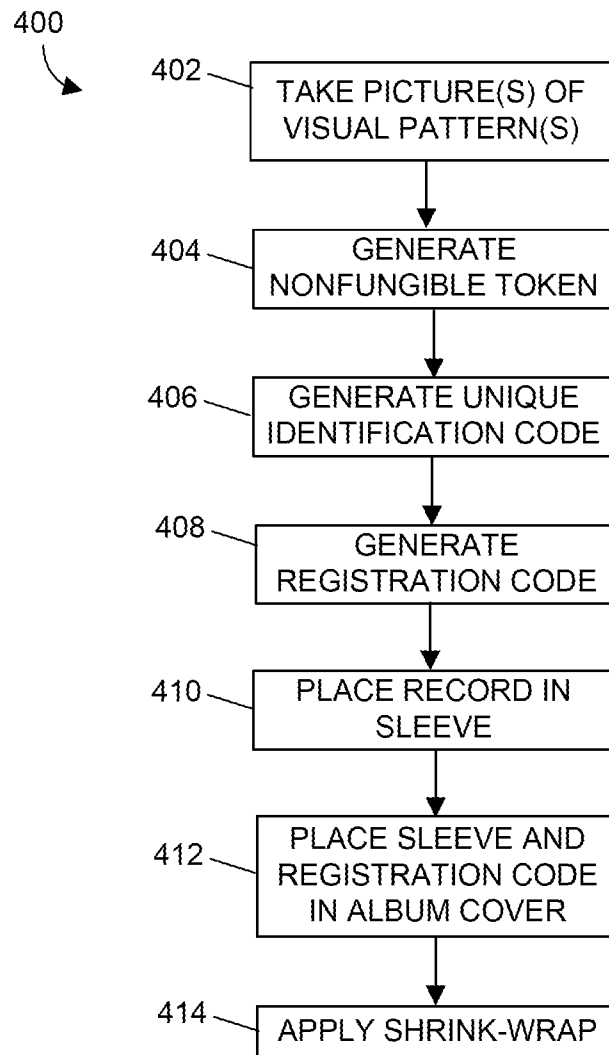


FIG. 4

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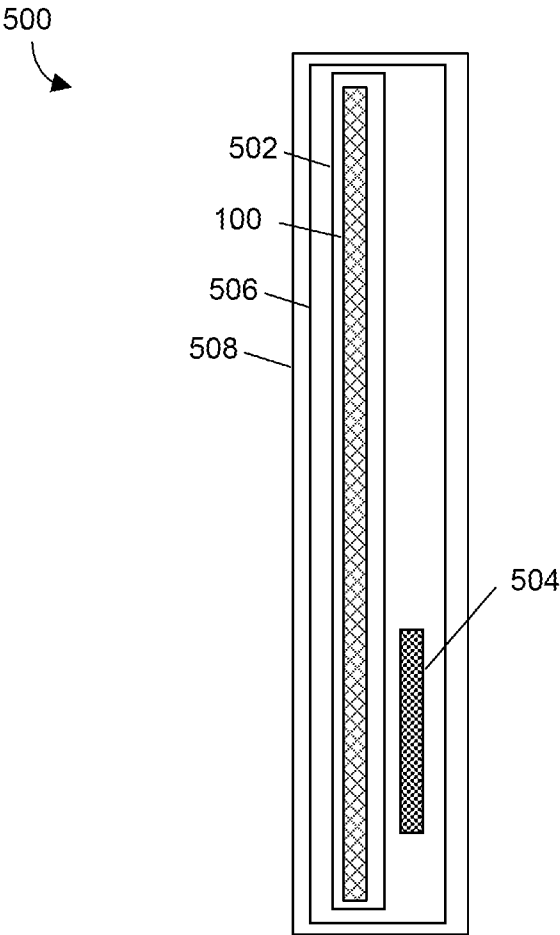


FIG. 5

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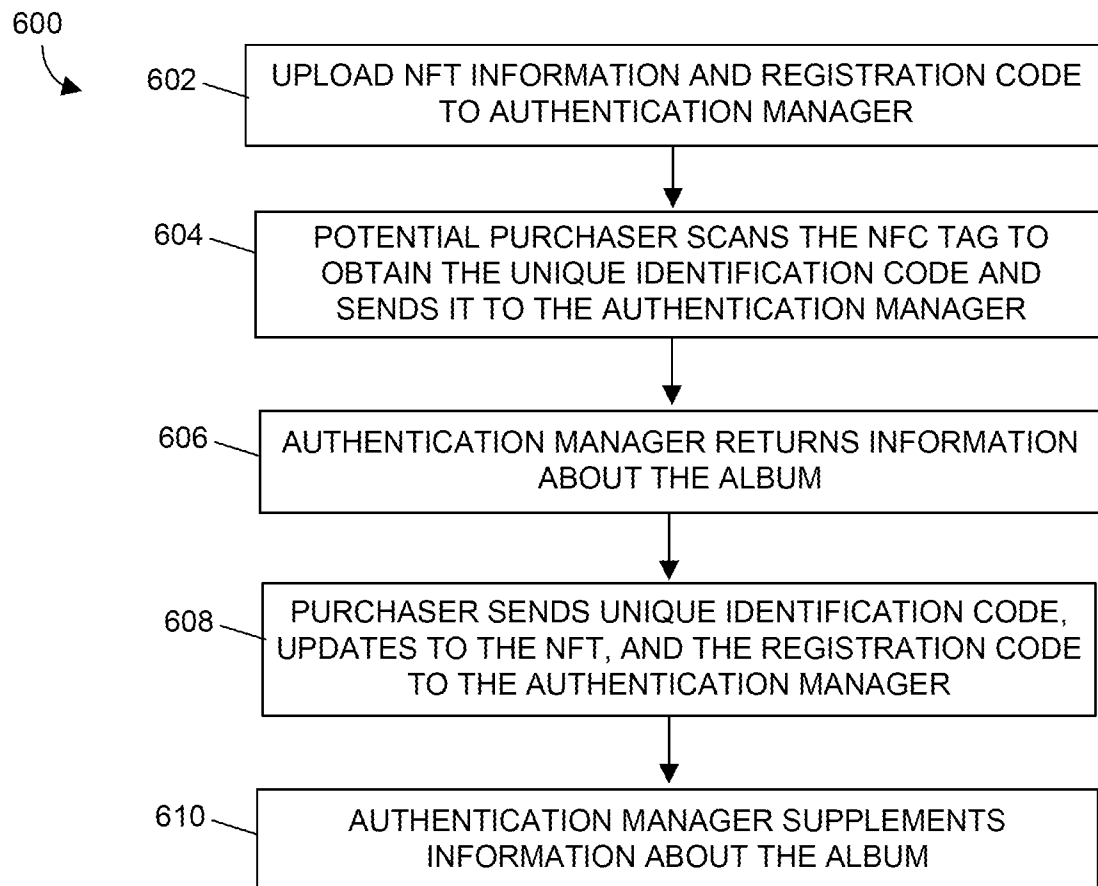


FIG. 6

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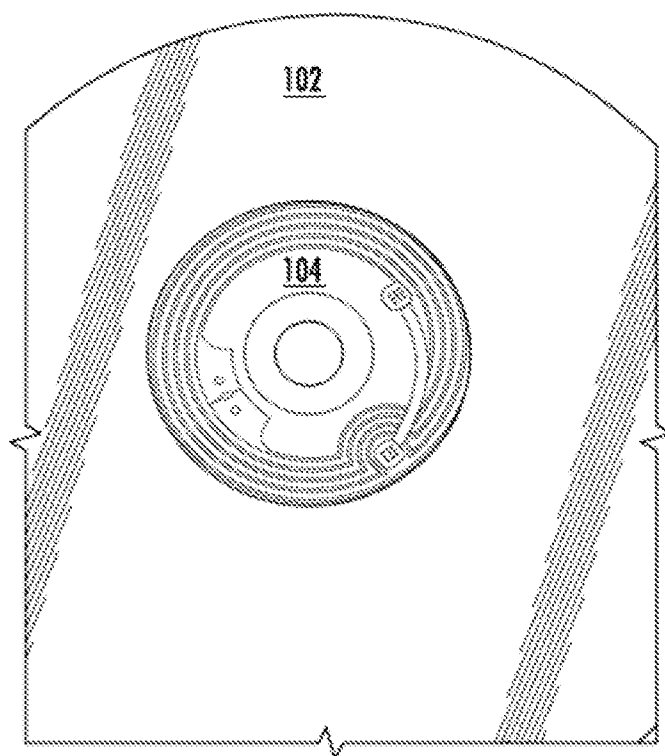


FIG. 7

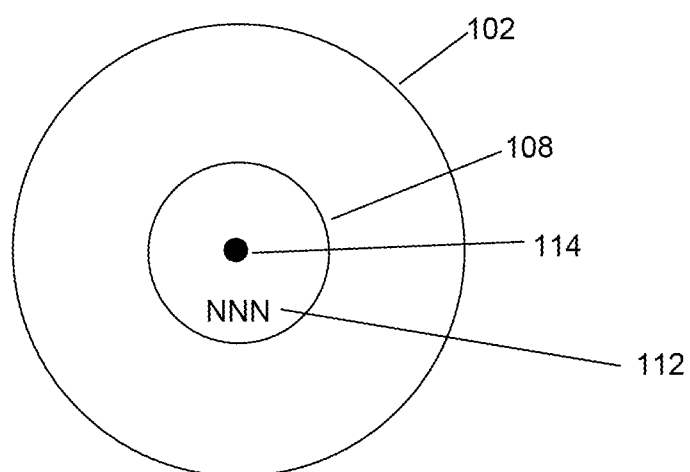


FIG. 8

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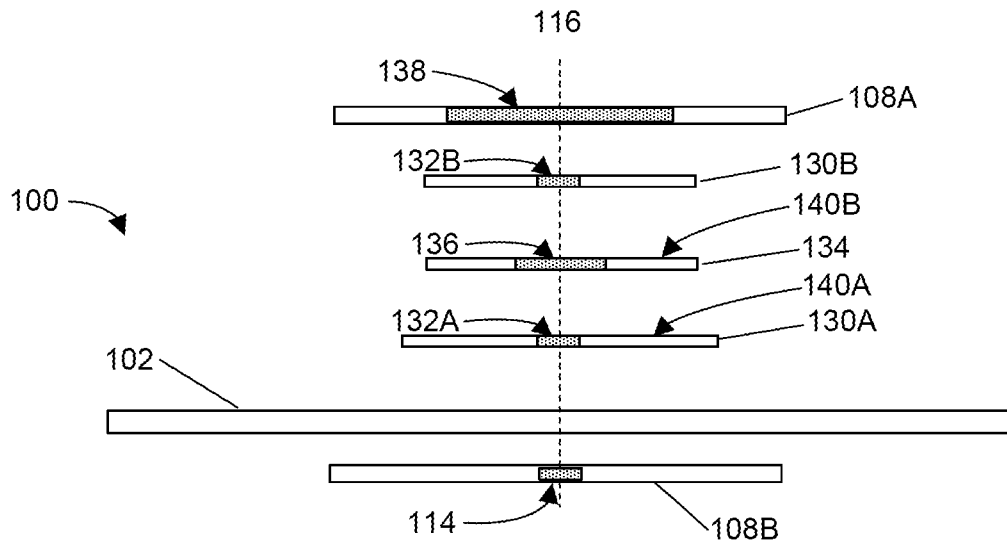


FIG. 9

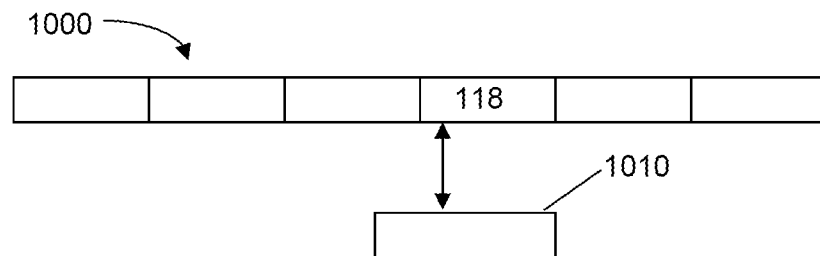


FIG. 10

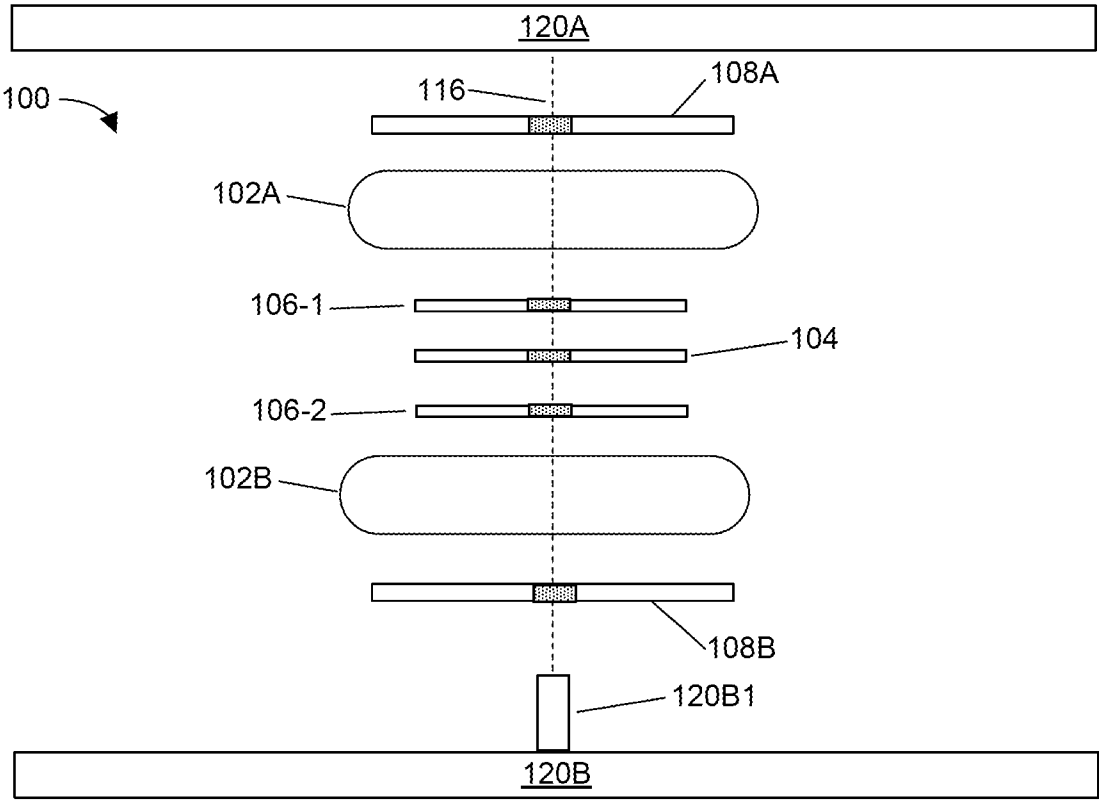


FIG. 11

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 22/74444

A. CLASSIFICATION OF SUBJECT MATTER

IPC - INV. G11B 7/26, G06K 19/06

ADD. G06K 19/07, G08B 13/14, G11B 20/00 (2022.01)

CPC - INV. G11B 7/26, G06K 19/06

ADD. G11B 7/263, G06K 19/045, G06K 19/0723, G06K 19/07752, G06K 19/07786

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)

See Search History document

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

See Search History document

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

See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2019/012207 A1 (REVIVE SAS) 17 January 2019 (17.01.2019), entire document	1-3
Y		4, 12-16
A		5-11, 17-18
X	US 2021/0174378 A1 (NIKE, INC.) 10 June 2021 (10.06.2021), entire document	19-20
A		5-9
Y	US 2006/0028344 A1 (FORSTER) 9 February 2006 (09.02.2006), entire document	4
A		10-11
Y	US 10,802,798 B1 (AMPUS TECHNOLOGY CO., LTD) 13 October 2020 (13.10.2020), entire document	12
A		17-18
Y	US 2019/0134964 A1 (1508235 ONTARIO INC.) 9 May 2019 (09.05.2019), entire document	13-16
A		17-18
Y	US 2006/0132309 A1 (Posamentier) 22 June 2006 (22.06.2006), entire document	16
A	US 2017/0330199 A1 (KLIMT) 16 November 2017 (16.11.2017), entire document	1-20

☐ 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

"D" document cited by the applicant in the international application

"E" earlier application or patent 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

"&" document member of the same patent family

Date of the actual completion of the international search

10 NOVEMBER 2022

Date of mailing of the international search report

DEC 12 2022

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-8300

Authorized officer

Kari Rodriguez

Telephone No. PCT Helpdesk: 571-272-4300

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 22/74444

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

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

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

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I: Claims 1-12, directed to a record comprising: a disk; a first and second centerline; and a first and second hole.

Group II: Claims 13-18, directed to a method comprising: a desired material; an elastic material; and a pair of stampers.

Group III: Claims 19-20, directed to a method comprising: storing Non-Fungible Token (NFT) information, a first visual pattern, and a registration code for the object; generating a unique identification code; receiving a query; and sending a reply to the query.

*Note: see Note below.

- See Extra Sheet -

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

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

--- Continuation of Box No. III ---

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

SPECIAL TECHNICAL FEATURES

The invention of Group I includes the special technical feature of a record comprising: a disk; a first and second centerline; and a first and second hole, not required by the claims of Group I and III.

The invention of Group II includes the special technical feature of a method comprising: a desired material; an elastic material; and a pair of stampers, not required by the claims of Group I and III.

The invention of Group III includes the special technical feature of a method comprising: storing Non-Fungible Token (NFT) information, a first visual pattern, and a registration code for the object; generating a unique identification code; receiving a query; and sending a reply to the query, not required by the claims of Group I-II.

COMMON TECHNICAL FEATURES

Groups I-III share the common technical features of an object, comprising: a code.

However, this shared technical feature does not represent a contribution over prior art as being anticipated by US 2017/0330199 A1 to KLIMT, which KLIMT teaches an object (10, 15, Fig. 1-2; ABSTRACT; para[0019]), comprising: a code (58, Fig. 1; para[0021]).

Groups I-II share the common technical features of a record, comprising: an electronic authentication tag.

However, this shared technical feature does not represent a contribution over prior art as being anticipated by KLIMT, which KLIMT teaches a record (10, 15, Fig. 1-2; ABSTRACT; para[0019]), comprising: an electronic authentication tag (58, Fig. 1; para[0021]).

As the common technical features were known in the art at the time of the invention, these cannot be considered special technical features that would otherwise unify the groups.

Therefore, Groups I-III lack unity under PCT Rule 13 because they do not share a same or corresponding special technical feature.

*Note: Claim 12: The recitation "The record of claim wherein the disk" appears to be a typographical error and lacks proper antecedent basis and should have been "The record of claim 1, wherein the disk."