

PAPER C: INFRINGEMENT AND VALIDITY OF SINGAPORE PATENT

**3 October 2013, Thursday
1330 – 1730 hrs**

Maximum Time: 4 Hours (includes reading time)

Maximum Marks: 100



INTELLECTUAL PROPERTY
OFFICE OF SINGAPORE

INSTRUCTIONS TO CANDIDATES

1. This Paper consists of 21 pages, including this cover page.
2. Type/Write your answers in English. Answers in any other language will not be marked. For candidates who opted out from laptop examination: Answers in illegible handwriting will not be taken into consideration.
3. One hardcopy of the question paper is provided, for your reading and for your use (optional) when answering the question(s) in the Answer Script/Answer Booklet(s). For candidates who opted out from laptop examination: You are given two hardcopies of the question paper.
4. Only your answers and/or drawings to the question(s) typed/written or indicated/glued in the Answer Script/Answer Booklet(s) provided by the Examination Secretariat will be considered. For candidates who opted out from laptop examination: You are to write on one side of each sheet in the Answer Booklet(s).
5. Information provided in the question(s) may be obtained from actual situations or modified therefrom for the purpose of this examination. You should accept the facts given in the papers. Assume also that the prior art given is exhaustive.
6. Advise the client on infringement and validity of his invention and on the other questions asked by him. Your advice can be in the form of notes or a letter to the client but in either case you must provide the reasons for your advice.

To be continued

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7. The documents provided in the question are:

- (a) Letter from your Client- Singapore I+V Paper 2013 including question (14 pages);
- (b) Document A (2 pages);
- (c) Document B (1 page); and
- (d) Document C (2 pages);

End

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Letter from your Client- Singapore I+V Paper 2013 (1/14)

Your client writes:

5 Dear Patent Agent,

Our company is Singapore's largest retailer of digital video disks (DVDs), with outlets in most of the island's shopping malls. For over 4 years we have bought DVDs from manufacturers in other jurisdictions packaged in standard DVD cases, imported the DVDs into Singapore,
10 and sold them in our numerous shops (still in their cases).

We were most surprised to receive recently the enclosed letter from Plastic Molding Inc., a large US plastic molding company, referring us to Singapore patent 10001.

15 Having no experience of the manufacture of DVDs, or indeed any other products, we contacted the overseas DVD manufacturers for advice. It seems that they were unaware of Singapore patent 10001, and no corresponding patents appear to exist in other jurisdictions.

For your easy reference, I further asked them for documentation describing conventional
20 DVD cases, of the type that we sell. One of our DVD suppliers referred us to enclosed PCT patent application WO2008/00001, which they had applied for themselves. Although this patent application designated all PCT states, and entered the national phase in many jurisdictions, it was decided not to do so in Singapore. In the countries where it did enter the national phase, and was granted, it was widely licensed to other DVD case manufacturers,
25 and all the DVDs we receive appear to be in storage cases which are one or other of the two types described in WO2008/00001.

I enclose a document ("document A") describing a 1970s storage case for two vinyl disks. I also enclose a document ("document B") describing the principles of recording on magnetic
30 tape. I also enclose a document ("document C") describing the cases in which audio cassettes have been sold since at least 1975.

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Letter from your Client- Singapore I+V Paper 2013 (2/14)

What options do we have? If the patentee begins an infringement action, what is the chance of him obtaining the restraining order he mentioned, and if the case is won, what factors would be taken into account in calculation of damages?

Yours,

Mr R. Tan

CEO DVD Mania

You ascertain that Singapore patent 10001 was granted following a local search and examination which revealed no relevant prior art citations. It is in force. Prepare a memo setting out the issues you would take into account in responding to your client. You do not need to describe in detail the steps of any court or patent office procedure.

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Letter from your Client- Singapore I+V Paper 2013 (3/14)

Letter from Plastic Molding Inc.

5 Dear Mr Tan,

Our company is the proprietor of Singapore patent 10001.

We note that you are importing and retailing packaged DVDs which infringe our patent.

10

We request that with immediate effect:

- you cease to import said DVDs;

15

- you pay us damages in respect of previous importations and consequent sales.

Failing that, we intend to seek redress in the Singapore patent court. We intend to seek an order restraining your importation and sales while the action is progressing.

20 Yours,

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Letter from your Client- Singapore I+V Paper 2013 (4/14)

Patent 10001

(filed 2 June 2007 – no priority claim; granted 2 June 2009)

5

CD Storage Case

Field of the invention

- 10 The present invention relates to a storage case for a digital data storage device such as a compact disk (CD).

Background of the invention

- 15 Historically, the first recordings of music were made on vinyl disks. The disks were formed with a spiral groove, and the base of the groove was formed in an undulating configuration representative of the music. The disks were played by placing them in a horizontal plane, resting a needle in the groove, and rotating the discs in their own plane. The undulations in the disk caused the needle to move in a reciprocating manner exactly corresponding to the
- 20 pattern of the undulations, and this motion was converted by an amplification system into sound waves. Thus, the pattern of the undulation produced an exactly corresponding sound wave amplitude. This is referred to as an “analogue” storage system.

- Traditionally, a vinyl disk 1 was stored in a paper wallet of the kind shown in Fig. 1(a). The
- 25 paper wallet 2 was made from two square sheets of paper 3, 4 (shown in Fig. 1(b)). Three corresponding edges 5, 6, 7 of each the sheets of paper 3, 4 were joined pairwise. The space between the sheets 3, 4 formed a cavity 9 a little larger than the disk 1. The disk 1 could be inserted into the cavity 9 by sliding it between the edges 3a, 4a of the respective sheets 3, 4.

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This system suffers from two disadvantages. Firstly, if the paper wallet 2 is inadvertently held such that the edges 3a, 4a are downward, the disk 1 can fall out and be damaged. Secondly,

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if a mechanical force is applied to the paper wallet 2 so as to flex it, the mechanical force is transmitted to the disk 1 inside, and the disk 1 can crack. Although the paper can be replaced by thin card, the card cannot be made sufficiently thick so as to be inflexible, because then it would be much harder to insert disks into the pocket. In other words, the sheets 3, 4 are inherently much less rigid than the disk 1 they are designed to contain, and therefore provide no significant resistance to a bending force applied to the pocket 2 when it contains a disk 1. In other words, whether the disk 1 breaks under the bending force depends solely upon the construction of the disk 1.

Vinyl disks have now almost completely given way to optical disks. An optical disk is a disk having at least one side which carries a spiral track of metal formed on a disk-shaped substrate. The spiral track is covered by a layer of transparent plastic. The metal is formed with holes. To play the music, the disk is rotated in its plane. A laser is arranged to direct light onto successive portions of the spiral track through the transparent plastic layer (hence the terms "optical" disk). The light reflected from the track varies according to whether the track contains holes. This light is detected, and used to produce an electronic signal which may for example take a high voltage value (voltage "1") or a low voltage value (voltage "0"), according to whether or not a given section of the track respectively contains a hole or does not. Thus, if successive portions of the track respectively include, and do not include, holes, then the resulting electronic signal correspondingly takes voltage 1 or voltage 0. The electronic signal can be converted by a computer into a signal input to a loudspeaker. Thus, the optical disk can be used to produce sound. Since the electronic signal is a pattern of 1s and 0s (i.e. binary digits), the optical disk is referred to as a "digital" data storage device.

A digital recording system is superior to an analogue recording system in that it is less susceptible to noise. For example, whereas a small imperfection on the vinyl disk produces a corresponding modification of the sound produced from it, a small imperfection in the CD does not necessarily result in the sound changing. For example, if one of the holes is slightly malformed, it may still be clearly recognizable as a hole, and thus a voltage "1" is still produced.

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Optical disks of many sizes have been used. Some are the same diameter (i.e. width as measured in the plane of the disk) as conventional vinyl records. Others are smaller. The most common format of optical disks used for storing music is called a “compact disk” (CD), which has a smaller diameter than all conventional vinyl records. The mechanical bending force which is required to crack a typical vinyl disk is about the same as that for a typical CD.

Existing storage cases for CDs are exactly like the systems shown in Fig. 1, except that the paper sheets 3, 4 are resized so that the cavity 9 is only a little larger than a CD. These CD storage cases are thus subject to the problems mentioned above.

Summary of the invention

The present invention proposes that a storage case for a CD is formed of a sufficiently rigid material that forces applied to the CD case are not transmitted to a CD within the case, unless the force is sufficiently great as to break the case.

Brief description of the drawings

Fig. 1 shows how a vinyl disk is inserted into a known paper storage case;

Fig. 2 is a perspective view of a first CD case element;

Fig. 3 is a perspective view of a second CD case element;

Fig. 4 is a perspective view of a CD case according to the invention, formed from the CD case elements of Figs. 2 and 3, and storing a CD and a document.

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Detailed description of the invention

- 5 A CD case according to the invention is formed from a first CD case element 11 shown in Fig. 2, and a second case element 20 shown in Fig. 3. The case is to store a CD 40 which is a disk with a circular central aperture.

- 10 The first CD case element 11 is a one-piece element of molded plastic. It includes a square, planar section 12, with dimensions y and z. Two walls 13, 14 are upstanding from two opposite edges of the section 11. The walls 13, 14 include, near one of their ends, respective, round through holes 15a, 15b in register with one another.

- 15 The second CD case element 20 is also a one-piece element of molded plastic. It has a dimensions x (which is a little less than y) and z. It has a square, planar element 21, an upstanding wall 22 at one edge of the element 21, and a body 23 at an opposite edge of the element 21. The body 23 is elongate, and is formed with two pegs 25, 26 protruding from its opposite ends. A circular depression 24 is formed in the planar element 21 to receive a CD.

- 20 To form the embodiment, the body 23 is placed between the walls 13, 14 with the pegs 25, 26 within respective ones of the holes 15a, 15b. The walls 13, 14 are sufficiently resilient to flex very slightly under a force which urges them apart, by a sufficient amount to allow the pegs 25, 26 to come into register respectively with the holes 15a, 15b. When the force is removed the walls 13, 14 bend back together, driving the pegs 25, 26 into the respective
25 holes 15a, 15b, and thereby trapping the pegs 25, 26 in the holes 15a, 15b. Thus, a hinge is formed. The round pegs 25, 26 function as the pivot of the hinge around which the first CD case element 11 rotates.

- 30 Encircling the centre of the element 21 are six V-shaped slots 27. Each V-shaped slot defines a respective triangular tab 28, such that the tips of the tabs 28 point towards each other. A respective element 29 (shaped rather like a slice of sponge cake) is upstanding on the tip of each of the tabs 28. The radially-outer edges of the elements 29 lie on a circle which is slightly larger than the central aperture of a CD 40. A CD 40 can be mounted on the

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5 element 21 by pressing it against the element 21, such that the elements 29 flex radially inwardly (in turn flexing the elements 28), and allowing the elements 29 to enter the central aperture of the CD 40. When the elements 29 have entered the aperture, resilience in the elements 28 urges the elements 29 to move radially outwards, and thereby retain the CD 40 on the element 21. Fig. 4 shows the embodiment holding a CD 40.

10 As further shown in Fig. 4, a document 35 can be placed in the first case element 11, and be retained there by four lugs 16, 17, 18, 19 projecting inwardly from the walls 13, 14. The document 25 is easily removed from the first case element. Conveniently, this can be done without removing the CD 40 from the embodiment.

15 The embodiment can be closed by rotating the first case element 11 about the second case element 20, thereby bringing the top of the wall 22 to rest against an edge of the section 12 of the first case element 11, and the walls 13, 14 against respective edges of the section 21 of the second case element 20. There is then a sealed chamber defined by the sections 12, 21, the walls 13, 14, 22 and the body 23. If a mechanical force is applied to the embodiment, that force is resisted by the case elements 11, 20 and not transmitted at all to the CD 40 inside, unless the force is sufficient to break the case elements 11, 20.

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Claims

- 5 1. A storage case for a digital data storage device, the storage case comprising:
- first and second sheets of rigid material hinged together, and relatively rotatable
between a first configuration in which the sheets lie face-to-face, and a second configuration
in which they do not, the first of the rigid sheets having retention means for retaining the
10 digital data storage device,
- whereby the digital data storage device can be placed onto the retention means
when the storage case is in the second configuration, and then the rigid sheets relatively
rotated to the first configuration in which the rigid sheets sandwich the data storage device.
15
2. A storage case according to claim 1 in which the retention means is at least one
resilient projection at a central portion of the first sheet.
3. A storage case according to claim 1 which includes document retention means for
20 retaining a document.
4. A storage case according to claim 4 in which the document retention means is on the
second sheet.
- 25 5. A storage case according to claim 1 in which the second sheet includes a retention
means for a second digital data storage device.
6. A storage case according to any preceding claim storing an optical, digital data
storage device.
30

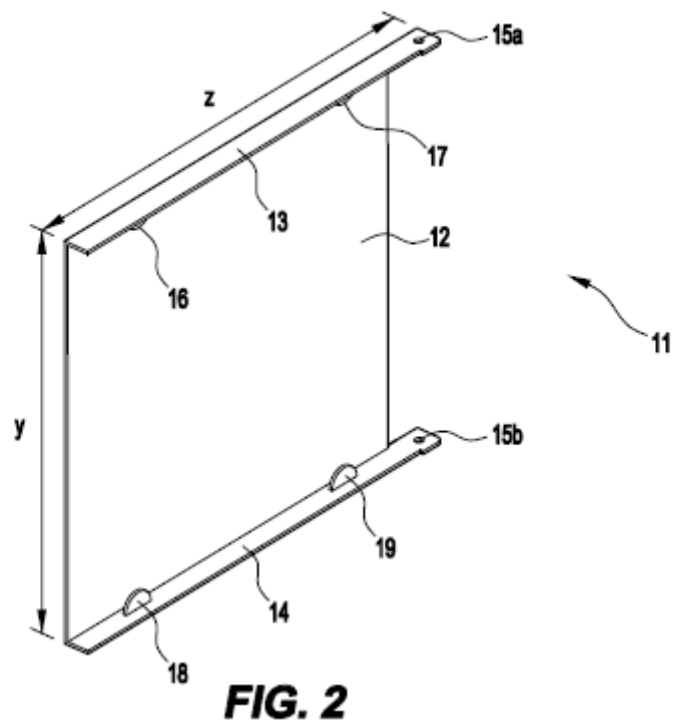
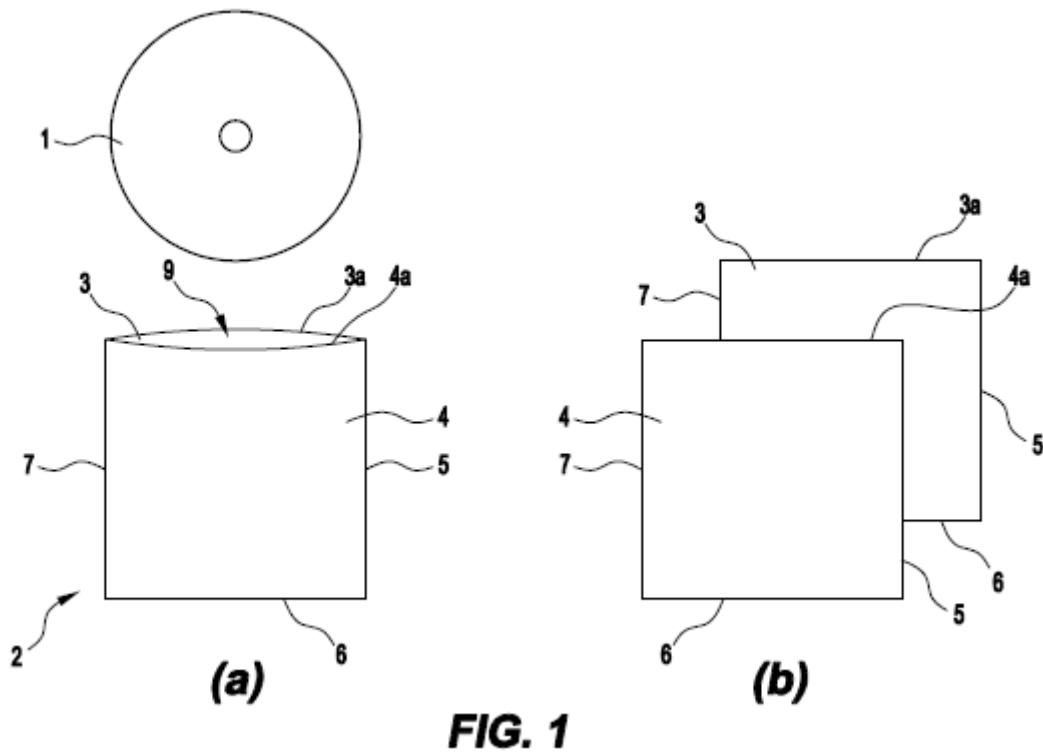
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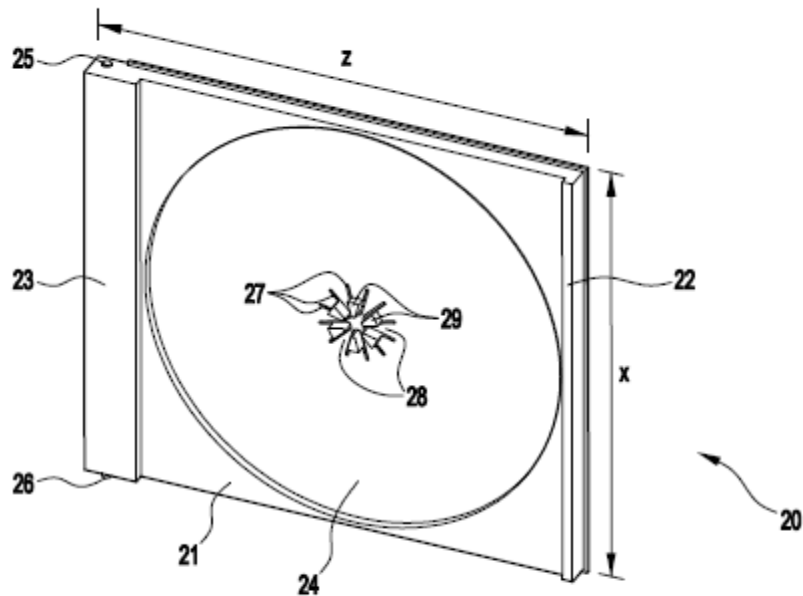


FIG. 3

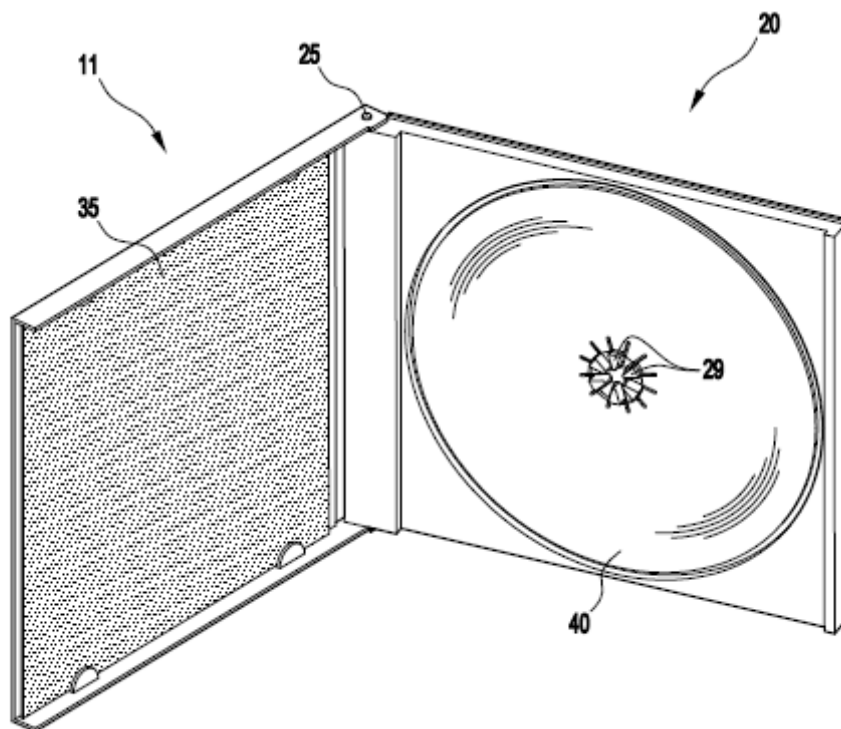


FIG. 4

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Letter from your Client- Singapore I+V Paper 2013 (12/14)

WO2008/00001 (extract)

5 Filed 2 March 2006 (no priority claim)

Fig. 1 is a perspective view of a first embodiment of the invention. The embodiment is a single body of moulded plastics material. The body includes two major rectangular planar sections 1, 2 connected by a bridge section 3. C-shaped walls 4, 5 are upstanding from the
10 free edges of the planar sections 1, 2, and give the planar sections 1, 2 rigidity. Bridge section 3, having no such walls, is much more flexible and functions as a hinge.

The embodiment can be folded by flexing the bridge section to bring the walls 4, 5 together, to produce the configuration shown in Fig. 2. Closure elements 6, 7 on the respective walls 4,
15 5, cooperate to retain the embodiment in the closed configuration.

Planar section 2 includes four upstanding resilient lips 8 for collectively gripping the outer edge of a DVD. A DVD may be held securely against the planar section 2 by inserting it into the space between the lips 8. The outline of the position of the DVD is shown as a circle in
20 Fig. 1.

Two resilient clips 9 are provided on the planar section 1 for holding documentation relating to the material on the disk.

25 The embodiment is used as follows. First, the embodiment is put into the open configuration of Fig. 1. Then a DVD is secured to the planar section 2 using the lips 8, and documentation about the content of the DVD is secured to the planar section 1 using the clips 9. The bridge section 3 is then flexed to change the embodiment to the closed configuration of Fig. 2, whereby the embodiment holds the DVD and the documentation.

30

If an external force is applied to the embodiment in this configuration, the rigidity imparted by the walls 4, 5 means that the case does not buckle, and no force is transmitted to the DVD.

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5 In another embodiment of the invention, the catch elements 9 are replaced with four DVD retaining elements of the same kind as the elements 8, so that a second DVD can be held against the planar section 1. This version of the DVD storage case is thus capable of storing two DVDs.

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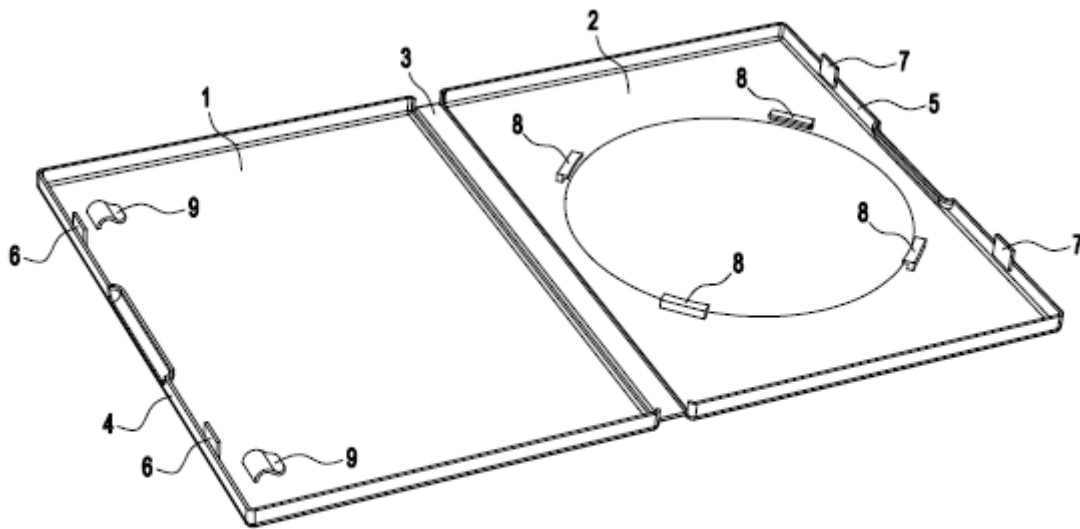


FIG. 1

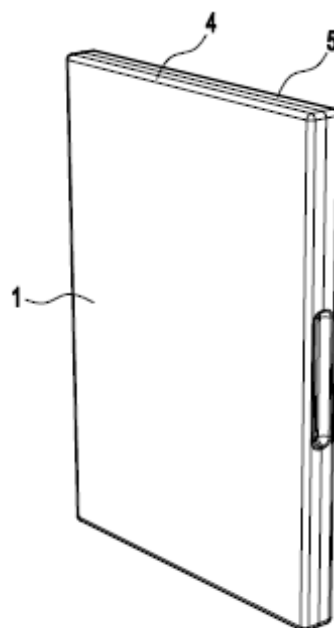


FIG. 2

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Document A (1/2)

Document A

Fig. 1 shows the starting elements used to fabricate a case for two vinyl CDs. The starting elements are three elements of paper or thin card material: a first rectangular element A and a two square elements B, C. The sides of the square elements B, C each have length y , and the rectangular element A has dimensions y and z , where z is slightly larger than $2y$.

The following edges are joined pairwise: A1 and B1; A2 and B2; A3 and B3; A4 and C1; A5 and C2; A6 and C3.

10 This produces a configuration as shown in Fig. 2, in which there are two pockets D, E, having respective openings F, G near the centre of the rectangular element A, and connected by a bridge portion F, which is the central portion of the rectangular element A. Each of the pockets D, E can receive a respective vinyl disk.

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Document A (2/2)

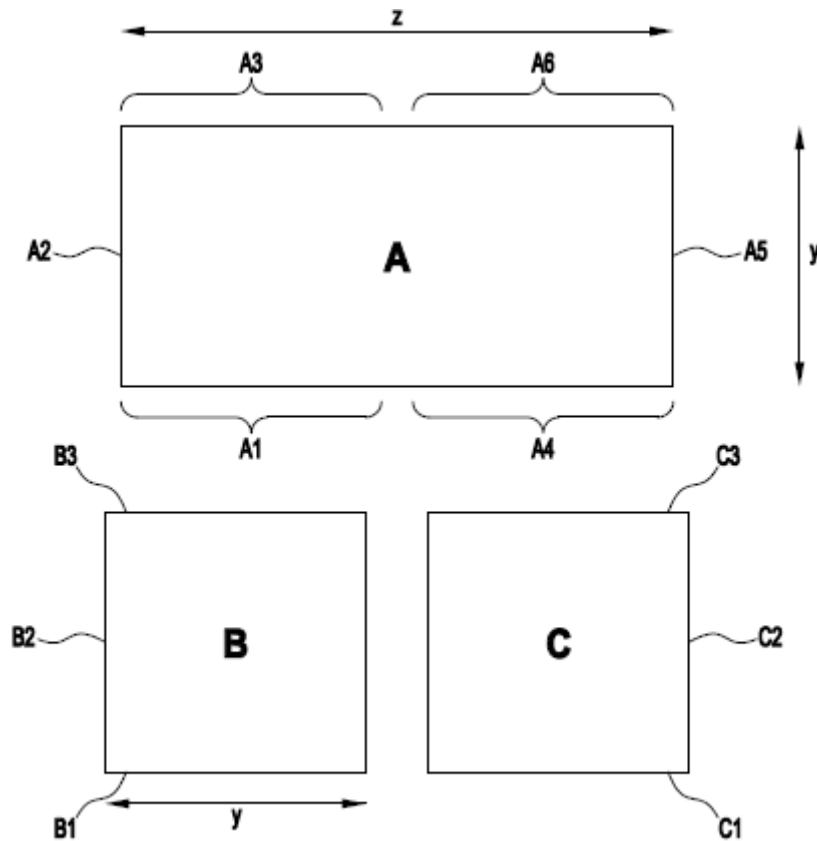


FIG. 1

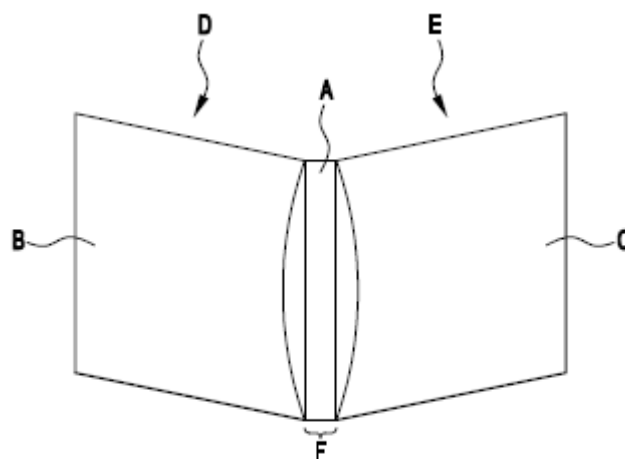


FIG. 2

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Document B: (1/1)

Document B (published in 1980)

Principles of data storage on magnetic tape

5 Magnetic tape consists of a very long strip of flexible material (usually plastic) carrying magnetizable material. The material is magnetized to different levels in different portions of the tape. The tape is played using a mechanical arrangement in which the successive portions of the tape are brought into proximity with an electronic pick-up circuit. The pick-up circuit is sensitive to the strength of the magnetic field in the portion of the tape which is
10 close to the circuit, and produces a corresponding electric signal.

When the magnetic tape is used to store sound, the signal is passed to an electronic amplification circuit, to produce an electric signal which is input to amplifiers. Thus, the pattern of the magnetic fields produces an exactly corresponding pattern of sound amplitude (i.e. there is analogue storage of the audio track). It is common for the tape to be located
15 within a cassette called an audio cassette.

Magnetic tape is also commonly used to store digital data (e.g. computer programs). The most common form of digital data is binary data, i.e. data composed of a stream of binary digits ("bits"), that is "0" and "1"s. Suppose that a certain section of the tape is to be used to store one bit. If the bit is "1", the magnetic material on the section of tape would be
20 magnetized such that the pick-up circuit would detect a magnetic field of X. If the bit is "0", the magnetic material on the section of the tape would be magnetized such that the pick-up circuit would detect a magnetic field Y. The pick-up circuit is designed to output a first signal representing "1" if it detects a field of approximately X, and a second signal representing "0" if it detects a signal of approximately Y. Thus, even if the magnetic material of the section of
25 the tape were slightly corrupted (i.e. such that it produced a magnetic field a little different from X or Y), the output of the pick-up circuit would be the same. In other words, in contrast to "analogue" data storage explained above, this "digital" data storage system can give perfect reproduction of digital data even if the tape is slightly corrupted.

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Document C: (1/2)

Document C

5 Figs. 1 and 2 show two elements 1, 2 which can be assembled to provide a case (shown in Fig. 4) for a standard audio cassette, shown in Fig. 3, containing magnetic tape. Both elements 1, 2 are formed entirely of low flexibility, plastics material.

10 The first element 1 is formed of one planar, rectangular element 3, and two smaller rectangular elements 4,5 and two trapezoidal elements 6,7. Together the elements 4, 5, 6, 7 and the lower part of the element 3 form a pocket to receive the audio cassette. The trapezoidal elements 6,7 each include an aperture 8, and the two apertures 8 are in register with each other.

15 The second element 2 is formed from one large rectangular element 11, and three rectangular elements 12, 13, 14 upstanding at three edges of the rectangular element 11. Rectangular elements 12, 14 project (rearwardly in Fig 2) beyond the end of the rectangular element 11. The rectangular elements 12, 14 carry respective inwardly-facing peg elements 15, which point towards each other and are in register.

20 The elements 1, 2 are connected together to form the case of Fig. 4 by locating trapezoidal elements 6, 7 of the element 1 between the rectangular elements 12, 14, with the projecting elements 15 passing through respective ones of the apertures 8. The projecting elements 15 can rotate in the apertures 8, thereby providing a hinge between the elements 1, 2. There is an open configuration, shown in Fig. 4, in which an audio cassette can be inserted into the pocket. The case can then be closed by rotating the element 1 relative to the element 2, to a configuration in which the element 4 is co-planar with the element 11, and the element 3 is parallel to the element 11.

25 It is common to include an element of paper describing what is stored on the audio cassette. The piece of paper is sandwiched between the audio cassette and the first element 1, when the audio cassette is inserted into the pocket. It includes sections which correspond in size to the elements 3, 4 and 5.

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Document C: (2/2)

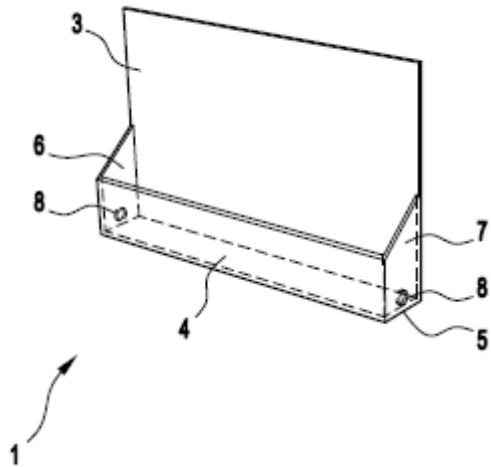


FIG. 1

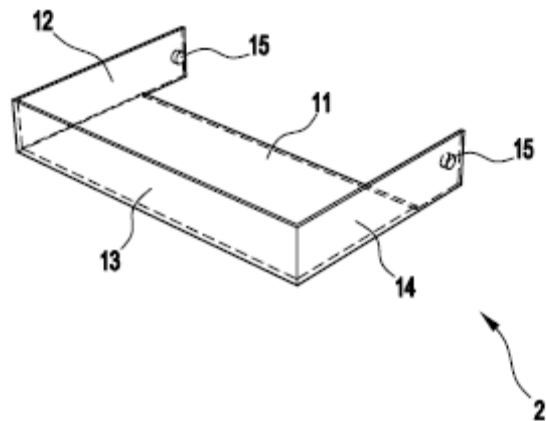


FIG. 2

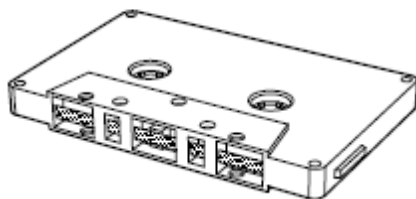


FIG. 3

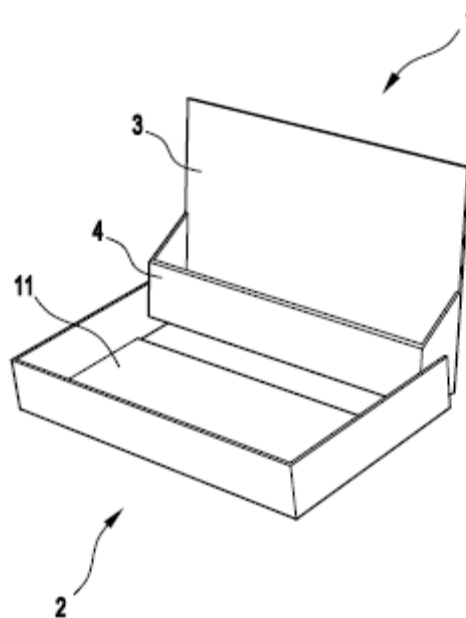


FIG. 4

End