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(54) Information system comprising a sheet material and one or more boards

(57) An information system which has magnetic pieces, on which text and/or pictures have been applied, and in which the piece can be held magnetically on top of a magnetisable sheet material, to which text and/or pictures have been applied. Text and/or pictures applied to the sheet material are related to the text and/or pictures of the piece, in such a manner that further information concerning the pictures and/or text of the piece is available if the piece is removed from the sheet material.

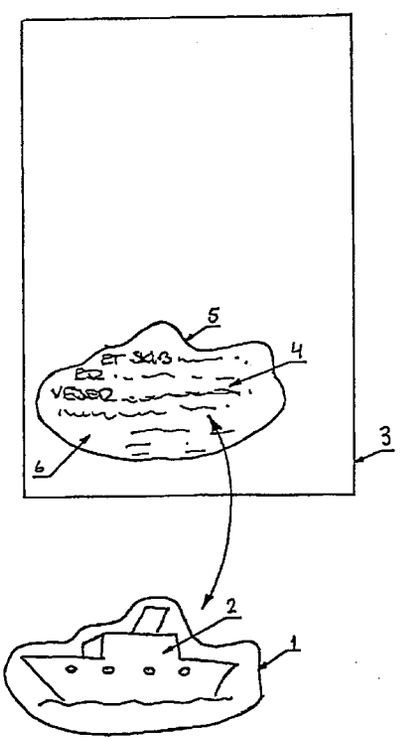

Fig. 1

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Description

[0001] This invention concerns an information system, which comprises a first sheet material and one or more pieces, to which a first item of visible information is applied and which can be held on the sheet material by means of magnetic forces, and which are each particularly intended to wholly or partially cover a field marked on the sheet material.

[0002] It is commonly known to use magnetic pieces prepared as a laminate, which comprises a material with magnetic properties, and a material on which it is possible to print information in the form of pictures and/or text, for instance for advertising purposes, notes and/or marking objects.

[0003] The known pieces are in most cases applied to metallic surfaces such as white boards, metal signs and paper coated with a thin metal layer.

[0004] A further example of the use of a magnetic piece is known from EP 0 154 820 A2, where a magnetic piece is used for advertising purposes. The piece, to which visual information is applied, is formed with a special back, such that blisters caused by air being confined under the piece are avoided, which makes the piece well suited for mounting on, for instance, cars.

[0005] A further commonly known example of the use of magnetic pieces is the case where these are held magnetically on a calendar. In this case, pieces which do not carry visible information in the form of text and/or pictures, are placed over predetermined date fields to indicate that a not specified action takes place at the date in question.

[0006] These known fields of application for magnetic pieces constitute static information understood in such manner that no further information related to the piece is immediately available.

[0007] The information system according to the invention is characterised in that there is in the field a second item of visible information, which is related to the first item of visible information which is available on the pieces intended to cover the field concerned.

[0008] According to the present invention, a dynamic information system is provided, which comprises a magnetic piece with text and/or pictures applied, and in which the piece can be held magnetically on top of a magnetisable sheet material to which text and/or pictures have been applied, said text and/or pictures being related to the text and/or pictures of the piece, such that additional information concerning the pictures and/or the text of the piece is available if the piece is removed from the sheet material.

[0009] Marking of the marked field comprises the second item of visible information and/or comprises an item of visual information which indicates the outline of the piece which is intended to wholly or partially cover the field in question. The marking can be of an indirect character understood in such a manner that the second item of visual information has a marginal area which has no visual information, for instance a marginal area of one colour or a marginal area of a uniform design, which does not constitute part of the second item of visible information. The marking can also be given a more direct character, for instance by drawing the outline of the piece on the second item of visible information.

[0010] In a second embodiment of the information system, the marked field can be delimited by a depression in the sheet material. In this manner the information system can, when the pieces are held magnetically on the sheet material, be flat while at the same time the depressions in the sheet material can indicate where the pieces are to be placed on the sheet material. Such an information system can further be formed with a depression which has essentially the same outline as the piece which is intended to cover the field in question.

[0011] Basically, the information system can use an iron sheet as sheet material and a common iron magnet as magnetic piece. However, it is preferred that the piece and/or the sheet material be laminated, the laminate comprising a layer with magnetic or magnetisable properties and one or more outer layers, to which the visible information is applied. In this embodiment of the information system, it is possible to use prior-art printing techniques for applying the first and the second item of visible information to the piece and the sheet material, respectively. At the same time it is possible to achieve, in this embodiment of the information system, that the piece and/or the sheet material are flexible by selecting suitable materials.

[0012] The invention will now be described in more detail with reference to the drawings, in which

> Figs 1-7 illustrate embodiments of an information system according to the invention, and
> Figs 7-12 illustrate a possible design of the piece and the sheet material according to the invention.

[0013] Fig. 1 shows an information system according to the invention. The visible information 2 of the piece 1 is in this case a ship, and the sheet material 3 has an item of visible information 4, which is related to the ship shown on the piece. In the embodiment shown, the visible information 4 on the sheet material 3 is text explaining what a ship is, what such a ship can be used for, and similar information. The information 4 may also contain a visual reproduction of the interior of the ship.

[0014] The outline of the piece 1 is in the embodiment shown in Fig. 1 such as to cover the visible information 4 applied to the sheet material 3 when the piece is held magnetically on the sheet material 3. As indicated in Fig. 1, the visible information 4 on the sheet material 3 can be marked with a visible reproduction of the outline 5 of the piece, but this marking can be omitted, in which case the marking of the field 6 is the actual visible information 4. An example of this is shown in Fig. 2, which illustrates an information system relating to a solar sys-

tem.

[0015] The piece 1 can also have visible information 2 on both sides of the piece 1, where the visible information 2 on both sides of the piece 1 can be related to the visible information 4 on the sheet material 3. At the same time the outline of the piece 1 can be equal to the outline of the ship, or the piece 1 can be given an arbitrary outline, which has no relation to the visible information 2 on the piece 1.

[0016] Fig. 2 shows a piece 1, where one of the items of information 2 of the piece 1 is a sun, and where one of the items of visible information 4 of the sheet material 3 illustrates a section of the sun and a text describing the sun. In this case, there is no reproduction of the shape of the piece 1 on the sheet material 3, and the marking 5 of the field 6 on the sheet material 3 is the visible information 4. Besides, the piece 1 can have an arbitrary shape, that need not be related to the visible information 4 on the sheet material 3.

[0017] The embodiment of the invention shown in Fig. 2 may comprise a description of the orbit of the planets round the sun understood in such a manner that the visual information 4 on the sheet material 3 may contain information about which planet is positioned in the current position relative to the sun at a given point of time, such that a piece 1 can be related to a plurality of items of visible information 4 on the sheet material 3. It is also possible for a piece 1 showing a satellite to be combined with an item of visible information 4 on the sheet material 3, which indicates where a satellite is to be placed to be geostationary.

[0018] Fig. 3 shows a book or the like according to the invention, where the visible information 4 is a given part of the sheet material 3 with specific characteristics. In the case shown in Fig. 3, this specific characteristic could be a night sky, and the piece 1 can have the shape of a moon. The visible information 2 of the piece 1 could be a picture of a moon, which renders it probable that the piece 1 with the visible information 2 is predetermined to be placed in a position on the visible information 4 of the sheet material 3, which in this case would mean the night sky.

[0019] The piece 2 need not necessarily have an outline that is related to an item of visible information 2 and/or 4, but may of course be given any shape whatever.

[0020] The invention can also be used together with, for instance, a cookery book as shown in Fig. 4. Here the visible information 2 of the piece 1 is a picture of some vegetables, and the visible information 4 of the sheet material 3 could describe for what dishes these vegetables are typically used and/or the origin of these vegetables.

[0021] Fig. 5 shows an information system according to the invention, in which the pieces 1a, 1b, 1c, 1d and 1e are elements of an object which in the case shown in Fig. 5 is a car. In this case, the pieces 1a-1e have a mutual relation while at the same time there is for the pieces 1a-1e visible information 4 on the sheet material 3 which is related to each individual piece 1a-e. In this manner, it is possible to build, as shown by way of this non-exhaustive embodiment, an information system which makes it possible for information related to a component of an object, which is composed of the visible information 2 of the pieces 1, to be obtained without visible information related to the other components of the object being obtained.

[0022] Fig. 6 shows one more embodiment of the information system according to the invention, in which the piece 1 can be arranged in a depression 7 in the sheet material 3. This embodiment could be prepared, for instance, by the material, from which the piece 1 is made by punching, being glued to a sheet of paper with magnetisable properties, or by a shape corresponding to the shape of the piece 1 being made by punching from e.g. a piece of cardboard, whereupon this piece of cardboard is glued to a sheet of paper with magnetisable properties. The punched hole in, for instance, the cardboard or the magnetic material need not have the same shape as the piece, but may have an arbitrary shape that must necessarily be larger than or equal to the shape of the piece 1 which is intended to match the depression 7.

[0023] Fig. 7 shows an information system according to the invention, in which two pieces 1a and 1b can be held magnetically on top of each other, and in which the pieces 1a and 1b, when magnetically held on top of each other, can be held magnetically on the sheet material 3. This results in an information system, in which, for instance, the visible information 2b on the piece 1b concerning the visible information 2a (apple) applied to the piece 1a can be of a superior character, and the visible information 4 applied to the sheet material 3 can be of a more specific character. It goes without saying that such division of information is not the only possible one since it is of course possible to choose freely which item of information 2a and 2b is to be applied to the individual pieces 1a and 1b according to the purpose of the information system, just as it is also possible to use more than two pieces.

[0024] Fig. 8 shows an example of how a piece 1 and a sheet material 3 according to the invention are made up. The piece 1 is in this case made up of a magnetic part 9 and a part 8 which is adapted to be provided with visible information. Typically, flexible parts 8 and 9 are employed such that the piece 1 becomes flexible, but use can also be made of rigid parts 8 and 9. In the embodiment illustrated, the sheet material 3 is on one side paper 10 and on the opposite side a metallic material 11, thereby making the sheet material magnetisable. Other combinations of paper and magnetisable material can be used, just as it will also be possible to use a magnetisable sheet without any other layer, such as an iron sheet. In the shown embodiment of the information system according to the invention, the piece 1 can be held magnetically on the entire sheet material 3

as indicated with the arrow shown in Fig. 8.

[0025] Fig. 9 shows a further embodiment of the sheet material 3 according to the invention, where visible information 4 can be printed on both sides of the sheet material 3. In this case, the sheet material 3 is a laminate consisting of two sheets of paper 12a and 12b which need not be of the same type, and arranged therebetween a magnetisable layer 13 of e.g. iron or iron alloys.

[0026] Fig. 10 shows a third embodiment of the sheet material 3 according to the invention. In the embodiment shown, a sheet 14, which is magnetisable and to which visible information 4 can be applied, is coated with another sheet 15 of e.g. paper, cardboard, plastic, fabric or the like. In the case where the paper 14 is coated with cardboard, plastic, metal, fabric or the like, the sheet 15 and/or the paper 14 is coated with a layer of adhesive with properties ensuring good adhesion to metal and paper, cardboard, plastic, fabric or the like, whereupon the two parts are joined together.

[0027] Fig. 11 shows a construction of a sheet material 3 according to the invention, in which areas 16 of the sheet material are not magnetisable. As shown in Fig. 11, such a sheet material 3 can be prepared by the areas 16 that are not to be magnetisable being removed from a sheet of paper 14 with magnetic properties, whereupon the remaining part of the sheet of paper 14 with magnetic properties can be applied to another sheet 15 by using the above-mentioned method.

[0028] By using a sheet material 3 having areas 16 that are not magnetisable, it will be possible to build an information system which can provide for the pieces being mounted in the intended fields 6 on the sheet material 3.

[0029] An embodiment corresponding to that shown in Fig. 11 could imply that the punched-out areas 16 are coated with the sheet material instead of the surrounding material as described above.

[0030] Finally, a further layer can be applied on top of the sheet material shown in Fig. 11, which layer can be well suited for application of visible information 4. The further layer may result in the fact that the area 16 cannot be perceived visually.

[0031] In all the embodiments of the invention here shown, magnetisable and magnetic materials can be interchanged arbitrarily, such that the piece comprises a magnetisable material and the sheet material comprises a magnetic material.

[0032] Information systems according to the invention can be used for, inter alia, books such as dictionaries, children's books, textbooks, task books for children and adults and be used for notebooks, newspapers, brochures, posters, magazines, periodicals, enclosures in newspapers, cards, calendars, notice boards, games, education and instruction materials, signboards, and/or displays.

[0033] In the case where the invention is used together with a game, the visible information 4 on the sheet material 3 can indicate, for instance, the action which is to be associated with the piece 1.

[0034] When the invention is used together with a book or the like, the information system can be used in the entire book, i.e. all the pages and the cover of the book may comprise the information system, but the information system can also be used in individual parts of the book, for instance as a page, part of a page and/or on the cover of the book.

[0035] The visible information of the piece 1 and/or on the sheet material 3 can be applied by using techniques that are commonly known in the printing industry, such as offset, film setting, serigraphy, gravure process, flexography and/or letterpress.

[0036] The piece 1 can be made by punching and/or cutting out from a sheet with a matching magnetic and/or magnetisable material.

[0037] The piece 1 and the sheet material 3 can be coated with a layer of UV paint, which makes it possible to draw, write and/or paint on the piece 1 and/or the sheet material by using a felt-tip pen. The use of a felt-tip pen makes it possible to remove the text or the like applied with the felt-tip pen, without changing the original visible information on the piece 1 and the sheet material 3, respectively.

Claims

1. An information system comprising a first sheet material and one or more pieces, to which a first item of visible information is applied and which can be held on the sheet material by means of magnetic forces, and which are each particularly intended to wholly or partially cover a field marked on the sheet material, **characterised** in that there is in the field a second item of visible information, which is related to the first item of visible information which is available on the pieces intended to cover the field concerned.

2. An information system as claimed in claim 1, **characterised** in that a marking of the marked field comprises the second item of visible information and/or comprises an item of visible information showing the outline of the piece which is intended to wholly or partially cover the field concerned.

3. An information system as claimed in claim 1 or 2, **characterised** in that the marked field is delimited by a depression in the sheet material.

4. An information system as claimed in claim 3, **characterised** in that the depression has essentially the same outline as the piece, which is intended to cover the field concerned.

5. An information system as claimed in claim 1, **characterised** in that the outline of the piece at least

constitutes part of the second item of visible information.

6. An information system as claimed in any one of claims 1-5, **characterised** in that the piece and/or the sheet material is laminated, the laminate comprising a layer with magnetic or magnetisable properties and one or more outer layers, to which the visible information is applied.

7. An information system as claimed in any one of claims 1-6, **characterised** in that the piece and/or the sheet material is flexible.

8. An information system as claimed in any one of claims 1-7, **characterised** in that the piece is magnetic and at least part of the sheet material is magnetic or magnetisable.

9. An information system as claimed in any one of claims 1-8, **characterised** in that the piece is magnetic or magnetisable and at least part of the sheet material is magnetic.

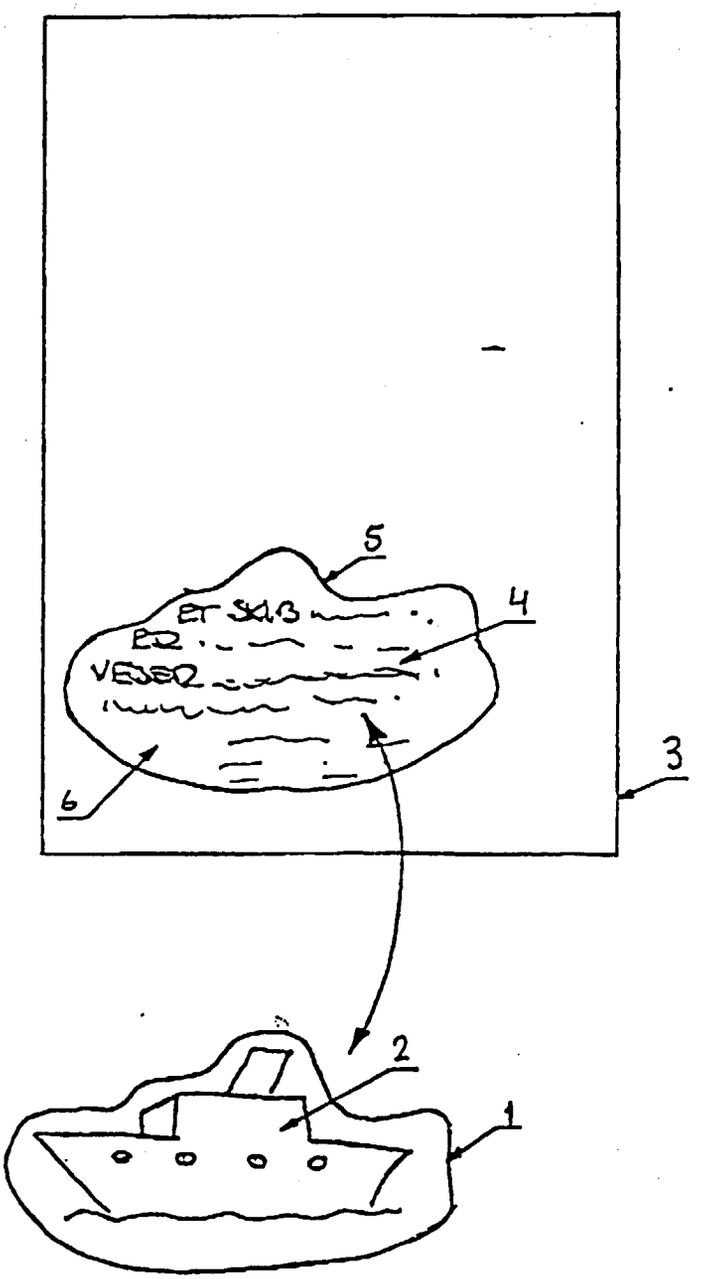

Fig. 1

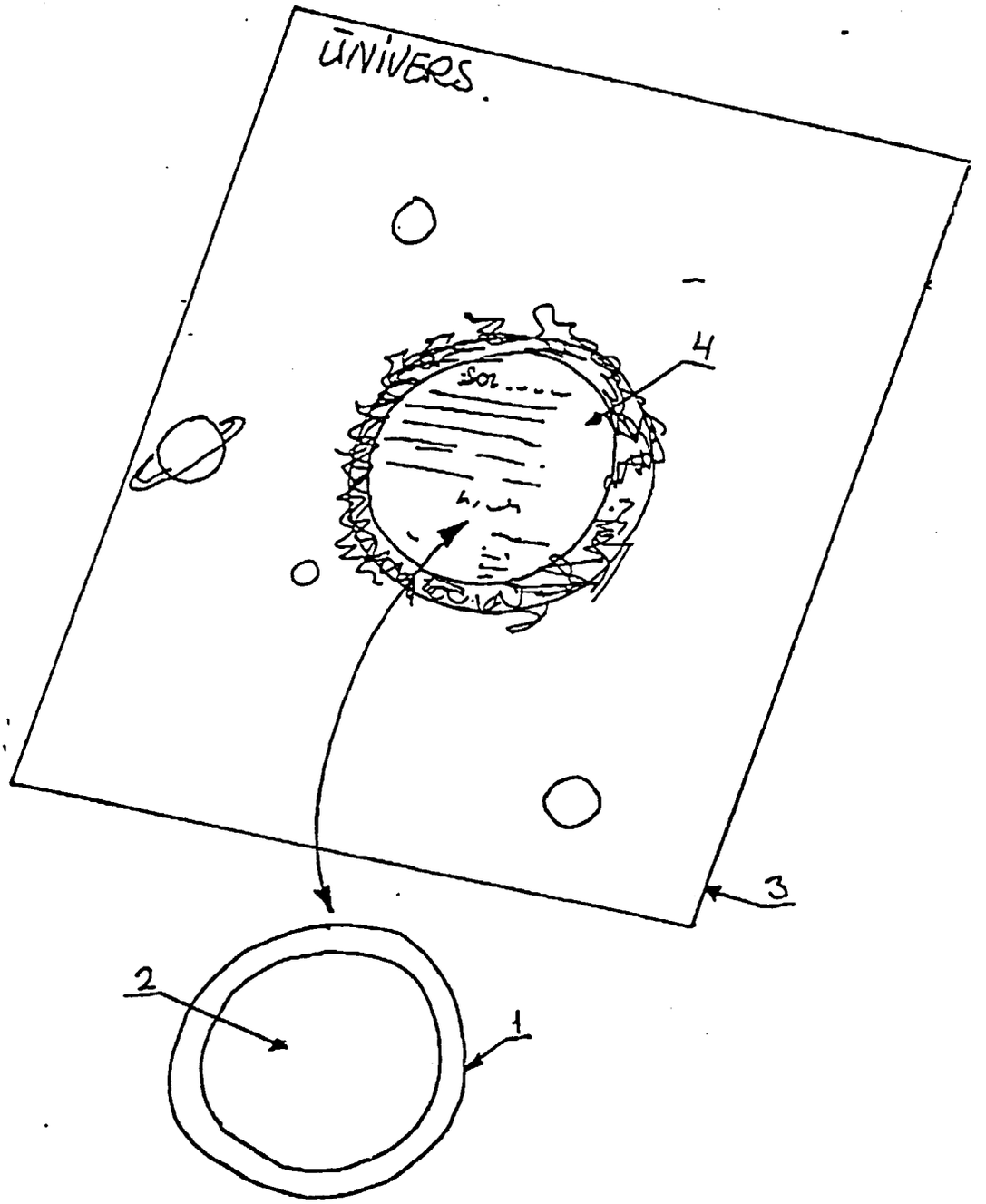

Fig. 2

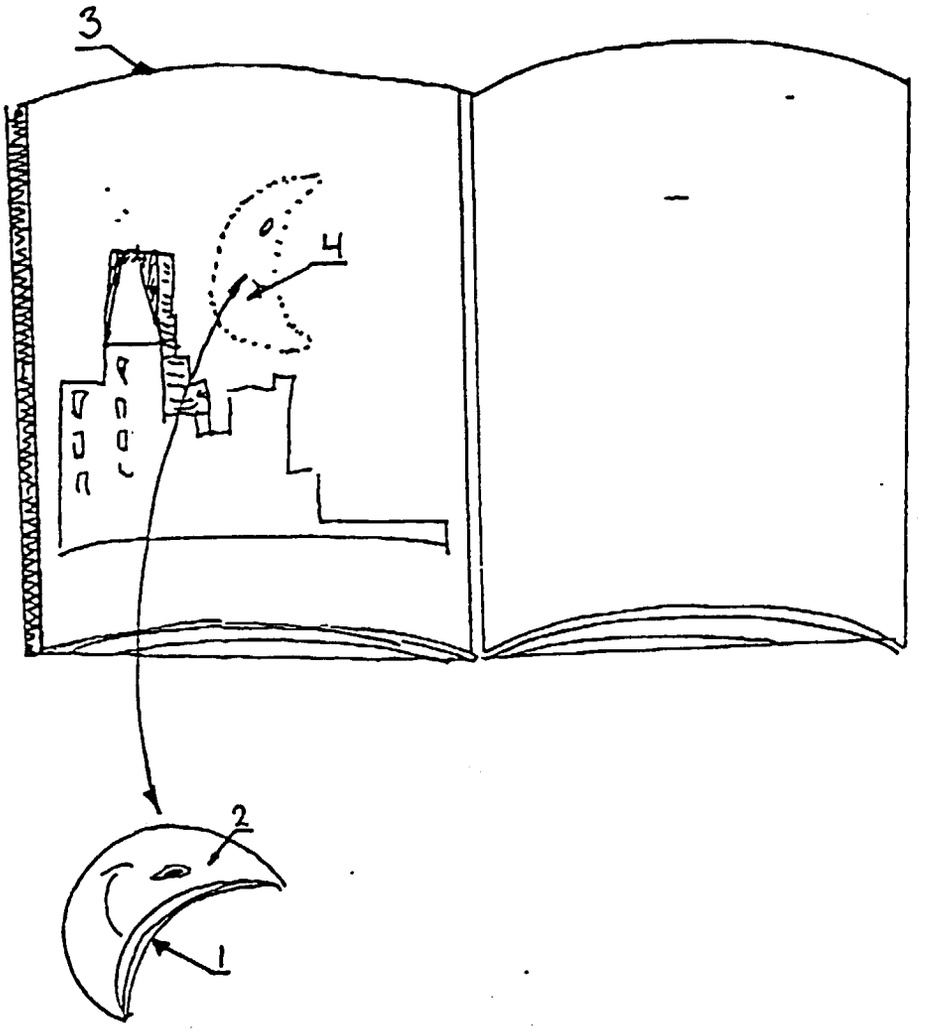

Fig. 3

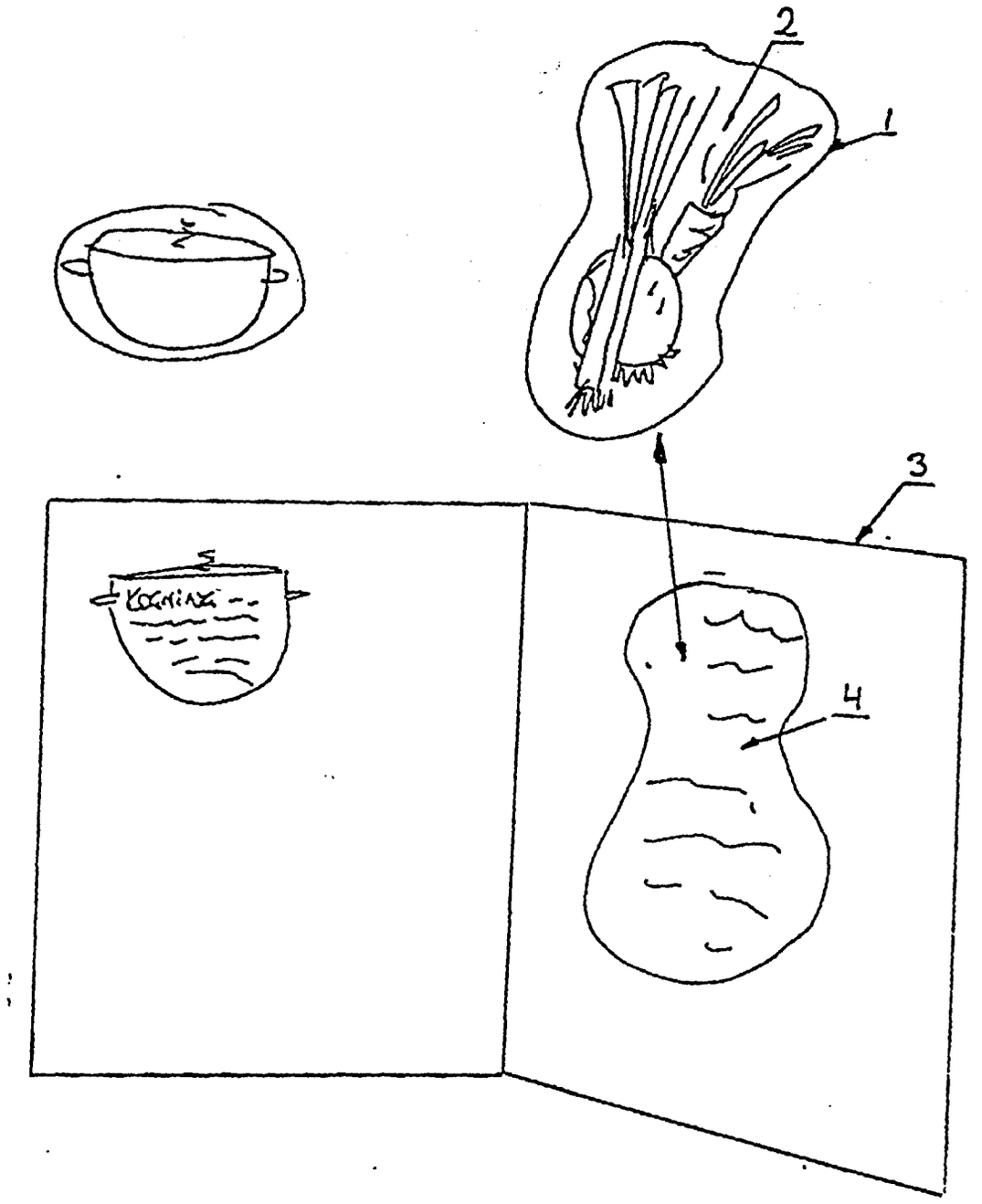

Fig. 4

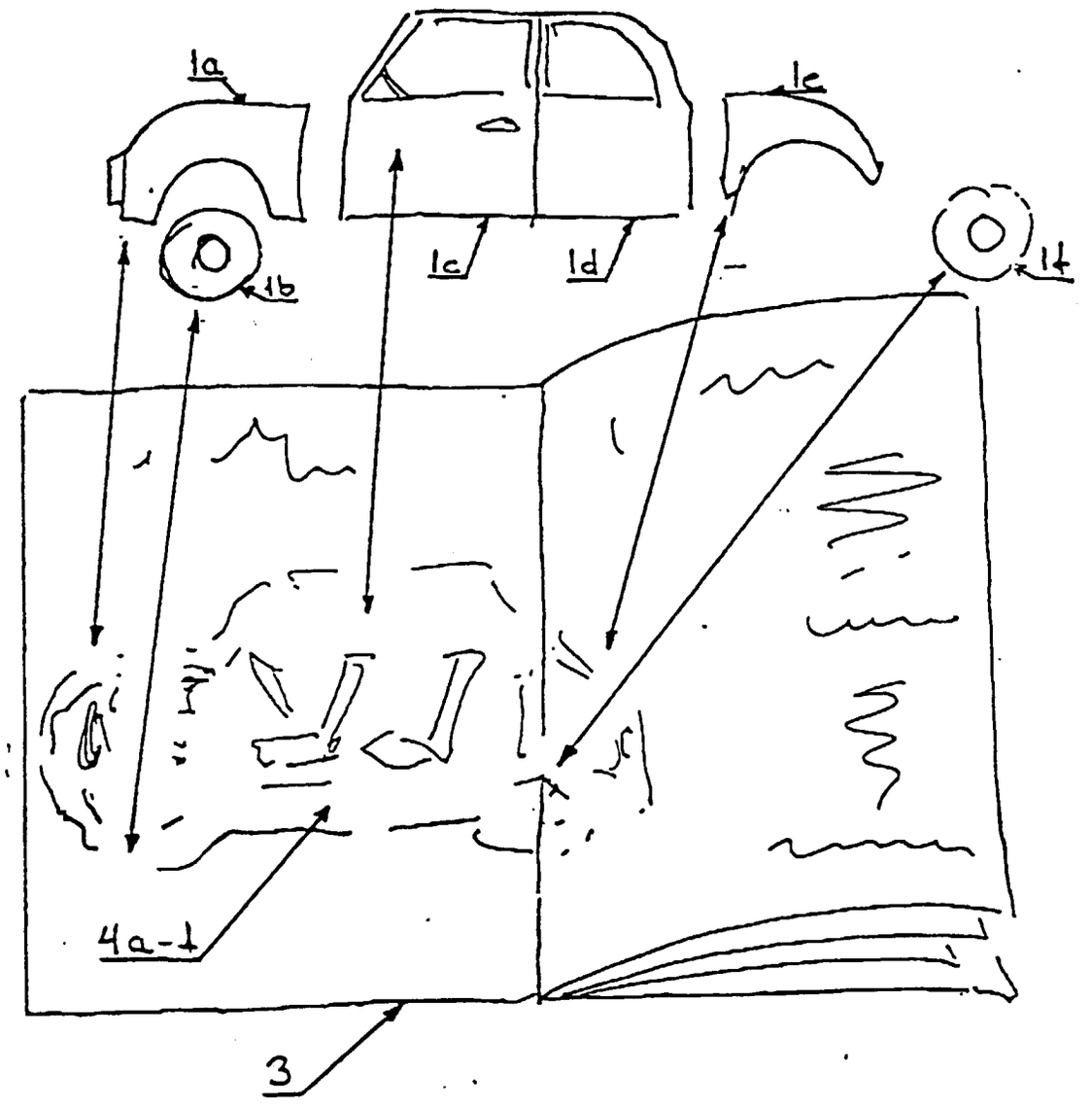

Fig. 5

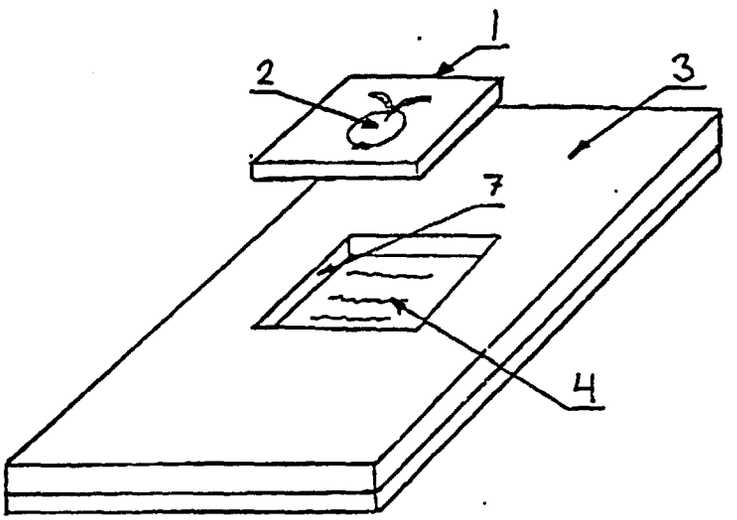

Fig. 6

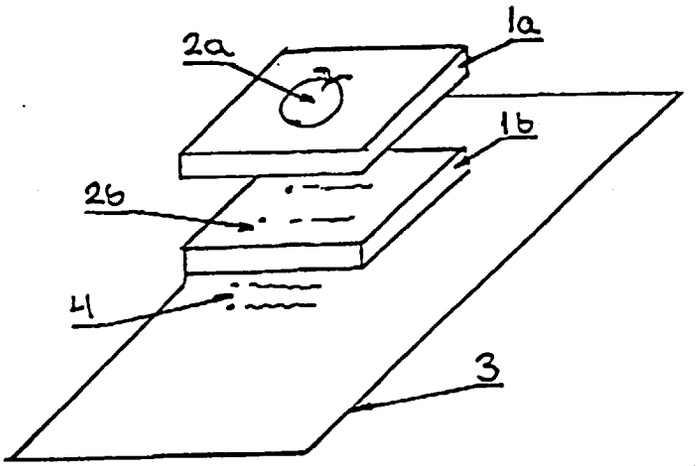

Fig. 7

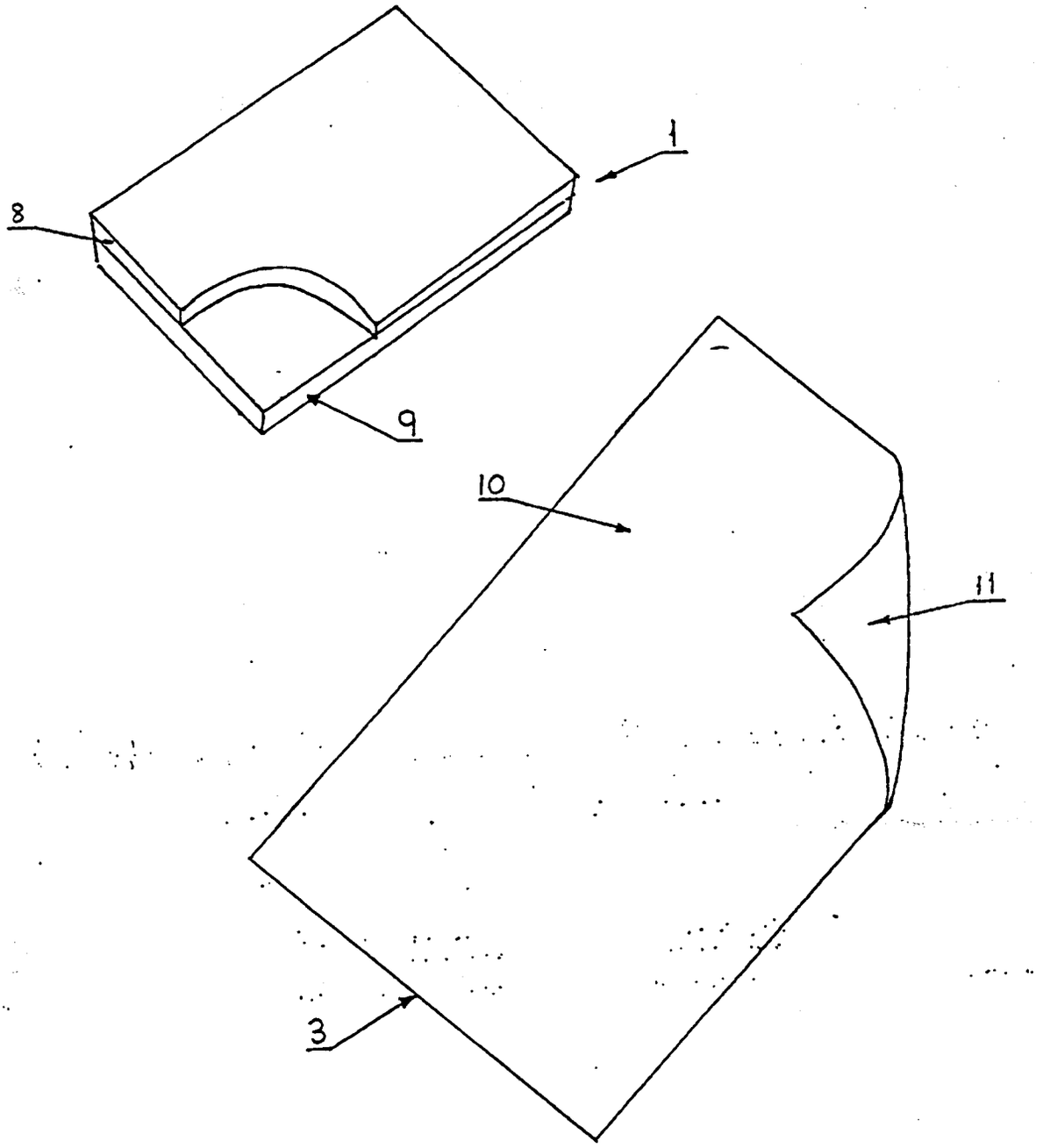

Fig. 8

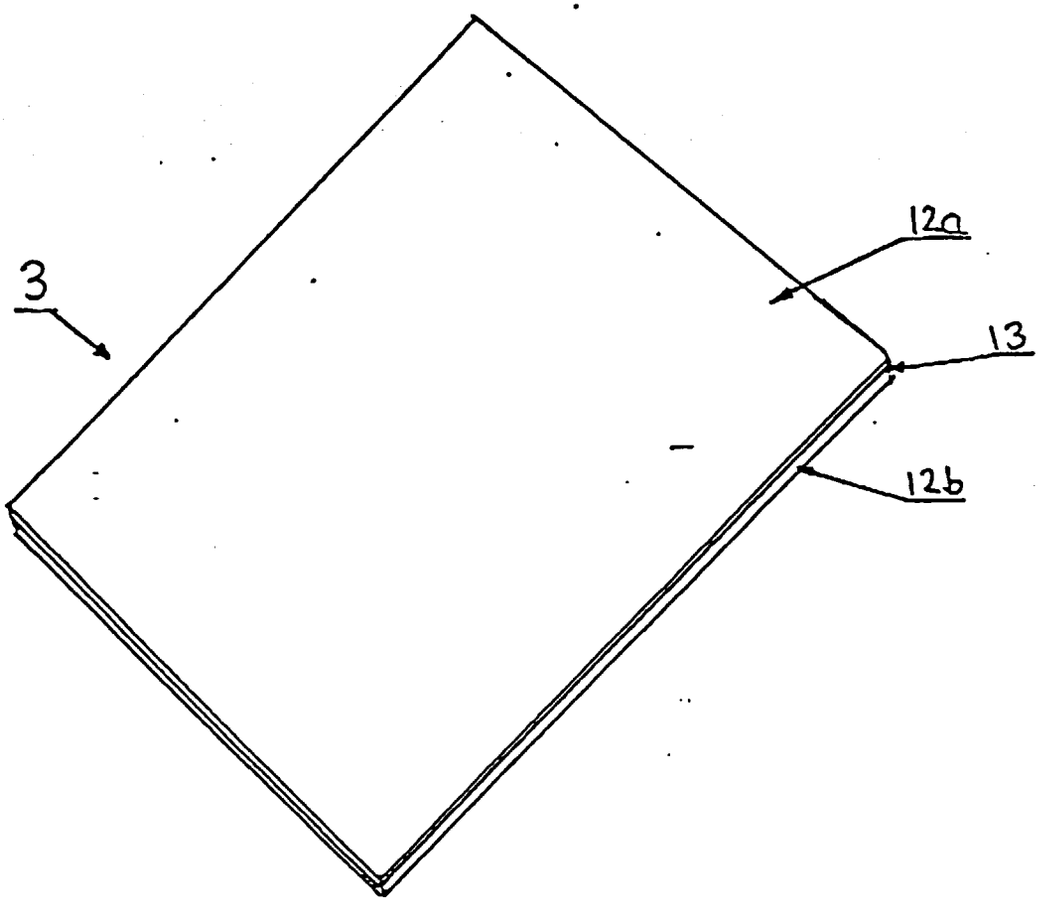

Fig. 9

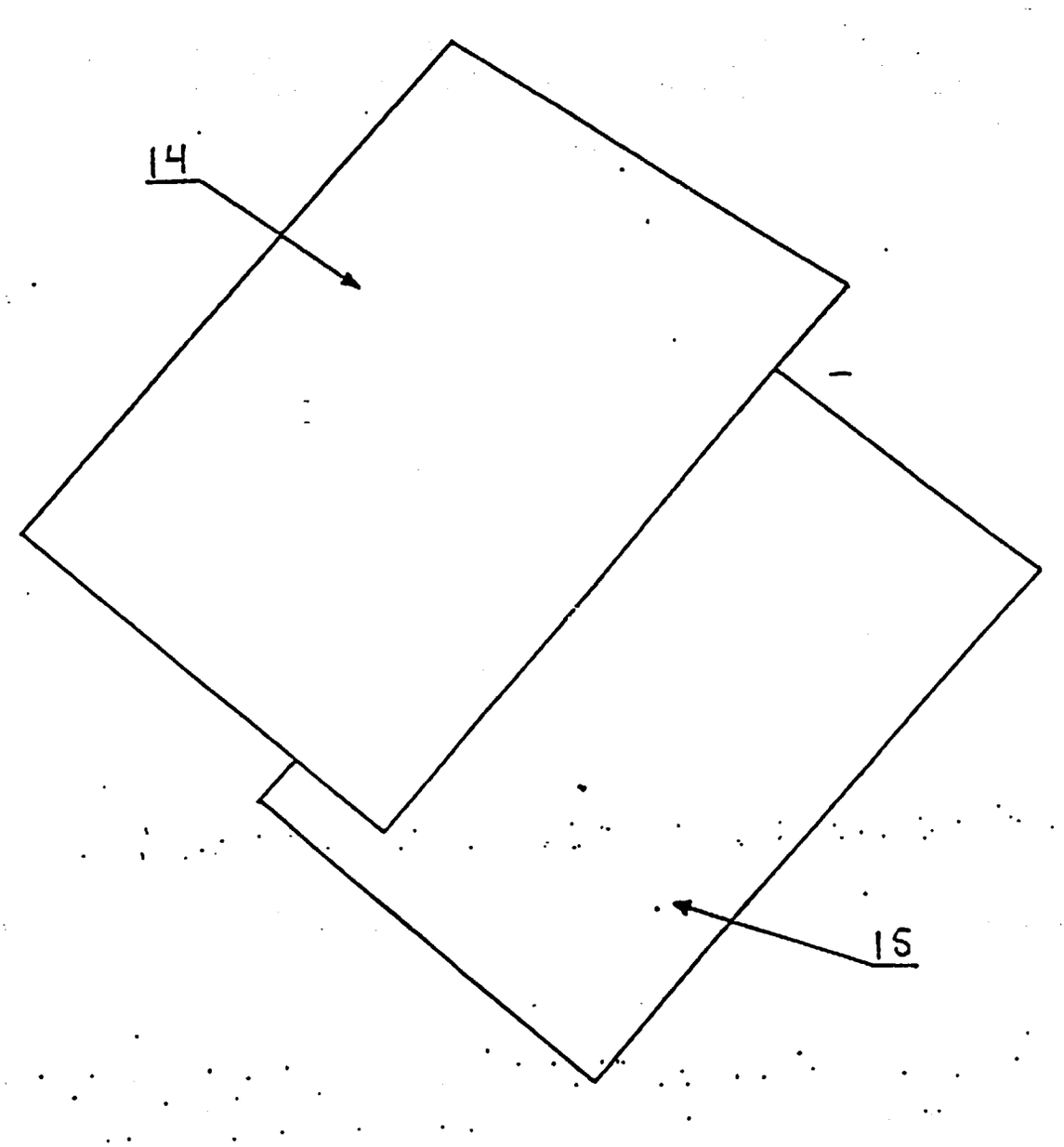

Fig. 10

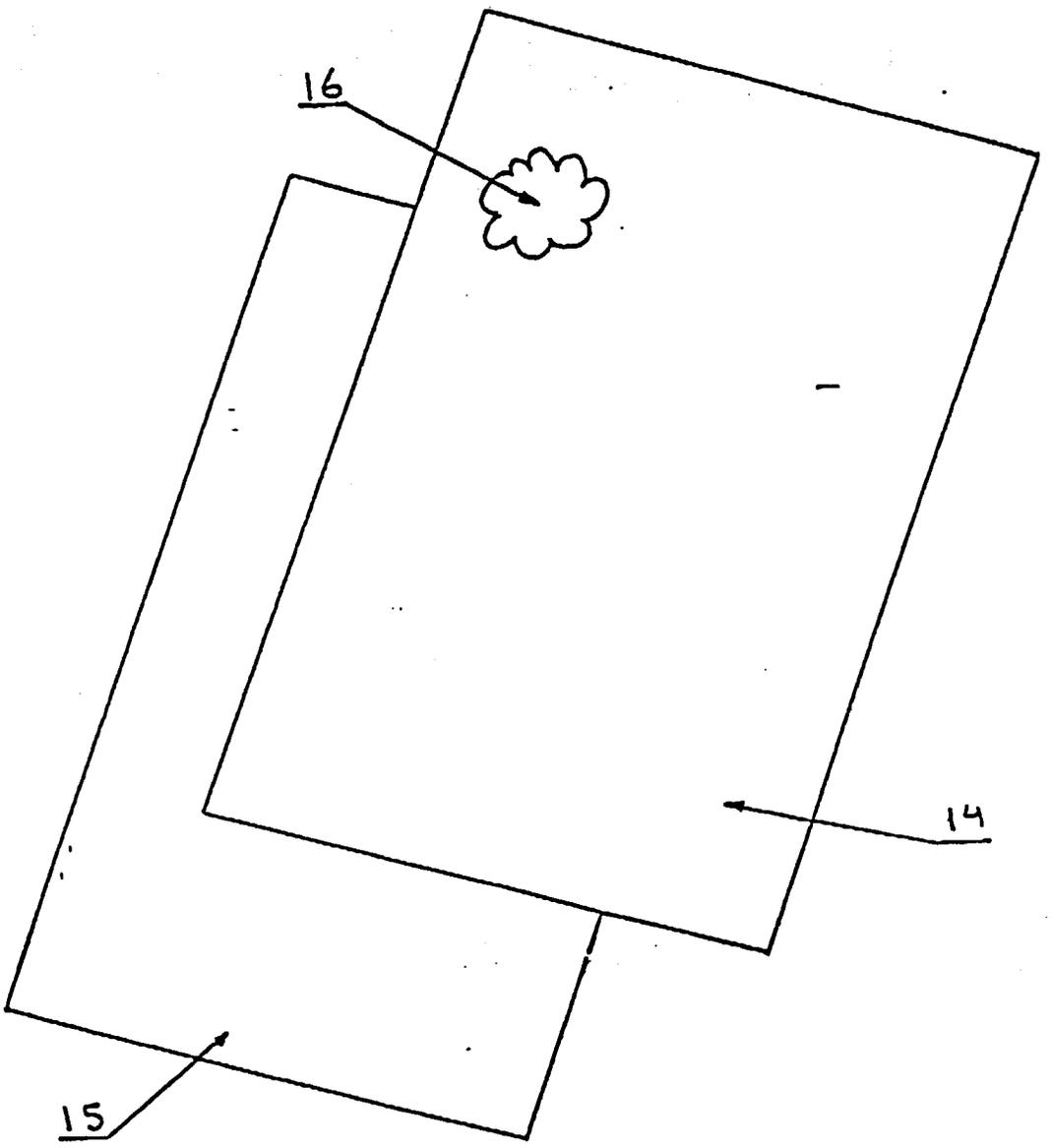

Fig. 11

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 85 0162

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
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TECHNICAL FIELDS SEARCHED (Int.Cl.6)
G09F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	22 January 1999	Gallo, G

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22-01-1999

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