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(54) **Improved display card with removable content and assembly method thereof**

(57) An improved display card with removable content and assembly method thereof consists of a display card containing a capsule with a removable top part so that the contents of the capsule can be accessed for physical handling and a method of assembly which consists of a transparent film layer heat laminated onto one of two rigid transparent layers. A printed sheet adhered

and sandwiched between the two rigid transparent layers. The two transparent layers and the printed sheet each having at least one hole through them. A glue disc is deposited onto the transparent film layer in line with the holes and a bottom part of capsule is deposited over the glue disc. Pressure is applied to the glue disc and the bottom part of capsule by way of a pressure applying means so as to remove air from the glue disc.

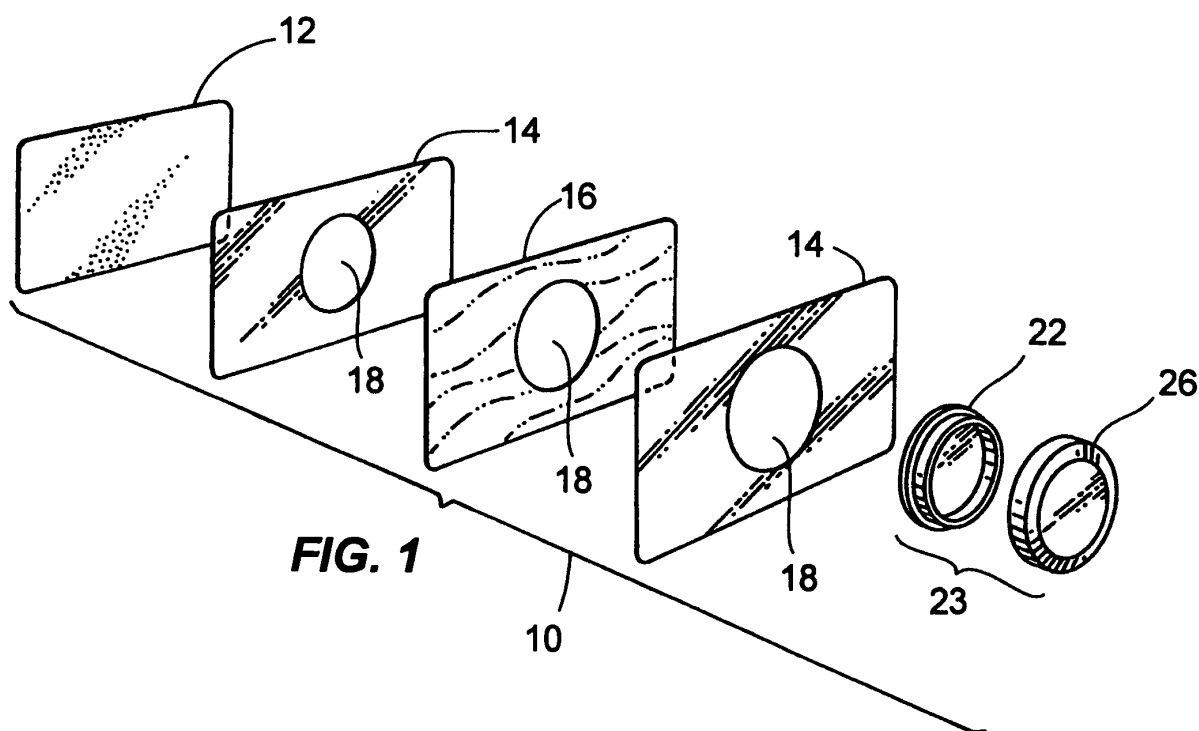


FIG. 1

Description**FIELD OF THE INVENTION**

[0001] The invention relates generally to display packaging and particularly to a display card having removable display content.

BACKGROUND OF THE INVENTION

[0002] Collectors have a need for containers that have the ability to protect as well as show the content within. For small collectibles such as a coin, a stamp, a medal, a stone or organic materials such as an insect, a petal, a feather, a bone, a tooth, skin, blood, etc... there exist small display cards having a capsule containing the collectible.

[0003] A more thorough discussion of the prior art can be found in patent 6,128,840 which is incorporated herein by reference and which discloses a display card which has a ring of adhesive material binding a display object on the display card. Once assembled, the display content cannot be removed unless damaging the display card and potentially its display content as well.

[0004] The drawback of that invention was that the content was sealed inside the capsule and could not be accessed by the user and therefore, that same inventor filed patent application 20050235530 which is incorporated herein by reference and which disclosed a display card having a capsule having a removable cap so that a user could access the contents stored inside the capsule. The invention comprises a display card having a series of 4 layers plus a two part transparent capsule having a bottom part and a top part. The top part acts like a removable cap while the bottom part holds the content and is bond to the display card.

[0005] Although very interesting, the invention, as disclosed, was not of a workable design and the capsules would fall off because of a problem with the glue and the method of assembly.

PRIOR ART CAPABILITY AND MOTIVATIONS, AS HELPING TO SHOW PATENTABILITY HERE

[0006] Even in hindsight consideration of the present invention to determine its inventive and novel nature, it is not only conceded but emphasized that the prior art had many details usable in this invention, but only if the prior art had had the guidance of the present invention, details of both capability and motivation.

[0007] That is, it is emphasized that the prior art had/or knew several particulars which individually and accumulatively show the non-obviousness of this combination invention. E.g.,

a) The cost of the materials are relatively low and do not have a profound impact on price to the point of offsetting the benefits of this novel product;

b) The nature of an invention as being a "novel combination", in spite of existence of details separately, is especially significant here where the novelty is of the plurality of concepts, i.e., the use of a process by which air bubbles are eliminated, bonding characteristics are greatly enhanced as well as aesthetic qualities of the finished product;

c) The ease of tooling for the present invention has surely given manufacturers ample incentive to have made modifications for commercial competitiveness in a competitive industry, if the concepts had been obvious;

d) The prior art has always had sufficient skill to make many types of display cards, more than ample skill to have achieved the present invention, but only if the concepts and their combinations had been conceived;

e) Substantially all of the operational characteristics and advantages of details of the present invention, when considered separately from one another and when considered separately from the present invention's details and accomplishment of the details, are within the skill of persons of various arts, but only when considered away from the integrated and novel combination of concepts which by their cooperative combination achieve this advantageous invention;

f) The details of the present invention, when considered solely from the standpoint of construction, are exceedingly simple, basically a applying pressure, using proper adhesive but in a fashion that is unique and heretofore not done before for this type of product and the matter of simplicity of construction has long been recognized as indicative of inventive creativity;

g) Similarly, and a long-recognized indication of inventiveness of a novel combination, is the realistic principle that a person of ordinary skill in the art, as illustrated with respect to the claimed combination as differing in the stated respects from the prior art both as to construction and concept, is presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate; and

h) The predictable benefits from a novel product and assembly method, for display cards having the features of this invention would seem sufficiently high that others would have been working on this type of product, but only if the concepts which it presents had been conceived.

[0008] Accordingly, although the prior art has had capability and motivation, amply sufficient to presumably

give incentive to the development an improved display card with removable content and assembly method thereof according to the present invention, the fact remains that this invention awaited the creativity and inventive discovery of the present Inventor. In spite of ample motivation, the prior art did not suggest this invention.

PRIOR ART AS PARTICULAR INSTANCES OF FAILURE TO PROVIDE THIS NOVEL PRODUCT AND INSTALLATION METHOD

[0009] In view of the general advantages of the present invention as an improved embodiment of the prior art, it may be difficult to realize that the prior art has not conceived of the combination purpose and achievement of the present invention, even though the need for it is a known requested commodity for people nowadays who (describe what people want). Surely the need for a workable and practical display card with removable content has been known for decades and the technology to achieve such results has been known for years and that the various combination provided in this invention would have been desired and attempted long ago, but only if its factors and combination-nature had been obvious.

[0010] Other considerations, as herein mentioned, when realistically evaluated show the inventive nature of the present invention, a change in concept which the prior patent and other prior art did not achieve.

SUMMARY OF THE PRIOR ART'S LACK OF SUGGESTIONS OF THE CONCEPTS OF THE INVENTION'S COMBINATION

[0011] And the existence of such prior art knowledge and related ideas embodying such various features is not only conceded, it is emphasized; for as to the novelty here of the combination, of the invention as considered as a whole, a contrast to the prior art helps also to remind of needed improvement, and the advantages and the inventive significance of the present concepts. Thus, as shown herein as a contrast to all the prior art, the inventive significance of the present concepts as a combination is emphasized, and the nature of the concepts and their results can perhaps be easier seen as an invention.

[0012] Although varieties of prior art are conceded, and ample motivation is shown, and full capability in the prior art is conceded, no prior art shows or suggests details of the overall combination of the present invention, as is the proper and accepted way of considering the inventiveness nature of the concepts.

[0013] That is, although the prior art may show an approach to the overall invention, it is determinatively significant that none of the prior art shows the novel and advantageous concepts in combination, which provides the merits of this invention, even though certain details are shown separately from this accomplishment as a combination.

[0014] And the prior art's lack of an invention of an

easy to use and easy to manufacture display card with removable content and other advantages of the present invention, which are goals only approached by the prior art, must be recognized as being a long-felt need now fulfilled.

[0015] Accordingly, the various concepts and components are conceded and emphasized to have been widely known in the prior art as to various installations; nevertheless, the prior art not having had the particular combination of concepts and details as here presented and shown in novel combination different from the prior art and its suggestions, even only a fair amount of realistic humility, to avoid consideration of this invention improperly by hindsight, requires the concepts and achievements here to be realistically viewed as a novel combination, inventive in nature. And especially is this a realistic consideration when viewed from the position of a person of ordinary skill in this art at the time of this invention, and without trying to reconstruct this invention from the prior art without use of hindsight toward particulars not suggested by the prior art.

SUMMARY OF THE INVENTION

[0016] In view of the foregoing disadvantages inherent in the known devices now present in the prior art, the present invention, which will be described subsequently in greater detail, is to provide for a display card containing a capsule with a removable content. To attain these ends, the present invention generally comprises a removable top part so that the contents of the capsule can be accessed for physical handling and a method of assembly which consists of a transparent film layer heat laminated onto one of two rigid transparent layers. A printed sheet adhered and sandwiched between the two rigid transparent layers.

[0017] The two transparent layers and the printed sheet each having at least one hole through them. A glue disc is deposited onto the transparent film layer, in line with the holes, and a bottom part of capsule is deposited over the glue disc. Pressure is applied to the glue disc and the bottom part of capsule by way of a pressure applying means for a given duration so as to remove air from the glue disc.

[0018] The pressure applying means is a piston. The pressure applied by the pressure applying means is between 75psi and 100psi for a duration of between 3 seconds and 5 seconds. The glue disc uses as an adhesive a UV curable one part epoxy resin cured for a duration of between 3 and 5 sec. And, the UV light used is preferably of an intensity of between 260mw /cmsq and 300mw cmsq.

[0019] Downward pressure is applied to the glue disc and the bottom part of capsule, by way of a pressure applying means, is pressed against the transparent film so as to remove air from the glue disc and prevent the capsule from moving or floating on top of the glue disc. That pressure provides for long term efficient adherence prop-

erty of the capsule onto the display card.

[0020] There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the invention that will be described hereinafter and which will form the subject matter of the claims appended hereto.

[0021] In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

[0022] As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

[0023] These together with other objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and the specific objects attained by its uses, reference should be made to the accompanying drawings and descriptive matter which contains illustrated preferred embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024]

Fig. 1 Exploded isometric view showing the individual parts.

Fig. 2 Side cutaway semi assembled view showing a slice of the individual parts with a pressure piston.

Fig. 3 Side cutaway view of the parts assembled with the piston applying pressure.

Fig. 4 Front view of the invention.

DETAILED DESCRIPTION

[0025] An improved display card with removable content (10) has a transparent film layer (12) which is heat or cold laminated onto one of two rigid transparent layers

(14). A printed sheet (16) is adhered and sandwiched between the two rigid transparent layers (14).

[0026] The two transparent layers (14) as well as the printed sheet (16) have a hole (18) through them. A glue disc (20) is deposited through the holes (18) and onto the transparent film layer (12). A bottom part of capsule (22) is deposited over the glue disc (20) and pressure is applied to it by way of a pressure applying means (24) which can be in the guise of a hydraulic piston. The pressure applied must be very high and applied for a certain amount of time so that all air bubbles are evacuated from the glue disc (20). If air remains, the glue disc (20) will not be totally transparent and its adhering properties could be lessened as well. Once the glueing operation finished, the cap (26) can be fitted onto the bottom part of the capsule (22) to form a complete capsule (23).

[0027] Typically, pressure applied by the pressure applying means (24) is between 75psi and 100psi. The duration of the applied pressure is between 3 seconds and 5 seconds. The glue disc uses as an adhesive a UV curable one part epoxy resin which is UV cured for a duration of between 3 and 5 sec with a UV light (not shown) of an intensity of between 260mw /cmsq and 300mw cmsq.

[0028] As to a further discussion of the manner of usage and operation of the present invention, the same should be apparent from the above description. Accordingly, no further discussion relating to the manner of usage and operation will be provided.

[0029] With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

[0030] Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

Claims

1. An improved display card with removable content comprising:

a transparent film layer laminated onto one of two rigid transparent layers;
a printed sheet adhered and sandwiched between said two rigid transparent layers;
said two transparent layers and said printed

sheet each having at least one hole through them;

a glue disc deposited onto said transparent film layer in line with said holes;

a bottom part of capsule deposited over said glue disc. 5

pressure is applied to said glue disc and said bottom part of capsule by way of a pressure applying means for a given duration so as to remove air from said glue disc. 10

2. An improved display card with removable content as in claim 1 having the following method of manufacture: 15

pressure is applied to said glue disc and said bottom part of capsule by way of a pressure applying means for a given duration so as to remove air from said glue disc. 20

3. An improved display card with removable content as in claim 2 wherein: 25

said pressure applying means being a piston.

4. An improved display card with removable content as in claim 2 wherein: 30

pressure applied by said pressure applying means being between 75psi and 100psi .

5. An improved display card with removable content as in claim 2 wherein: 35

said given duration being between 3 seconds and 5 seconds.

6. An improved display card with removable content as in claim 2 wherein: 40

said glue disc using as an adhesive a UV curable one part epoxy resin.

7. An improved display card with removable content as in claim 6 wherein: 45

said UV curable one part epoxy resin is UV cured for a duration of between 3 and 5 sec.

8. An improved display card with removable content as in claim 6 wherein: 50

said UV curable one part epoxy resin is UV cured with a UV light of an intensity of between 260mw /cmsq and 300mw cmsq. 55

