Dec. 28, 1954 E. A. SCHAUM 2,697,893

COMBINATION PLANISHING PLATE AND METHOD OF MAKING THE SAME

Filed July 21, 1951

Fig. 1.

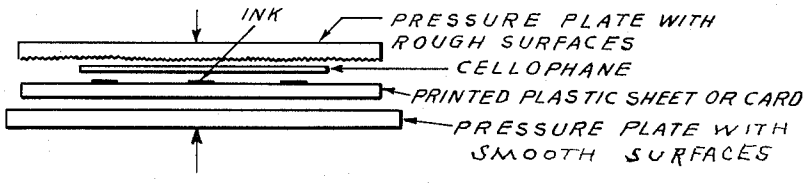


Fig. 2.

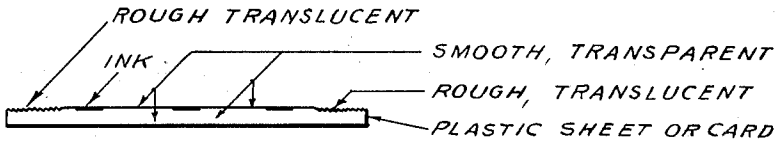


Fig. 3.

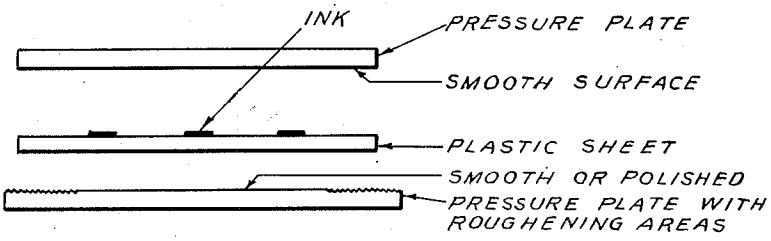


Fig. 4.

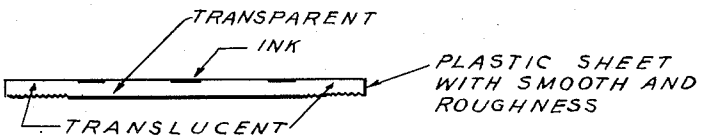


Fig. 5.

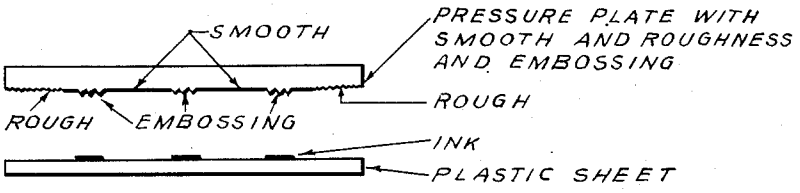


Fig. 6.

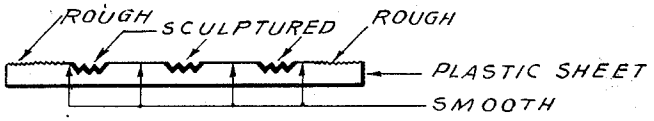
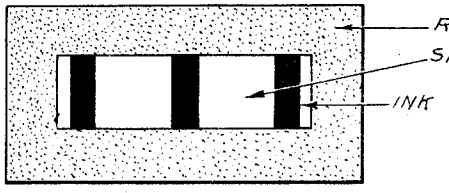


Fig. 7.



INVENTOR
Edward A. Schaum
BY C. P. Goepel
his ATTORNEY

United States Patent Office

2,697,893

Patented Dec. 28, 1954

2,697,893

COMBINATION PLANISHING PLATE AND METHOD OF MAKING THE SAME

Eduard A. Schaum, Malverne, N. Y., assignor of one-half to Fred W. Hoch, Forest Hills, N. Y.

Application July 21, 1951, Serial No. 238,027

4 Claims. (Cl. 41—21)

This invention relates to two color effect cards, of plastic materials.

The object of the invention is to provide a card and method of making the same and its use to effect a two color effect, or a matt and glossy combination, or a three dimensional illusion, or a combination of any or all of these effects at specific geometric areas and at will. In a two color effect card one part is essentially transparent and the other is essentially opaque.

This invention consists of a card of plastic material with surfaces either front or back, or both, that are glossy and matt where willed.

This invention consists of cards of plastic material with surfaces sculptured to effect three dimensional illusions where cards are or are not previously colored and/or at will at any geometric portion of the length and breadth of the card.

Transparent sheets of plastic, as Lucite, acetate, or vinylite, or the like, with the transparency throughout the sheets, are known as callendered or cast, or are made by being planished to polished form. Likewise sheets opaque throughout which are planished in matt are known. But polished or transparent sheets will not readily take printing or the like. Other matt sheets serve no purpose for many intended uses, as they are not planished to transparency but only to opaque form, and then even if translucent, they are not sufficiently transparent.

The invention consists in subjecting a sheet known as a card, to treatment to provide a transparent field, whereby any matter covered by the field is clearly visible. Printed matter previously applied to the card provides with the opaque portion a two color effect. The mat or dull surface of this opaque portion permits an ordinary lead pencil, in contrast to the blurred china or grease pencil now used, to be used for any notes thereon, which may be easily erased.

The invention will be further described and will be finally pointed out in the claims.

One means for accomplishing the desired result of this invention is to obtain a sheet of desired length and breadth, i. e. size of a card, which throughout is opaque and has its rear surfaces relatively rough, that is mat or dull, so an ordinary lead pencil may be inscribed thereon. A sheet of cellophane of desired dimensions, to act as a panel or field to the card, is then applied to one surface. A matt finished polishing plate is then squeezed against the entire outer surface of the cellophane also against the card, and this plate has the size of the card on which the cellophane sheet has been placed, the rest of the card being covered by the mat finishing plate. The high pressures temporarily merge the cellophane into the surface of the card; and the surface is then smooth to the extent of the cellophane field, and that field is translucent towards transparent, with the opaque border around it. The surface of the card forming the field had its rough surface smoothed. The card has a feeling of two layers and while the field is substantially transparent, it is not entirely so. The cellophane sticks to the plate.

Another means is to provide a polished transparent plate with a marginal portion, or any other geometric portion of a roughened surface, which roughened surface forms a border or margin to the transparent field.

Another means is to provide a polished plate with predetermined sculpture and/or roughened area of margins or borders or desired geometric areas, which roughened or sculptured surfaces form one or more borders or margins or designs about or within the transparent field.

The use of the combined smooth-rough or smooth-sculptured or smooth-rough-sculptured or combination of any of these plates herein described is to smooth the field and to roughen or sculpture, or both, the rough margin or area which is advantageous in some uses to which the card is to be put.

Thus, the novel sheet provides a combination of smooth and rough portions, and/or three dimensional effect, in other words, a combination of transparent and opaque portions on the same card, in contrast to a sheet all transparent, or all opaque.

The invention is then to roughen and to smooth the rear surface or the front surface, or both, of the same card, in various desired spots over a given area of exact dimensions, and in register with any previous printing.

Thus both kinds of surfaces are in one piece to register to control the geometric fields and margins of one card.

The invention is to make a single sheet or card that has partially high gloss and partially matt surfaces, and portions sculptured when used, in sizes and relative positions where and as desired.

The invention also consists in the method of making a card, which consists in subjecting a sheet to a roughing, and to a high polishing, one of which provides a field surrounded by the other as a marginal portion.

In the accompanying drawings:

Fig. 1 is a side view of a plurality of plates for forming the structure of Fig. 2;

Fig. 2 is a side view of the completed article formed by the plates of Fig. 1;

Fig. 3 is a side view of a plurality of plates to produce the structure of Fig. 4;

Fig. 4 is a sideview of the structure produced by the plates of Fig. 3;

Fig. 5 is a sideview of a plurality of plates to show specific sculpturing for three dimensional effect to produce Fig. 6;

Fig. 6 is a sideview of the structure produced by the plates of Fig. 5, and

Fig. 7 is a plan view of Fig. 2, 4 or 6.

In Fig. 1 of the drawings is shown a plastic material sheet or card. Ink is applied thereto at one side thereof. As in practice, the ink is applied to the rougher surface as ink holds better, in contrast to the glossy surface. The roughened surface makes the sheet translucent. According to the underlying concept it is desired to have part of the sheet translucent and part of the sheet transparent. One way to provide transparency to part of the shield is to apply a sheet of cellophane limited in contour to the field desired. This cellophane must be pressed against ink side of the sheet or card. For this purpose, two pressure plates are essential. When the pressure has been completed, the cellophane sticks to the upper pressure plate. The lower surface of this pressure plate is provided with a roughened surface, so that its surface acting upon the sheet or card, roughens the outer surface of the field. When pressure has been completed and the pressure plates have been removed, the sheet or card looks like Fig. 2. The top surface has a rough border, the central field is smooth or transparent, and the ink shows as intended (see Fig. 7).

The outer border can be applied, at the bottom instead of the top, by giving a border of the lower pressure plate a rough surface on areas as in Fig. 7. The upper plate has its lower surface entirely smooth as shown to act against the cellophane and against the plastic sheet. The result is shown in Fig. 4, in which the border is rough or translucent to opaque, and the top field is transparent, different surfaces or areas of field and border, being of different color or tone effect.

When an embossing is desired the upper plate for example can be provided with pronounced roughening or what is called in this case, embossing. The enlarged roughening or embossing is directly above certain inked portions of the plastic sheet. The less roughened surfaces are at the border, and the smooth part of the upper plate gives a smoothening out of the rough portions between the ink portions, such smooth portions acting like the cellophane. The end result is the plastic sheet of Fig. 6, with a rough border, an ink engraved portion, and transparent portions, marked smooth. Again a contrast of

visual perception appears as it is the same side of the sheet, as in Figs. 2, 4 and 6.

The illustration of Fig. 7 is merely to clarify, the relationship of translucent border and transparent field; which, of course, can be transparent border and rough field, as long as the contrasting colors or shades appear as if on the same side of the sheet. It will be noted that the applied ink embeds itself into the sheet by pressure.

Changes may be made within the scope of the invention without departing from the same.

I claim:

1. The method of making a card from a sheet of rigid film plastic material, having either polished surfaces or roughened surfaces throughout the surfaces of said sheet, which consists in subjecting one side of said sheet to a printing, and then subjecting said sheet to the pressure of a plate having specific smooth and rough areas forming fields with one field bordering on the other to convert said surfaces of said sheets to said fields of rough and smooth areas, said areas being in register with printing on said sheet, to present said printing at the rough area and at the smooth area, whereby said printing appearing at the rough area is visible, and the printing at the smooth area enables the transparency of the same to be utilized, both rough and smooth areas being visible at the same side of the sheet.

2. The method of claim 1, and subjecting said rough printed area to a pressure by a plate that has been specifically roughened causing a rough area on said printing to provide a three dimensional sculpturing effect of said printing.

3. An improved card comprising a sheet of rigid film plastic material with printing thereon, smooth and rough areas on said sheet forming fields in coordination with said printing, said smooth and rough areas, being visible from the same side of said sheet.

4. The structure of claim 1, and embossed sculptured impressions on said rough areas, forming a three dimensional effect.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
229,677	Crooke	July 6, 1880
2,084,026	Gurwick	June 15, 1937
2,200,203	Heintz	May 7, 1940
2,313,489	Latrobe	Mar. 9, 1943
2,314,975	Ford	Mar. 30, 1943
2,482,094	Chavannes et al.	Sept. 20, 1949
2,572,719	Ginell et al.	Oct. 23, 1951