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(54) **Method of making a photographic image.**

(57) A method of making a photographic panel, comprising the steps of making at least two photographic prints of the same size from the same negative, applying adhesive to their surfaces and onto one side of a transparent base, and laminating the base and a first one of said photographic prints so that the respective adhesive-applied surfaces are face-to-face, thereby bonding the two together. The backing sheet of the first photographic print is then removed and the second photographic print is bonded to the already bonded photographic print so that images of both photographic prints are aligned with each other, and the backing sheet of said second photographic print is removed. Three or more such photographic prints may be laminated and bonded successively onto the base. A superior visual effect is obtained when viewed by either reflected or transmitted light.

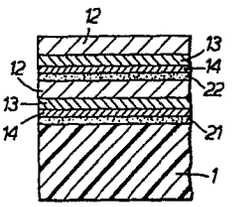

Fig. 2b.

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"Method of Making a Photographic Image"

The present invention relates to a method of making a transparent photographic panel like a slide by using a plurality of photographic prints of the same size reproduced from the same negative.

A transparent photographic panel can be obtained by applying a photosensitive emulsion onto one side of a base such as a plastic film or a glass plate and then subjecting the photosensitive emulsion to exposure, development and fixing. However, the photographic panel thus obtained is insufficient in both contrast and colour density, so when it is to be used for ornamental or advertising purposes, it is necessary to illuminate the panel from the back, or else, the panel will be dull and dark making it impossible to see the display clearly. In the case of photographic paper, illumination from the back is not necessary, but since it relies on only reflected light, the display is insufficiently bright.

It is the object of the present invention to provide a method of making a photographic panel capable of not only exhibiting a good display effect with reflected light alone by illumination from the front but also exhibiting an even better display effect by illumination from the back.

Accordingly, the present invention provides a method of making a photographic panel, comprising making at least two photographic prints of the same size from the same negative, applying adhesive to their surfaces and onto one side of a separately provided transparent base, laminating said base and a first one of said photographic prints so that the respective adhesive-applied surfaces are in face-to-face relationship, thereby bonding the two together, then removing the backing sheet of said one photographic print, laminating and bonding the second of said photographic

prints onto said first photographic print so that their images are aligned, and then removing the backing sheet of said second photographic print.

One embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:

Figures 1a and 1b are explanatory views showing manufacturing steps of the method of the present invention;

Figure 2a is a longitudinal sectional view of part of an intermediate-step product obtained in the present invention;

Figure 2b is a longitudinal sectional view of part of a photographic panel completed; and

Figure 3 is a longitudinal sectional view of part of a photographic print used in the present invention.

Referring first to Figure 1a, the reference numeral 1 denotes a transparent base formed of a plastic material such as acrylic resin or polyvinyl chloride resin, and the numerals 2a and 2b denote photographic prints of the same size reproduced from the same negative.

The photographic prints 2a and 2b have been obtained by using an ordinary photographic process of enlarging, developing, fixing, water-washing and drying steps in known manner. Therefore, each of the photographic prints 2a and 2b comprises, for example as shown in Figure 3 a paper backing sheet 11, an intermediate layer 12, an emulsion layer 13 and a gelatin layer 14, the image being formed in the emulsion layer. The intermediate layer 12 is formed of baryta or polyethylene, and in any case, it has a milk-white colour for improving the clearness and whiteness of the image. In the first step shown in Figure 1a, a water-resistant adhesive is applied by spraying or other suitable means onto the back of the base 1 and the surfaces of the photographic prints 2a and 2b (the surfaces of the respective gelatin layers 14), and then dried.

Referring now to Figure 1b, there is shown a second step in which the photographic print 2a is laminated to the back of the base 1 by utilising the adhesive applied to each of them. Since the adhesive layers formed on the base 1 and the photographic print 2a are already dry, the bonding of the two is effected by first applying a suitable solvent onto the surface of each adhesive layer and then contacting the two closely with each other. Thereafter, the paper 11 of the photographic print 2a is removed. This can be done easily, for example, by first tearing off the paper 11 mechanically and then removing the remaining paper fibres by using a disintegrator such as an aqueous sodium hydroxide solution or the like. This third step affords an intermediate step product comprising the gelatin layer 14, emulsion layer 13 and intermediate layer 12 which were bonded to the back of the base 1 through the adhesive layer 21, as shown in Figure 2a.

The fourth and fifth steps comprise laminating the photographic print 2b to the back of the intermediate step product (i.e. the back of the intermediate layer 12) shown in Figure 2a in the same manner as in the second and third steps and then removing the paper 11. In laminating the photographic print 2b in the fourth step, it is necessary that the image of the print 2b be aligned accurately with the image of the already laminated photographic print 2a.

The photographic panel obtained through all of the steps described above has eight layers - adhesive layer 21, gelatin layer 14, emulsion layer 13, intermediate layer 12, adhesive layer 22, gelatin layer 14, emulsion layer 13 and intermediate layer 12 - laminated in this order to the back of the base 1, as shown in Figure 2b. Since the images in the two emulsion layers 13 are aligned accurately with each other, there are obtained high contrast and density, which, coupled with the milk-white translucence of the intermediate layer 12, permit the photographic panel to present the same

external appearance as in ordinary prints, and further permit the panel to exhibit a visual effect equal to that of a slide when the panel is illuminated from the back by means of a fluorescent lamp or the like.

In the above described embodiment, two photograhic prints were laminated to a single base, but in the case of a low contrast of print or in case a special visual effect is to be obtained, three or more photographic prints may be laminated together. Furthermore, when the intermediate layer of the photographic print is formed of baryta, a water-resistant coating material may be applied onto the outermost intermediate layer in order to improve the stability against water and moisture.

It will thus be appreciated that the preferred embodiment of the invention provides a photographic panel which affords a superior visual effect in the cases of both reflected light and transmitted light.

CLAIMS:

1. A method of making a photographic panel, comprising making at least two photographic prints of the same size from the same negative, applying adhesive to their surfaces and onto one side of a separately provided transparent base, laminating said base and a first one of said photographic prints so that the respective adhesive-applied surfaces are in face-to-face relationship, thereby bonding the two together, then removing the backing sheet of said one photographic print, laminating and bonding the second of said photographic prints onto said first photographic print so that their images are aligned, and then removing the backing sheet of said second photographic print.

2. A method of making a photographic panel according to claim 1, wherein three or more said photographic prints are laminated and bonded successively onto one side of said base.

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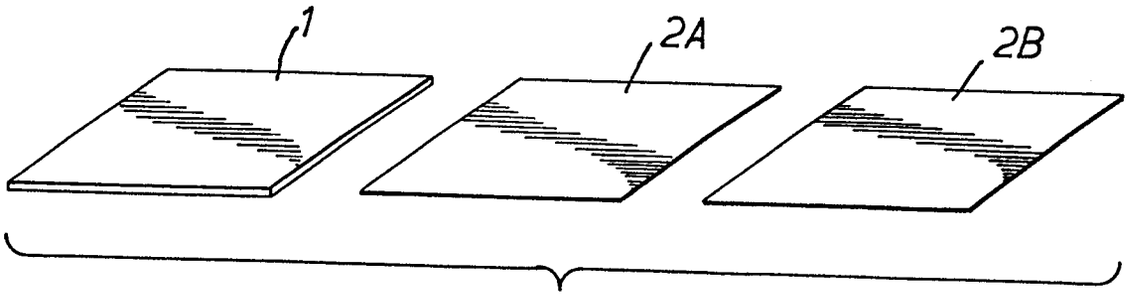

FIG. 1a.

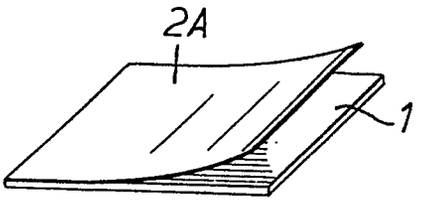

FIG. 1b.

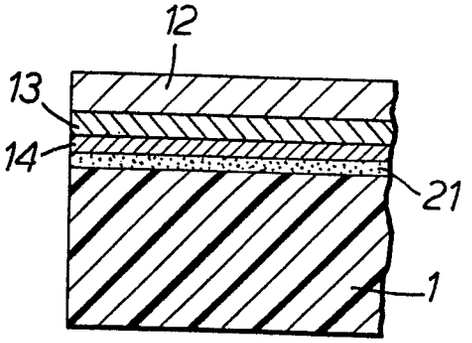

FIG. 2a.

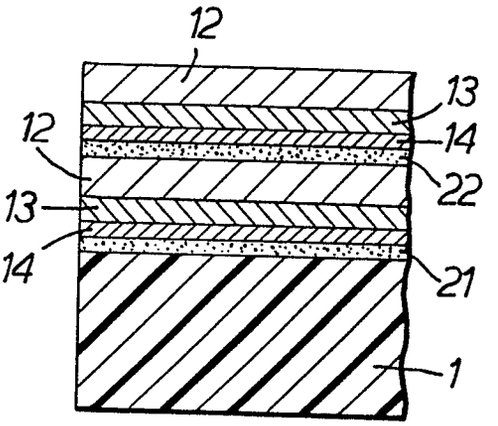

FIG. 2b.

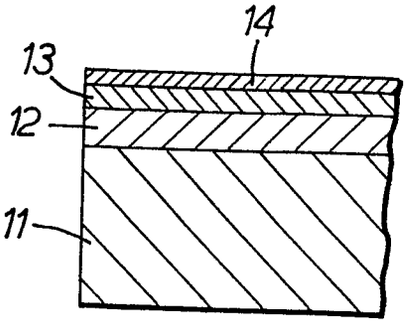

FIG. 3.