# United States Patent [19]

**Molner**

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[54] **METHOD FOR TRANSFERRING INFORMATION PRINTED ON A CLAY-COATED SUBSTRATE TO A TRANSPARENT SUBSTRATE FOR THE PURPOSE OF MAKING SLIDES**


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[52] **U.S. Cl.**..... **156/235,** 117/3.5, 156/230, 156/241, 156/249, 161/6, 161/406, 161/413

[51] **Int. Cl.**..... **B32b 31/24,** B44c 1/16

[58] **Field of Search**..... 117/3.1, 3.5; 156/230, 234, 156/235, 236, 240, 241, 277, 249; 161/1, 2, 6, 406, 413



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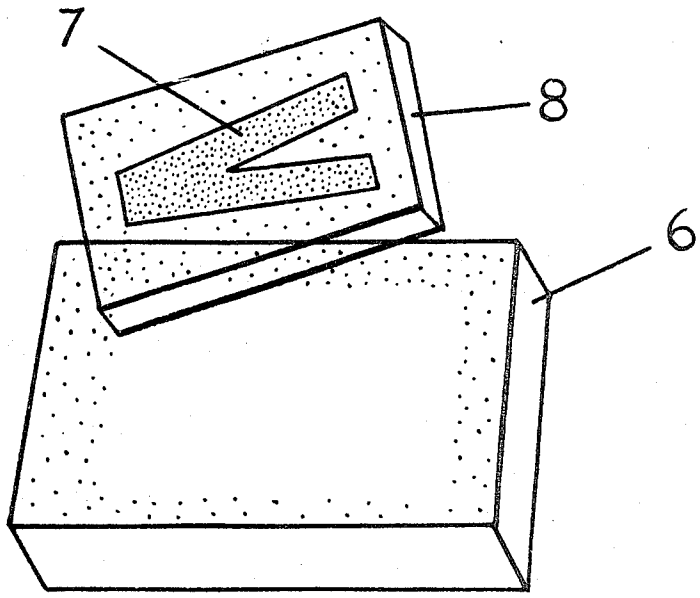
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[57] **ABSTRACT**

A method of making slides using a transfer process including contacting a clay-coated image bearing surface with an adhesive coated transparent substrate, burnishing the image and the transparent substrate and separating the transparent substrate from the original image bearing surface whereby a transfer of the image to the substrate is accomplished which is suitable for conventional image projection.


**4 Claims, 3 Drawing Figures**



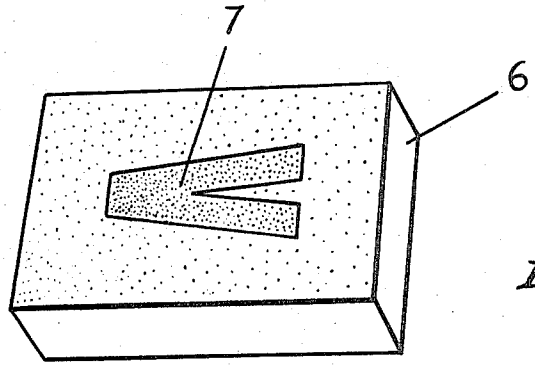



Fig. 1.

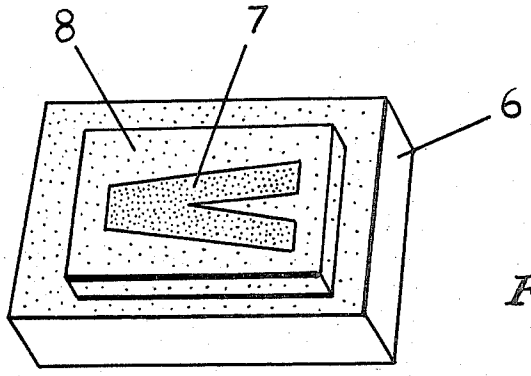



Fig. 2.

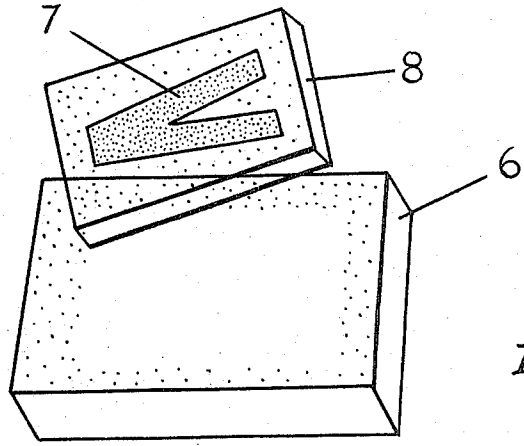



Fig. 3.

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# METHOD FOR TRANSFERRING INFORMATION PRINTED ON A CLAY-COATED SUBSTRATE TO A TRANSPARENT SUBSTRATE FOR THE PURPOSE OF MAKING SLIDES

The present invention relates to a transfer process, and it particularly relates to a transfer process to produce slides suitable for projection through the use of any standard photographic slide projector.

It is the object of the invention to provide slides which can be produced rapidly, safely, and economically, which involve no cameras, toxic chemicals, or copying machines in their production.

A further object of my invention is to provide a means whereby rapidly printed images can be easily processed into projection slides for viewing by large audiences without the time delay usually associated with photographic slide production.

Although the present invention will be particularly described in the application of standard 2 inch by 2 inch slides it is to be understood that it has a broad application to the transfer of printed matter to slides of various dimensions, as for example, in the transfer of printed information to 4 inch by 5 inch slides.

In the past photographic slide production necessarily required the use of complex apparatus involving cameras, film, toxic developing and fixing solutions. An important advantage of the present invention is the complete elimination of photographic apparatus, fragile cameras and harmful and corrosive chemicals. This factor makes the process particularly well suited for use by young children.

This invention relates to a method comprising (1) contacting a clay-coated image bearing surface with a transparent substrate which has been previously coated with a transparent adhesive layer, (2) burnishing said image and transparent substrate to cause the image to adhere to the transparent substrate, (3) wetting the composition with a liquid in which clay is soluble, (4) separating the transparent substrate from the original image bearing surface whereby a transfer of the image is accomplished, (5) placing the image bearing transparent substrate in a suitable holder or on a second transparent surface in preparation for projection.

The original image bearing surface may be a page or portion of a page in a periodical, book, or other source of information printed in multiple colors or in a single color on a clay-coated sheet. The sheet employed therein may comprise any material through which water may penetrate readily but it preferably consists of paper.

The aforesaid transparent substrate may be a sheet or roll of acetate, cellophane, or any similar transparent paperlike product which can be pre-coated with a thin adhesive layer.

A complete understanding of the invention will be had from the following detailed description of a preferred manner of carrying it into effect. The accompanying drawing forms a part of that description.

FIG. 1 shows a clay-coated sheet 6 having thereon an image 7.

FIG. 2 shows a sheet of self-adhering transparent substrate 8 which has been applied to the sheet 6 so as to cover image 7.

FIG. 3 shows the separation of the printed image 7 from the clay-coated sheet 6 leaving said image on the adhesive surface of the transparent substrate 8. The surface of the sheet 6 has been wet with a liquid (not shown) in which the clay coating is soluble. The sheet can be wet by any suitable means such as by immersion, wiping or spraying.



Any liquid in which clay is soluble is operative herein although a liquid which cannot be conveniently removed from the substrate surface or one which damages or dissolves the transparent substrate is not useable. Water is the preferred wetting agent since it is readily available, nontoxic, odorless, and dries quickly.

A single liquid may be employed or a mixture of two or more liquids can be used. For example, excellent results may be obtained when the composition is wet with a solution containing 50 percent alcohol and 50 percent water.

At normal room temperature the liquid will release the image within a 2 minute time period. The release can be accomplished at a wide range of temperature above the freezing point and below the boiling point.

After the release occurs, a white, chalky residue will remain on the adhesive surface of the transparent substrate. This residue can be easily removed by patting the surface with a wet sponge, cotton cloth or similar absorbent material.

When thoroughly dry the image bearing transparent substrate can be mounted and used in a projector without further processing although a coating of clear fixative (such as KRYLON No. 1303A, supplied commercially by the Borden Chemical Company), applied to the adhesive surface, will provide permanent protection against scratches and fingerprints.

It should be understood that although the invention has been described in connection with a process that is done by hand, this working can also be done mechanically. For example, a suitable machine could be employed in which a liquid is caused to contact the composition at one station while a knife separates the printed image from the clay-coated sheet at a second station.

I claim:

1. A method of transferring images which comprises contacting a clay-coated image bearing surface with a transparent substrate which has been previously coated with a transparent pressure sensitive adhesive layer,

rubbing the image bearing surface and transparent substrate to thereby burnish the image, and cause the image to adhere to the transparent substrate,

wetting the clay-coated image bearing surface with a liquid in which the clay coating is soluble,

separating the image from the image bearing surface by disjoining the image bearing surface from the pressure sensitive adhesive layer of the transparent substrate whereby the image is transferred to the transparent substrate,

removing the clay residue from the transparent substrate, and

contacting an adhesive-free supportive and protective surface with the image-containing adhesive layer of the transparent substrate whereby the image is in a condition suitable for conventional image projection.

2. A method of transferring images in accordance with claim 1 wherein water is used as the liquid for wetting the clay-coated image bearing surface.

3. A method of transferring images in accordance with claim 1 wherein the adhesive free supportive and

protective surface is transparent and further applying pressure to cause the transparent surface to adhere to the transparent substrate.

4. A method of transferring images which comprises contacting a clay-coated image bearing surface with a transparent substrate which has been previously coated with a transparent pressure sensitive adhesive layer,

burnishing the image to the pressure sensitive adhesive layer of the transparent substrate to cause the image to adhere to the transparent substrate,

wetting the clay-coated image bearing surface with a liquid in which the clay coating is soluble,

separating the image from the image bearing surface by disjoining the image bearing surface from the pressure sensitive adhesive whereby the image is transferred to the transparent substrate, and

coating the image-containing adhesive layer of the transparent substrate with a transparent adhesive-free fixative,

whereby a protected permanent image is provided in a condition suitable for conventional image projection.

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