United States Patent

Van Swearingen

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[54] **METHOD FOR MORE BRILLIANT COLOR PICTURE PRESENTATION**

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Related U.S. Application Data

[63] Continuation of Ser. No. 614,404, Feb. 17, 1967, Continuation of Ser. No. 662,560, Aug. 3, 1967.

[52] **U.S. Cl.** **95/1,** 40/134, 40/135

[51] **Int. Cl.**.....**G09f 13/20,** G09f 7/00

[58] **Field of Search** 95/1; 40/134, 135

[56] **References Cited**

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[57] **ABSTRACT**

Method of reproducing individual pictures or multiples thereof. A non-luminescent surface is placed next to a background light reflecting surface and next to the non-luminescent surface a daylight activated fluorescent surface is placed. At certain points on the picture a lighter surface is provided so as to be able to peek through and highlight a darker surface.

9 Claims, No Drawings

METHOD FOR MORE BRILLIANT COLOR PICTURE PRESENTATION

CROSS-REFERENCES TO RELATED APPLICATIONS

This is a continuation of two previously filed applications; U.S. Ser. No. 614,404, filed Feb. 7, 1967 and U.S. Ser. No. 662,560 filed Aug. 3, 1967. Everything filed in these two previous cases is likewise a part of this present patent application, and can at any time be transferred into this patent application, or any division or continuation thereof, if a more adequate explanation of any portion thereof is required.

SUMMARY OF THE INVENTION

My invention relates to methods of reproducing individual pictures or multiples of the same pictures, many of which can be picked up and transported from here to there.

The manufacture and sale of gift cards of all kinds has recently become a huge business. My picture reproducing process procedures are especially advantageous in the large quantity production of this general type of product. This also includes the covers of paperback magazines and books, and the cardboard cases for phonograph records that are now being made in extremely large numbers, as are also the brilliantly colored packages containing foods, cosmetics and other smaller items.

My present improvements seek to increasingly achieve, more outstanding pictorial contrasts, further intensified highlights, by using even more brilliant back lighting effects. I continue to do this by the placement of various surfaces against each other in direct accordance with my herein outlined process procedures. My invention includes both the means and the methods of making my pictures brilliant, as well as the preservation of this same brilliance. It covers the ways such pictures are used, and the different items noted herein as these same highly useful embodiments. It deals primarily with vividly colored pictures, wherein, my colors remain bright and beautiful over much longer periods.

Prior to my own experimental efforts pure daylight fluorescent colors had been used mainly "in the flat", especially on the various poster surfaces to which they at that time had been applied.

There are several kinds of daylight fluorescent colors, any or all of which I make direct use of. I prefer, however, to use pure Day-Glo fluorescent colors (See the U.S. patents to U.S. Pat. to J.L. Switzer No. 2,629,956 dated Mar. 3, 1953 and U.S. Pat. to J.L. Switzer No. 2,475,529 dated July 5, 1949, which have so generously been used on fire hydrants, on the coats boots and clothing of firemen and policemen, on signal flags of various kinds where quicker attention, faster service and added safety are prime requisites.

Prior to my own efforts, practically nothing had been done toward applying these same brilliant fluorescent colors in their "pure" state in pictorial displays, wherein it was necessary to have graduated pictorial contrasts, much sharper and intensified highlights, and much more brilliant back lighting effects all of which would help to achieve a somewhat modified and simulated three dimensional effect, as an improved pictorial result. There was much need of such improvements in outdoor advertising posters as well as in the duplication

of pictures that could be picked up and transported while being publicly on view at this same time.

While I was experimenting with pure fluorescent colors on my outdoor posters, others were compounding and using non-pure fluorescent colors in the form of so-called fluorescent colored printing inks. These inks were mixtures of pure fluorescent colors with various diluents. Tints were gained by mixing fluorescent colors with lighter liquids. Shades of fluorescent colors were accomplished by compounding pure fluorescent colors with darker colors, usually non-fluorescent. In the latter cases these darker diluents tended to give pure fluorescent colors a more "muddy" appearance, whereas the fluorescent tints (pure fluorescent colors mixed with lighter diluents) gave a much more "-washed out" appearance, that was not desireable. Such fluorescent ink diluting or compounding procedures, of course, would naturally take any picture made of said inks much farther away from pictorial brilliance, rather than toward it.

Always using my fluorescent colors pure, (so-called Day-Glo fluorescent colors preferred), instead of having them compounded with any outside diluents, and then placing non-fluorescent colors, (either tints, shades or blacks) on top of, or outside of, my pure undiluted fluorescent colors, and, at the same time, always employing a light reflecting back ground behind my fluorescent colors, it was in this way, I began to achieve a pictorial result so different, and so much more brilliant, than any previous uses that pure fluorescent colors had, ever, up to that time, been put to. In fact, my pictorial results were so intrinsically vivid and colorful that they immediately arrested the attention of the lithographic trade in general.

This was not only true with regard to my point of Purchase items. It was especially true in connection with my large outdoor billboard displays....especially those to be glanced at briefly by riders in swiftly moving vehicles, rapidly passing by.

As my experimental work advanced, my picture reproducing process resulted in much more distinctive outdoor posters that could be seen much more quickly and at much longer distances. They were also posters that appeared more clearly on duller or darker days. By using my daylight fluorescent colors pure and placing them over a white or near white light reflecting background, I began to achieve my pictorial contrasts, my intensified highlights, and far more brilliant back lighting effects. Thus I commenced to offer a more nearly simulated three dimensional effect, in both my larger and smaller pictorial results.

In my patent application Ser. No. 614,404 I prefer the arrangement of three surfaces in substantially the following manner; first, a background light reflecting surface; next, on this, or near this, a fluorescent surface (or series of fluorescent surfaces); and on this fluorescent surface or surfaces, a non-fluorescent surface, or series of non-fluorescent surfaces.

Since specifying such a process procedure as the placement of these surfaces in the above indicated manner, I have found that under certain conditions it is entirely possible to get almost the same pictorial results by reversing the order of placing the two latter surfaces, in other words, to place the non-fluorescent surface or surfaces next to the light reflecting background,

and then, on top of the non fluorescent surface or surfaces, to place the fluorescent surface or surfaces. In fact, I have done this latter process procedure, with almost as good results, as obtained by the first process procedure as it is outlined in my patent application Ser. No. 614,404. My reasons for here explaining this fact, is to cover and to patent protect this alternative pictorial process method, and the articles of manufacture, resulting therefrom.

As in the aforementioned patent application Ser. No. 614,404, I also here propose the various auxiliary process steps (in connection with this reversal of my fluorescent and non-fluorescent color placement), as these same auxiliary process segments are set forth in my Ser. No. 614,404 case. I may surround my finished picture with a frame of darker (preferably non-fluorescent) color, to intensify the picture employing my fluorescent colors. I have designated these darker framing surfaces as lighting absorbing surfaces. As in my previous patent application, I here further propose covering all of my said surfaces with a clear transparent surface of glass, plastic sheet or film, providing these covers are in all cases properly transparent. It is also to be noted that the light reflecting background surface is either a white surface, a near white surface of a light reflecting character, or a metallic or metalized surface that is shiny like aluminum or tin. Within that same plan, I hereby propose to color photograph my entire result, and then make colored photographic prints from the film or the plates with which said colored photograph photos were produced.

In this present instance, I also reserve the right to use artificial light (electric light) or chemical luminescence as my light reflecting background, or in its stead. The general purpose of this is to throw light outward from behind my fluorescent colored surface (as in my Ser. No. 614,404 patent application), or behind my non-fluorescent surface (covered by a fluorescent surface) as detailed herein.

Here, as in my invention detailed in Ser. No. 614,404, but there neither described or claimed, I introduce certain further improvements of patentable interest in this same joint case connection.

In my case Ser. No. 614,404 I said nothing about using or placing any form of artificial light back of my light reflecting background.

DESCRIPTION OF INVENTION

I now propose such artificial light, placed behind my light reflecting background, to make either the pictorial result as detailed in Ser. No. 614,404 or the similar pictorial result (with the positions of the fluorescent and non-fluorescent surfaces suitably reversed as noted herein), much more useful, in either case, on a dark or gloomy day, in a dark room, or out on an outdoor billboard nighttime poster installation.

To successfully employ artificial light to thus intensify my pictures as produced under application Ser. No. 614,404 or, as at present described, I then prefer that my background light reflecting surface be white, or near white colored paper, glass, plastic plate or plastic film. It then becomes also a means of diffusing the artificial light employed, as well as a light reflecting background, behind the fluorescent color (or colors) to back light these fluorescent colors, even if the artificial or chemical light is not turned on (or in action). If my electric lights are tubular lights, it is here noted that these are here preferred, especially when they are made of the milk white glass tubing.

It is well within the scope of my methods (either my previous Ser. No. 614,404 method of picture reproduction or the method set forth herein), of employing my white tubular lights behind my white or near white or light colored background surface or metallized glass, or plastic plate or plastic film, as the case may be.

It is well within the province of my invention as it pertains to my Ser. No. 614,404 process or the process detailed herein, to use chemical light, that is, either the chemical light that absorbs daylight during the day, and then shines brightly at night, or the newer chemical light that shines when exposed to oxygen or to oxygenated air (since all normal atmosphere is approximately 20 percent oxygenated).

Both of these forms of chemical illumination are known as "cold light," the latter form (that is activated by oxygen) being similar to that light, lighting up the well known firefly. And, to my knowledge "cold light" has never been used as I here propose that it be used, that is, to back up either of the two processes of fluorescent picture reproduction as set forth here, and in my pending patent application Ser. No. 614,404.

There is a definite market for film (transparent film) covered colored pictures, especially those, such as mine that use fluorescent and non-fluorescent surfaces in my film combinations.

Therefore, my present invention here includes colored pictures in a night time-day time set up, as above described, the white lights behind my pictures shining both day and night.

In my second patent application, Ser. No. 662,560, I detailed how the highlighting of my picture was gained by allowing portions of my white or near white light reflecting background to show through my fluorescent or non-fluorescent surfaces (or peek through) here and there across my picture surface. By this device I placed the highlights exactly in the picture where they were supposed to be. I also reserved the right to employ extra areas of high lighting gained without using the "-peek through" procedure. This I also detail and lay claim to herein. Highlighting can be done by white areas here and there on the surface, but the "peek thru" plan must be used if the billboard is to be lighted from behind.

Where the light reflecting white or light colored background surface is peeking through the other surfaces, namely, the fluorescent surface next to the light reflecting surface, and the non-fluorescent surface next to the fluorescent surface (as detailed in my application Ser. No. 614,404), or where the non-fluorescent surface is next to the light reflecting surface, and the fluorescent surface is then next to the non-fluorescent surface (as emphasized herein), if the high lighting by this "peek through method," is insufficient, then, and in that event, I may increase my high-lighting by steaks or areas of white or light color, here and there over the picture taken as a whole. If the light reflecting surface is not using artificial light of any kind behind it, the above alternative (to the "peek through method"), has much to commend it, because the "peek through method" does not always provide quite sufficient high

lighting to make the whole pictorial effect in every way entirely complete.

While the above process procedures concern the use of my double surface fluorescent and non-fluorescent lay-outs over a light reflecting background, which may or may not be backed up with artificial lighting preferably coming from milk white fluorescent electric light tubes (or tubing)...particularly in large outdoor installations (either bill board or architectural), even so, this same arrangement has its indoor "point of purchase" uses, in areas that are dull, such as in darkened grills, resturants, cocktail rooms and the like.

As an alternative procedure to that detailed just above, I may reverse the order of application, placing the non-fluorescent surface next to the light reflecting back ground paper surface, and then laying the fluorescent surface on top of that.

I claim:

1. A color picture reproducing process for making a single picture or multiplying of substantially identical vividly colored pictures, comprising the steps of placing a colored non-luminescent surface or surfaces next to a background lighted reflecting surface, and placing next to said colored non-luminescent surface or surfaces, a daylight activated colored fluorescent surface or surfaces.

2. The process claimed in claim 1, including placing a much darker light absorbing surface framing and surrounding all of said surfaces.

3. The process as claimed in claim 1, including placing a clear transparent surface covering all of said surfaces.

4. The process as claimed in claim 1, wherein said background lighted reflecting surface is a white or near white surface.

5. The process as claimed in claim 1, where in said background surface is a metallized or a metallic surface.

6. The process as claimed in claim 1, allowing at certain points and in certain places, a lighter surface to peek through and highlight a darker surface.

7. The process as claimed in claim 2, allowing at certain points and in certain places, a lighter surface to peek through and highlight a darker surface.

8. The process as claimed in claim 6, where in the "-peek through surface" is the background lighted reflecting surface.

9. The process as claimed in claim 6, including the placing of a clear transparent surface covering all said surfaces.

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