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PROCESS FOR CORRECTING NEGATIVES

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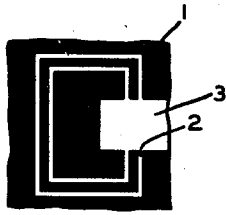


FIG. 1.

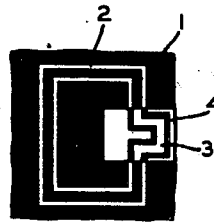


FIG. 2.

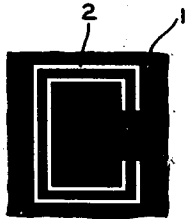


FIG. 3.

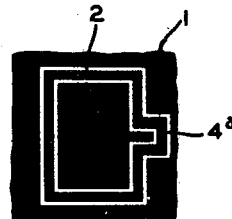


FIG. 4.

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PROCESS FOR CORRECTING NEGATIVES

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6 Claims. (Cl. 41-41)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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My invention relates to a process for correcting negatives and other reverse printing plates. It will be described particularly with reference to the correction of Vandyke prints, although it is not limited thereto.

Vandyke prints are used universally in industry to make blueprints. It is quite often necessary to make changes and alterations on these prints. No satisfactory method has been provided heretofore for making such changes and alterations of the prints without damage thereto and without interfering with their reproducing qualities.

It is the object of this invention to provide an effective process for making changes and alterations on such prints without injury to the prints and without unduly changing the general overall appearance of the prints and the reproducing qualities of such prints.

According to my process the area of the print to be changed is selected and is bleached out with a suitable bleaching solution which is applied thereto. The alteration to the print is then made by drawing with pen and ink, the ink being a special solution which I provide. After the ink dries, the entire bleached surface is painted with a background coloring substance which matches the background of the print. The paint or coloring liquid will be absorbed in the print paper throughout the bleached area except those parts covered by the inked lines but will not disturb or react with the ink substance. At this time, the drawn alteration will not show through the background paint. The excess paint is blotted off and the area is brushed gently with a fourth liquid which seeps through the paint and when it comes in contact with the ink substance will produce a violent chemical reaction that causes the paint overlying the inked lines to be removed along with the ink substance with which it combines. Thus the redrawn lines will appear in the painted background of the corrected area of the print.

The drawing illustrates the successive steps of my process.

In the drawing:

Fig. 1 illustrates a print with the area to be corrected bleached out.

Fig. 2 illustrates the same area with the correction drawn thereon with my ink.

Fig. 3 illustrates the corrected area covered with the paint or background coloring.

Fig. 4 illustrates the same area after the final solution is applied thereto and the inked lines are developed.

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Vandyke prints usually have a dark brown background and white translucent lines. In the drawing, the background is indicated in solid black and by the numeral 1. The lines on the print are indicated by numeral 2.

In bleaching the area of the print to be corrected as shown in Fig. 1, I employ a bleaching solution which I shall call liquid No. 1. This solution may be any suitable bleaching solution such as sodium hyposulfite, bleaching water, chlorinated lime and water, sodium peroxide, etc. It is applied to the print and produces the bleached area 3.

After the area 3 has been bleached and dries, I redraw the correction 1 as shown in Fig. 2 by employing an ink which I shall term my liquid No. 2. The redrawn lines are indicated by the numeral 4 and in black although in actual practice they will not be the same color as the background. This solution No. 2 is a basic aqueous solution and preferably has the following ingredients in the percentages by weight indicated:

	Parts
Gluten starch	15
25 Gum arabic	20
Water	50
Glycerine	05
Sodium bicarbonate	05
30 Alcohol	05
Coloring to suit (for example, Indigo Blue Dye)	

Instead of the solution indicated above I may use a solution of ordinary mucilage with water, containing by weight 85% water and 15% mucilage, plus sodium bicarbonate and coloring matter. In fact, I may employ any aqueous solution containing a suitable base, such as the bicarbonates, sodium citrate, sodium phosphate, etc.

After the alteration 4 has been applied with pen and ink, as indicated above, the bleached area 3 is covered entirely with a paint or background coloring substance, as shown in Fig. 3. This liquid I shall call liquid No. 3. It comprises the following ingredients in the percentages by weight indicated:

	Parts
Resin (powdered)	25
Turpentine or paint thinner	10
50 Cuprous oxide	40
Ground or powdered glass	15
Spar varnish	05
Lamp black	05

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Any suitable oil paint of a color similar to the background color of the print may be employed. Outdoor and indoor dull finish paints and semi-gloss enamels containing proper coloring oxides, such as cuprous, cobalt and chromium oxides, to produce the desired color will be suitable.

When the paint is applied to the bleached and corrected area of the print it will be absorbed into the paper of the print with the exception of the portions covered by the ink. The paint will not disturb or react with the ink substance but will merely cover it. The excess paint is removed by blotting with blotting paper.

While the paint is still moist, the painted area is subjected to the solution which I shall call liquid No. 4. This liquid is an aqueous acid solution and will react with the basic ink substance previously applied to the print as liquid No. 2. This solution will contain the following ingredients in the proportions by weight indicated:

	Parts
Water	90
Glacial acetic acid	05
Glycerine	05

Instead of the above I may use dilute solutions of sulfuric acid, citric acid, nitric acid, sulfurous acid, etc.

When this solution is applied to the painted area, it seeps through the moist paint, reacts and combines with the basic ink violently and loosens and removes the paint substance along with the ink substance from the surface of the paper. Thus, the redrawn lines will now appear in the background 2, as shown in Fig. 4, as translucent white lines 4a.

A suitable powder or other slightly abrasive substance may then be applied to the corrected area of the print and the area may be polished until the altered area is the same tone as the background.

If film negatives are to be corrected and etched, liquid No. 3 may have the coloring ingredients removed so that it will merely form a transparent coating over the corrected area.

In each instance, that is in using the paint coating liquid No. 3 or in using the transparent coating liquid, such liquid will not react with the liquid No. 4. The only reaction will be between the ink substance and liquid No. 4. Liquid No. 4 will have no effect on the background coating.

My process may be employed for correcting prints other than Vandyke prints. By using my process the print can be effectively altered without injury thereto and without substantial change in the general appearance or the reproducing characteristics of the print.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalty thereon or therefor.

What I claim is:

1. The method of altering a print which comprises bleaching the area to be altered with a bleaching solution, altering the bleached area with an ink having substantially the following formula:

	Parts by weight
Gluten starch	15
Gum arabic	20
Water	50
Glycerine	05
Sodium bicarbonate	05
Alcohol	05

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covering the bleached area with a paint having substantially the following formula:

	Parts by weight
Resin (powdered)	25
Turpentine or paint thinner	10
Cuprous oxide	40
Ground or powdered glass	15
Spar varnish	05
Lamp black	05

and then covering the coated area with a solution having the following formula:

	Parts by weight
Water	90
Glacial acetic acid	05
Glycerine	05

2. The method of altering a print which comprises bleaching the area thereof to be altered with a bleaching solution, altering the bleached area with a basic aqueous ink solution, covering the bleached area and said ink with a paint of the background color of said print, said paint being absorbed into said print in the area not covered by said ink, applying an acidic solution to said paint, said last-mentioned solution being of a composition adapted to penetrate said paint and react with and loosen said basic ink from said print, and polishing said area to the same tone as said background of said print.

3. The method of altering a print which comprises the steps of bleaching the area thereof to be altered with a bleaching solution, altering the bleached area with a basic aqueous ink solution which is impervious to oil base paints, covering the bleached area and said ink with an oil base paint of the background color of said print, said paint being thereby absorbed into said print in the area not covered by said ink, applying an acidic solution to said paint, said last-mentioned solution being of a composition adapted to penetrate said paint and react with and loosen said basic ink from said print.

4. The method of altering a print which comprises the steps of bleaching the area thereof to be altered with a bleaching solution, altering the bleached area with a basic aqueous ink solution which is impervious to oil paints, covering the bleached area and said ink with an oil base paint of the background color of said print, said paint being thereby absorbed into said print in the area not covered by said ink, applying an acidic solution to said paint, said last mentioned solution being of a composition adapted to penetrate said paint and react with and loosen said basic ink from said print, and polishing said area to the same tone as said background of said print.

5. The method of altering a print which comprises bleaching the area thereof to be altered with a bleaching solution, altering the bleached area with an ink having substantially the following formula:

	Parts by weight
Gluten starch	15
Gum arabic	20
Water	50
Glycerine	05
Sodium bicarbonate	05
Alcohol	05

covering the bleached area and said ink with an oil base paint of the background color of said print, said paint being absorbed into said print in the area not covered by said ink, applying an acidic solution to said paint, said last mentioned

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solution being of a composition adapted to penetrate said paint and react with and loosen said basic ink from said print and polishing said area to the same tone as said background of said print.

6. The method of altering a print which comprises bleaching the area thereof to be altered with a bleaching solution, altering the bleached area with an ink having substantially the following formula:

	Parts by weight	
Gluten starch	15	10
Gum arabic	20	
Water	50	
Glycerine	05	
Sodium bicarbonate	05	
Alcohol	05	15

covering the bleached area with a paint having substantially the following formula:

	Parts by weight	
Resin (powdered)	25	20
Turpentine or paint thinner	10	
Cuprous oxide	40	
Ground or powdered glass	15	
Spar varnish	05	
Lamp black	05	25

said paint being absorbed into said print in the

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area not covered by said ink, applying an acidic solution to said paint, said last-mentioned solution being a composition adapted to penetrate said paint and react with and loosen said basic ink from said paint and polishing said area to the same tone as said background of said print.

EDWARD DEVORES.

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