Nov. 29, 1949 S. SUÑÉ BARNOLA 2,489,987

PICTURE TRANSFER PROCESS

Filed Feb. 21, 1948

Fig. 1.

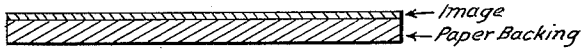


Fig. 2.

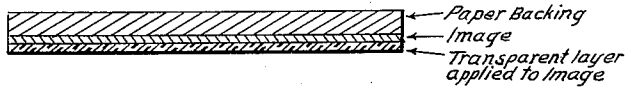


Fig. 3.

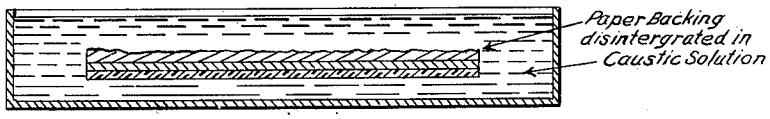


Fig. 4.

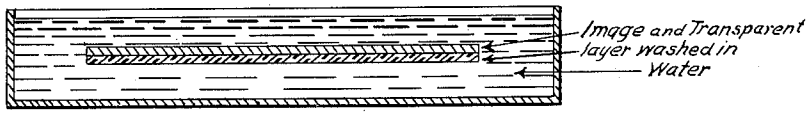


Fig. 5.

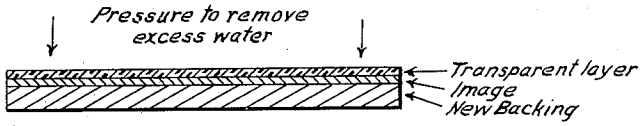


Fig. 6.

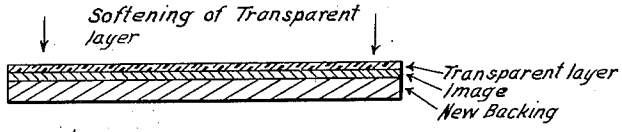
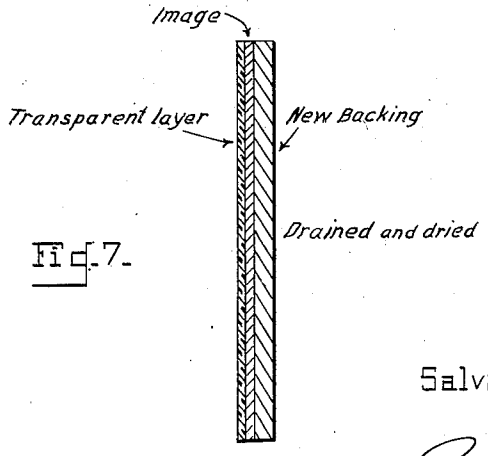


Fig. 7.



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PICTURE TRANSFER PROCESS

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12 Claims. (Cl. 154—98)

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This invention relates to method for printing images on rough surfaces and more particularly to a method of transferring a picture on any kind of paper to a canvas sheet.

There are already many processes for transferring prints to all kinds of objects. This type of printing, or, more exactly, decalcomania transfer, irrespective of how applied, is always based on the same principle. This principle resides in the fact that all of the prints that are to be transferred must of necessity be on paper coated with glue or gelatine, because the gum or gelatine serves as a separatory insulation between the paper and the printed image that is to be transferred, so that when the paper is moistened, the latter separates readily from said image, thus making it possible to transfer the latter to any sort of support. Hence, in this sort of reproduction, the prints must be specially prepared, depending on the circumstances. Furthermore, the practical use of these processes is limited exclusively to transferring the images to flat, smooth surfaces.

The present invention has for its object to obviate these drawbacks and make it possible to use any available print, made on any kind of paper, executed in one or several colors, the picture when transferred being improved in solidity and appearance. The picture, after being transferred has the same appearance as when on its old support; it is no longer necessary, as in certain prior art processes, to print the image reversed so as to have it appear non-reversed after the transfer.

The invention relates to an entirely new process which makes it possible to effect such transfer to any type of surface, whether it be rough, concave, convex, or provided with pronounced raised portions, so that certain artistic effects can be obtained which were impossible to achieve heretofore, such as the transfer of three-color pictures to canvas possessing a certain degree of roughness adapted to impart to the latter the appearance of canvas originally painted by the hand of an artist.

The example hereinafter described represents a preferred method of transferring, in accordance with the invention, any picture whatsoever, taken for example from an ordinary magazine. The basic steps of the method are graphically illustrated in the accompanying drawing wherein Fig. 1 is a diagrammatic cross-sectional view of the initial or starting picture, and Figs. 2 through 7 are diagrammatic cross-sectional views of the picture image and associated elements and illustrating the successive basic steps of the method, ranging from the application of a transparent layer to the final product wherein the image is transferred to a new backing.

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The picture, as illustrated in Fig. 1, which may be a fine grain three-color print on any kind of paper, is covered with a film, preferably transparent, applied to the printed side of the picture, as illustrated in Fig. 2. This film may comprise a thin cellulosic film that is applied to the printed side with the aid of heat and pressure, or the picture may be manually coated with collodion as by means of an air-brush, the collodion, when dry, producing the same result as the foregoing, that is, producing a film similar to that of a varnish.

A varnish may be employed and preferably, may comprise a composition containing transparent cellulosic lacquer, castor oil and fatty varnish (the latter being of the quality known as "fire boiled"). The proportions of this composition may vary depending on the density of the products composing this special varnish. A layer of this varnish is preferably applied by means of a spray gun or a varnishing machine so as to obtain evenness of depth and to avoid possible damage of the texture of the print. This layer is allowed to dry for at least three hours.

When the cellulosic film or varnish layer is entirely dry, the picture is immersed in a bath to remove the paper. If the image is glued to the paper, a water bath is sufficient. If the image is printed, however, the picture is bathed in a non-corrodible trough containing a caustic solution that will disintegrate the paper, as illustrated in Fig. 3. This bath comprises a solution of calcium chloride, sodium hypochlorite or potassium hypochlorite, the purpose being to destroy the paper fibers by rendering them pasty and thus facilitating their removal, but leave the printed picture stuck to the thin film, thus forming a transparent picture.

A principal feature of the invention is that the solution employed, while destroying the fibers of the paper, has no deleterious action on the film or varnish, which floats on the liquid and carries the print in perfectly reproduced form with all of its details preserved.

The proportions of calcium chloride, sodium hypochlorite or potassium hypochlorite in the solution may vary according to the qualities of the colors used in the print. A very concentrated solution destroys the paper more rapidly but it may, in certain cases, alter the color. Various factors, such, for example, as the thickness and the quality of the paper and the quality of the

inks govern the degree of concentration so that this question must be decided in practice according to the circumstances under consideration. For a paper of ordinary type, it has been found that a solution of 9% (nine percent) strength is highly satisfactory as it disintegrates the fibres of the paper but does not bleach the image if it is removed as soon as the fibres are disintegrated.

As soon as the paper fibres are disintegrated, the film carrying the print is then immersed in a bath of cold water, as illustrated in Fig. 4, to remove all traces of caustic solution which may adhere to it.

Assuming that the new support of rough material is a sheet of canvas, it is placed on a plane support, and, after being preliminarily moistened, it may be covered, if desired, with a base coating of ordinary white paint or other suitable material. When the coating is dry, the film, moistened with water, is applied thereon by passing a rubber squeegee over it to remove any excess of water that may remain between the base and the film, as illustrated in Fig. 5.

Although the film when dry, adheres strongly to the support (metal, glass, canvas, etc.), its consistency may be improved by allowing it to dry at a temperature of 45° C., which serves to soften the film, as illustrated in Fig. 6, and to increase its adherence to the support when dry.

Another, and often preferred procedure may be used, in which drying with the aid of heat is eliminated. This procedure comprises the spraying of a liquid which has the property of softening the film without disintegrating it. Such a solvent may be composed of equal parts of acetone and amyl acetate, or may comprise for example, benzylic alcohol, triacetin, or any of the many cellulosic diluents of high boiling point that are capable of producing a softening effect.

When this operation is finished, the support and the article so treated may be placed in a vertical position so as to drain off any water left in the rough areas and caught there by the relative vacuum therein, as illustrated in Fig. 7, the result being the perfect adherence of the viscous and elastic film, due to absorption, the entire structure forming a single homogeneous body.

A certain amount of time is then allowed to lapse so as to effect complete evaporation of the liquid previously used for imparting the elasticity and adhesion of the film and to dry the article so treated, whereupon it is intimately bound with the support.

Although certain specific embodiments of the invention have been shown and described, it is obvious that many modifications thereof are possible. The invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and by the spirit of the appended claims.

What is claimed as new, is:

1. The process for transferring images from a paper support and particularly onto rough surfaces, which process comprises applying a transparent film to the image, drying said film, bathing said film covered image in a caustic solution to disintegrate the paper support, washing the resultant image supporting film in water to remove all caustic, applying said film supported image in a moistened condition to a new support, pressing said film on said support with a squeegee to remove excess moisture, softening said applied film to adhere to said support, and drying said film and support.

2. A process as defined in claim 1 wherein said film is applied to said image with heat and pressure.

3. A process as defined in claim 1 wherein said film is formed by a varnish composition comprising cellulosic lacquer, castor oil and fire boiled fatty varnish.

4. A process as defined in claim 1 wherein said paper removing bath comprises a caustic solution of 9% strength which disintegrates the paper.

5. A process as defined in claim 1 wherein said paper removing bath comprises a caustic solution of calcium chloride which disintegrates the paper.

6. A process as defined in claim 1 wherein said paper removing bath comprises a caustic solution of sodium hypochlorite which disintegrates the paper.

7. A process as defined in claim 1 wherein said paper removing bath comprises a caustic solution of potassium hypochlorite which disintegrates the paper.

8. A process as defined in claim 1 wherein the film applied to the new support is softened by heat.

9. A process as defined in claim 1 wherein the film applied to the new support is softened by the application of a softener.

10. A process as defined in claim 1 wherein the film applied to the new support is softened by the application of acetone and amyl acetate.

11. A process as defined in claim 1 wherein the film applied to the new support is softened by the application of benzylic alcohol.

12. A process as defined in claim 1 wherein the film applied to the new support is softened by the application of triacetin.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
158,154	Veithen	Dec. 22, 1874
439,536	Maxwell	Oct. 28, 1890
470,899	Robinson	Mar. 15, 1892
748,427	Sicard	Dec. 29, 1903
2,117,795	Eriksen	May 17, 1938