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F. KUBIN

1,958,792

TRANSFER

Filed Dec. 14, 1931.

Fig. 1.

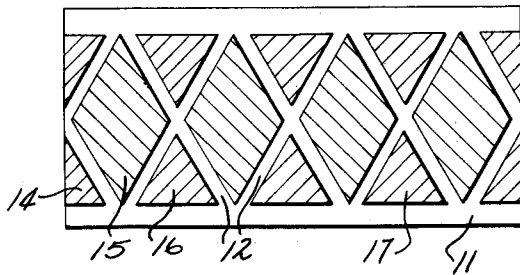


Fig. 2.

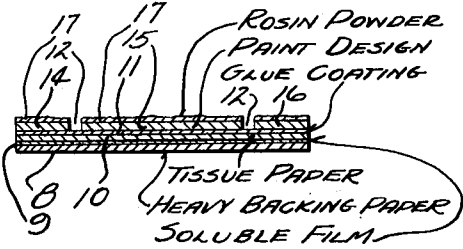


Fig. 3.

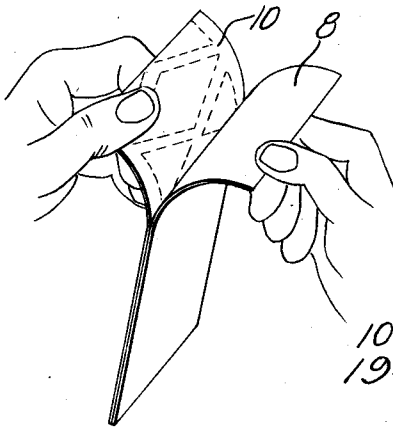


Fig. 4.

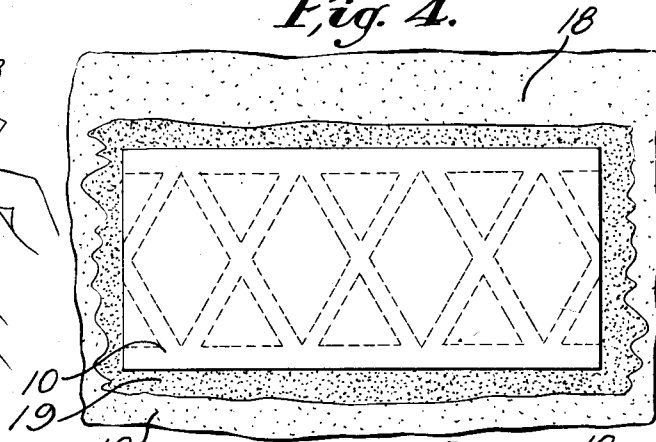


Fig. 5.

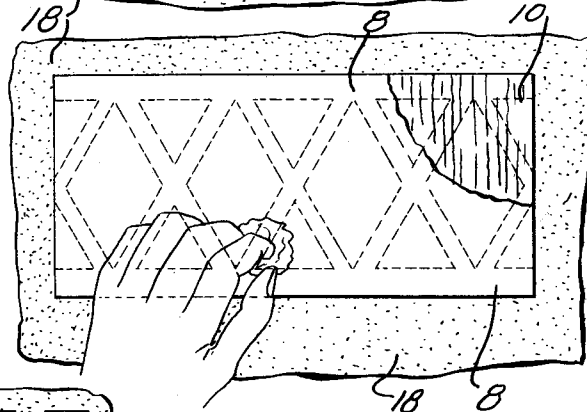
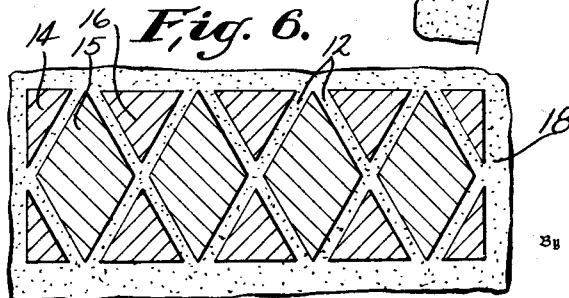


Fig. 6.



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UNITED STATES PATENT OFFICE

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TRANSFER

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1 Claim. (Cl. 41—33)

This invention relates to improvements in transfers.

It is the object of the invention to provide an open transfer which is applicable without heat to a rough surface.

More specifically stated, I propose to provide a transfer which may be used quickly and easily by unskilled persons to decorate such rough surfaces as sand finished plaster walls, window shades, and painted surfaces generally, with an effect equal to that which would be produced if the design were hand painted or stenciled directly upon the surface to be decorated. For these purposes a transfer is not acceptable when its design is supported by a substantially continuous film which is visible between the elements of the design. In order that the design may have the finish and attractive appearance of hand work, it must involve the use of a so-called open transfer wherein the supporting film, if any, is wholly concealed by the design and is not visible in the completed work.

In the past most type of transfers have been applicable only to highly finished smooth or glossy surfaces. The only transfers commonly applied, for example, to fabrics, have been transfers requiring heat. Such transfers are not at all practicable for the purposes of the present invention not only because they require a considerable degree of skill for their application, but also because of the difficulty of maintaining the alignment of the transfer on a large surface like that of a wall, while manipulating the heating elements required to release the design from its backing and cause it to transfer to the desired surface.

Through the present invention, I have successfully achieved my object of devising a transfer of the open type whereby the most delicate designs may be applied to a rough surface with great dispatch and accuracy. A finger print or a brush mark will transfer with the same degree of perfection as a heavy block design. I have successfully sought to enable the design to be built up sufficient heavily to give an embossed effect equal to the best work that might be done by painting with heavy paint directly upon the surface to be decorated. The same means is also effective to transfer a design so delicate as to be translucent. It is my further purpose to enable the transfer of a design embodying an air brush or blended effect, this being impossible with any other known form of transfer.

Broadly, the present invention is based upon my discovery of means whereby transfer is made

to depend upon the adhesiveness of the paint itself in which the design is embodied, and which is made available without heat through the application of a highly volatile agent incapable of harming any finish to which it may be applied.

In the drawing:

Figure 1 is a view of a conventional design appearing on the transfer sheet embodying the present invention.

Figure 2 is a fragmentary longitudinal section through the transfer sheet showing in enlarged and exaggerated degree the successive coatings applied thereto.

Figure 3 is a view in perspective showing the removal of the backing sheet from the transfer.

Figure 4 is an elevation illustrating the application of the transfer to a previously treated surface.

Figure 5 is an elevation illustrating a preferred means of smoothing the transfer.

Figure 6 is a view in elevation showing the completed decoration of the surface to which the transfer has been applied.

Like parts are identified by the same reference characters throughout the several views.

Transfers employed in decorating smoothly varnished surfaces commonly involve the use of some liquid adhesive which is applied to the entire face of the transfer to induce its adhesion to the surface to be decorated. Varnish and gold size are commonly used for this purpose, and unless the design to be transferred is supported on a film which is continuous across the face of the transfer sheet any such adhesive will cause the tacky sheet, as well as the painted design, to adhere to the surface to be decorated. In either case, the result is conspicuously different from hand work. If a continuous film is used with an open design it is visible between the component parts of the design, and if the transfer is an open transfer the adhering portions of the transfer supporting sheet can be removed only with difficulty and at the risk of unavoidably destroying the finer lines of the design.

By means of the present invention, only the design itself is rendered adherent to the surface to be decorated, and this is accomplished through the means of a specially prepared paint which is made to be adhesive independently of any other portion of the transfer sheet. The paint composition which I employ is not only adherent, but is capable of becoming as firmly attached to a rough surface as if applied thereto with a hand brush. Since even the finest lines in the design have this characteristic, there is no difficulty in

transferring even the most delicate design to a rough surface without any visible coating or any adherent film requiring removal.

My improved transfer is assembled upon a conventional sheet of commercial transfer backing paper 8, which is preferably coated as usual with a light or weak adhesive 9. Held to the backing paper by the adhesive is the usual sheet 10 of tissue paper from which the backing paper may readily be stripped manually without the use of any heat or solvent. The tissue paper is preferably coated with a water soluble film such as glue, gelatin, or any other of the numerous films well known to this art, but preferably one which is substantially transparent when applied to the tissue, and which renders the tissue substantially so, with the result that the design is clearly visible through the tissue in full color when the heavy backing sheet is removed. An originally transparent tissue may be used with the adhesive within the full contemplation of the invention.

Upon the film 11 the design is formed. This may be done by hand work, by printing or lithographing, or by stenciling. I prefer, in quantity production, to employ a silk screen stencil made photographically from a hand made specimen of the design which it is desired to reproduce. Such stencils may be employed in a manner known to the art to produce a great variety of beautiful transfers closely simulating hand work. It is also possible to develop the design on the film 11 through the use of an air brush. For the purposes of this application I have represented a simple block design in which there are open spaces or channels at 12 between the component elements 14, 15 and 16 of the pattern.

As above noted, it is important to the present invention that whatever paint is employed in the production of the design to be transferred, shall either be permanently adhesive or easily so rendered through the application, independently of heat, of a solution which will not harm any conventional surface to which it may be applied. I have had excellent results in the use of a paint composed by volume of 30 parts of any heavy oil paint, 20 parts of a pontianack gum solution hereinafter to be described, 10 parts of solvent naphtha, and 1 part of blown castor oil. The gum is used as an adhesive, the naphtha as a solvent capable of effecting the union of the gum and paint, and the castor oil keeps the paint film flexible and gummy over a long period of time. Other agents suitable for these purposes may be substituted in the combination.

The pontianack gum solution referred to, is made up by taking 9 parts of commercial pontianack gum and 1 part of rosin by weight, and dissolving these ingredients in alcohol to comprise a heavy liquid. A paint mixed as aforesaid will have a consistency suitable for use with the photographically prepared stencil screens above described, but the consistency may be varied at will by changing the relative proportion of parts of naphtha to adapt the paint for any desired process of building up the design.

It is important to note that the paint used is not an ink such as is employed in printing ordinary transfers. The body of the paint is such that the design will appear in distinct relief not only upon the transfer, but also upon the work to which the transfer is applied.

It is possible, although not necessary, to increase the adhesive qualities of the design by dusting the otherwise completed transfer with a powdered adhesive, preferably rosin or shellac,

which is soluble in the solution hereinafter to be described. Gelatin, glue, dextrine, albumen or casein, may also be used for this purpose. None of these materials, when powdered, will adhere to any portion of the transfer other than the paint comprising the design. The fine powder will adhere to all portions of the surface of the paint. The surplus is readily brushed or blown or shaken from the transfer, which is now complete for use.

In using a transfer embodying this invention, the backing strip is first removed as shown in Fig. 3. My paint makes it possible to produce a transfer on which every color in every detail has the same appearance on the backside of the transfer itself as it has on the surface after it is transferred. This fact is of great value as it enables the operator to match its colors with paint which he may be applying in the vicinity.

The surface 18 is intended to represent a sand finished painted plaster wall to which no previous form of transfer has been applicable. Whatever the surface, the area 19 immediately upon which the transfer is to be applied, is wet with a sponge or cloth which has been dipped in a solution comprising ordinary commercial alcohol and water in equal proportions. The alcohol in such a solution is too weak to injure any painted or otherwise decorated surface to which a transfer would ordinarily be applied. The mixture of alcohol and water comprises a solvent calculated to soften not merely the coating 17 of rosin dust or the like, but also the paint itself. At the same time, the mixture of alcohol and water thoroughly cleanses the surface to which the transfer is to be applied.

The tissue web 10 is now used to apply the painted design to the treated portion of the wall surface 18 to be decorated. The adhesive paint comprising the design immediately attaches itself to the surface with as great permanence as if it had been directly applied thereto in the first instance. In fact, the characteristics obtained by the use of an adhesive paint are such that the design will stick even more closely to a rough surface like that of a sand finished painted plaster, than to a more smooth surface such as has heretofore been necessary for the application of transfers.

The mixture of alcohol and water on the wall surface has a further value in that it facilitates the adhesion of the supporting web to the wall pending the further operations to be described. There is sufficient moisture present to soften the tissue web to some degree, thus avoiding the difficulties which would be experienced if the web remained dry and unadaptable to the relatively rough surface of the painted wall. At the same time, the weight of this web is carried by the coating of glue thereon which has become adhesive due to contact with the water.

This advantage is present in no other transfer suitable for wall decoration. In the usual transfer where varnish or gold size is used as adhesive, it is not permissible to apply any water, as the presence of water would destroy the varnish. Hence, in the ordinary transfer the glue coating on the backing web remains unsoftened and cannot be used to facilitate the transfer operation as is done in connection with the present invention.

The tissue web 10 is now immediately moistened with clear water. The moisture permeates the tissue paper and softens the glue film 11, thereby releasing the tissue paper from the transfer de-

sign. At the same time, however, the water causes the tissue web to expand, and if the glue film does not immediately soften to the extent of permitting the tissue web to slip in the course of its expansion, there would be some tendency for the expansion to disrupt the design. It is one of the characteristics of the paint composition employed, however, that the presence of the alcohol, gum and castor oil tends to alter the usual composition of the paint, with the result that this paint will remain for indefinite periods sufficiently soft to accommodate itself without cracking, to slight changes in dimensions of a supporting surface or body. This is an important advantage, although not an essential feature.

Ordinarily, the expansion of the tissue web will leave it wrinkled, as shown in Fig. 5 by the breaking away of a portion of the backing sheet 8 which has been re-applied to the tissue. The re-application of the backing sheet 8 is found to comprise a convenient, although not a necessary, mode of removing the tissue from the transferred design. I find that if the relatively heavy backing sheet is pressed against the tissue it serves as a medium upon which considerable smoothing pressure may be exerted without tearing the tissue, and if the operator employs a wet cloth or sponge to smooth out the transfer the effect of the water on the backing sheet is to expand this sheet also, thereby removing wrinkles from the tissue and firmly attaching the backing sheet to the tissue. After a slight manipulation of the backing sheet in this manner, it may readily be stripped from the transfer and will thereupon bring the tissue with it.

The completed transfer is now further rubbed to remove the last vestiges of the film 11, and finally remains as shown in Fig. 6, permanently affixed to the wall surface 18 with no film and no adhesive or other coating above or beneath the design to indicate that it was not originally painted directly upon the wall surface. The operation of washing off the remaining vestiges of glue after removal of the tissue web, does not harm even the finest lines in the transferred de-

sign, and this glue is only a soluble coating for releasing the coating from its backing and is sharply to be distinguished from a transfer film such as is sometimes used for the support of the design pending its transfer.

While I have described the invention in connection with a duplex transfer sheet, I wish to note the fact that the invention may also be used on a simplex sheet provided that a certain degree of skill in manipulating the transfer and selecting the proportions of water and alcohol used in the solvent solution is exercised. I prefer to employ two parts of water and one of alcohol, and to immerse in this solution the simplex paper with its glue coating and applied design of gummy paint in accordance with this invention. The entire transfer paper should remain immersed for a period long enough to thoroughly soften the glue coating without rendering it so soft that the design runs, as it will do if the glue is too greatly dissolved.

While the application of the invention to simplex paper permits a much more rapid transfer operation than is possible with duplex paper, it also requires a much higher degree of skill and is therefore not nearly as widely practicable.

I claim:

A transfer comprising in combination a lightly coated transfer sheet, a tissue transfer web removably held by the coating to said sheet, a transparent soluble film upon said tissue web, a normally adhesive heavy oil paint of a pontianack gum, castor oil and naphtha having a substantial body applied in an open transfer design upon said film whereby the design is adhesive independently of heat and of extraneous adhesive coatings, said paint being sufficiently flexible to be capable of becoming firmly attached to a rough surface and having thereon a layer of dried powder, the remaining surface of said web being free of said powder whereby the paint may be applied to the rough surface while carried solely by the tissue transfer and without a background.

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