

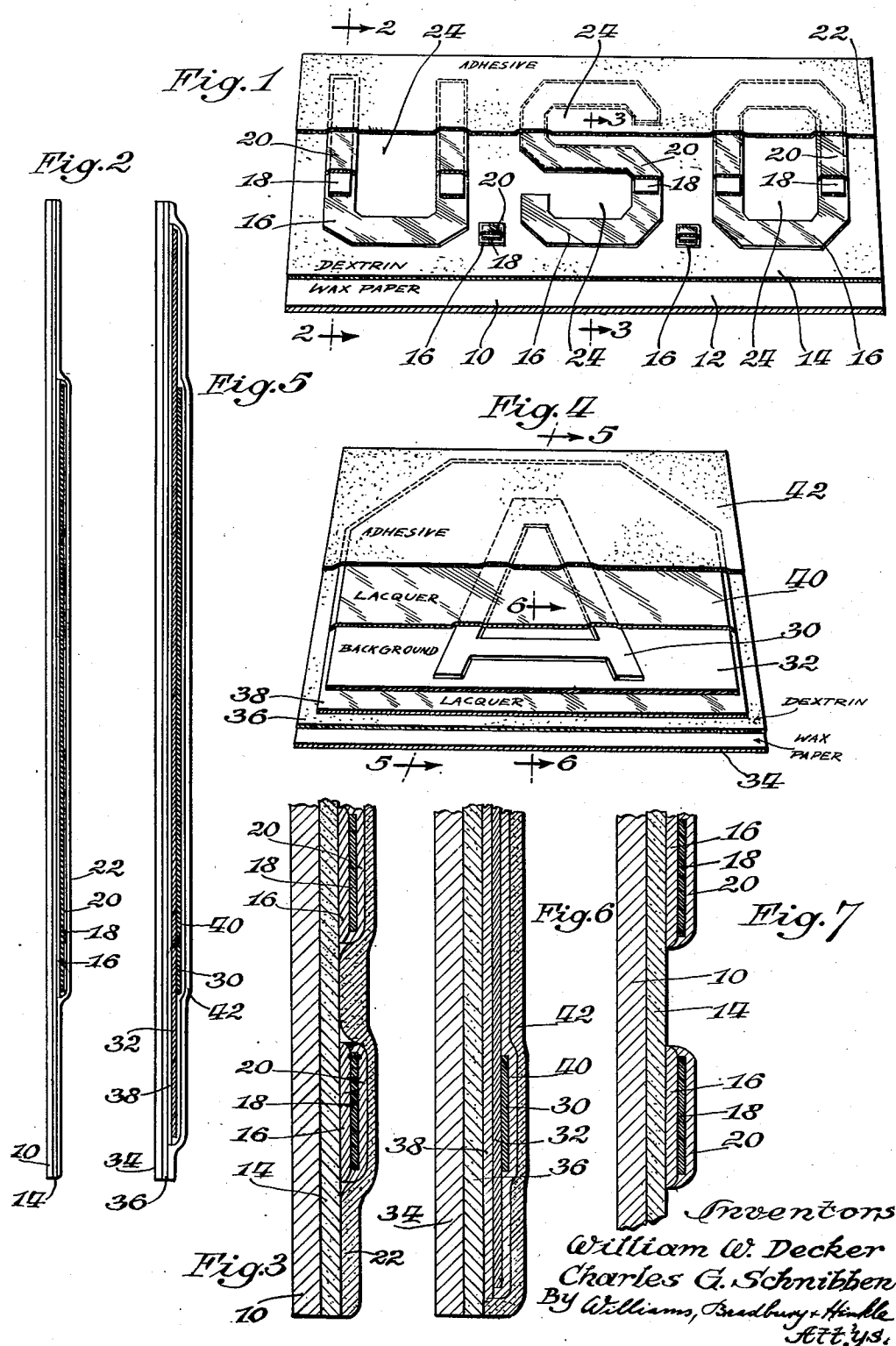
June 20, 1944.

W. W. DECKER ET AL

2,351,933

METHOD AND MEANS FOR TRANSFERRING PRINTED MATTER

Filed Feb. 2, 1942



UNITED STATES PATENT OFFICE

2,351,933

METHOD AND MEANS FOR TRANSFERRING
PRINTED MATTERWilliam W. Decker and Charles G. Schnibben,
Chicago, Ill.

Application February 2, 1942, Serial No. 429,148

2 Claims. (Cl. 41—33)

Our invention pertains to a method and means for transferring printed matter from a removable backing to glass or other surfaces and is more particularly concerned with a type of transfer having a backing of non-absorbent paper.

At present it is common to transfer lettering or other printed matter to glass, wood, metal, enamel and other surfaces by means of decalcomania which are moistened with water to cause them to adhere to such surfaces and also to permit the paper backing on which the lettering is carried to be slipped sidewise and subsequently removed. With present processes and means for transferring printed matter to glass and other surfaces, it is impracticable to mount such material on a transparent backing where water or varnish is relied upon to cause the printed matter to adhere to the glass and to permit removal of the backing from the printed matter. Because the backing on which the printed matter is mounted is opaque, it is difficult to position the lettering properly on the glass or other surface. Attempts have been made to overcome this difficulty by printing on the exposed side of the backing duplicate lettering whereby the person applying the decalcomania can ascertain the position of the lettering to be applied to the glass by viewing the printing on the exposed face of the paper backing. This expedient, however, increases the cost of the decalcomania and is not entirely satisfactory, since the opaque backing of the decalcomania makes it impossible to see through this backing and ascertain exactly how the printed matter will appear on the glass or other surface before the backing is removed.

With present decalcomania which are applied to glass and other surfaces by moistening with water, it is necessary that the lettering be carried on a support which will hold the letters in proper spaced relation after the backing has been removed and while the letters are being manipulated to apply them smoothly to the glass or other surface. It is customary to form such support of a layer of clear lacquer. This lacquer support, however, has a tendency to turn gray with time and this detracts from the appearance of the glass to which the lettering has been applied. Furthermore, this lacquer modifies the appearance of the glass even before the lacquer has turned gray and is also objectionable from this standpoint.

An object of our invention is to overcome these disadvantages of the prior art.

Another object of our invention is to provide

process and means whereby the printed matter to be transferred can be mounted on a transparent backing and can be suitably transferred to glass or other surfaces by moistening with water.

Another object of our invention is to provide method and means for transferring printed matter whereby the lacquer film heretofore required can be eliminated.

Another object of our invention is to provide method and means for transferring printed matter whereby open lettering can be transferred to glass or other surfaces by water application.

Another object of our invention is to provide method and means for transferring printed matter quicker and easier than has been possible heretofore.

Another object of our invention is to provide method and means for transferring printed matter whereby open lettering can be transferred to glass or other surfaces by a type of transfer to which varnish is applied to attach the transfer to the surface.

Another object of our invention is to provide a transfer having a non-absorbent backing.

Other objects and advantages will become apparent as the description proceeds.

In the drawing, Fig 1 is a diagrammatic view of a transfer embodying one form of our invention.

Fig 2 is a vertical section taken on the line 2—2 of Fig 1.

Fig. 3 is a large scale, partial, vertical section taken on the line 3—3 of Fig. 1.

Fig. 4 is a diagrammatic view of a second form of our invention.

Fig. 5 is an inclined section taken on the line 5—5 of Fig. 4.

Fig. 6 is a large scale, partial, vertical section taken on the line 6—6 of Fig. 4.

Fig. 7 is a section similar to Fig. 3, but showing a further form of our invention.

Referring to Figs. 1, 2 and 3 of the drawing, it will be seen that we have therein disclosed a form of our invention in which the backing is composed of a sheet of waxed paper 10 which is transparent and may be waxed on either or both sides. For purposes of our invention, it is only essential that this paper be waxed on the side indicated by reference character 12, although paper which is waxed on both sides is equally desirable. The waxed surface 12 of the paper 10 is covered with a partition coating 14 of gelatin, dextrin, glue, gum, starch, or other suitable material. This coating is preferably of a material which is solu-

ble in water and of such texture that it provides a suitable surface on which to print.

The lettering or other indicia is then printed on the coating 14 in a clear lacquer or varnish 16. As shown in Figs. 1 and 3 of the drawing, this printed lacquer forms open individual letters, and is of the same shape and substantially identically the same size as the colored lettering to be subsequently applied. These lacquer or varnish letters 16 can be printed by the silk screen process, by letter press, by offset lithography, or by any other suitable printing process.

The letters 18 are next printed in colored ink or other suitable material directly over the lacquer letters 16. The colored letters 18 may be of a single color or one or more colors, as desired, and may be printed by any of the foregoing processes.

A sealing coat 20 of clear lacquer or varnish is next printed directly over the colored letters 18. This sealing coat 20 forms open lettering composed of separate independent letters, which conform substantially identically in size and shape to the colored letters 18. The sealing coat 20 and the foundation or first sealing coat 16 are preferably very slightly larger than the colored letters 18, so that the lacquer or varnish coat bleeds over the edges of the colored letters and effectively seals these colored letters between layers of lacquer or varnish, as the case may be.

The entire upper surface of the transfer is then preferably coated with an adhesive layer 22 composed of dextrin or other suitable material, and this adhesive layer permitted to dry. The nature of this adhesive layer will vary, depending upon the nature of the surface to which the transfer is to be applied. Adhesive layers suitable for application to various kinds of surfaces are commonly used in connection with decalcomania available on the commercial market, and we contemplate that these same adhesives or others similarly suitable for particular surfaces are to be used in carrying out our invention.

When a person desires to apply the transfer illustrated in Fig. 1 to a window or other surface, the transfer is first dipped in water to moisten the adhesive coating 22. This dipping operation will also moisten such portions of the partition layer as are not covered by lacquer, but this is unimportant. This adhesive coating is then applied to the window or other surface, and, in making such application, the person will be able to see clearly the colored letters 18 and to locate them accurately on the surface to which they are to be permanently attached. The exposed side of the waxed paper backing 10 is then rubbed to apply the transfer evenly and smoothly to the glass or other surface, and the adhesive coating 22 and partition layer 14 are permitted to dry.

As soon as the adhesive coating 22 and partition layer 14 have dried thoroughly, the waxed paper backing 10 can be removed by gripping a corner thereof and peeling this paper from the glass or other surface. In this peeling operation, the waxed paper separates cleanly from the partition layer 14, leaving the adhesive layer 22, the printed letters, and the partition layer on the glass or other surface. The surplus adhesive and gelatin or other material forming the partition layer can then be washed off the window or other surface, leaving only the letters and that part of the adhesive between these letters and the surface to which they are attached.

Particular attention is directed to the fact that

the lacquer layers 16 and 20 and the layer 18 of colored ink form open letters having spaces 24 which are free from lacquer or varnish and where the glass or other surface is completely exposed. Likewise, there is no lacquer or varnish film extending from one letter to the next letter, so that the spaces between the letters are likewise uncovered. The lacquer or varnish layers are confined to the exact outlines of the colored letters themselves, except for the slight bleed around the edges of the colored letters, and are invisible, with the result that the colored lettering appears to be printed directly on the glass or other surface.

The fact that the waxed paper backing is not removed until after the lettering has been smoothly applied to the glass or other surface, and the further fact that this backing can be peeled from this surface without any need for special skill or care, greatly simplify and expedite the application of the transfer to the glass or other surface. This feature of our invention also makes it possible for unskilled persons to apply the transfer with perfect results, whereas, considerable skill and training are required to obtain satisfactory results with present water-applied decalcomania.

In some instances, it is preferable to omit the adhesive coating 22 from the transfer. When this is done, the glass or other surface to which the transfer is to be applied is first coated with suitable adhesive, and the transfer is then applied to this coated surface and rubbed or otherwise manipulated to insure smooth application of the letters. After the adhesive has dried, the waxed paper backing is peeled off and excess dextrin and adhesive are removed by washing.

In Fig. 7 we have illustrated a section through a transfer which is identical in all respects with the transfer of Fig. 1, except that the adhesive coating 22 has been omitted. Fig. 7 is an enlarged sectional view similar to Fig. 3, and, since the parts common to both Fig. 3 and Fig. 7 are identical, these parts bear the same reference characters in both figures.

Another method of applying the transfer of Fig. 7 is as follows. The transfer is first coated with varnish and the varnish coating allowed to dry to a tacky consistency. Thereupon the transfer is applied to the glass or surface and manipulated to insure smooth application of the lettering to such surface. After the varnish has thoroughly dried, the backing is peeled off. The partition layer and excess varnish are then removed from the glass or other surface by washing first with water and then with benzene and turpentine.

In Figs. 4, 5 and 6, we have illustrated a further modification of our invention wherein the letter "A" of colored ink 30 is printed upon a background 32 formed of a contrasting color. In these figures, the waxed paper backing is indicated by reference numeral 34, and on this backing there is applied a partition coating 36 of gelatin or other suitable material, as in the previous embodiments. A layer 38 of clear lacquer or varnish is next printed on the gelatin. This layer 38 is not as large as the waxed paper backing 34 or the gelatin layer which entirely covers this backing. Except for the slight bleed, the lacquer layer 38 is only as large as the colored background 32, which is printed on the lacquer layer 38 and formed of colored ink or other suitable material. The letter "A" is then printed on the background 32 by using a contrasting colored ink or other suitable material.

A second layer 40, of clear lacquer or varnish, is next printed over the letter "A" and background 32 and is of the same size as the lacquer layer 38. The lacquer layers 38 and 40 bleed over the edges of the colored background 32 and form a sealed envelope containing this background and the letter "A" printed thereon. A coating 42 of adhesive is then applied over the entire upper surface of the transfer and permitted to dry. The transfer is then ready for packing and sale or for immediate application to a glass or other surface. If desired, the adhesive coating 42 may be omitted, in which case the glass or other surface is coated with adhesive before the transfer is applied thereto.

The transfer shown in Figs 4, 5, and 6 is applied in the same manner as the transfers previously described. After the transfer of Fig. 4 has been applied to glass or other surface, the background 32 and its superimposed letter 30 of contrasting color appear to be printed directly on the glass or other surface.

In Fig. 4 we have shown only a single letter 30 applied to the printed background 32. It is to be understood, however, that any number of letters or other indicia may be printed in one or more colored inks or other suitable materials on this background.

The waxed paper backing used in carrying out our invention may be an ordinary commercial waxed paper or a specially prepared waxed paper. In either case, the waxed paper is preferably, but not necessarily, transparent. The wax coating makes the paper non-absorbent and other non-absorbent papers, such for example, as oil glazed paper may be used in lieu of waxed paper.

The partition and adhesive layers can be applied in any suitable manner and by any suitable equipment in accordance with conventional practice. The layer or layers of colored ink and their

enclosing sealing layers of lacquer, varnish or other suitable water-proof material can likewise be printed by conventional processes and with conventional apparatus.

5 The particular embodiments of our invention shown in the drawing are to be considered as illustrative only as our invention may assume numerous other forms. The scope of our invention is defined in the following claims.

10 We claim:

1. A transfer of the class described, comprising a backing having a waxed surface, water-soluble adhesive applied to said surface and forming a printing surface, a plurality of separate and independent indicia printed on said water-soluble adhesive in predetermined order whereby said indicia may be transferred to a third surface by moistening said transfer, said indicia comprising laminations of lacquer-like material having enclosed therebetween a pigmented layer, that portion of the backing between the indicia being free from lacquer-like material, and a layer of soluble adhesive covering said indicia and backing and adapted to secure said indicia to said third surface, the adhesive between the indicia being capable of being removed from said third surface by application of a proper solvent.

2. The method of applying indicia to a surface, comprising the steps of providing an impermeable backing sheet, applying a coating of water-soluble adhesive to one side thereof, printing thereon indicia formed of a layer of pigment enclosed in layers of lacquer-like material, adhesively attaching said indicia to said surface, removing the backing sheet therefrom, and removing the adhesive from that part of the said surface not covered by said indicia.

WILLIAM W. DECKER.
CHARLES G. SCHNIBBEN.