

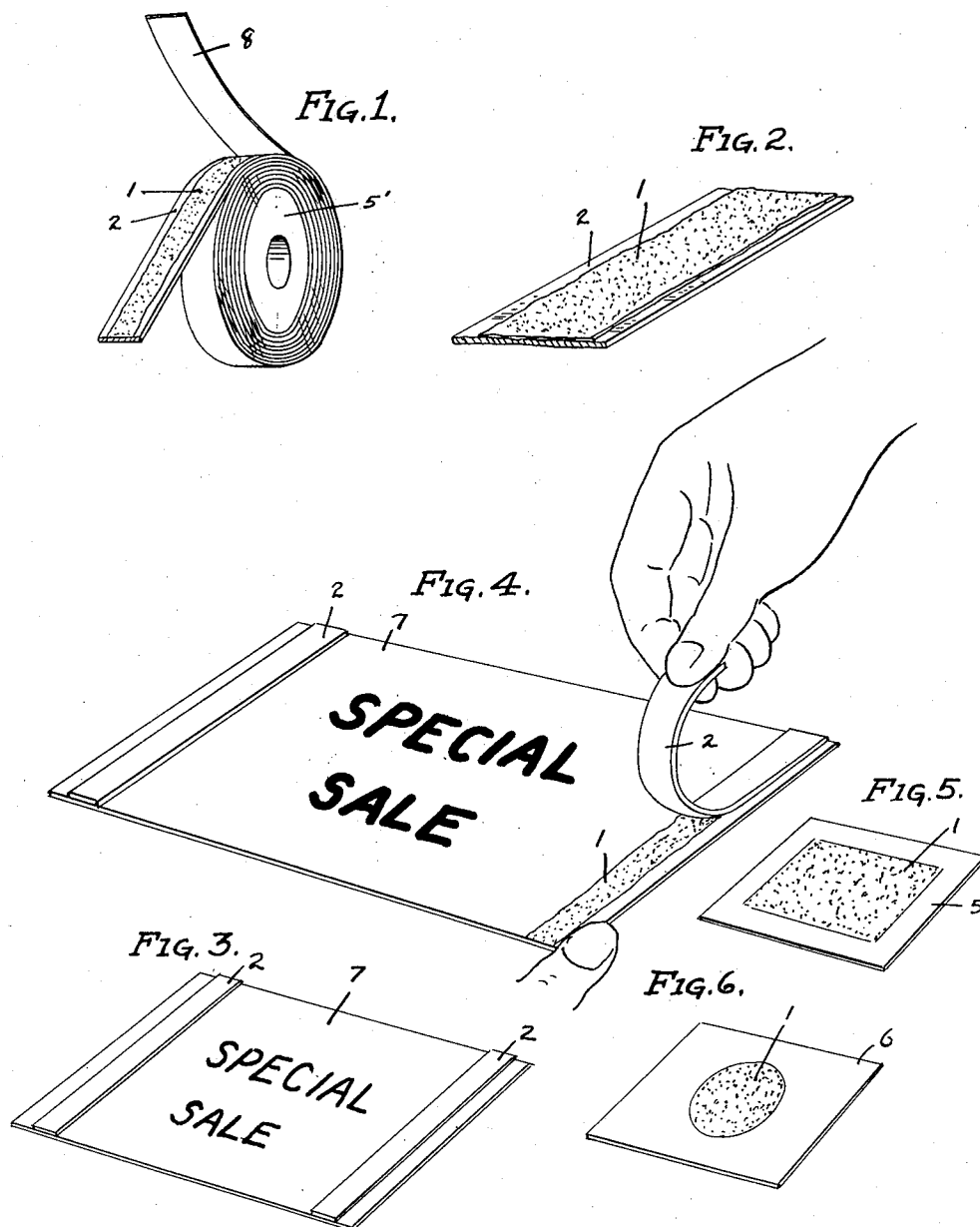
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TRANSFER ADHESIVE PROCESS AND PRODUCT

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## UNITED STATES PATENT OFFICE

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TRANSFER ADHESIVE PROCESS AND  
PRODUCT

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This invention relates generally to the gummed paper art, and more particularly to paper cloth or other flexible sheet or strip material coated on one side with a layer of adhesive which is permanently tacky, such as the prepared sheets and strips now readily obtainable on the market coated with tacky gum. One of the objects of the present invention is to provide improvements in such ever-tacky gummed sheets or strips together with a method of procedure whereby the ever-tacky gummed layer may be readily transferred bodily from its supporting sheet or strip to any other desired surface, the sheet or strip being substantially denuded of the tacky gum layer by peeling it therefrom. Another object is to provide an improved means of gumming posters, prints, or other sheets of paper or card signs to provide one or more localized areas of ever-tacky gum on its surface protected on the outer side by its original supporting sheet and which supporting sheet will be adapted to be peeled away to expose the tacky gum when desired for sticking the signs, sheets, or posters to show windows, walls and doors, by merely pressing the tacky gummed areas thereagainst. Other objects and advantages of the invention will appear in the following description and accompanying drawing.

In the accompanying drawing Fig. 1 is a perspective view of a roll of flexible tape or strip of paper, cloth or other material coated on one side with an ever-tacky gum in a manner to make the gum layer itself transferable from the tape to other surfaces such as of paper, cardboard, sheet metal, etc.

Fig. 2 is an enlarged perspective view of a piece of the coated tape.

Fig. 3 is a perspective view of a sheet sign showing strips of my improved ever-tacky tape applied thereto.

Fig. 4 is a view similar to that of Fig. 3 but shows the flexible support of one of the strips being peeled from the ever-tacky gum left adhering to the sign, so that the sign is then in condition for sticking to a show window by simple pressing of the gummed areas against the window.

Fig. 5 is a perspective view of a small sheet or patch of flexible supporting material carrying on one side a localized area of my ever-tacky gum.

Fig. 6 is a view similar to that of Fig. 5 but shows a round patch or area of ever-tacky gum on the surface of a rectangular supporting sheet.

Briefly described, my invention comprises pro-

viding a layer of special normally ever-tacky gum adhesive on a specially prepared supporting tape or strip of paper, of relatively low attraction for the gum, in such a manner as to permit of subsequently pressing the tacky face of the layer tightly against any other or second surface, such as of paper, cardboard, or sheet metal advertising signs, posters or prints, to which it is desired to transfer the gum, and, at any subsequent time, peeling the supporting strip away thus leaving the layer of ever-tacky gum adhering to the new surface and exposing its opposite tacky side so that it may be stuck by pressure against any third surface while still adhering to the second surface. The first or temporary support should be a thin flexible paper, Cellophane, or cloth with a hard specially prepared surface so that it may be peeled away from the gum layer, and may be in the form of small sheets, strips or tapes.

As before implied, sheets, strips or tapes coated with ever-tacky gum are in themselves not new, but they have heretofore been of a character which permitted sticking them to another surface and removing them any number of times complete with their tacky layer, such, for instance, as the well-known ever-tacky tape sold under the name of "Scotch Tape" which has on one side a coating of ever-tacky gum which cannot be stripped from the tape. However, my invention was the result of the discovery by me that it would be a great advance in the art for some purposes if such a layer of ever-tacky gum could be transferred bodily from its first support to the surface of the final article desired to be locally gummed with ever-tacky gum, and when desired to use said article the first support could be peeled off and discarded so as to leave a layer of ever-tacky gum on the surface of said article for thereafter sticking to a third surface, such as for sticking a printed sign to a show window.

The chief requirement to make the invention practicable was, of course, an ever-tacky gum which would stay on a supporting sheet, strip or tape, and yet when pressed tightly against a second surface would adhere to the latter with a tenacity much greater than its adherence to the original supporting sheet so that the latter could be peeled away. This, of course, meant that the layer of ever-tacky gum must stick rather lightly to the original supporting sheet so that it could leave bodily when its face was in greater adhering contact with a second surface. I have discovered that this result could

be attained by proper selection or treatment of the face of the original supporting surface so that the ever-tacky gum would not get an undue hold upon it and by balancing the proportions of the ingredients in the ever-tacky gum compound so that it would let go of the first supporting surface, or rather permit the first support to be peeled from it when the outer face of the ever-tacky gum was pressed tightly into adhering relation to a second surface or article to which it was desired to transfer the layer of ever-tacky gum. The required nature of the surface of the original or first support for the ever-tacky gum layer will be described on the next page.

A suitable ever-tacky gum was found in the following ingredients:

Pale crepe crude rubber, first preferably milled to effect better solution	
	pounds, about... 30
Rosin oil	do... 4½
Benzol	gallons, about... 50

all placed in a suitable closed mixer and agitated until dissolved into a smooth thin paste.

In place of rosin oil, pine oil foots, or Canada balsam, or balsam of pine may be used. Also, in place of the benzol, benzene, carbon tetrachloride, or other solvents may be used.

As the temporary or the first flexible support a smooth hard-surfaced paper, parchment, "Cellophane", or cloth, may be used, especially if given a surface treatment with talc, or paraffine and subsequent substantial removal of these agents so as to leave only the merest trace to prevent the permanent adherence of the ever-tacky gum coating.

A very satisfactory flexible first support is found in the so-called "Holland cloth", as its highly glazed surface or filling of starchy nature is found to readily release itself from the ever-tacky gum and permit peeling away therefrom when the gum is stuck under pressure to any ordinary second surface desired, such as cardboard, glass, paper, metal, dry paint, etc.

The liquid gum mixture may be spread in a thin layer on the first or temporary supporting sheet, strip or tape by any desired means which will yield an even and substantial layer. In quantity production the tape is continually advanced under a properly shaped nozzle or over a roller feeding a layer of the adhesive to the tape, and the coated tape is carried far enough to permit the gum to set to its permanent tacky condition, or this result may be expedited with the aid of any suitable drying box or oven and exhaust fans or air circulation, and as soon as the applied layer is firm (though of course tacky) the ever-tacky tape is rolled upon itself with the tacky coating preferably face out. The last or outer turn around the roll will then have the tacky material exposed and for purposes of shipment this outer surface may be covered with another strip of the Holland cloth, or a strip of paraffined paper or waxed paper, or such a covering strip may be extended with the carrying strip throughout the roll if desired though is not required.

It is also highly desirable that the tacky gum layer be of less width than the temporary or supporting tape, or somewhat within the area of any sheet of temporary supporting material as indicated in Figs. 2, 5, and 6, and wherein the tacky compound is designated 1 and the supporting sheet 2, 5 and 6, respectively. This provides the

necessary free or uncoated margin wherewith to grip the supporting sheet in starting to peel it from the gum layer when transferring the layer to the second surface, also protects an article to which the strips have been applied from any sticky edges being exposed before it is desired to peel the temporary strip from the gum.

In Fig. 1 the roll of tape constituting the temporary support is designated 2 and its tacky coating 1, and its optional covering strip 8. The roll is preferably wound on a cardboard or wooden spool or core 5'. It is to be noted that when the tape is wound on the roll with the tacky layer on the outer side of the tape it will always release itself from the face of the next layer of compound below when unrolling without tending to peel the layer from the surface on which it was spread. This is probably due to two factors: first, because the compound having been applied in fluid form to the first or carrying side of the tape it has a somewhat firmer hold on it than is subsequently had by moderate pressure of the tacky surface against the rear side of the tape in rolling it upon itself; second, the outwardly arched side of the tacky compound is not quite as condensed as the concave side in contact with the original carrying side of the tape. Of course, with a more thorough treatment of the back of the tape or sheet with talc or paraffine, as explained, it would make no difference on which side the tacky compound was rolled.

Since the primary object of the invention is to provide a method and means for bodily transferring or offsetting such an ever-tacky layer from the original carrying surface to another surface, such as a paper, cardboard, or other sign, so that the latter may be suspended as on a window glass or other place desired, particular attention is called to Fig. 3 which shows a cardboard printed sign 7 and across the face of which at opposite margins of the sheet two strips of my special transfer tape 2 have been applied face down and forced into contact under pressure. In this condition (before peeling the temporary tape from the gum layer) the signs or sheets may be freely handled, stacked or shipped as an article of manufacture without any sticky matter coming into contact between the sheets, and at any subsequent time the original supporting tapes 2 (now forming protective covering strips) may be easily peeled from the ever-tacky gum layer by grasping the free margins of the tape and pulling it back while holding the sign with the other fingers as indicated in Fig. 4 wherein the forward strip or tape is thus being peeled from the ever-tacky gum 1 which is left tightly adhering to the sign 7, so that the sign may in turn be pressed against a show window and will firmly adhere to it, yet may be peeled from the show window together with its gummed areas, at any subsequent time, leaving the window glass substantially clean.

Of course the strips may be applied to the back of the sign when it is desired to stick the sign to the outside of the window, or upon a large card, or other surface; also the strips or the smaller patches as of Figs. 5 or 6 may be placed on the margins of sheets of paper or cardboard before printing, as signs or posters, if desired.

In applying the strips or patches to the sign or other surface to which it is desired to transfer the gum, better results are had if considerable pressure be applied as in a suitable press, and the tape or patch permitted to remain for some

time before peeling the covering strip from the gum; also, it sometimes is desirable to slightly moisten the tape or brush over its tacky surface with a volatile solvent for the gum such as benzol, benzene, etc., apply the tape under pressure, and await the evaporation of the solvent before stripping the cover; or, as a still further modification, the freshly coated tape (or patches of Figures 5 and 6) before the initially setting of their applied gum layers may be at once applied to a sign or sheet of paper and permitted to set in contact with it, and the cover will be found to peel off later when the gum has set.

From the preceding description my specially prepared ever-tacky transfer tape will be seen to clearly distinguish from other gummed tapes as follows:

From Scotch tape, as this is specially prepared with a sticky or tacky layer which clings so tenaciously to its original carrier tape that it may be applied to a second surface such as a show window, dry painted surface, sheet of metal, etc. many times in succession and stripped therefrom to always bring away with it its complete adhesive layer so that it will be ready for use again, almost without limit to the number of times it is used.

From ordinary tire tape, as this, though sticky or tacky, is a soft cloth tape impregnated with a thin tacky rubber compound which so remains for a long time, but of which the rubber or gum surface cannot be transferred as it is bound into the cloth tape fibers.

From surgeon's tape, as this, though coated with a much thicker and softer layer of ever-tacky rubber compound, if stuck to a sheet of hard paper, glass or metal, absolutely cannot be removed except by tearing the paper, and/or gum. And when placing it on the flesh of a person, although the warmth of the body partially melts the rubber layer, still the tape and its layer may generally be removed by a quick sharp pull to break off the many small hairs which become more or less embedded into the gummy layer, though it is quite the practice to apply benzine to the tape to dissolve the gum so that the tape can be removed without hurting the patient. As surgeon's tape is frequently used for its inherent strength, adherence of its gum layer to the tape itself is important, and it contains no feature looking to the separation of its gum layer from the tape such as constitutes the all important feature of applicant's invention, therefore cannot be used for the same purpose.

Having thus described my invention and some of its modifications, what I claim is:

1. The method of applying a normally ever-tacky layer of gum to the surface of an article such as an advertising print, sign or poster which comprises depositing a layer of normally ever-tacky gum compound in fluid condition on a flexible carrier sheet of a size to project beyond said layer and of a surface nature of low attraction therefor so as to adapt the ever-tacky gum layer to be subsequently released bodily from said carrier sheet when the layer is set to ever-tacky condition, then before the ever-tacky compound layer has set placing the wet face of the compound layer against the desired article, permitting the compound layer to set, and thereafter while the compound layer is still in its ever-tacky condition peeling the flexible carrier sheet from said compound layer without the use of a solvent and leaving the compound layer bodily transferred to said article and with the rear sur-

face of the compound layer exposed in ever-tacky condition ready for sticking by pressure alone against a show window or other final supporting surface.

2. The method of applying a normally ever-tacky layer of gum to the surface of an article such as an advertising print, sign or poster, which comprises depositing a layer of normally ever-tacky gum compound in fluid condition on a flexible carrier sheet of a size to project beyond said layer and of a surface nature of low attraction therefor so as to adapt the ever-tacky gum layer to be subsequently released bodily from said carrier sheet when the layer is set to ever-tacky condition, permitting the ever-tacky compound layer to set, pressing the set but ever-tacky face of the compound layer against the desired article, and thereafter while the compound layer is still in its ever-tacky condition peeling the flexible carrier sheet from said compound layer without the use of a solvent and leaving the compound layer bodily transferred to said article and with the rear surface of the compound layer exposed in ever-tacky condition ready for sticking by pressure alone against a show window or other final supporting surface.

3. A product consisting of a backing sheet of Holland cloth serving as a temporary support for a layer of a normally ever-tacky adhesive coated on one side only of said sheet, said backing sheet provided with a surface of a nature giving only limited adhesion with the ever-tacky adhesive layer, whereby in use the ever-tacky adhesive layer may be transferred bodily from said backing sheet to another object by pressure of the exposed surface of said layer thereagainst, and the Holland cloth peeled from said ever-tacky adhesive layer without the use of a solvent, and thereby exposing the rear face of said layer in ever-tacky condition.

4. A product consisting of a tape of Holland cloth serving as a temporary support for a layer of normally ever-tacky adhesive coated on one side only of the tape and of lesser width than the tape, said tape provided with a surface of a nature on its coated side giving only limited adhesion with the ever-tacky adhesive layer, whereby in use the ever-tacky adhesive layer may be transferred bodily from said tape to another object by pressure of the exposed surface of the layer thereagainst and the tape peeled from said ever-tacky layer without the use of a solvent, the uncoated side of said tape provided with a surface of such a nature and limited attraction for said ever-tacky adhesive layer as to permit rolling of the coated tape in a roll and subsequent unrolling without stripping of the layer from the coated side of the tape.

5. A product consisting of a flexible backing sheet serving as a temporary support for a layer of a normally ever-tacky adhesive coated on one side only of said sheet, and which backing sheet is provided with a surface of a nature giving only limited adhesion with the ever-tacky adhesive layer, whereby in use the ever-tacky adhesive layer may be transferred bodily from said backing sheet to another object by pressure of the exposed tacky surface of said layer thereagainst, and the backing sheet peeled from said ever-tacky adhesive layer without the use of a solvent, said flexible backing sheet further provided with a bare margin extending beyond the ever-tacky adhesive layer.

6. The method of applying an adhesive film to the surface of an article which comprises depos-

iting from a spout or nozzle a pressure sensitive adhesive film in fluid condition on a glazed, flexible carrier having a limited degree of adhesion therefor, pressing it against a surface having a greater degree of adhesion for the adhesive and then removing the carrier, whereby the adhesive is transferred from the carrier to the surface.

7. The method of applying an adhesive film to the surface of an article which comprises depositing a pressure sensitive normally tacky adhesive film in fluid condition on a glazed, flexible carrier having a limited degree of adhesion therefor while leaving a margin of the carrier bare, pressing the film against a surface having a greater degree of adhesion for the adhesive, permitting it to thus remain until the adhesive has set to tacky condition, and thereafter removing the carrier by peeling it from the adhesive film, whereby the adhesive is transferred from the carrier to the surface.

8. The method of applying a normally tacky adhesive film to the surface of an article which comprises depositing a pressure sensitive normally tacky adhesive film in fluid condition on a flexible carrier having a limited degree of adhesion therefor while leaving a margin of the carrier bare, permitting the fluid film to set to its normally tacky condition, and thereafter pressing the tacky adhesive film against a surface having a greater degree of adhesion than has said flexible carrier, and thereafter removing the flexible carrier by peeling it from the tacky adhesive film, whereby the tacky adhesive film is transferred from the carrier to the surface.

9. A product consisting of a flexible backing sheet serving as a temporary support for a layer of a normally ever-tacky adhesive coated on one side only of said sheet, and which backing sheet is provided with a surface of a nature giving only limited adhesion with the ever-tacky adhesive layer, whereby in use the ever-tacky adhesive

layer may be transferred bodily from said backing sheet to another object by pressure of the exposed tacky surface of said layer thereagainst, and the backing sheet peeled from said ever-tacky adhesive layer without the use of a solvent, said flexible backing sheet further provided with a bare margin extending beyond the ever-tacky adhesive layer.

10. A product comprising a roll of flexible tape serving as a temporary support for a layer of a normally ever-tacky adhesive coated on one side only of said tape, and which tape is provided with a surface of a nature giving only limited adhesion with the ever-tacky adhesive layer, whereby in use the ever-tacky adhesive layer may be transferred bodily from said tape to another object by pressure of the exposed tacky surface of said layer thereagainst and the tape peeled from said ever-tacky adhesive layer, said tape in said roll being rolled upon itself with the coated side facing outwardly, and whereby when unrolling the tape the coating does not tend to peel from the side of the tape upon which it was coated.

11. A product comprising a roll of flexible tape serving as a temporary support for a layer of a normally ever-tacky adhesive coated on one side only of said tape, and which tape is of Holland cloth provided with a surface of a nature giving only limited adhesion with the ever-tacky adhesive layer, whereby in use the ever-tacky adhesive layer may be transferred bodily from said tape to another object by pressure of the exposed tacky surface of said layer thereagainst and the tape peeled from said ever-tacky adhesive layer, said tape in said roll being rolled upon itself with the coated side facing outwardly, and whereby when unrolling the tape the coating does not tend to peel from the side of the tape upon which it was coated.

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