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R. P. SOMERVILLE  
ADHESIVE APPLYING PROCESS

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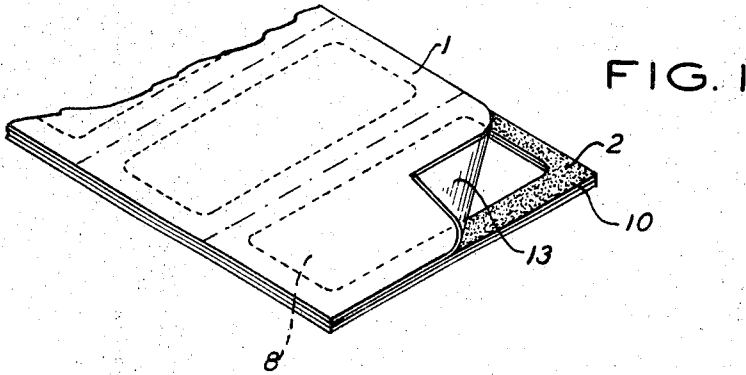


FIG. 1

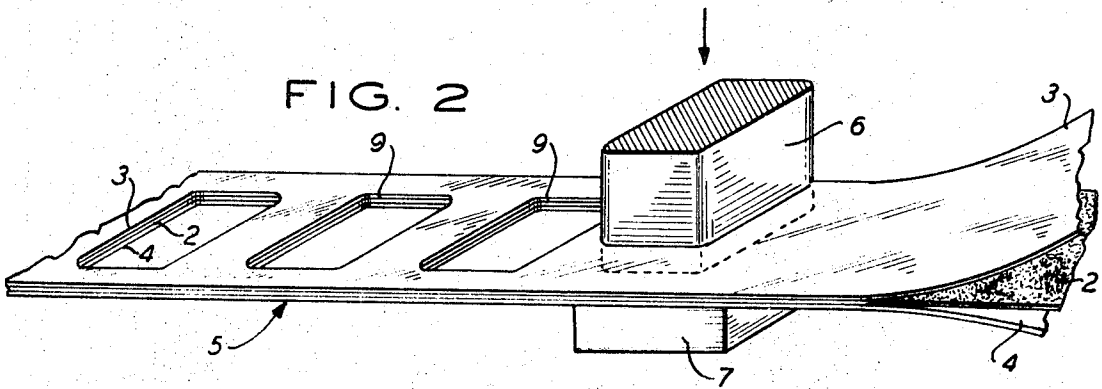
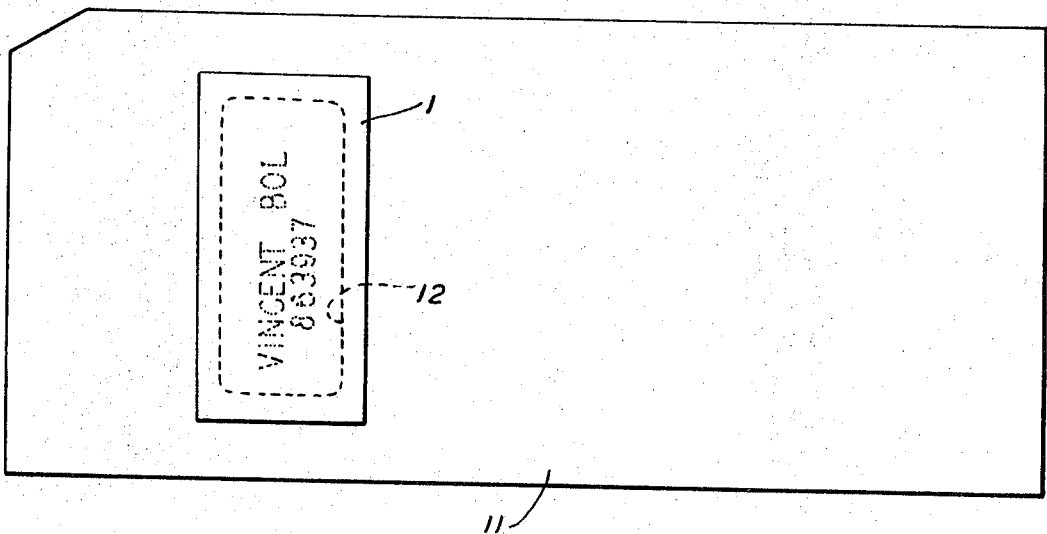


FIG. 2

FIG. 3



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1

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## ADHESIVE APPLYING PROCESS

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10 Claims

### ABSTRACT OF THE DISCLOSURE

A process for producing a continuous strip of spirit duplicating labels each having a border of pressure sensitive adhesive proximate all four edges thereof.

In order to place the adhesive on a strip of labels, a laminae is formed of two sheets of adhesive resistant paper with a sheet of pressure sensitive adhesive therebetween.

Apertures are punched in the laminae and then one sheet of the adhesive resistant paper is removed and a strip of spirit duplicating paper affixed to the adhesive in its place. The paper and adhesive are then severed, but not the strip of release paper so that individual labels are formed on the release paper, each of which will have a border of adhesive adjacent all four edges surrounding an adhesive free central area.

Then when a label is to be used, it is removed from the strip of release paper and affixed to a surface, such as a punch card.

### BACKGROUND OF THE INVENTION

When the spirit duplicating process is used with punch cards, such as in addressing, it is necessary to have a thin surface on the card on which the data is placed which is to be transferred. One well known way of doing this is by securing a thin label over a precut opening in the card. In securing the label to the card, it is most advantageous to use pressure sensitive adhesive along all four edges of the label so that it is more securely fastened to the card.

However, previous to applicant's invention, pressure sensitive adhesive could only be easily and economically placed along two of the four edges of each label while the labels were still in strip form. Adhesive could, of course, be placed along all four edges of each label individually, but this was too costly and time consuming. The need then was for a method of quickly and economically placing a strip of pressure sensitive adhesive on a strip of paper which is to be severed into individual labels so that adhesive would be applied along all four edges of each label.

### SUMMARY OF THE INVENTION

A process for placing a strip of adhesive on a strip of label material so that adhesive is placed along all four edges of each finished label.

The process is carried out by first forming a laminae which consists of a strip of pressure sensitive adhesive between two readily removable strips of adhesive resistant paper. Apertures are then cut through the laminae so that the adhesive strip has openings formed therein. One strip of adhesive resistant paper is now removed and the adhesive and the other strip of adhesive resistant paper are secured to a strip of material which is made into spirit duplicating labels. The adhesive and spirit duplicating material are then severed so that the apertures in the adhesive are aligned with the central portion of each label. Each label therefore will have a peripheral border of adhesive along all four edges thereof.

2

### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of part of a strip of labels showing the step of applying the pressure sensitive adhesive and adhesive resistant sheet thereon.

5 FIG. 2 is a perspective view showing apertures being cut in the laminae which consists of two sheets of release paper with pressure sensitive adhesive therebetween.

FIG. 3 illustrates a punch card with a label applied thereto.

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### SPECIFIC EMBODIMENT OF THE INVENTION

My invention comprises a method of applying a strip of pressure sensitive adhesive to a strip of material which is to be made into spirit duplicating labels (designated as 1 in FIG. 1) so that each label of the strip will have a border of adhesive proximate all four edges thereof.

15 The material which is to be made into the spirit duplicating labels comprises a closely collandered relatively impervious paper which has a reasonably smooth surface so that spirit duplicating ink will rest on its surface and not be absorbed therein.

20 The adhesive preferably comprises a thin sheet of pressure sensitive non-drying adhesive 2, such as any of the rubber binder, tachifer resin type adhesive. It should be one that can readily be handled and cut in strip form and also can be affixed to a surface by the application of pressure.

25 In using the adhesive to carry out the process, the adhesive strip is cut to a length and width which is the same as the strip of spirit duplicating paper material to which it is to be applied. This usually will be a strip which has a length many times its width. Two sheets of paper, 3 and 4, which are coated with an adhesive resistant agent, such as silicone compound, are also cut to the same size and shape as the strip of material. The sheets of adhesive resistant paper, which are commonly referred to as release paper, are then each placed on one side of the adhesive sheet with then coated side against the adhesive. They are then pressed against the adhesive so that the adhesive and the two sheets of paper are bonded together as an integral laminae 5. The advantage of using release paper is that it can be secured to the adhesive and removed without the adhesive losing any bonding qualities. Also, the release paper protects the adhesive and greatly simplifies its handling.

30 It is noted that the laminae may be formed from sheets of flat material or sheets of rolled material and in a like manner, the laminae itself may be either a rolled or flat sheet.

35 The laminae is then placed in suitable cutting apparatus such as the die-cutting punch 6 with its corresponding backing plate 7 as shown schematically in FIG. 2. The punch then cuts openings 9 in the laminae, which openings are the same shape as the central areas 8 of the finished spirit duplicating labels 1 which are formed from the spirit duplicating material. As will be explained subsequently, it is desired to keep these central areas free of adhesive while providing adhesive around their border.

40 It will be appreciated that since the adhesive is going to be placed in strip fashion on a material which is to be made into labels, it is very important that the distance between cut outs in the adhesive is the same as the distance between the central areas of the future labels. This may be controlled by providing means to move the laminae a predetermined distance, the distance from the start of one label to the start of the next, after each aperture is punched in the laminae, so that the apertures are correctly punched.

45 Alternatively, a series of equally spaced punches may be provided which are activated simultaneously.

3

It will be course be appreciated that the labels are shown as rectangular and therefore the apertures in the adhesive are also rectangular, but of course, the labels can be made in any configuration desired and the apertures and the adhesive could also be made of a conforming configuration depending on the shape of the adhesive free area on the label. This, as will be subsequently described, is the area of the label in which the information to be transferred is placed. Also, if desired, the label and adhesive can be made in differing shapes, e.g., the label could be rectangular and the adhesive circular. This, as before, would depend on the shape of the adhesive free area.

Continuing with the process, after the apertures have been cut in the combined adhesive and release sheets, one release sheet 3 is removed from the adhesive. Then as shown in FIG. 1, the strip of material which is to be made into labels 1 is secured to the adhesive in its place.

At this point, one sheet of release paper 4 is still secured to the adhesive. This sheet of release paper protects the adhesive until the labels are used and especially protects the adhesive when the labels are in roll form. Now, the material and the adhesive, but not the release paper, are cut (for example along the dot-dash lines shown in FIG. 1) by any conventional severing technique, such as a knife edge, to form individual labels. Now, since the release paper remains intact, the labels may be handled in strip form and may be individually removed from the release paper when needed.

The labels can now readily be secured on punch cards 11 over apertures 12 cut therein, such as shown in FIG. 3. There cards which are made of cardboard, metal, plastic, or other suitable material, have a die cut opening 12 therein which is the same size as the central area 8 of a label, and therefore, the same size as the aperture cut in the adhesive.

A label is secured over the aperture on the punch card, so that the opening in the card is aligned with the central area of the label, and the adhesive along all four edges of the label covers the area where the label overlays the card, to thereby firmly bond the label to the card.

It is noted that for ease in cutting the strip into individual labels, a line such as the aforementioned dot-dash line shown in FIG. 1, may be printed on the strip. It will be printed after the adhesive has been applied so that each label is aligned with the cut outs in the adhesive.

Now, since the process of applying the adhesive to the labels has been discussed, the following is a brief description of how the labels and cards are used in a conventional spirit duplicating process. The information to be reproduced is written or typed in the central area on the outer surface of the label while the labels are still attached to the sheet of release paper and while a sheet of spirit duplicating carbon paper, containing any of standard spirit duplicating inks, such as violet crystal, etc., is placed in contact with the back surface 13 of a label. The impression made on the front of the label will thereby be reproduced in spirit duplicating ink on the reverse side of the label. It will be noted that by having release paper protecting the adhesive, the carbon paper will not contact the adhesive and impair its bonding qualities. As aforementioned, the label is then removed from the release paper and secured to a punch card for use in a spirit duplicating process.

The next step in the spirit duplicating process would be to place a suitable spirit duplicating solvent, such as methanol or methyl alcohol, on the surface of a sheet of paper or other material to which the image is to be transferred. The punch card is then brought into contact with the paper so that the back of the label, with the ink thereon, contacts the area of the paper on which the solvent has been placed. The need for this contact between the paper and the back of the label is the

4

reason for the apertures in the adhesive and punch card. Pressure is then applied to the label so that some of the ink on its back which has been dissolved by the solvent will be transferred to the paper.

The master card with the spirit duplicating label is then removed from the paper or vice versa to leave an image on the paper.

Now briefly reviewing the operation of my process once again. Sheets of pressure sensitive adhesive and release paper are cut to the same size as a sheet of labels. The sheet of pressure sensitive adhesive is then sandwiched between two sheets of release paper to form a laminae. Openings are then punched in the laminae at equally spaced intervals along its length. One sheet of release paper is removed and a sheet of paper which is to be made into spirit duplicating labels is secured to the adhesive in place of the release paper. The paper and adhesive but not the release paper are then severed to form individual labels having a peripheral border of adhesive around all four edges thereof. Then when a label is to be used, it is removed from the release paper and affixed to a surface such as a punch card.

It will be appreciated that I have provided a highly efficient and relatively simple way to apply adhesive along all four edges of spirit duplicating paper, which is to be formed into individual labels, while the paper is still in strip form.

While a specific embodiment of my invention has been illustrated, it will be appreciated that my invention is not limited thereto, since many modifications may be made by one skilled in the art, and the appended claims are intended to cover all modifications as fall within the true spirit and scope of my invention.

Having thus described the invention, what is desired to be secured by United States Letters Patent is:

1. The process of applying adhesive to a carrier strip which is adapted to be formed into a plurality of individual carriers, comprising the steps of:

providing a sheet of pressure sensitive adhesive having substantially the same surface area as the carrier strip,

securing a member to one side thereof,

forming openings in said adhesive and said member by removing part of the member and part of the adhesive,

removing the member from said adhesive and securing the adhesive to the carrier strip so that when the carrier strip is formed into individual carriers the adhesive will surround a predesignated area of each carrier.

2. The process of claim 1 wherein: the predesignated area of each individual carrier is smaller in area than the carrier and is centrally located on the surface of the carrier so that there is a border which is covered by adhesive surrounding the predesignated area and proximate all edges of each carrier.

3. The process of applying adhesive to a carrier comprising the steps of:

providing adhesive,

securing a member to one side thereof to form an integral laminae,

forming openings in the laminae by removing part of the member and part of the adhesive,

removing the member from said adhesive, and securing the adhesive to a carrier.

4. The process of claim 3 including the step of: securing another member to the other side of the adhesive so that the laminae will consist of two members with adhesive therebetween before openings are formed therein.

5. The process of claim 4 wherein: the adhesive comprises a sheet of pressure sensitive adhesive.

6. The process of claim 5 wherein: the members comprise sheets of paper having an adhesive resistant coating.

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7. The process of claim 6 including the step of: severing the carrier and the adhesive to form a plurality of individual label members which are secured to a sheet of paper having an adhesive resistant coating. .

8. The process of claim 7 including the step of: removing an individual label member with the adhesive attached thereto from said paper having an adhesive resistant coating. 5

9. The process of claim 8 wherein: the openings formed in the adhesive are substantially rectangular in configuration and wherein the individual label members are substantially rectangular in configuration and larger in area than the openings so that when the individual label members are formed, adhesive will be located along all four edges of each label member surrounding the central area which is left free of adhesive. 10

10. The process of claim 9 including the step of: secur-

6

ing an individual label member to a card having an aperture therein so that the predesignated area of the label member aligns with and covers the aperture in the card.

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U.S. Cl. X.R.

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