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METHOD FOR SHAPING COVERED TRIM PANELS

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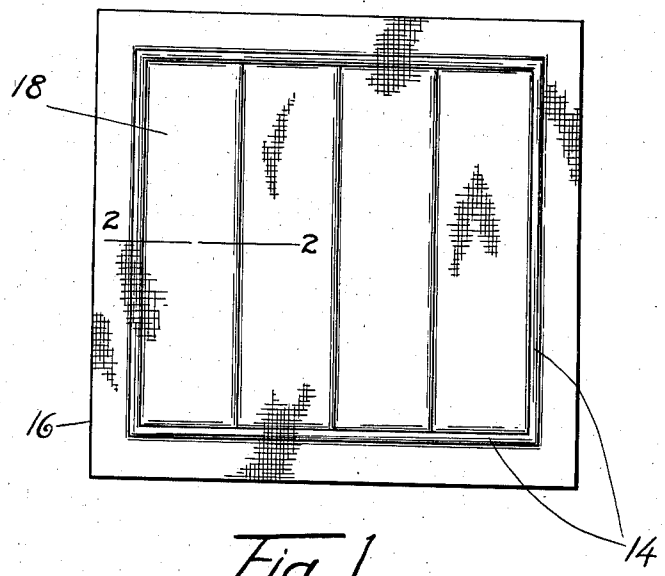


Fig. 1

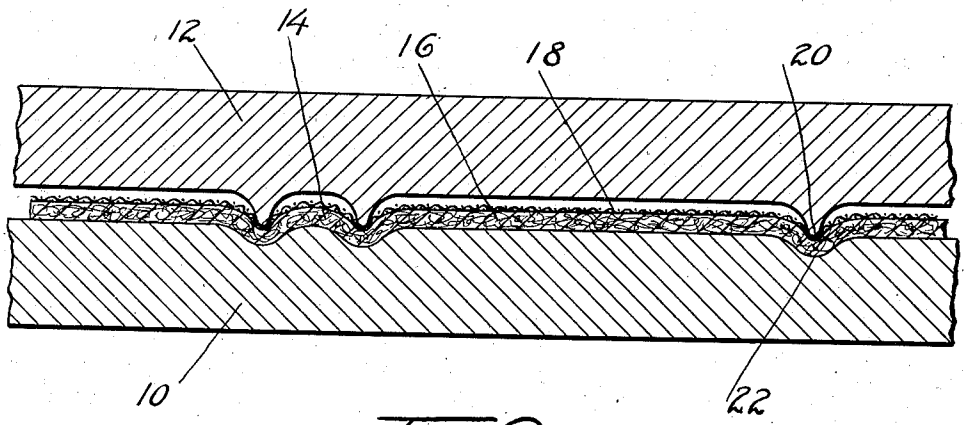


Fig. 2

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METHOD FOR SHAPING COVERED TRIM PANELS

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2 Claims. (Cl. 154—2)

My invention relates to improvements in trim panels such as those employed in automobile interiors and particularly to an improved process for shaping or embossing such panels and imparting thereto a distinctive design or embossment and to improved apparatus for so treating the panel and to an improved product resulting from the process.

The invention pertains particularly to an improved method of stamping or otherwise shaping a laminated panel structure and specifically one wherein one outer lamination consists of a covering of upholstery trim fabric such as woven or felted fabric or other suitable material.

It has heretofore been proposed to stamp or otherwise shape trim panels of this character, which are responsive to assume and retain a deformed shape under heat and pressure, by stamping the covered panel board into the desired shape. The panel board which is of any suitable composition fibrous material possessing the necessary characteristics is covered upon one surface with upholstery cloth and my invention relates to so performing the stamping or embossing operation that the covering of upholstery material will not have its normal appearance impaired or damaged by the embossing treatment to which the covered panel is subjected.

It has heretofore been found that as a result of the stamping operation to which the covered panel is treated certain fabrics, particularly inexpensive, loosely woven fabrics become spotted or mottled losing their normal color and appearance in places and acquiring a hard, shiny, discolored appearance rather than exhibiting the soft lustrous deep pile appearance which such fabrics are intended to exhibit. I have found that this result is due to the pressure of the force to which the fabric is subjected during the stamping operation. The loosely interlocked fibers which make up the fabric and which give it the appearance of a more expensive pile cloth become matted down under the heat and pressure of the force and do not regain their normal appearance. The fabric changes color and assumes a hard, shiny, matted appearance where the pressure is greatest. This resulting distortion and appearance renders covered panels treated in this manner objectionable for upholstery purposes.

An object of this invention is to so stamp such fabric covered panels that the heat and pressure of the force is brought to bear only along a line which outlines the embossment, whether a bead or other design, and that elsewhere the material is allowed to freely flow to shape without being subjected to the heat and pressure of the cooperating force and die. As a result of this method of shaping a covered panel board the covering material presents, except along those lines which outline the embossment, the normal rich, soft, and lustrous appearance of the virgin fabric.

Throughout the specification and claims where the term "upholstery trim fabric" or "cover fabric" is used it is intended to designate any suitable fabric or covering material whether formed of woven or felted fabric or any other suitable covering, and the designation "trim panel" or "panel board" is intended to refer to any suitable foundation board which possesses the necessary characteristics demanded for the treatment herein set forth.

Other objects and advantages of my invention will more fully appear from the following specification, appended claims, and accompanying drawing, wherein:

Figure 1 is an elevation of a trim panel embodying my invention, and

Figure 2 is a cross section through a die with a trim panel in position therein for being acted upon by the die illustrating my invention.

In carrying out my improved process I utilize cooperating die members of the same general type as has heretofore been employed wherein there is a female die member 10 and a male die member or force 12. The invention resides in forming these dies in a relatively different manner and in utilizing them so that the pressure brought to bear upon the board which is being stamped is brought to bear in a different fashion from that which has heretofore been considered good die practice.

In the stamping of panel boards of this character according to the practice heretofore followed the die members were so relatively shaped that pressure was brought to bear upon both sides of the board, the covered as well as the uncovered side, throughout the entire expanse of the board and the design which was embossed thereon was shaped under this heat and pressure. The structure of the panel board itself was of such a character that it would assume and permanently retain a deformed shape. I employ a panel board which possesses these characteristics but I provide cooperating die members of such a character that pressure is brought to bear by the male die member only at those points upon the covered side of the board which outline the embossment or line to be formed therein, and elsewhere the face of the force is relieved, at least to the thickness of the covering material, so that such cov-

ering material is not acted upon with the heat and pressure of the die at any point except along the line which outlines the embossment.

The panel board which is illustrated in elevation in Figure 1 is merely an illustrative form. It is obvious that any particular type of die might be developed and that any suitable covering material as well as any particular type of foundation board which answers the demands might be employed. The panel board illustrated in Figure 1 exhibits certain bead line effects such as indicated at **14** and in Figure 2 the foundation board of the covered panel member is indicated as **16** and the covering material as **18**.

This invention is particularly intended for use in connection with the treatment of the covered panel boards wherein the covering material is of a loosely integrated fibrous character such as inexpensive mohair or the like. It is understood that the plain panel board is first covered with the covering material on one side. This trim fabric is adhesively secured to the surface of the panel board. The panel board is then subjected to the heat and pressure of a stamping die to emboss therein the desired design. The embossing operation takes place, it will be understood, upon the covered board, the covering material on the board being acted upon by the die during the stamping operation. The panel board possesses those characteristics which enable it to assume and permanently retain a deformed shape and to hold to such shape the covering material.

In Figure 2 it will be noted that the projecting male die members **20** cooperate with the recessed female portions **22** to impart the desired design to the board and that at points adjacent but extending away from the projecting male portions **20**, such as at points **22**, the force is relieved so that sufficient space is provided to accommodate the covering material without contact thereof by the force.

It has been found that in carrying out the stamping operation in this manner with the die members so fashioned that the only place where the covering fabric is matted down and discolored is along the line of contact of the projecting portion **20** of the force. Elsewhere the force is relieved and it does not bring the pressure and heat to bear upon the covered side of the panel board and the covering material is therefore not discolored or matted down and retains its normal virgin appearance. The discoloration of the material along the line of the embossment falling, as it does, within a recess is not so apparent as to be objectionable and the broad expanse of the elevated or normal plain portions of the covered panel board are not injuriously affected.

What I claim:

1. In the method of producing a decorative trim panel comprising a panel board having a surface thereof throughout its expanse covered with an upholstery trim fabric, the step of imparting a design in intaglio to the composite material by heat and pressure applied only at the point or points on the fabric covered surface which are to form the design so that the trim fabric is pressed and matted down to a less thickness only along the base of the intaglio design.

2. A decorative trim panel comprising a panel board, an upholstery trim fabric secured to a surface thereof throughout its expanse, the panel being provided with an intaglio design with the fabric being matted down and of less thickness only along the base of the intaglio design, the remaining portion of the fabric being in a normal, unmatted, uncompressed state, produced in accordance with the method set forth in claim 1.

PAUL R. ZINSER.