Feb. 4, 1936. C. W. HOSTECK 2,029,719

DISPLAY DEVICE

Filed May 9, 1935

Fig. 1

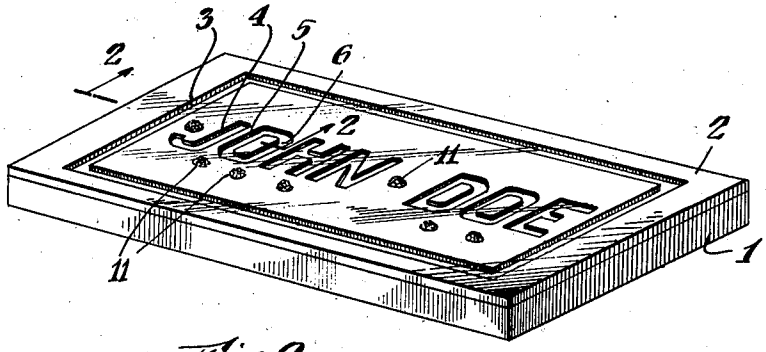


Fig. 2

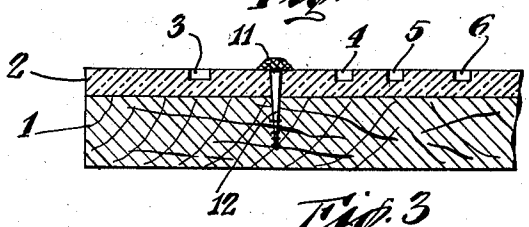


Fig. 3

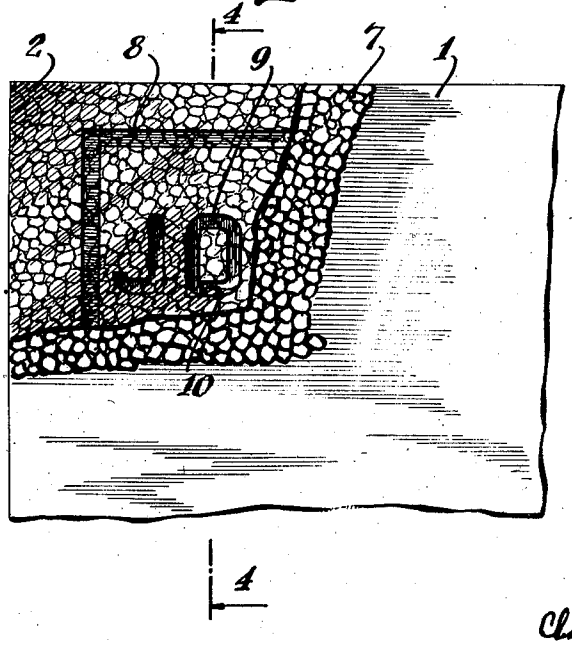
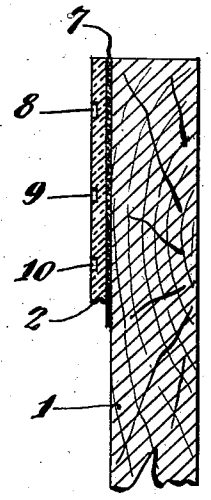


Fig. 4



INVENTOR

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UNITED STATES PATENT OFFICE

2,029,719

DISPLAY DEVICE

Charles W. Hosteck, Flushing, N. Y.

Application May 9, 1935, Serial No. 20,547

5 Claims. (Cl. 40—135)

This invention relates to new and useful improvements in signs, decorative panels, wall plaques and the like.

The primary object of my invention is to provide an inexpensive article with a glossy surface in which the lettering and design present a contrast to the background. In addition it is my object to produce an article comprised of lesser expensive material and inexpensively produced which will have the characteristic ornate appearance of the more expensive glass or onyx signs and the like. This eliminates the high degree of breakage prevalent in such articles made of glass.

I am perfectly aware of the fact that it is old in the art to provide signs and the like in which the glossy surface is composed of glass, celluloid or the like. The lettering or design has heretofore been applied by several different methods. One common practice is to merely print the design on the glossy surface. The ornate effect is lost by the lack of any optical illusion that the glossy surface is covering the design. Another common practice is to make the covering glossy and transparent and either print the design on the rear face of the surface or form the design either on or in the surface of the supporting base to which the surface is applied. This calls for an added step in preparation and assembly and limits the field of variation in design. Likewise the same disadvantages result in the preparation as well as the resulting appearance when such a common practice is resorted to as the cutting out of stencils through the glossy surface to allow the contrasting color of the base to become visible through the cut out portions of the glossy surface.

In the case of the glass sign, which right at the outset comparing size for size with my type of sign far exceeds mine for cost of raw materials alone, various methods of applying lettering or design are used. One common practice is to silk screen the lettering or design on the reverse side of the glass, or etch or sandblast either side of the glass to obtain the lettering. Another method is to apply to the back of glass a metal plate with lettering or designs. After holes are drilled in the glass the lettering or design is then screwed to a wood back similar to that embodied in my invention. All of these methods, however, require considerable expensive operations, which are eliminated by my process.

The present invention, however, contemplates economy in regard to the supporting base, in the surface plate and in the process of applying the design. For instance the supporting base may be of ply wood or solid wood, pressed pulp wood composition, heavy cardboard, thermoplastic wood or the like. The surface plate may be of transparent or opaque celluloid, pyroxylin or phenolic plastic material, casein or the like and may be glossy, stippled or of satin finish. The design or lettering may be either hand engraved or embossed gold or silver or pigment colored leaf and applied by the use of hot or cold press or engraved by an engraving machine and cuts filled in by the use of mixtures, bronzes or pigment colors.

In any event the design or lettering is easily cut into or pressed onto the plastic covering sheet but only partially therethrough. Thus whether the covering sheet is opaque or transparent the design or lettering thus applied is in direct contrast to the background. Moreover, all of the surface of that portion of the covering sheet, which has not been thus worked on, is elevated with respect to the portion worked on.

In the case of solid celluloid or other plastic material signs it is necessary to use a very heavy sheet of plastic material in order to give the sign body and weight and in order to more or less prevent warping only to a certain degree. This is also an expensive method of producing an article of this type. In my process the wood or other solid material eliminates the necessity for the use of a heavy plastic material. By the application of a thin sheet of plastic material to wood or other substitute for the body or base, I can quickly and much more economically produce an article having the same effect and appearance as either of the above mentioned more expensively produced signs.

The further essentials of my invention will become more apparent upon a further reading of the following specification and appended claims, certain embodiments thereof being illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of a sign or plaque, showing the supporting base, the glossy surface sheet and lettering and design worked into the sheet.

Figure 2 is a view in section taken along line 2—2 of Figure 1.

Figure 3 is a partial top plan view of a sign or plaque using a base, brilliants thereon, and a transparent glossy surface sheet with design or lettering worked in the latter, the view showing sections partially broken away to show the different layers of the composite structure.

Figure 4 is a view in section taken along line 4—4 of Figure 3.

Referring more particularly to the drawing,

we may assume for purpose of illustration only, the supporting base 1 of Figure 1 to be of wood and the plastic sheet 2, glued or otherwise affixed thereto, of celluloid. The celluloid sheet may be transparent, colorless, colored or opaque. The working shown for example consists of the words "John Doe" with a rectangular border. The design or lettering or both may be embossed with gold or silver leaf or pigment colored leaf applied by hot or cold press. It may be machine engraved by the use of an engraving machine. It may consist of cut out metal letters or design impregnated by the use of heat or pressure or both. In any event the working is impressed so as to penetrate the surface of the sheet 2 but not clear through so as to engage the upper surface of the block 1. In some cases the pressure exerted may indent the upper surface of the wood base but the sheet is not penetrated throughout. For instance as shown in Figure 2 the indentation 3 is that caused by one end of the border; indentation 4 is that caused by the upright portion of the letter O. It will be seen that these indentations do not extend through the sheet 2 to the base 1.

Let us assume the glossy plastic sheet to be opaque and the lettering and the design to be of color in contrast thereto. The remaining portion of the plastic sheet which has not been subjected either to heat or pressure and thus has not been indented and which surrounds the indented portions is preferably elevated with respect to the indented portions. This, by reason of the glossy surface of the plastic sheet, gives the ornate appearance of a much more expensive panel having lettering or design actually covered by a glass or crystalline surface. However, as previously stated, by the use of any of the mentioned types of glossy but plastic sheets, it is possible to apply the lettering or design by quick and handy stamping dies or by simple engraver's tools. Ornamental panels may, as previously stated, be formed in an identical manner whether the plastic sheet is transparent, opaque, colored or colorless. The design or lettering may have its upper surface flush with or elevated with respect to the upper surface of the sheet, if desired.

As an added refinement, as shown in Figures 1 and 2, I may apply real or imitation jewels or the like as shown at 11. These may be applied in the same manner as the other present design in the event I use a thick sheet of celluloid. Usually, however, I prefer to drill through the sheet and into the wooden base in order to securely anchor the jewel. As an illustration I have shown several jewels located below and between the letters and I have shown an anchoring prong 12 secured to the jewel and anchored by screwing or otherwise securing the prong in the body of the base. The jewels are shown elevated with respect to the upper surface of the sheet but they may be flush with or below this surface. Obviously, these jewels may be supplanted by some other form of design. The fact remains that the plastic nature of the sheet and the texture of the base allows this drilling by a simple operation, impossible in case a glass or crystalline surface were used.

Figure 3 shows a form of my invention conforming in every particular to the foregoing with or without the jewels, with the exception that there may be securely affixed to the upper surface of the base 1 a coating of brilliants 7 completely covering the base and rendered visible through a transparent colorless glossy plastic sheet 2 for forming a contrasting background. The sheet is then securely affixed to the coating of brilliants and not to the base. Here, as in the case of the form shown in Figures 1 and 2, the design and lettering does not penetrate through the sheet 2 into the brilliants or the surface of the base. The brilliants may, of course, be replaced by a coating of color or if desired a colored paper on the surface of the base to obtain the desired colored effect. The indentation 8 is formed by the upper portion of the border; the indentation 9 is formed by the upper portion of the letter O; while the indentation 10 is formed by the lower portion of the letter O.

I claim:

1. In an article of the character described, a base having a relatively even surface with a brilliant coating thereon, a sheet of transparent plastic material secured thereto and having a surface to constitute a background, and recessed display characters penetrating into the outer surface of said sheet and embedded therein.

2. In an article of the character described, a base having a relatively even surface with a brilliant coating thereon, a sheet of transparent plastic material secured thereto and having a surface to constitute a background, and recessed display characters embedded in said sheet and penetrating the outer surface thereof to an extent less than perforation of said sheet.

3. In an article of the character described, a base having a relatively even surface with a brilliant coating thereon, a sheet of transparent plastic material secured thereto and having a surface to constitute a background, and recessed display characters embedded in said sheet, and penetrating the outer surface thereof to an extent less than the thickness thereof, the remainder of said sheet, other than that portion in which said characters are actually embedded, having a relatively greater thickness than the portion constituting the characters and the portion receiving the characters combined.

4. The method of producing a display device involving the use of a relatively rigid base and a relatively thin sheet of plastic material, said method comprising the securing of said sheet to said base, the placing of a material on said sheet and the compressing of certain predetermined portions of the upper surface of said sheet and the forcing of said material in said portions by subjecting said portions and material to heat and pressure and limiting the heat and pressure so as to penetrate into but not perforate said sheet, so as to deposit material within the recesses thus formed while leaving the remaining upper surface not subjected to heat or pressure and thus leaving it unchanged in its appearance, so as to form recessed characters embedded in the sheet against the remaining area as a background.

5. In a display device, a base, a sheet of transparent plastic material secured thereto with coloring material interposed between said sheet and base to constitute a background, and display characters penetrating into the outer surface of said sheet to an extent less than perforation so as to be embedded in said sheet.

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