

Dec. 19, 1939.

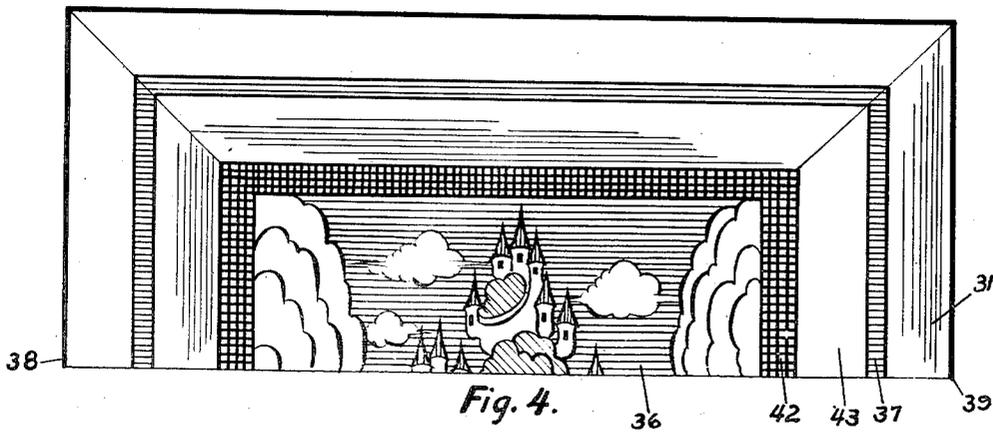
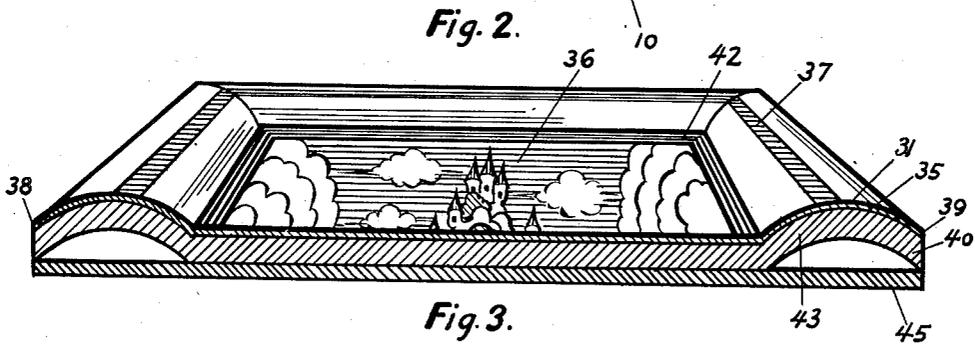
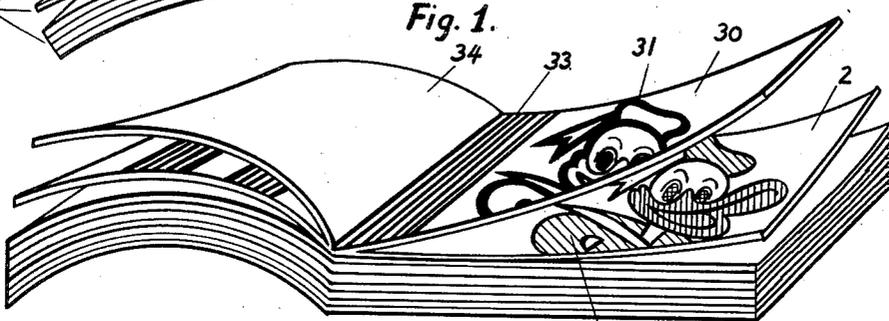
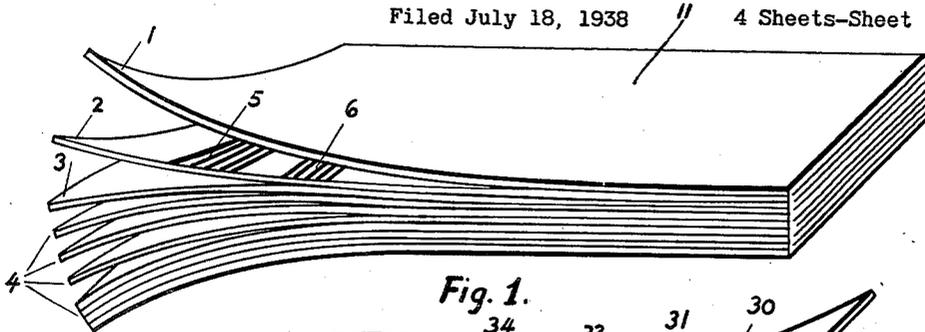
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2,184,121

ART WORK

Filed July 18, 1938

4 Sheets-Sheet 1



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ATTORNEYS

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2,184,121

ART WORK

Filed July 18, 1938

4 Sheets-Sheet 2

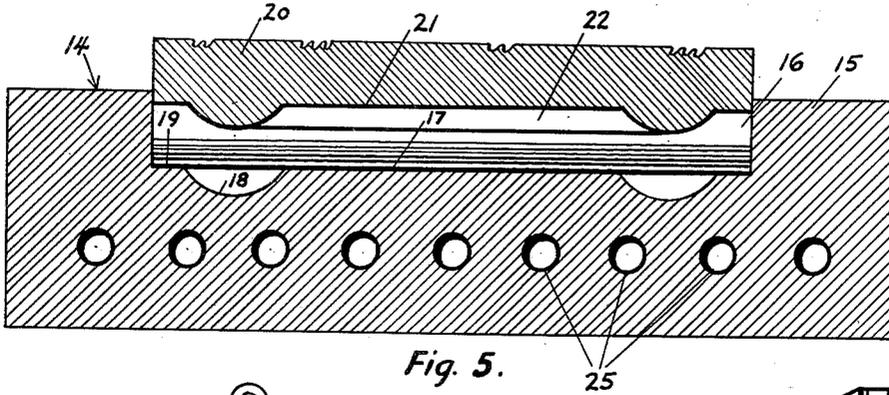


Fig. 5.



Fig. 6.

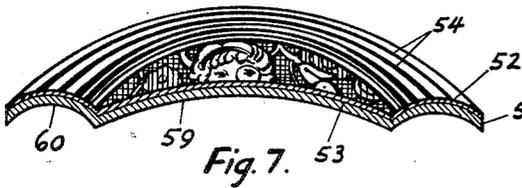


Fig. 7.

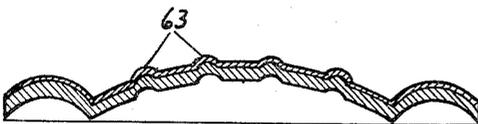


Fig. 8.

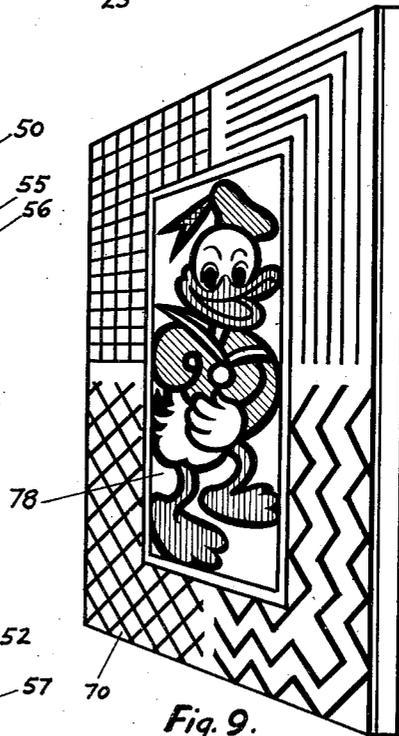


Fig. 9.

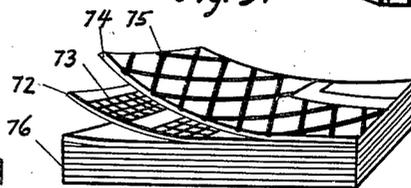


Fig. 10.

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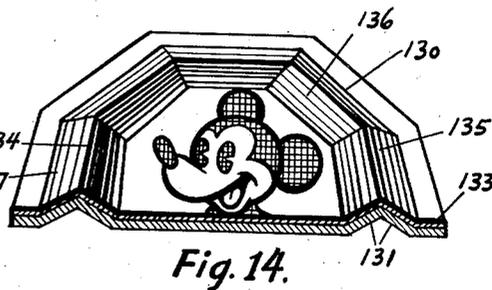
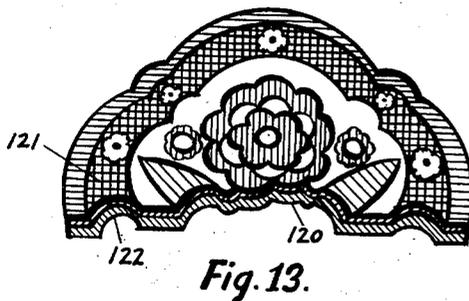
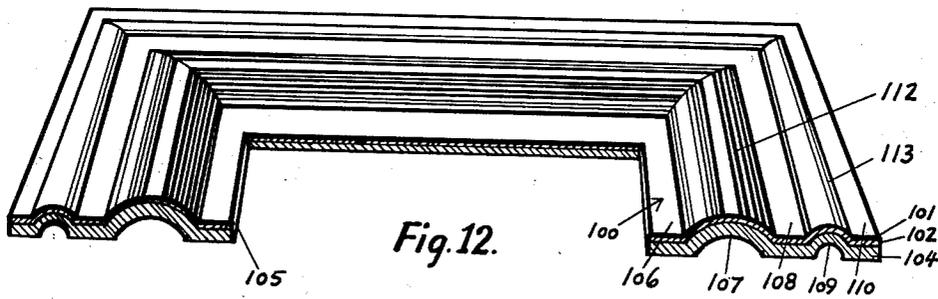
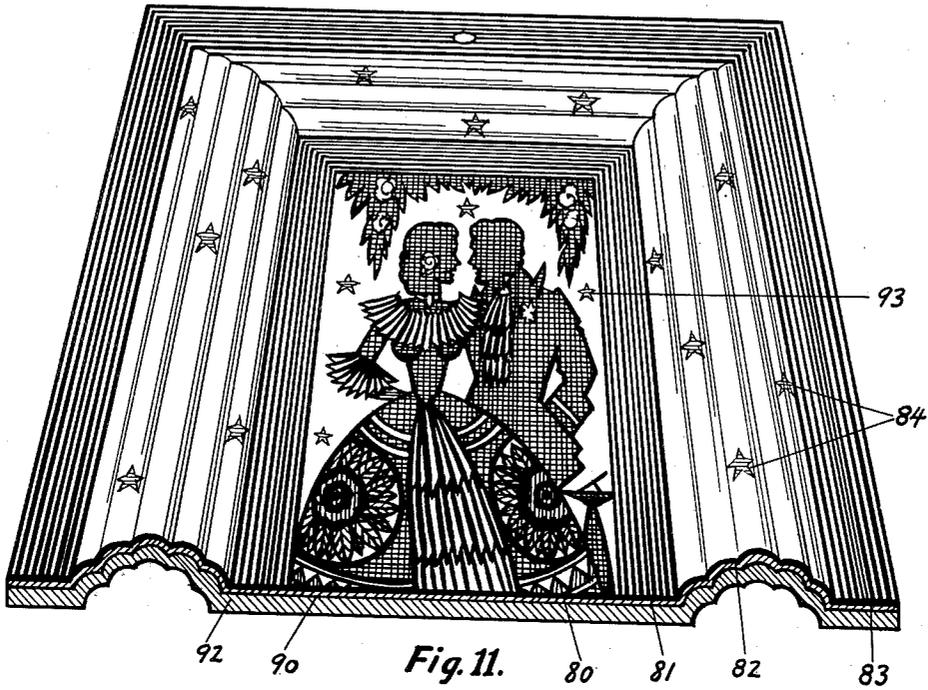
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2,184,121

ART WORK

Filed July 18, 1938

4 Sheets-Sheet 3



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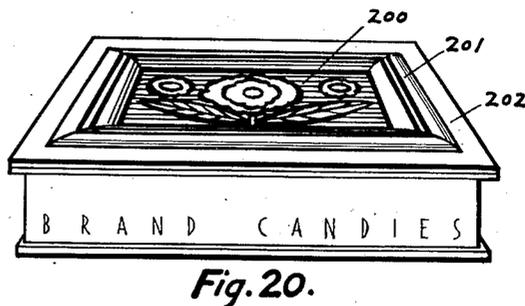
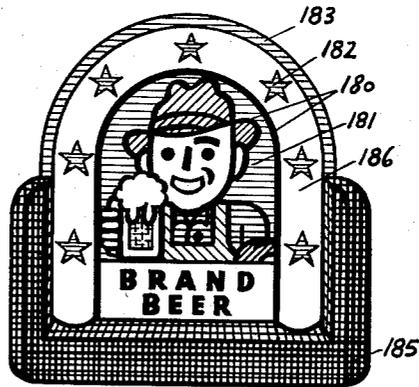
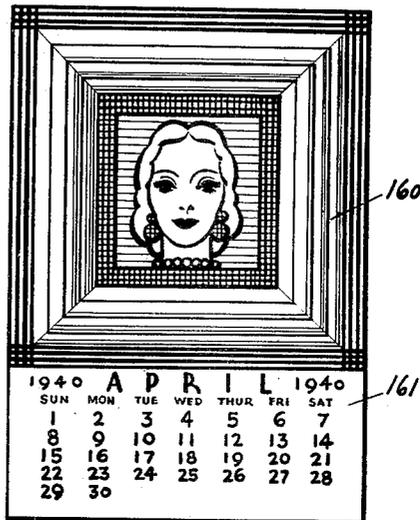
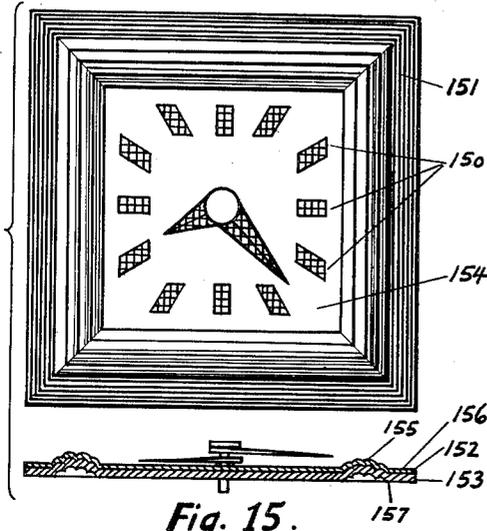
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2,184,121

ART WORK

Filed July 18, 1938

4 Sheets-Sheet 4



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UNITED STATES PATENT OFFICE

2,184,121

ART WORK

Henry Henriksen, Minneapolis, Minn.

Application July 18, 1938, Serial No. 219,777

13 Claims. (Cl. 41—24)

The present invention relates to improved art work and to a method and apparatus for producing the same.

It has long been recognized that for the proper presentation of art work it is necessary to provide a suitable mounting or framing and under certain conditions to provide glazing for the protection of the work and hence it is customary to provide frames which are of wood, metal, plaster, or the like, with or without glazing, for this purpose. With the advent of multiple color printing and advanced methods of engraving it has become possible to make excellent art work in large quantities at low cost, and as a result art work flats of high quality but unembellished and unframed may now be obtained for only a few cents.

There has not been a corresponding advance in framing and glazing procedures, and as a result frames and glazing frequently cost many times as much as the print being framed. This disparity in the cost of prints and of framing and glazing has minimized the use of readily available art work and has stifled the trade in such wares.

I have discovered a new and useful method for utilizing art work of many characters, particularly engraving press work such as etchings, posters, photographs, four-color process work, offset printing, rotogravure work, silhouettes, cartoons and stain glass effect prints by which these may be readily utilized, embellished, framed and treated so as to be available for decorative hanging in the home, for signs, advertising, displays and the like.

It is therefore an object of the present invention to provide such a process of utilization such new and improved finished art work and apparatus for the production of such work.

It is a further object of the invention to provide a method and apparatus for making unitary constructions having an integral art work area and frame portion, and to provide the products of such process.

It is a further object of the invention to provide a method and apparatus of treating art work by lamination with hardenable light-colored transparent resinous materials and to harden such art work into a shape having an art work area and an integral border area, and to provide the new products of such method.

It is also an object to provide an improved method and apparatus of treating art work by superimposing a multiplicity of laminae of art work prints having color printed border areas

if desired and of hardening said laminae into a composite whole which is penetrated throughout with a sufficiency of light-colored sufficiently transparent resinous material so as to render the under laminae to be visible throughout the art work area, border or both, and to provide new products of such method.

As a component of my process I may treat art work so as to provide on it a hard durable and practically transparent and integral protection, and glazing in the ordinary sense is accordingly unnecessary. It is therefore an additional object of the invention to provide an improved process and apparatus for producing self-protected art work of such character and the product of such process and apparatus. It is also an object to provide a durable article which will not be subject to breakage such as occurs in glazed art work, plaster cast work or the like.

It is a further object of the invention to provide a process of laminating art work prints and of producing a leaded-glass effect throughout certain areas thereof, and to provide the new products of such process.

It is also an object of the invention to provide a process of producing art work having a plurality of printed colored laminae constituting the art work area and border area, and of forming such laminae into a unitary framed art work by impregnating said laminae with a hard relatively clear resinous material which is capable of rendering all of said laminae visible and of maintaining the border area in the configuration of a frame and the art work area as a plane surface or as a uniformly curved surface simulating glazed areas, or with intaglio lines simulating leaded-glass.

Other and further objects of the invention are those inherent in and suggested by the method and constructions illustrated, described and claimed herein.

The invention is illustrated with reference to the drawings in which:

Figure 1 is a perspective view of the multiplicity of layers, with some of the layers expanded at one corner.

Figure 2 is a perspective view, partly in section, having some of the layers lifted to illustrate coloring of the successive layers.

Figure 3 is a perspective view partly in section of the finished product.

Figure 4 is a partial plan view of the product shown in Figure 3.

Figure 5 is an elevational view in section illus-

trating the apparatus used for carrying out the processes of the invention.

Figure 6 is an illustrative modification showing another use of the invention.

5 Figure 7 is a perspective view partly in section of the work shown in Figure 6.

Figure 8 is a cross-sectional view showing another modification of the invention.

10 Figure 9 is a perspective view illustrating a further modification of border work.

Figure 10 is a partial perspective view of the work shown in Figure 9 having the several laminae thereof partially expanded to illustrate the construction of the work.

15 Figure 11 is a perspective view partly in section of a different modification of the invention.

Figure 12 is a perspective view partly in section of a frame without the art work center of the present invention.

20 Figures 13 through 20 are art work pieces made in accordance with the present invention and are illustrative products.

In order to accomplish the objects of the present invention and to provide an integral artistic 25 piece having an art work area and an integral artistic frame I utilize the ordinary printed flat work such as etchings, posters, photographs, four-color processes work, offset printing, rotogravure work, silhouettes, cartoons and the like, which 30 as ordinarily produced are printed upon paper of a few thousandths inch thick. For my process I prefer to have such printed work made upon rag-stock paper although this is not essential as ordinary pulp stock gives reasonably satisfactory 35 results. It is likewise relatively immaterial whether the paper is glazed or unglazed and I have discovered further that ordinary printing inks used in known commercial printing processes are suitable for use in my improved combined 40 process.

In carrying out the invention I also utilize the facilities of the molded plastic art such as the heat and pressure moldable resins. Suitable 45 resins for my purpose are the urea-formaldehyde resins, the light colored phenolic resins, vinyl resins and the like. I may also use relatively light colored resinous or resinoid materials such as cellulose acetate, regenerated cellulose, cellulose ethers, esters and the like, or the nitro-cellulose materials such as celluloid. Certain of these 50 latter are not permanently hardenable under heat and pressure but serve adequately for some uses. However, I prefer to use heat and pressure hardenable resins such as the urea-formaldehyde 55 resins.

I have discovered that when a lamina having a distinctive marking thereon is impregnated with one of the above resins as, for example, the urea-formaldehyde resins and that when the 60 laminae is subsequently molded into a plane flat body by pressing between flat, polished, heated surfaces under several tons per square inch pressure and at an elevated temperature that the distinctive markings of the lamina will remain and 65 will be clearly visible through the hardened resinous impregnated material which forms a clear, smooth glass-like surface for the piece. I have also discovered that when a lamina bearing distinctive markings is assembled with a plurality of 70 similar laminae and all are molded into a multiple laminae body that the distinctive markings of each lamina will be visible upon one or both sides of the body. I utilize this phenomena in making the art work flats having integral frame work 75 areas as illustrated in the present invention.

Figure 1 illustrates the first step in carrying out my invention. In this figure there is provided a plurality of laminae 1, 2, 3 and 4 which are assembled together to form a stack of sheets. Each of the laminae is impregnated with a resinous or 5 resinoid material such as urea-formaldehyde material. The impregnating may be done in any suitable manner as, for instance, dipping the laminae in a thin syrup of urea-formaldehyde condensation product.

As illustrated in Figure 1 the top lamina 1 is relatively thin and is without any designations. The second lamina 2 is provided with a plurality of border designations 5 and 6 which may be made merely by printing a plurality of lines along 10 the edge of the piece. Within the border area on laminations 2 there is provided an art work flat such as the cartoon figure 10 shown in Figure 2. This cartoon figure may be made up of black and white or may be made up as illustrated 15 of a plurality of colors, green, red, black, and the like. This portion of the flat work print is not illustrated in Figure 1 since it comes within the area 11.

Below the second lamina 2 there may also be 25 provided an additional lamina 3 on which additional coloring matter may be provided, such as background color, or if desired, a design such as will blend harmoniously with the design on lamina 2. Beneath the third lamina 3 there may 30 be additional colored laminae or merely a plurality of uncolored impregnated backing sheets 4.

After the stack of impregnated laminae are assembled as shown in Figure 1 they are placed 35 in a press such as that generally illustrated at 14 in Figure 5. The press 14 consists of a lower stationary member 15 having a press opening 16 of a shape like the art work to be produced and a depth more than sufficient to take the bundle of laminae before they are compressed into the 40 finished product. The bottom of the press opening 16 has a highly polished flat surface 17 which forms the flat picture portion of the art work and a groove 18 of any desired cross-section surrounding the flat picture portion 17. The groove 18 45 forms the frame portion of the finished art work. If desired, there may also be a narrow flat edge 19 outside of the frame. The molding apparatus 14 is also provided with a movable plunger 20 which fits closely within the opening 16. The 50 bottom surface of the movable plunger is provided with a flat area 21 which coincides with the flat area 17 of the lower mold member 15 when the press is closed. The plunger 20 is also provided with a downwardly extending ridge 22 having 55 a cross-section similar to the cross-section of the groove 18 into which it nests when the press is closed.

A plurality of heating pipes 25 are fitted within the lower member 15 of the mold so as to supply 60 the necessary heat for heat and pressure hardenable resins. The upper member 20 of the mold is arranged to be driven downwardly by a hydraulic or other press not illustrated which is capable of delivering several tons per square inch 65 pressure to the mold surface.

After the assembled laminae are placed in the mold as illustrated in Figure 5 the mold is closed. In some instances it is desirable to close the mold first without heating so as to form the frame 70 indentation and thus permit proper seating.

At this stage the laminae are shaped into the general configuration of the finished work but the laminae are not consolidated into a unitary whole and may be lifted from each other as in 75

Figure 2. It is noted in passing that the work shown in Figures 2, 3, and 4 does not have the narrow marginal flat as would be produced by the mold shape in Figure 5. The mold shape, however is a matter of choice. Heat may thereafter be applied while the pressure is continued until the resinous material has permanently hardened and polymerized. Where the art work flat is of relatively large dimensions it is also sometimes desirable to open the mold during the pressing operation so as to permit the vapors formed during the molding operation to escape. However, by suitable choice of resinous or resinoid material the opening or "breathing" of the mold during the pressing operation may be reduced to a minimum or eliminated entirely. After the pressing operation is complete the mold is opened and the finished art work results.

After the pressing operation is completed the surface may be printed with heavy black lines throughout certain areas such as the outline areas of the cartoon character shown in Figure 9, or if the border area is flat rather than of shaped cross-section, a border printing may be applied as shown in Figures 9 and 10.

In some instances, however, I prefer to print the upper lamina 1 prior to the molding operation. This is illustrated in Figure 2, wherein the upper lamina 30 is printed with heavy black outlines 31 which are oriented so as to overlie the outlines of the Figure 10 in the lower lamina 2 when the several laminae are assembled one above the other. The upper lamina 30 of Figure 2 is also illustrated as having a border line 33 adjacent the frame area 34. When the printing of the upper foil 30 is applied thus before the pressing operation the art work is finished when the molding operation is complete.

In Figures 3 and 4 there is illustrated a framed art work produced according to the present invention. In this device there is provided a second lamina 35 upon which the picture designations 36 are printed. The second lamina also has printed thereon a border line 37 which serves to enhance the framing effect when the finished product is molded into the shape illustrated. It will be noted that the second lamina 35 extends from the outer edge 38 entirely across the frame and art work area to the opposite outer edge 39. In this connection it should be remembered that this flat work print is of any ordinary character such as a rotogravure print and the picture designations and frame line are merely printed thereon in the usual fashion. The second lamina 35 is backed up by a stack of additional laminae 40 which may be a large or small number of laminae according to the thickness of the finished product desired. In most instances 10 to 20 sheets of backing-up laminae are sufficient. In the work illustrated in Figure 3 the upper lamina 31 is very thin and is unmarked excepting for a border designation 42 which in the finished product lies just within the curved frame portion 43. The back surface of the molded work may be covered with a cardboard sheet 45 as illustrated where the print is to be hung against a dark wall, but where the print is to be used over a lighted surface it is desirable to dispense with the cardboard backing seat 45 so as to permit light to be transmitted through the somewhat translucent molded art work.

The translucency of the art work, including the picture area 36 and the coextensive frame area depends upon the total thickness, upon the intensity of coloring used in the various areas

and upon the color of the resinous or resinoid impregnating material. When using light colored resins such as vinyl resin, urea-formaldehyde plastics or the light colored phenolic resins, relatively translucent art work pieces result, particularly where the backing sheets 40 are few in number. Thus where the total thickness of the molded art work is about $\frac{1}{8}$ of an inch and a light colored resin such as a urea-formaldehyde resin is used the art work is sufficiently translucent so that light is readily transmitted through it. This feature of the invention is especially useful where the art work is used for advertising purposes, lamp shades, stained-glass windows effects, etc., as hereinafter explained.

In Figures 6 and 7 there is illustrated a circular art work generally designated 50, having an integral raised frame portion 52 and a spherical art work surface 53. In this modification of the invention as in that described above a printed art work flat having the desired pictorial representations and frame lines, if desired thereon, is used as the starting material. As shown in Figures 6 and 7 the art work flat consists of a multi-colored illustration. This art work constitutes the second sheet in the stack of laminae, the upper set being a thin, transparent, impregnated foil without designations except for a plurality of circular lines 54 over the border area. The lines are spaced in two groups 55 and 56 so as to accentuate the high lighting of the finished piece. Below the first and second laminations there are provided a plurality of backing up laminations 57.

The loosely assembled impregnated laminations are placed in a mold similar to that illustrated in Figure 5 having a circular configuration like that of the finished piece shown in Figure 6 and having a central art work area preferably formed in slightly spherical shape and having a radius such as illustrated at 59 in Figure 7. The radius of the border cross-section 60 is considerably less than the radius of the spherical art work center so as to accentuate the frame. If desired the cross-section of the frame or central area may be some shape other than circular.

After the laminae are assembled in the mold the mold is closed and heat is applied in an amount sufficient to polymerize and consolidate the resinous or resinoid material. When the molding operation is complete the work is removed and is in a finished condition. By using a mold having a high finished surface it is possible to achieve an effect over the art work and framed area similar to glazing on ordinary pictures. By using printed art work flat having a number of border lines or other designations, it is possible to achieve an almost endless variety of artistic effects. Thus in Figure 6 the printed art work flat 52 may, if desired, be provided with a solid black border coextensive with the finished curved surface 60, constituting the frame. The upper lamina 53 may likewise be printed with a solid black border area. When such pieces having solid black frame areas are assembled and pressed according to the procedure outlined above a solid, lustrous and intensely black frame area results which due to its smooth and perfect surface resembles polished ebony. Within this frame area and integral therewith is the art work which is likewise provided with a smooth and lustrous surface simulating a glazed surface.

In Figure 8 there is illustrated a further modification of the invention which is utilized to obtain leaded glass effects in accordance with the pres-

ent invention. In this modification (which is particularly adapted to simple figures) each of the figures is outlined by an intensely black line and the mold is provided with a corresponding shaped surface 63 so that in the finished product a slight bead is produced over the intensely black lines. In this way the finished art work has the appearance of the raised leaded beads of leaded glass windows and the like.

In Figures 9 and 10 the border area 70 is flat. In this modification the border area of the second lamina 72 is provided with any desired designation 73 and the upper lamina 74 may likewise be provided with the same or different designations 75. In this modification as in the previous modifications there are provided a plurality of backing-up laminae 76 which may be uncolored or provided with a background color, as desired. The second lamina 72 is also provided with an art work center figure 78 which may be a black and white figure or a multicolored figure such as that illustrated in Figure 9. When the plurality of laminae are assembled, as shown in Figure 10 and subsequently pressed in a flat surface mold a finished art work results having an artistic center and an integral border design. Due to the translucency of the upper lamina 74 in the molded condition the border design combines the artistic note produced by the printing 75 on the upper lamina and the printing 73 on the lower lamina. Figure 9 is shown as having four types of border designs any one of which may be used alone or in combination with the others. It is understood, of course, that the invention is not limited to any particular art work design either for the border or for the art work itself.

In Figure 9, and in the other figures, the printed pictorial representation may be upon the upper lamina, the second lamina or both. By using two like laminae intensity of color is obtained; by combining the print work multicolor effects may be obtained.

In Figure 11 there is illustrated a finished piece having a central multicolored art work flat 80 surrounding which there is a lined border 81. Around the border 81 there is a raised fluted frame section 82 and around this a flat frame area 83. The piece shown in this figure illustrates the adaptability of the present invention as follows:

In preparing the work shown in this figure, a second sheet 80 is used upon which there is printed the central designations 80 of the figure and if desired the border areas 81 and 83, or a supplemental under-color for these areas. The second sheet also may be provided with a plurality of designations such as the stars 84, and if desired the frame area 82 may have a color such as gold. The upper lamina for purposes of accentuation may also be provided with border areas 81 and 83 of intense black. When the several laminae are juxtaposed and molded together and with backing sheets 92 a finished art work results having intensely black flat frame portions 81 and 83 between which there is a fluted raised frame section 82 having a background color of gold and superimposed star design 84. Within the piece and integral therewith is positioned the center artistic area 80 which may be of any design and which if desired may include the stars 84 so as to harmonize and carry out the star note 84 of the frame section 82. In this modification, if desired, the star designations 84 may be printed upon the upper lamina rather than upon the second lamina and as a result the stars will have

the appearance of being superimposed upon a gold background. Likewise the upper lamina may include outlines of the figures of area 80 and/or color, to harmonize with the second laminae.

In Figure 12 there is illustrated a molded, 5 frame generally designated 100 which may be produced in accordance with the present invention. In producing this frame, a correspondingly shaped mold is used and the laminae 101, 102 and backing lamina 104 all have a center cutout, 10 105 corresponding to the frame opening. The frame cross-section may be of any desired type such as that illustrated in Figure 12. In the illustrative embodiment there is provided an inner flat surface 106, an intermediate flat surface 108, 15 and an outer marginal flat surface 110. Between the inner and intermediate flat surfaces 108 there is a raised portion 107 and between the intermediate and outer marginal surfaces there is a somewhat narrower and less elevated raised portion 109.

The art work flats utilized in making the molded frame shown in Figure 12 may consist of an upper lamina 101 which is without designation and a second lamina 102 having thereon any suitable color or designation. The upper lamina 101 may have on it a plurality of lines such as those illustrated at 112 and 113. The second lamina 102 may have corresponding lines underlying those at 112 and 113 so as to intensify the color or a harmonious color scheme may be used so as to produce any desired effect in the finished work. In this construction as in the previous constructions the color of the second and even the third and fourth laminations is visible at least to a certain extent from the front surface and by using suitably printed laminae for this purpose the desired intensification of color may be obtained, or color combination may be produced.

In Figures 13 through 20 there are illustrated various objects made in accordance with the present invention in which the integrally formed frame and art work area is utilized.

In Figure 13 the multicolored laminae are molded in a press which has raised portions 120 corresponding to the design of the printed art work flat, and other raised portions 121 corresponding to the frame portion. In this modification as in the previous modifications any desired combination of printed art work flats may be superimposed one upon the other so as to obtain an intensification and/or combination of colors. Thus four-color process prints each printed upon a separate sheet may be superimposed in registry upon each other to give the desired combined multicolor effect. Thus the upper sheets may be black tone, the second blue, the third red, and the fourth yellow, so as to give the desired combined superimposed result. A suitable intensification of color of successively lower prints as compared with ordinary four-color work done on one sheet, is desirable so as to compensate for the color intensity loss of successively lower layers. The indentation 122 beneath the frame portion 121 may conform if desired to the upper marginal edge of a box such as a powder or candy box and the art work with its integrally formed marginal frame thus becomes a cover. This use of the work is illustrated in Figure 20. It is noted in this connection that the unbreakable character of these moldings admirably fit them for such service as box tops and also contribute to their serviceability generally, as art work pieces.

Figure 14 illustrates another design utilizing the present invention. In this instance the work and frame are of octagonal shape as illustrated at 130 and the frame cross-section is of a simple design of intersecting planes, as shown at 131. In work of this character it is desirable in some instances to provide the upper lamina 133 with printing which is accentuated as at 134 and 135 and not accentuated at other areas such as at 136 and 137 so as to produce an accentuated shading effect as of light falling across the object from the upper left corner.

With reference to Figures 13 and 14 it is noted that the present invention is especially adapted for the production of frames of unusual configuration. When frames are made of straight pieces of wood molding they are limited to polygonal configuration, the most common being square or rectangular, as shapes such as that illustrated in Figure 14 are difficult and expensive to produce. When round or other shapes are produced from wood the cross-sectional designs which are possible are only those which may be produced by rotating routing machines and molding cutters. With the present invention it is possible to produce shapes of any desired configuration such as cloverleaf shape, crosses, scalloped and also shapes in which the frame cross section is varied.

In Figure 15 which includes a front plan view and a cross-sectional view, there is illustrated another use of the present invention. The molded object in this instance is square and may be produced by a mold such as that used for making the framed art work of Figure 11. In this case, however, the printed art work laminae carry a plurality of clock face designations 150 together with suitable frame lines 151. Any desired color combination may be used and the clock face designations and frame line designations may be used on either the upper, second or upon both laminations, if desired. In some instances it is sufficient to utilize only one lamination 152, as shown in the cross-sectional view of Figure 15, together with suitable backing laminations 153. The finished molded piece in this instance as before, consists of a central flat area 154 which is smooth, hard and of glazed appearance due to the high polish of the mold in which the object is produced. The flat area 154 has thereon the designations of the lamina. Around the flat area there is a raised frame portion 155 which in the cross-sectional view is shown as fluted although any other desired cross-section may be utilized as for instance the curved cross-section shown in Figures 2 and 3. If desired irregular molding surfaces may be used, as pointed out above. Outside of the raised frame portion 155 there may be provided a flat area 156 if desired, or the frame portion 155 may be terminated at 157. Thus according to my invention by utilizing exactly the same mold and by varying the printed art work flats used as starting materials, I may produce a framed art work such as that shown in Figure 11 or a clock face such as that shown in Figure 15.

In Figure 16 another use of the invention is illustrated. In this instance the finished art work piece 160 may be attached to a cardboard backing sheet such as that illustrated at 45 in Figure 3. The cardboard backing sheet may be extended downwardly so as to form a support for a calendar pad 161, or if desired the calendar pad may be stapled to the frame of the molded art work.

In Figure 17 which includes a plan view and a cross-sectional view there is illustrated a commercial use of art work pieces produced in accordance with the present invention. In this figure the central art work area 170 is generally flat but has upwardly embossed areas corresponding to the cake illustrated at 171 and the lady's head illustrated at 172. Such raised areas may be of only rough correspondence to the design of the printed art work flat, that is to say, the raised area need not conform to every convolution 173 but only to the head shape in general. In this way mold costs are maintained at a minimum.

In the device shown in Figure 17 printed art work flats of any desired coloring may be used as starting materials. Such art work as in the previous modifications include the designations corresponding to the central art work area 170 and those constituting the frame portions 175 and 176. Any simple printed art work such as poster prints are suitable for use in this modification. In this connection it may be pointed out that the matter of registry between the central area of the mold, designated by the bracket 177 in the cross-sectional view, and of the printed art work flat need not be very exact. Thus the portion 175 of the press work may extend slightly into the area 170 without minimizing the desirable effect produced by the entire molding.

If the modification shown in Figure 17 is composed of relatively thin press work sheets and backing sheets it will be relatively translucent. When mounted against a light box having lights located generally behind the lady's head and behind the cake, a very attractive display results.

In Figure 18 there is illustrated a further commercial use of the framed art work produced in accordance with the present invention, and illustrates a further way of achieving a leaded glass effect. In making this display a poster press sheet is used having the desired coloring and having intensely black lines 180 corresponding to the leading marks. By pressing the whole composite in a flat mold there is produced an art work flat which from a short distance has the general appearance of leaded glass. The color motif of the central area 181 may be carried out in the border design by repeating the color as in the stars at 182 and the border strip 183.

The lower portion 185 is preferably printed so as to simulate a perspective view of a frame for mounting the art work but it is to be understood that this lower portion 185 is formed integrally with the remaining portions of the object. By deeply coloring the portion 185 it may be rendered intensely black and practically opaque.

By mounting the piece shown in Figure 18 in front of the source of illumination the stained glass window effect is greatly enhanced since light passes freely through the light colored or uncolored areas 186 and through the colored portions 180, 182 and 183. The lines 180 outlining the figure are made sufficiently black so as to simulate the opaque effect of the lead joints in leaded glass and the piece thus has the effect of a leaded glass window viewed from a darkened interior.

By making the work of relatively large area and relatively thin, the molded object may be molded flat and subsequently curved for use. Thus the entire commercial art work shown in Figure 18 may be a flat molding and curved slightly

and supported in the curved position by a suitable back frame such as a box or other container not illustrated.

In Figure 19 there is illustrated a further use of the invention for the production of small artistic moldings for use as ornaments, or the like. In this modification of the invention the upper foil 190 and the second foil 191 may be of suitable multicolored design or only one or the other may be colored. The art work is molded in a press which has an intaglio surface which forms the front surface 192 of the finished article. The finished piece is accordingly produced in relief. In this instance the molding may be produced with a square edge as at 193 or a chamfered or rounded edge, if desired, the latter being particularly useful where the molding is used as a dress ornament, or the like. It will be noted that in this modification the multicolored press work flat extends to the border of the piece and thus produces an ornamental coloring throughout the entire upper surface of the finished article. In a like manner, synthetic cameos or jewelry ornaments may be made, incorporating a press work flat. Beautiful costume jewelry may thus be made very economically.

As previously mentioned the integrally formed art work areas and frame may be utilized for such uses as box covers and the like so that when the box has served its useful purpose as a carrier it may be used for other purposes or the ornamental framed cover may be removed and used separately. Figure 20 illustrates such an ornamental box cover produced in accordance with the present invention. In this cover the central area 200 is of any desired multicolored or black and white design and around this there is formed an integral frame consisting of a raised portion 201 and a marginal edge 202. In some instances it is desirable to form the raised portion 201 so as to provide a bottom necessary for the upper edge of the container or to provide a supplementary marginal raised portion and corresponding groove in the back side of the object as illustrated at 113 in Figure 12. It is understood, of course, that while Figure 12 illustrates a frame only, the same frame design may be utilized for an integral frame and art work composite, if desired, and the outer indentation at 109 would thus serve to receive the upper edge of a box such as a candy box.

Additional uses of the invention almost without number will be apparent. Thus by producing an elongated flat having selectively raised contiguous ogive edges, and by subsequently curving the entire piece to form a cylinder, beautiful cylindrical lamp chambers may be formed. Similarly by utilizing a desired flat work print in the cylindrical object illustrated in Figures 6 and 7 jar tops for use with sugar, mustard and the like jars may readily be provided. For such uses heat and pressure molded resins are desirable as the impregnating medium because such resins are relatively resistant to water and to food stuffs. By providing a handle in the center of the object shown in Figure 6, the circular object thus becomes an attractive and useful jar cover. The invention may also be used to produce large thin flat work for use as decorative wall panels, with slightly raised borders which simulate moldings ordinarily used to hold such flat work to the wall. Thus wall paper or printed cloth may be used as the press work and molded in accordance with the teaching of the invention.

In all the uses set forth in this application the strong hard character of the finished molding contributes to the usefulness of the product. Molded art work made as herein set forth is much stronger and hence more useful than glazed art work pieces or decorative bas relief moldings of plaster of Paris or the like.

In the modification shown in Figure 9 the flat border surface of the figure outlines may be printed upon the finished molding, and if desired the border areas, particularly may be pressed in by any suitable press so as to produce an engraved effect.

Many obvious modifications will occur to those skilled in the art and may be made in the present methods and products without departing from the spirit of the invention claimed as follows:

1. A process of making art work having an art work area and an integral decorative frame which comprises forming upon a foil art work designations bordered by distinctive frame depicting designations, superimposing said foil upon a backing sheet, forming said sheet and foil into a hard translucent composite and simultaneously forming a frame portion thereon by intimately penetrating the material of the composite with a hardenable resinous material and hardening said resin penetrated composite under pressure in a mold having a frame configuration in registry with said border of distinctive frame depicting designations.

2. A process of making art work having an area of pictorial representation and a contiguous integrally formed decorative frame which comprises producing said area of pictorial representation and a surrounding frame depicting representation of a character distinctive from said pictorial representations upon a foil of permeable material, permeating said foil with a hardenable resin and hardening said resin permeated foil under pressure in a mold having a distinctive frame configuration in registry with said frame representations of said foil and contiguous pictorial area configuration in registry with said pictorial representation of said foil.

3. A process of making art work having an area of pictorial representations and a contiguous integrally formed decorative frame which comprises forming pictorial representations upon a foil, thereupon superimposing another foil having additional frame depicting representations thereon said frame depicting representations being oriented around a space corresponding to said pictorial representations, permeating said foils with hardenable resin, placing said foils in registry with the pictorial representations of the one foil within the space of the other foil and hardening said resin permeated foils pressing in a mold having frame and pictorial area configurations corresponding to those of the framed art work being produced, said foils being oriented in said mold with the frame and pictorial representations in registry with the frame and pictorial area configurations of said mold.

4. A process of making art work having an area of artistic representations and a contiguous integrally formed decorative frame which comprises forming an area of artistic representations upon a foil, thereupon superimposing another foil having artistic representations complementary to those of another foil, overlying said foils with additional foil having frame representations thereon, permeating said foils with a hardenable relatively clear resin and hardening said resin.

permeated foils into a shape having a smooth clear surface co-extensive with said area of artistic representations and a frame configuration by pressing said foils in a mold of such configuration.

5 5. A process of making art work resembling leaded-glass which comprises forming an artistic representation on a foil, thereupon superimposing a foil having darkened lines thereon corresponding to the junctions of the several areas of the under foil to simulate lead joints of glass, permeating said foils with hardenable resin of relatively light color, and hardening said resin under pressure.

10 6. A process of making art work resembling leaded glass which comprises forming an artistic representation on a foil, thereupon superimposing a foil having darkened lines thereon corresponding to the junctions of the several areas of the under foil to simulate lead joints of glass, permeating said foils with hardenable resin of relatively light color and hardening said resin under pressure in a mold having intaglio markings corresponding to the junction markings of the superimposed foil, and hardening said resin under pressure.

15 7. A unitary art work composite comprising a foil having artistic designations thereon throughout only a defined area, said foil being impregnated with a relatively clear, relatively light-colored resin, said resin being molded to harden the foil into a glass-smooth surface throughout the area of said artistic designations, and molded with an integrally formed frame portion around said area of artistic designations, said frame portion being molded in relief with respect to said glass-smooth area of artistic designations.

20 8. A unitary art work composite comprising a foil having artistic designations thereon, another foil superimposed upon the first foil and having additional designations including a frame depiction thereon, said foils being impregnated with and bound into a hard homogeneous composite by a hardened relatively clear resinous material which renders the foils simultaneously visible, said composite being formed with a marginal irregularity simulating a frame.

25 9. A framed art work composite comprising a central pictorial area and an integrally formed peripheral frame area, said composite comprising a plurality of foils which extend to the marginal edges of said frame area at least one of said foils being printed with a central area of pictorial designations and printed with a surrounding

frame area corresponding in shape and position to the pictorial and frame areas of the finished composite, said foils being bound into a homogeneous integrity by a hardened, relatively transparent resinous material capable of imparting to the foils a glass-like surface over the pictorial area, said pictorial area being flat and smooth and said surrounding frame area being raised to resemble a picture frame.

5 10. A framed art work composite comprising a central pictorial area and an integrally formed peripheral frame area, said composite comprising a plurality of foils having partial pictorial representations thereon arranged in registering relation so as together to form a complete representation, said foils extending to the marginal edges of said frame area, certain of said foils having thereon frame colors throughout the frame areas, said foils being permeated with a resinous material which is hardened to bind the foils together into a homogeneous unity having a glass-smooth central pictorial area and a uniform marginal frame-forming irregularity.

10 11. A framed art work comprising a printed foil having a central art work area and a marginal border area, additional foils arranged co-extensively with said printed foil so as to form a laminated group, a hardened resin intimately penetrating the laminations and binding them into a smooth surfaced translucent composite, and frame work designations printed on the marginal border of the composite.

15 12. An integral framed art work comprising a printed foil having a central art work area and a marginal border area, additional foils arranged co-extensively with said printed foil so as to form a laminated group, a hardened resin intimately penetrating the laminations and binding them into a hard translucent composite, having a smooth surface coextensive with said art work area and a raised frame configuration coextensive with said marginal border area.

20 13. An article of manufacture which is adapted for use as a jar, box or other cover comprising a plurality of laminations at least one of which has art work designations printed thereon, said laminations being impregnated with a relatively clear resinous material, said impregnated laminations being molded and consolidated into a shape having an area displaying the printed art work and a border conformed for fitting to a jar, box or the like.

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