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2,390,663

EMBOSSED DISPLAY

Filed June 1, 1942

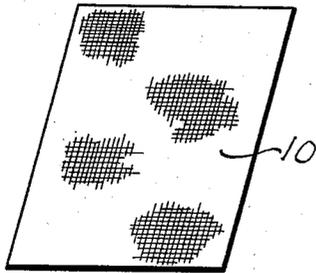


Fig. 1

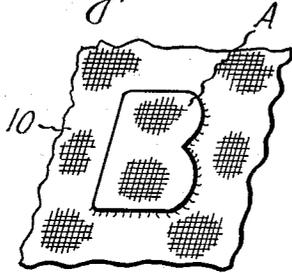


Fig. 4



Fig. 6

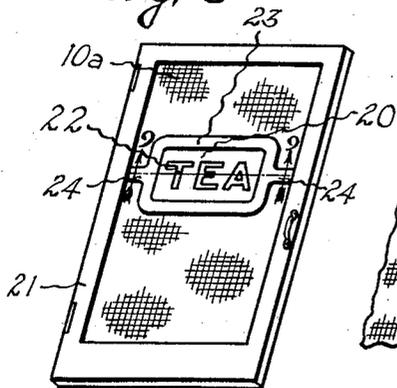


Fig. 8

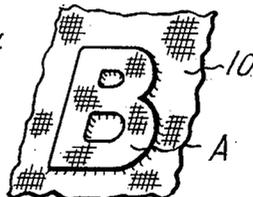


Fig. 11

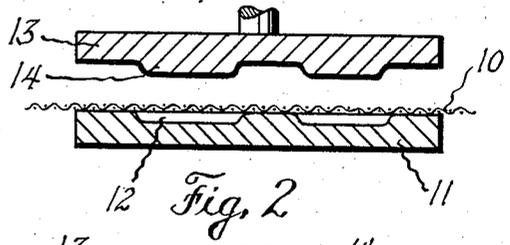


Fig. 2

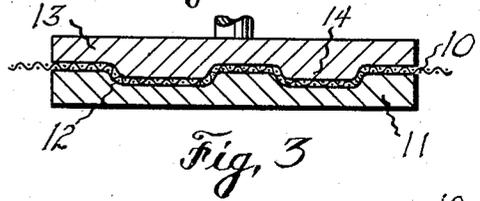


Fig. 3



Fig. 5



Fig. 7



Fig. 9

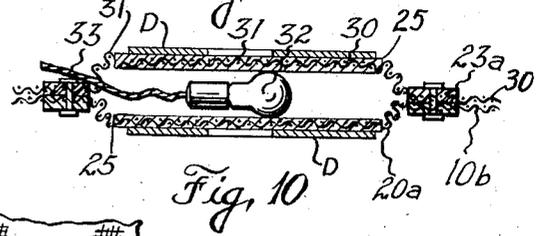


Fig. 10

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EMBOSSSED DISPLAY

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4 Claims. (Cl. 40—136)

This invention relates to new and useful improvements in embossed displays.

One object of the invention is to provide an improved display which may be formed on open mesh fabric, such as ordinary screen wire or the like and which is so constructed that the indicia, i. e., the letters, characters or symbols of said display are embossed or upset above the surface of the fabric or screen, whereby depth is imparted to said indicia and a clearly visible and attractive display is produced.

A particular object of the invention is to provide an improved display including embossed characters, the embossing not only facilitating the application of filler material to said embossing but making it possible to readily illuminate the display to increase its advertising value.

A further object of the invention is to provide an improved sign, of the character described, having a plastic or other material applied to the area of the wire mesh fabric immediately surrounding the embossed portions, whereby said material not only frames or outlines said embossed portions but also strengthens and reinforces the fabric.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawing, wherein an example of the invention is shown, and wherein:

Figure 1 is an isometric view of a section of wire mesh fabric on which the improved sign is formed,

Figure 2 is a transverse vertical sectional view, illustrating a portion of the wire screen disposed between pressing or embossing plates,

Figure 3 is a view similar to Figure 2 showing the pressing or embossing plates moved into engagement with each other with the screen therebetween to emboss said screen,

Figure 4 is an isometric view of a portion of the screen, illustrating a letter or character embossed therein,

Figure 5 is a transverse sectional view illustrating a pan having a filler material therein and showing the embossed portion of the wire screen immersed therein,

Figure 6 is an isometric view of the embossed section after the filler material has been applied thereto and also after an outer coating has been applied to said filler material,

Figure 7 is an enlarged sectional view taken through the character illustrated in Figure 6,

Figure 8 is an isometric view of a screen door showing the central portion of the screen wire embossed in accordance with the invention and having a section or frame of plastic material surrounding the embossed section,

Figure 9 is an enlarged section taken on the line 9—9 of Figure 8,

Figure 10 is a view similar to Figure 9 with the addition of a small section of screen wire on the rear surface of the screen on which the sign is formed, whereby an illuminated sign may be provided, and

Figure 11 is a view similar to Figure 4 showing a modified method of embossing a particular character.

In the drawing, the numeral 10 designates a section of open wire mesh fabric, such as ordinary wire screen which is normally used in doors and windows. In forming the improved sign on a portion of the section 10, said section is placed upon the upper surface of a stationary embossing plate 11 (Figure 2), which plate is formed with a plurality of recesses 12. As is usual practice, the recesses 12 are shaped to conform to the letters, characters or other indicia which is to be included in the finished sign. A movable plate or ram 13 is provided with projections or enlargements 14 on its lower surface and these projections are complementary to the recesses 12 in the stationary plate 11. After the section of screen wire is placed upon the stationary plate, the movable plate or ram 13 is moved downwardly as shown in Figure 3, whereby the portion of the screen wire in alinement with the recesses 12 of the stationary plate is pressed downwardly into the recesses and is stretched or distorted so as to conform to the shape of said recesses. Obviously, when the recesses are in the form of letters or characters, similar letters or characters are offset or embossed on the section 10 of the wire screen.

The letters, characters or other indicia which are formed in the wire screen are subject to wide variation and may take any desired form, size or shape. In Figure 4, the letter B has been illustrated as offset or embossed in outline on the wire screen and obviously, the embossing raises that portion of the screen forming said letter beyond the plane of the remaining surface of the screen. After the embossing step is complete, the section of wire screen is placed over a receptacle or pan 15 which is relatively shallow and which may be mounted within a suitable support 16.

The receptacle or pan contains a liquid filler 17 which is capable of solidifying or hardening after a predetermined length of time and which is preferably a liquid or semi-liquid synthetic or suitable plastic.

As illustrated, the main portion of the section 10 of wire screen rests upon the support 16, which disposes the embossed portions, indicated by the letter A, within the receptacle or container so that these embossed portions are immersed in the filler 17 within said receptacle. The filler material enters the interstices or openings in the embossed portions of the wire screen 10 so as to completely fill the same. The wire screen is then removed and the filler 17 is permitted to dry. If desired, the filler may be of a desired color and manifestly, provides an integral embossed letter on the wire screen. It is pointed out that the filler material may be relatively thin in consistency and when disposed within the interstices of openings of the embossed portions of the screen fills the same. The letters or characters are of apparent thickness, this thickness being produced, not by the filler material, but by the fact that the entire letter is raised or projects beyond the surface of the section 10. Although dipping has been found preferable for applying the filler to the offset or embossed portions of the screen, the invention is not to be limited to a dipping step for obviously, the filler may be applied by stencilling, spraying or in any other suitable manner.

In Figure 4, the character or letter B has been shown as offset or embossed in outline. However, the recesses 12 in the stationary embossing plate 11 may be changed so that the actual letter B may be embossed in its entirety, as shown in Figure 11, rather than merely in outline. Either method of embossing may be employed and the particular method used will depend primarily on the particular size of letter or character desired in the finished sign.

When the filler material which is utilized to fill the openings or interstices of the embossed character or letter is colored, this may complete the sign for obviously an attractive raised letter having considerable apparent thickness is provided. Although the characters and letters have been referred to as embossed or raised, it is obvious that the sheet may be reversed so that the letters are actually recessed when viewed from the outer side of the sheet; in such event, the letters or characters are given considerable depth and obviously it is merely a matter of choice as to whether the characters formed by the improved method are displayed as raised or recessed.

As explained, the sign may be complete after the filler is applied but in many instances it may be desirable to apply an outer coating C of plastic or other suitable material to the embossed and filled portions of the sign. As illustrated in Figure 6, this outer coating is preferably shaped to conform to the particular letter and is applied to the filler material 17 which fills the interstices of the embossed character. This outer surface may be applied by stencilling, painting or otherwise and it might be preferable that the coating have substantial thickness, as is clearly shown in Figure 7. When the outer coating is used, it is preferable that said coating be maintained within the confines of the embossed portion, whereby a relatively thin margin of the material 17 is visible around the outer coating so as to out-

line the same, and thereby provide a more attractive display.

In some instances, as for example when a sign is to be applied to a large area, it may not be desirable to emboss or offset each character individually. In such case, a panel section 20 may be offset or embossed in the central portion of the wire screen 10a which is mounted in the door 21 (Figure 8) and this embossed panel may have its openings filled with the filler material 17, or if desired, the filler material may be omitted. Suitable characters 22 (Figure 9) may be applied to the upset or embossed panel section 20, regardless of whether or not the filler has been previously applied, the characters being applied by stencilling, brushing or by any other suitable means. The characters may be formed of plastic, paint or other material and obviously, since the panel is upset or embossed, the characters 22 thereon will be raised or upset from the remaining surface of the wire screen 10a.

Where an enlarged panel such as shown at 20 in Figures 8 and 9 is formed in the wire screen it may be desirable to reinforce the screen surrounding the upset or embossed panel because the formation of said panel may render the screen more flexible than it would otherwise be. In such instance a border or frame of plastic material 23 may be applied to the wire screen 10a in the area immediately surrounding the embossed or upset panel 20. This plastic may be applied in any suitable manner and if desired the frame or border may take any desired design and may be extended to the longitudinal edges of the wire screen section 10a as indicated by the extension 24 (Figure 8).

The embossing of a portion or portions of the wire screen results in a raised or recessed effect of the indicia or symbols which are employed in forming the sign. The filler material may be relatively thin and need only fill the openings or interstices of the embossed portions and said filler not only closes the interstices of the embossed portions but also provides a background on which an additional coating may be applied. As pointed out, the filler material could be omitted and a suitable material applied directly to the embossed or offset portion of the wire screen, as is illustrated in Figures 8 and 9. It is noted that the filler material could also be eliminated in the forms shown in Figures 4 and 8, where a character or letter is embossed in the wire screen and in such case, a suitable plastic or other material is applied to the embossed portion.

The embossing or upsetting of certain portions of the screen wire not only lends itself to attractive and effective designs with a minimum amount of material but also makes it possible to form a cheap and inexpensive illuminated sign. This type of sign is illustrated in Figure 10 wherein the main screen section 10b is provided with a rectangular embossed or upset panel 20a. This panel may have its interstices filled with a suitable filler material 25 of a transparent nature. An auxiliary section 30 of suitable material, which is illustrated as screen wire but which may be wood or metal, is provided with an embossed or upset panel 31 of substantially the same size as the panel section 20a and this auxiliary section 30 is suitably secured to the rear portion of the screen and may also have its interstices filled with a suitable transparent filler.

The space between the embossed panel 20a of the main screen section 10b and the embossed

panel 31 of the auxiliary section 30 provides a housing for an electric lamp 32. The electrical current supply wire 33 may extend outwardly through an opening provided in the auxiliary section and may be secured to the rear side of the screen wire section 10b. In this instance, a border 23a of suitable material may be applied to the sections 10b and 30 and will surround the embossed or offset panels 20a and 31 and this outline or border not only reinforces and adds rigidity to the screen wire but also serves to hide the lead-in wire 33, whereby said wire will not detract from the appearance of the sign. Of course, the panels 20a and 31 may, in addition to the transparent filler material 25, have suitable indicia or characters formed by an outer coating of material D, similar to the coating C shown in Figure 6.

From the above, it will be seen that a simple and economical sign for wire screen sections is provided. The desired indicia or characters are embossed in, or offset from the remainder of the screen wire itself and such embossing facilitates the application of a filler material because it permits the embossed portions to be readily dipped in a suitable receptacle. Also, by embossing or distorting portions of the screen wire, a certain amount of rigidity is added to said screen wire which tends to reduce the stretching or distorting of the screen wire after it is in place. By embossing the characters or indicia, said indicia is given a raised or recessed effect, depending upon the disposition of the completed sign, without having to employ thick plastic material to build up offset letters. After the filler material is applied, it is possible to add an outer or second coating to said filler material which provides a background for said coating and in this manner an attractive and multi-color display may be produced.

The foregoing description of the invention is explanatory thereof and various changes in the size, shape and materials, as well as in the details of the illustrated construction may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:

1. A display including, a section of ordinary wire screen having a portion thereof raised and upset to provide an integral embossed panel, translucent filler material filling the interstices of the embossed panel, display characters applied to the filler material on said panel, an auxiliary smaller section of screen wire secured to the rear surface of the wire screen and having an embossed panel formed therein, the panel in the auxiliary section being of substantially the same size as the embossed portion of the wire

screen, whereby said panels are spaced from each other, a translucent filler material filling the interstices of the panel of the auxiliary section, illuminating means mounted in the space between the embossed panels whereby said panels are illuminated, and display characters applied to the filler material in the embossed panel of the auxiliary section whereby a double sign is provided.

2. A display including, a section of ordinary wire screen having a portion thereof raised and upset to provide an integral embossed panel, translucent filler material filling the interstices of the embossed panel, display characters applied to the filler material on said panel, an auxiliary smaller section of screen wire secured to the rear surface of the wire screen and having an embossed panel formed therein, the panel in the auxiliary section being of substantially the same size as the embossed portion of the wire screen, whereby said panels are spaced from each other, a translucent filler material filling the interstices of the panel of the auxiliary section of screen wire, and illuminating means mounted in the space between the embossed panels whereby said panels are illuminated.

3. A display including, a section of ordinary wire screen having a portion thereof raised and upset to provide an integral embossed panel, translucent filler material filling the interstices of the embossed panel, display characters applied to the filler material on said panel, an auxiliary smaller section of screen wire secured to the rear surface of the wire screen and having an embossed panel formed therein, the panel in the auxiliary section being of substantially the same size as the embossed portion of said wire screen, whereby said panels are spaced from each other, a translucent filler material filling the interstices of the panel of the auxiliary section, and a border immediately surrounding the panels and applied to the sections for reinforcing the same.

4. A display including, a section of ordinary wire screen having a portion thereof raised and upset to provide an integral embossed panel, translucent filler material filling the interstices of the embossed panel, display characters applied to the filler material on said panel, an auxiliary smaller section of screen wire secured to the rear surface of the wire screen and having an embossed panel formed therein, the panel in the auxiliary section being of substantially the same size as the embossed portion of said wire screen, whereby said panels are spaced from each other, and a translucent filler material filling the interstices of the panel of the auxiliary section.

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