June 5, 1951 R. PLUMBO 2,555,505

ORNAMENTAL STRUCTURE

Filed May 18, 1950

FIG. 1.

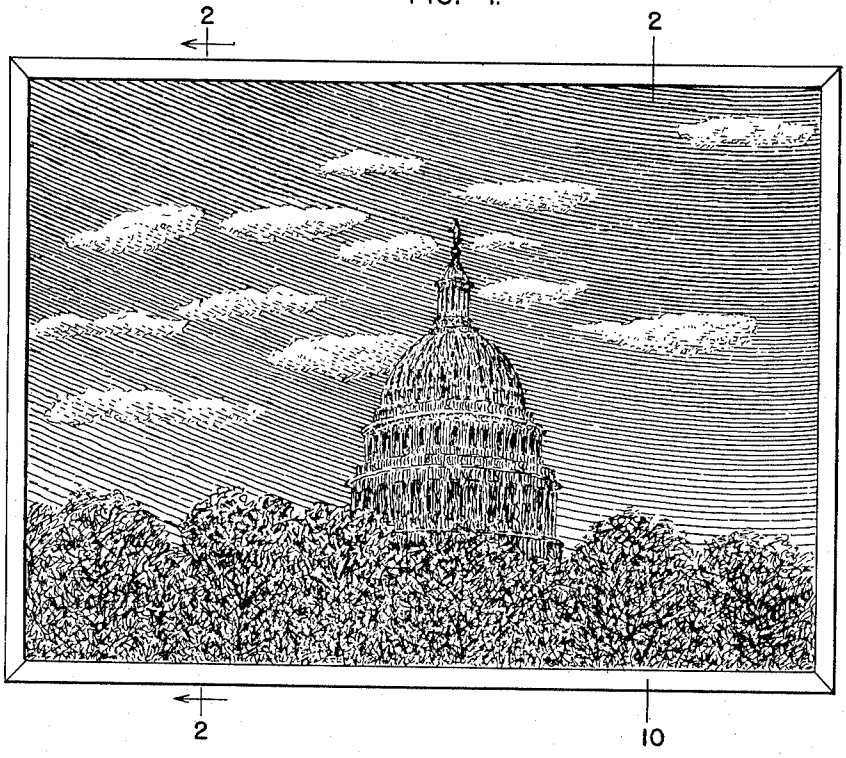


FIG. 2.

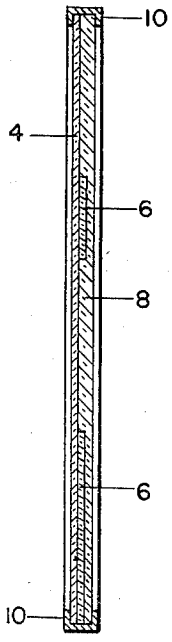


FIG. 4.

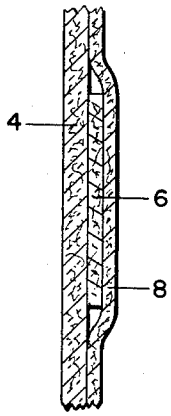


FIG. 3.

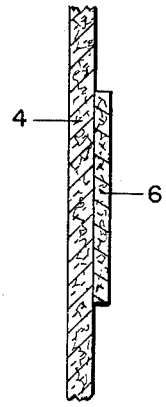
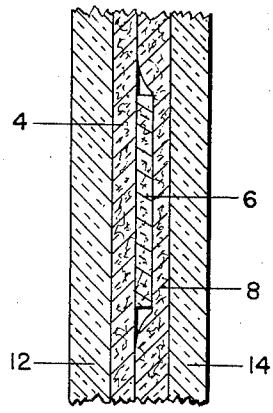


FIG. 5.



INVENTOR

ROBERT PLUMBO

BY Cushman, Darby & Cushman

ATTORNEYS

Patented June 5, 1951

2,555,505

UNITED STATES PATENT OFFICE

2,555,505

ORNAMENTAL STRUCTURE

Robert Plumbo, Northfield, N. J., assignor to
Louis Plumbo, Atlantic City, N. J.

Application May 18, 1950, Serial No. 162,724

16 Claims. (Cl. 41—21)

1

This invention relates to ornamental structures. More particularly, it relates to ornamental structures, such as pictures, murals, or the like, composed of colored fibres which may be viewed either by reflected light or by transmitted light to give very unusual, striking, and characteristic appearances.

The formation of ornamental designs and structures is as old as recorded history itself. Many types of mediums are at the disposal of the artist or technician with which he may form a picture, illustration, mural, cartoon, advertisement, or other ornamental design. Nevertheless, attempts are being continuously made to find new ways and modes of expression for the artist and new mediums by which the artist or technician may place his work or endeavors before the public. As a consequence, there exist today a multitude of different types of devices for forming ornamental structures and a larger number of entirely different forms of ornamental structures themselves. Each basically different form of structure offers some advantages over the other and the specific type which is employed by the artist depends upon the particular circumstances or upon the use to which the ornamental structures are to be placed. However, there are certain effects which have been desired from time to time by the art for the purpose of providing novel appearances or the like, but for which there has heretofore been no really satisfactory medium for accomplishing the desired effect. As an example of this, there has been a desire in the art to provide some medium for the formation of ornamental structures having a translucent appearance which could be viewed either by transmitted light or reflected light to give the same general design in either case, but of a somewhat changed appearance. Typical of this type of desired structures are those which appear to be of a solid or very indefinite design when viewed by reflected light, but which possess brilliant colors and line structures when viewed by transmitted light, e. g., ornamental light-diffusing screens.

A principal object of this invention is the provision of a new form of ornamental structure, particularly pictures, murals, or the like. Still further objects include:

1. The provision of ornamental structures which may be viewed by either reflected light or transmitted light;

2. The provision of such structures which possess a different or changed appearance when viewed by reflected light as compared with their

2

appearance when viewed by transmitted light;

3. The provision of a new medium for the formation of ornamental or artistic designs;

4. The provision of light-diffusing screens having ornamental designs of unique and pleasing appearance;

5. The provision of new forms of translucent pictures.

Still further objects and the entire scope of applicability of the present invention will become apparent from the detailed description given hereinafter; it should be understood, however, that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

These objects are accomplished according to the present invention by forming ornamental structures from a translucent base sheet composed of mat of fibres or filamentary material and attaching separate portions of fibres of different color to the top surface of the base sheet in such an arrangement as to form a desired ornamental design or picture. This fundamental structure may be modified by the addition of covering mats or sheets of fibrous material or by the use of protective, rigid, transparent sheets overlaying the fundamental ornamental structure.

The success of the present invention is due to a large extent to the discovery that very striking and unusual appearances can be created by proper combination of a mat of fibres, such as glass fibres, and attached portions of differently colored bundles or groups of fibres. It has been found that by the proper placement of the separate portions of fibres upon the base sheet or mat, a structure is produced which can be viewed either by transmitted or reflected light, but which is particularly brilliant and unusual when viewed with transmitted light, apparently due to the diffusion qualities and characteristics to the base sheet in combination with the overlaying portions of colored fibre.

A more complete understanding of the new structures of this invention will become apparent by reference to the attached drawing, in which

Figure 1 is a plan view of an ornamental structure in accordance with the present invention;

Figure 2 is a sectional view of the structure

shown in Figure 1, taken along the line 2—2 of Figure 1;

Figure 3 is a greatly enlarged sectional view of an ornamental structure of basic nature, as prepared in accordance with this invention;

Figure 4 is an enlarged view, similar to Figure 3, showing a modified form of a structure of this invention;

Figure 5 is still another enlarged view, similar to Figure 3, of another modified form of structure of this invention.

Referring in detail to the drawing, the ornamental structure 2, shown in Figure 1, comprises a base sheet 4 which consists of a mat of colorless glass fibres which, due to diffusion of light, appears as a whitish sheet or layer. A design, in the case of Figure 1 a scenic picture showing the U. S. Capitol Building, is formed by placing properly shaped and positioned portions of colored glass fibres 6 on the top surface of the base sheet 4. The structures are then finished off by covering the base sheet and attached separate portions of fibres with a top sheet or mat of fibres 8 which is preferably of thinner cross section than the base sheet 4. A frame 10 is provided around the edges of the ornamental structure in order to give protection thereto and offer added support to the resulting structure.

Various modifications in the structures of this invention can be employed. Fundamentally, the ornamental structures can be limited to a base sheet 4 and attached portions of separate fibres 6, as shown in Figure 3. Where greater diffusion of transmitted light and more striking appearance is desired in the ornamental design, this basic form of structure can be modified by provision of a top sheet 8 over the base sheet 4 and separate portions of fibres 6, as shown in Figure 4. Further modification of these units is accomplished by inclusion of covering sheets so as to give added strength to the units and greater protection to the ornamental designs. This latter type of embodiment of the invention is illustrated in Figure 5, where the base sheet 4, separate fibre portions 6 and top sheet 8 are shown enclosed in a pair of rigid, transparent plates or sheets 12.

Various types of fibres can be used in the formation of these new structures. However, because of permanence of color, resistance to ageing, and because of the cohesive nature of the fibres for one another, glass fibres are the preferred materials for forming the ornamental structures of this invention.

The separate portions 6 of the designs can be attached to the base sheet 4 in various ways. If desired, colorless adhesive may be used for this purpose, but where the preferred materials, glass fibres, are employed for the formation of the structures, attachment can be accomplished merely by applying and pressing the separate portions 6 to the base sheet, since there is sufficient cohesive force between the fibre mat 4 and the portions of fibre 6 to hold the fibre portion 6 in place, once they are pressed against the base mat 4.

The base mat 4 and cover mat 8 can be formed of any desired color of fibre. Preferably, the mat is of one single color, so that a homogenous diffusion of light is afforded by these elements of the structure, although it is possible to use a varied colored mat for this purpose. In most instances, a mat of colorless fibres is preferable, since this provides an excellent diffusion of light and provides a whitish background, giving greatest brilliance and striking appearance to the design.

Cover or protective sheets 14 can be formed of any desired rigid, transparent material, such as synthetic resin, e. g., polymethylmethacrylate or polystyrene, but preferably, these sheets are of glass, and especially plate glass. A single cover sheet can be used, but for greatest protection and structural strength, a pair of sheets is employed.

Once the new ornamental structures of this case have been formed, they may be provided with frames, stands, or similar elements, in the same fashion as known to the art for modification of other types of pictures, or the like.

The new structures are most satisfactorily used by mounting them with one or more lights behind them, so that they can be illuminated with a higher intensity of light from behind than from in front. Presented in this way, these new pictures possess an appearance so pleasing and striking that the effect cannot be adequately described in words.

The present invention provides new forms of ornamental structures which offer a new medium of expression for the artist and for the formation of pictures, illustrations, murals, advertising matter, or the like. These new structures are distinguished from any comparable structures or devices known heretofore by uniform diffusion of transmitted light, creating ornamental designs of unusual brilliance and contrast in highlights and color. They are further characterized in change of appearance upon being viewed by reflected light on the one hand, and transmitted light on the other. As a consequence, this invention offers a new form of ornamental structure which is especially useful as decorations in hotels, tap-rooms, restaurants, or the like, where pictures or murals of striking appearance are desired, particularly those of large size, since the structures of the present invention are especially adapted to the formation of units of large area.

I claim:

1. An ornamental, translucent structure, which possesses a changed appearance when viewed with reflected light as compared with the appearance when viewed with transmitted light, which comprises a translucent base sheet of a mat of glass fibres and separate portions of glass fibres having a different color than said base sheet attached to the surface of said base sheet, said separate fibre portions being arranged in the form of an ornamental design.

2. An ornamental, translucent structure, which possesses a changed appearance when viewed with reflected light as compared with the appearance when viewed with transmitted light, which comprises a translucent mat of interlocked glass fibres of substantially homogenous color and separate portions of glass fibres of a different color spread upon the surface of said mat in the form of an ornamental design forming a picture which can be viewed by both transmitted and reflected light.

3. An ornamental, translucent structure, which possesses a changed appearance when viewed with reflected light as compared with the appearance when viewed with transmitted light, which comprises a whitish, translucent base sheet of matted, colorless glass fibres and separate portions of colored glass fibres spread upon the surface of said base sheet in the form of a design forming a two-dimensional picture.

4. An ornamental, translucent structure, which

possesses a changed appearance when viewed with reflected light as compared with the appearance when viewed with transmitted light, which comprises a translucent mat of a single color of glass fibres, separate portions of different colored glass fibres attached to the top surface of said mat in the form of an ornamental design, and a pair of rigid, transparent sheets enclosing said mat and attached glass fibre portions as an interlayer between the transparent sheets, forming a picture which can be viewed by both transmitted and reflected light.

5. A structure as claimed in claim 4, wherein said transparent sheets are sheets of glass.

6. A structure as claimed in claim 4, wherein said transparent sheets are sheets of synthetic resin.

7. An ornamental, translucent structure, which possesses a changed appearance when viewed with reflected light as compared with the appearance when viewed with transmitted light, which comprises a whitish, translucent base sheet of matted, colorless glass fibres, separate portions of different colored glass fibres attached to the top surface of said base sheet in the form of an ornamental, colored design, and a top sheet comprising a mat of colorless glass fibres overlaying said separate glass fibre portions of lesser thickness than said base sheet.

8. A structure as claimed in claim 7, wherein there is a pair of rigid, transparent sheets enclosing said structure as an interlayer between the pair of rigid sheets.

9. A structure as claimed in claim 1, wherein said base sheet is composed of colorless glass fibres.

10. A structure as claimed in claim 9, wherein said separate fibre portions are composed of colored glass fibres.

11. A structure as claimed in claim 1, wherein said separate fibre portions are attached by the cohesive forces between the fibres of the base sheet and the fibres of said separate portions.

12. A structure as claimed in claim 1, wherein said separate fibre portions are attached by adhesive to said base sheet.

13. A structure as claimed in claim 1, wherein said design is a picture.

14. A process for the formation of ornamental, colored structures which comprises providing a translucent base sheet of a mat of glass fibres and attaching separate portions of different-colored glass fibres to the top surface of said base sheet in the form of a desired ornamental design.

15. A process for the formation of ornamental, translucent structures which comprises providing a translucent mat of colorless glass fibres and attaching separate portions of colored glass fibres to the top surface of said translucent mat in an ornamental design arrangement.

16. A process for the formation of a picture, which can be viewed by direct illumination on the back thereof to give a uniform diffusion of the light with brilliance and contrast between separate portions of the picture, which comprises providing a translucent mat of colorless glass fibres, attaching separate portions of colored glass fibres to the top surface of said mat in an ornamental design arrangement and covering the resulting unit with a second translucent mat of glass fibres of less thickness than said first mat.

ROBERT PLUMBO.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,207,841	Bentley	Dec. 12, 1916
1,396,484	Weinrich	Nov. 8, 1921
1,992,676	Schwarz	Feb. 26, 1935