Nov. 15, 1938. G. R. STOCKER 2,136,985

SCREEN STENCILING COMPOSITION

Filed May 21, 1936

Fig. 1.

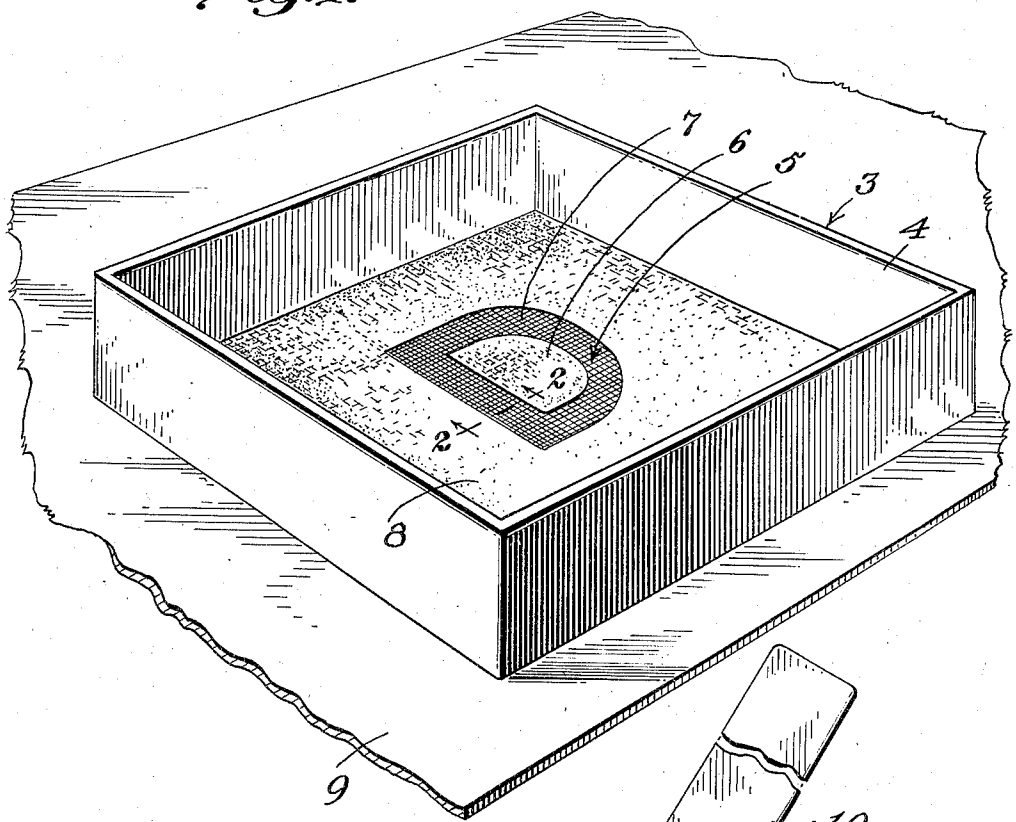
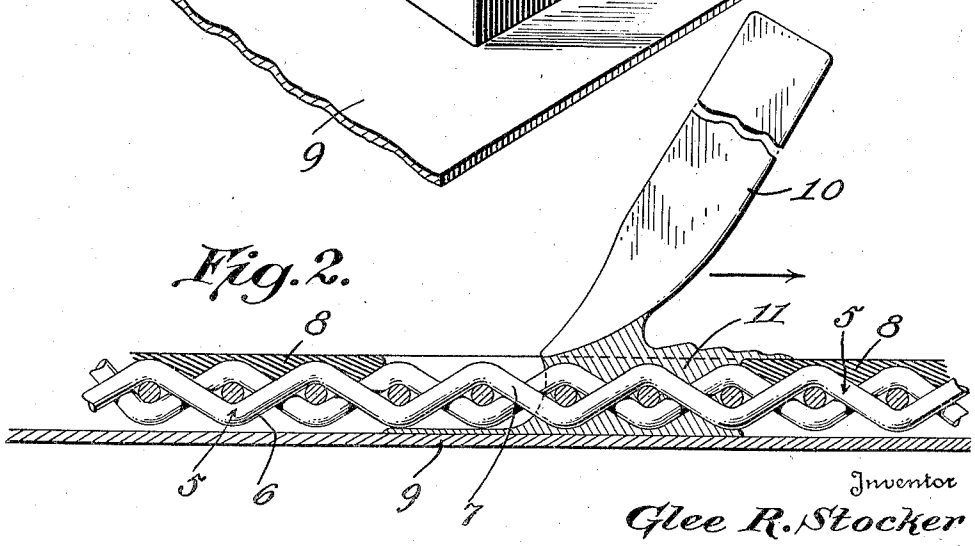



Fig. 2.




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## SCREEN STENCILING COMPOSITION

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2 Claims. (Cl. 134—35)

My invention relates to the screen stenciling art.

The object of my invention is to provide, in screen stencil process reproduction, for the use of water color paints with screens formed from silk, cloth, metal or other mesh material in the reproduction of a design.

By the term screen stencil process I refer, herein, to the phase of stencil reproduction now termed in the arts as silk screen stencil process reproduction.

To facilitate the understanding of the nature of my improvement in the screen stenciling art, the present screen process reproduction practices will be referred to.

The surface to be decorated is covered with a screen carried by an open frame, usually of box-like formation, in which the screen forms the box bottom. In present screen stencil reproduction, the screens are formed from silk, metal, organic and similar mesh fabrics. The screens are stretched taut on the frame and then the screens are covered with various solutions, coated papers and films to render portions impervious, leaving the pervious portions as the design. The screen is then positioned over the subject on which the design is to be placed and liquids in varying consistency, such as oil paint, varnish and lacquer are forced through the pervious portions of the screen by pressure, usually produced by drawing a squeegee over the screen. Such oil paint, varnish and lacquer or such pastes of a cellulose ester base must have a slow drying quality. Slow drying is essential to prevent clogging the screen, thus preventing the filling in of the pervious portions. Such filling in of the pervious portions of the screen alters the design and, therefore, hinders the use of the screen in continuous reproduction.

To my knowledge, water color paints, or paints soluble in water, have never been used for screen stencil reproduction, primarily because they dry too fast and, therefore, clog the screen also, because they are not flexible and have a tendency to crack and chip off after being applied, and especially so if applied in layers. By being applied in layers I mean when one or the same color is applied by screen stencil process reproduction on a given subject and the process repeated with the same or different designs on top of the previous application.

My invention consists in combining with a water color paint, or a paint soluble in water an agent to provide a color screen paint possessing slow drying, non-clogging, flexible non-cracking and non-chipping characteristics especially adaptable for screen stencil reproduction.

The screen color paint, in accordance with my invention will consist of glue, mucilage or paste, a thick oil such as glycerine or castor oil and a water color paint. The glue may be a fish glue or an animal glue or an organic or inorganic glue. The paste or mucilage may be organic or inorganic. Any desirable proportion of any one of the constituents used as a part of the screen color paint may be employed. The term glue is to be generic for any one of the glues and the paste or mucilage. The term thick oil is to be generic for the glycerine or castor oil.

Preferably the screen color paint or composition in accordance with this invention will consist of five parts of glue, one part of glycerine and from one to four parts of water color paint. The glue and glycerine are mixed together by stirring or other suitable means, after which the mixture is combined in any suitable manner with the water color paint to provide the screen color paint. The composition as aforesaid is the best for long runs, especially in a temperature from 68° to 80° Fahr. with a screen mesh of 60 to 150 line mesh.

The screen color paint must vary with climatic conditions, size of mesh of screen, kind of screen material, and material on which reproduction is made.

Variations of the screen color paint are generally made by reducing the mixture and paints soluble in water with the vehicle water, when it becomes necessary to vary the consistency of the composition or drying qualities of the composition so as to arrive at a completed composition best for the most efficient, most economical operation of the screen stencil reproduction. Such variations are also made by increasing or decreasing the amounts of the ingredients used. As an example, (1) A composition for use with a large mesh screen must be of a heavier consistency than a composition for use with a smaller mesh screen. The composition must be of such consistency that gravity will not pull it through the screen while the subject is being placed in position or while "block-outs" are being executed. By "block-outs" I mean covering permanently or temporarily any or all parts of the pervious surface of the screen on the side next to the subject which is to receive the design. The composition is increased in consistency by increasing the amounts of glue. As an example, (2) A composition for use on an absorbent surface must have a slower drying time as such sur-

face has a tendency to withdraw the water from the composition in the screen through the pervious section to such a degree that it has a tendency to cause filling in and clogging of the pervious sections of the screen.

The drying time of the mixture is extended by increasing the amount of glycerine, castor oil and water.

The composition is especially adaptable for continuous re-use of the stencil for reproduction of designs or decorated surfaces in water soluble paints through screen stencil process reproduction because the composition may be made adjustable to climatic conditions for the continuous re-use of the screen stencil; the composition is adjustable to the size mesh, kind and texture of the screen through which it is to pass for reproduction and continuous re-use of the screen stencil; the composition is adjustable to the conditions arising from the texture of the subject on which the reproduction is to be made for the continuous re-use of the screen stencil; the composition is adaptable for continuous reuse of the screen stencil for reproduction and will not crack, peel off or pull up even when applied directly over a previous reproduction; the composition eliminates the fire hazard as is present when oil paints, varnishes, lacquers, and similar inflammable paints are used; the composition when used for screen stencil reproduction is cleaner to use because of the fact that it is soluble in water and is more economical because less labor is involved in the mixing and handling of the materials from the beginning to the completion of the reproduction; the composition when used for screen stencil reproduction does not alter, to the naked eye, the original tone of paint, therefore, allowing fill-ins by brush hand-lettering or designing in the same tone and paint which is in the proper state for brush hand-lettering or designing.

In the claims herein, a water color paint is to be considered a paint in which a pigment has water as its vehicle.

The drawing illustrates the means generally employed in the screen stencil process as referred to.

In the drawing:

Figure 1 is a perspective view of the stenciling apparatus, and

Figure 2 is a section on line 2—2, Figure 1.

Referring to the drawing, 3 generally indicates an open top box comprising a body portion 4 in the form of a horizontal frame disposed on its lower edge and a screen 5 secured against said edge and forming the bottom of the box. The screen 5 is formed of an impervious part 6 and a pervious part 7. The part 6 is formed by providing the screen 5 with a mask 8. The part 7 corresponds to the design which is to be stenciled upon the object 9.

A squeegee is indicated at 10 and carries the composition 11, in accordance with this invention which is to be forced through the part 7 of the screen 5 onto the object 9.

What I claim is:

1. In the art of screen stenciling for reproduction, a composition possessing non-clogging, non-cracking, non-chipping, slow-drying and flexible characteristics, consisting of glue, glycerine, and a water color paint in the proportion of five parts of glue, one part of glycerine and from one to four parts of the water color paint.

2. In the art of screen stenciling for reproduction, a composition possessing non-clogging, non-cracking, slow-drying and flexible characteristics, consisting of glue, a drying retarder selected from the group consisting of glycerine and castor oil and a water color paint in the proportions of five parts of glue, one part of the drying retarder and from one to four parts of the water color paint.

GLEE R. STOCKER.