Jan. 29, 1924. 1,481,834

S. ELLIOTT

ART OF STENCIL MAKING

Filed March 1, 1920

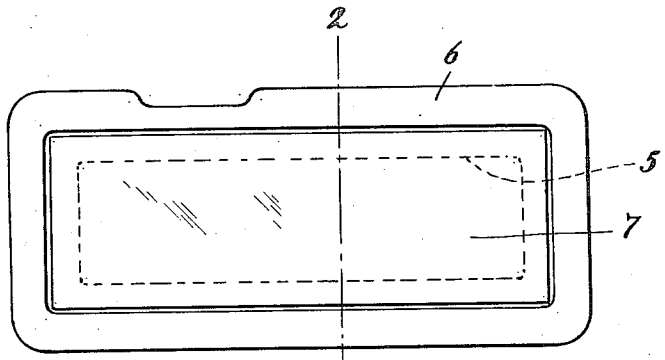


Fig. 1.

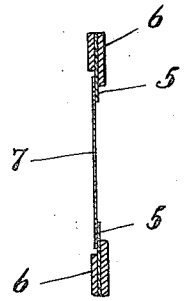


Fig. 2.

Inventor,
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Sterling Elliott, deceased
by
C. A. Townsend atty

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UNITED STATES PATENT OFFICE.

STERLING ELLIOTT, OF CAMBRIDGE, MASSACHUSETTS; HARRIET ADELL ELLIOTT EXECUTRIX OF SAID STERLING ELLIOTT, DECEASED.

ART OF STENCIL MAKING.

Application filed March 1, 1920. Serial No. 362,200.

To all whom it may concern:

Be it known that I, STERLING ELLIOTT, a citizen of the United States, residing at Cambridge, in the county of Middlesex and State of Massachusetts, have invented an Improvement in the Art of Stencil Making, of which the following is a specification.

This invention relates to the art of stencil making and has particular reference to a novel method, or step in the method of making stencils and particularly stencils of the type employed with addressing and similar machines.

Fig. 1 is a plan view of a stencil embodying my invention.

Fig. 2 is a section along line 2—2 of Fig. 1.

A stencil well adapted for manufacture in accordance with my present method comprises a center strip 5 of stiff paper having a perforation or "window" therein, and a reinforcing border 6, or frame, of thicker paper fixed on each side thereof located around and somewhat inset from the edge of the window; so that the unitary structure forms a frame for the stencil paper 7 which is treated in accordance with my invention and which is applied by an adhesive to the central paper strip around the window.

In forming the completed stencil the prepared stencil sheets are cut into strips having a width equal to the long dimension of the stencil paper in the framed and finished stencil. The stencil frames are fed through machines of suitable construction in which a line of cement or adhesive is applied to the stencil frame about the border of the window.

The stencil paper strips are received in the machine and cut off to the proper width and pressed onto the adhesive on the stencil frame, and the assembled stencils are discharged from the machine and the cement is allowed to set.

It has been found that, by this method, the stencil paper is inclined to full up or buckle, and the paper may protrude above the face of the frame and may smear ink on superimposed stencils with the result that the stencils are apt to become soiled and untidy in appearance.

By practicing my novel method I find that the stencil paper, when attached to the stencil frame by the adhesive, becomes quite taut and without wrinkles or fullness, and all parts thereof are below the face of the frame; and the stencils present a neat and uniform appearance.

My novel method consists in moistening the dry stencil sheets previous to adhesively fixing them to the stencil frames.

In carrying out my method I first cut the gelatine coated stencil sheets into strips having a length equal to the width of a regular commercial sheet and of a width equal to the width of the paper used in the finished stencil.

The paper is then moistened by any suitable means.

One method of wetting the paper strip which I find very satisfactory is to employ an endless travelling belt of textile material which, during one portion of its traverse passes through a bath of water. Surplus water is removed from the belt by suitable means as a pair of rubber rolls and the belt is suitably moist. The paper strips are placed on top of this dampened belt and remain in contact therewith until a suitable degree of dampness is obtained. The moistened strips are then removed from the belt and placed in piles, in which the moisture is retained and uniformly distributed in the sheets.

The moistened strips are then fed in the machine where they are cut off and applied to the line of adhesive on the stencil. The assembled stencil is discharged from the machine and the adhesive is allowed to set and the moistened paper to dry with the result that the paper is tight in its frame.

The stencils may then be considered ready for use.

With the use of a moistened stencil paper, the adhesive employed to unite it to the frame plays an important part, in that it must have the quality of adhering to the moistened surface of the paper as well as to the dry surface of the stencil frame and set, with moisture present. I have found that shellac is very satisfactory for this purpose.

The stencil sheet may be prepared in any suitable manner, as for instance by the method set forth in my co-pending application Serial No. 362,570, filed concurrently herewith; and the complete process of making the stencil includes coating the sheet, usually of so-called "Yoshino" paper, with a gelatine or equivalent film by a solution containing gelatine or the equivalent, tempering the gelatine coating by application of a temper-

ing solution (the gelatine containing and tempering solutions may be combined, for some purposes), drying the coated and tempered sheets, cutting the sheets into strips, moistening the strips, preferably by water, to stretch them, cementing the moistened strips to the stencil frame, and allowing the cement to set and the stencil strip to dry and contract.

I claim:

1. That step in the art of making stencils having a frame bounding an aperture therein and a gelatine-coated stencil sheet adhesively secured to the frame over the aperture and within the opposite faces of the frame, which consists in stretching the dry gelatine-coated stencil sheet by moistening it with water, cementing the borders of the moistened sheet to the stencil frame over the aperture therein, and allowing the cement to set and the stencil sheet to dry and contract on the frame.

2. That step in the art of stencil making which consists in cutting the dry prepared stencil sheets into strips, stretching said strips by moistening them with water, storing the moistened strips in piles to effect uniform distribution of the moisture throughout the sheets, subsequently removing the uniformly moistened sheets from the piles, cutting the moistened sheets into smaller sheets and cementing them to the stencil frames and allowing the cement to set and the moist sheets to dry and contract on the frame.

In testimony whereof, I have signed my name to this specification.

STERLING ELLIOTT.