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J. FLOCKHART

1,892,268

SCREEN STENCIL FRAME

Original Filed Dec. 13, 1930

FIG. 1.

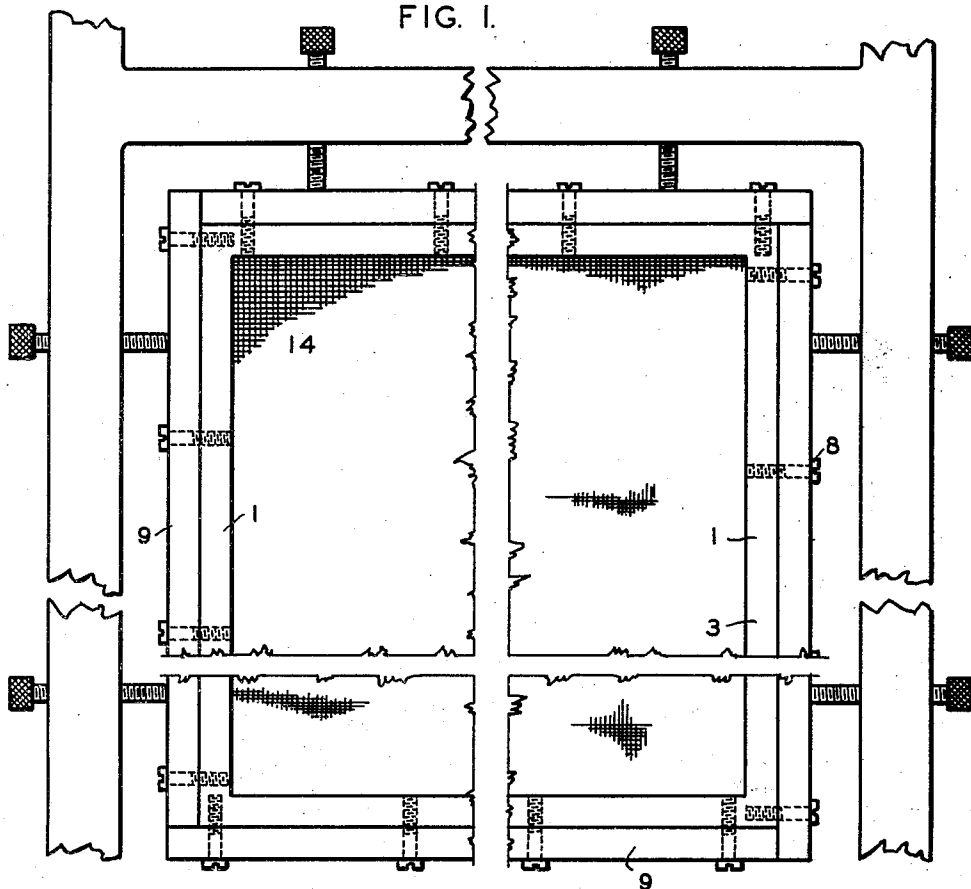


FIG. 3.

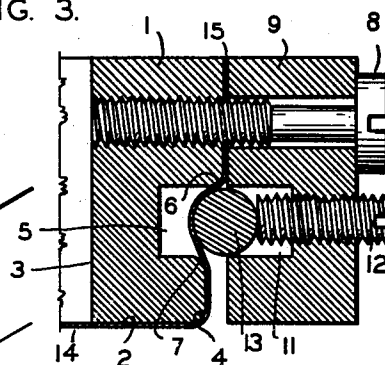
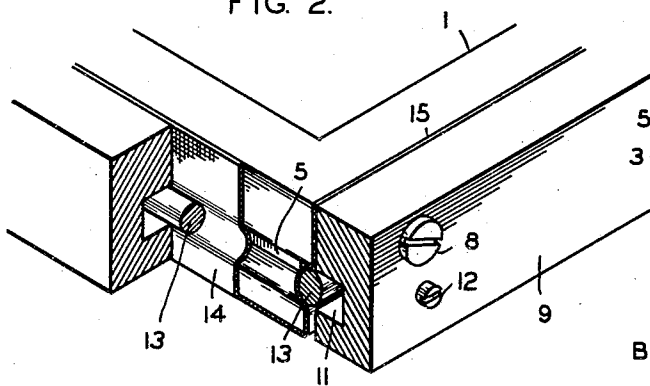


FIG. 2.



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SCREEN STENCIL FRAME

Application filed December 13, 1930, Serial No. 502,114. Renewed May 24, 1932.

This invention relates to screen stencil frames and more particularly to the manner of stretching the screens.

For further particulars reference is made to my copending application Serial Number 438,504, filed March 24, 1930, entitled Stencil printing apparatus.

The principal object of the invention is to provide means for stretching silk cloth stencil screens taut, without wrinkling.

Another object is to remove distortion from the stencil in the first and subsequent stretchings.

A further object is to so construct and arrange the frame that the stencil screen may be removed for filing and replaced for use as occasion requires, without injury to the screen and with the assurance of accurate registration and freedom from distortion.

Other objects and advantages will appear as the description progresses.

In this specification and the accompanying drawing the invention is disclosed in its preferred form. But it is to be understood that it is not limited to this form because it may be embodied in other forms. It is also to be understood that in and by the claims following the description it is desired to cover the invention in whatsoever form it may be embodied.

In the one sheet of drawing:

Fig. 1 is a fragmentary plan view from above of a screen stencil frame built in accordance with this invention.

Fig. 2 is a fragmentary detail in perspective of the corner structure of the frame.

Fig. 3 is a cross-section of the side rails of the frame.

In detail the construction illustrated in the drawing comprises the rectangular open rigid integral base frame, see Fig. 1. The side rails 1—1 of this frame have the smooth bottom surface 2, and the inner vertical side 3, see Fig. 3. The bottom surface 2 of each rail is narrower than the top 1, and has the rounded edge at 4. The lateral side rails of the frame are longitudinally grooved as at 5. The edges of these grooves are rounded as at 6—7. The rails 1 are horizontally drilled and tapped to receive the cap screws 8.

The outer clamp bars 9—9 are arranged around the base frame to which they are clamped by the cap screws 8. These bars 9 are also grooved at 11 in registry with the grooves 5 in the base frame.

The adjusting screws 12—12 are threaded in the bars 9 and project into the grooves 11 at intervals. The semi-flexible tension rods 13 are confined within the combined grooves 5—11 and rest against the ends of the screws 12.

The stencil screen 14 consists of a piece of silk bolting cloth or other conventional material suitable for the purpose. The four corners of the material are cut away at the margin of the stencil field. The lateral margins 15, extending beyond the sides of the base frame, are folded upward around the corners 4 and are clamped between the outer sides of the base frame and the inner sides of the bars 9, by the screws 8. The screws 12—12 are then progressively set up to force the rods 13 against the marginal tabs 15 which draws the screen stencil area 14 taut.

After the screen area has been thus stretched free of wrinkles and puckers throughout its whole area, it is processed to form the stencil in the conventional manner.

It has been common practice when a stencil is preserved for future impressions, to store away the complete assembly, including the frame and stencil. It is one of the major advantages of this invention that the screen can be removed and filed away in the minimum of space. This saves bulk in preserving the stencil and avoids tying up capital in duplicated expensive frames.

This economy is made possible by the adjustable feature of the screws and rods 12—13. The screen take-up in the grooves 5—11, previously described, makes it possible to remount a screen and not only take up the puckers and wrinkles, but to also rectify any distortion of the stencil image by distorting the rods 13, if necessary to pull up or relieve any given area of the stencil image. This insures exact registration with the master image in reproduction. It has the further advantage that exact color margins

can be alined in multicolor impressions, wherein several different color screens are required to complete one image.

Having thus described this invention, what I claim and desire to secure by Letters Patent is:

1. A stencil frame including a base frame having a groove therein; means for clamping the margin of a screen on said frame and means for forcing said screen adjacent said margin into said groove.

2. A stencil frame including a base frame having a lateral groove therein; clamping bars attached to said frame and engaging the margin of a stencil screen; tension rods in said groove engaging said screen adjacent said margin and means for moving said rods.

3. A stencil frame including a base frame having a lateral groove in the sides thereof; clamping bars attached to the sides of said frame over said groove; tension rods in said groove; and adjusting means in said bars, engaging said rods.

4. A stencil frame including a base frame having a lateral groove in the sides thereof; clamping bars attached to the sides of said frame and having grooves therein registering with the grooves in said frame; rods in said grooves; and adjusting means in said bars engaging said rods.

5. A stencil frame including a base frame having a lateral groove in the sides thereof; clamping bars screwed to the sides of said frame and having grooves therein registering with the grooves in said frame; rods in said grooves; and screws threaded in said bars and engaging said rods.

In testimony whereof I have hereunto set my hand this 5th day of December, 1930.

JAMES FLOCKHART.

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