March 14, 1939. C. WILHELM 2,150,855

ENGRAVER'S SHADING BOARD

Filed April 29, 1938 2 Sheets-sheet 1

Fig. 1

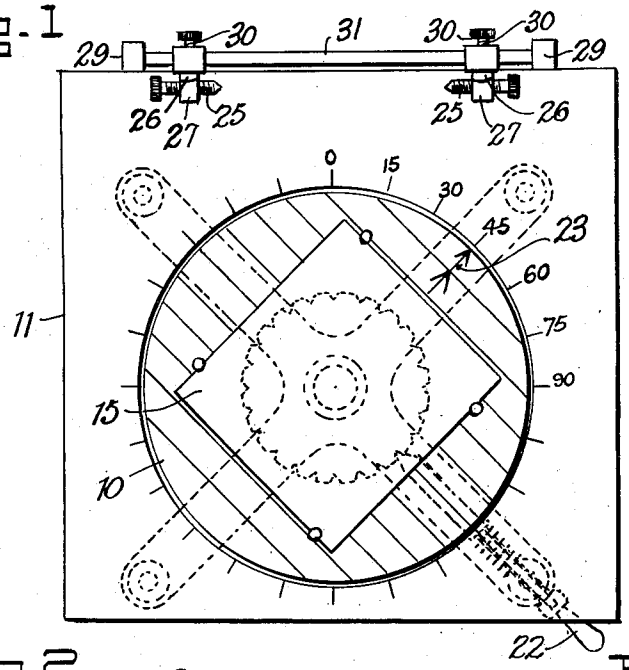


Fig. 2.

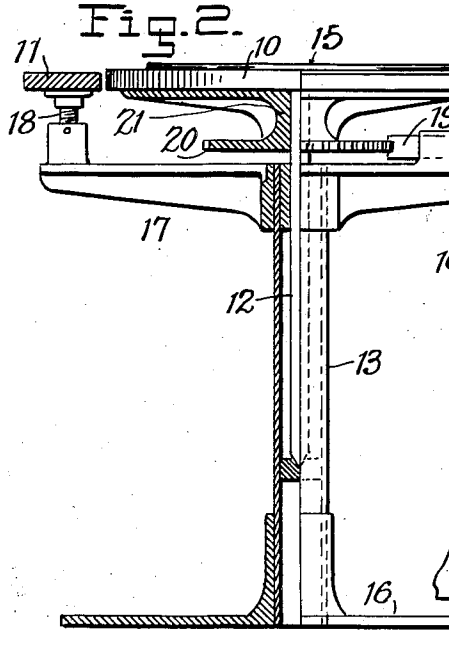
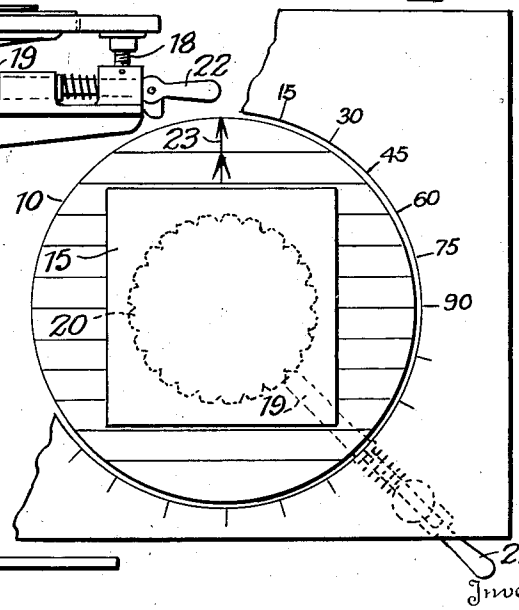


Fig. 3.



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Fig. 4.

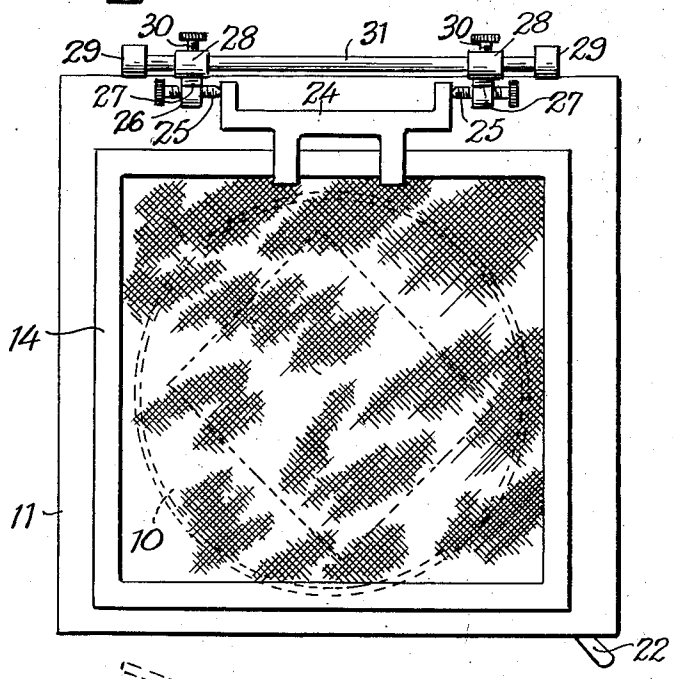
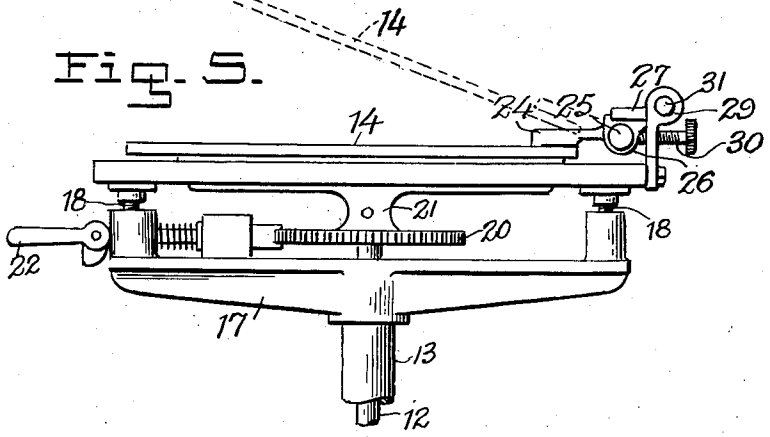


Fig. 5.



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ENGRAVER'S SHADING BOARD

Charles Wilhelm, Philadelphia, Pa.

Application April 29, 1938, Serial No. 205,091

7 Claims. (Cl. 41—4.5)

This invention relates to engravers' shading boards used in connection with transparent hatched screens and the object of the invention is to effect exceeding minute adjustments of or on a plate to be shaded and etched, to produce light or shadow effects on engraved plates for printing.

A further object of the invention is the shifting of the plate to be engraved so that the artist preparing the plate for etching may have access to the plate from any side so the same may not be marred by his hand stretching over the centre of the plate but only worked from the plates edges, and further to shift the plate when the angles of the cross hatchings are altered to provide for other colors being arranged for on the plate.

These and other objects of the invention are further described in the following specification, set forth in the appended claims and illustrated in the accompanying drawings, wherein:

Figure 1 is a plan view of the improved board and its table and without the screen.

Fig. 2 is an elevation of the same, partly in section.

Fig. 3 is a plan view, partly in section.

Fig. 4 is a plan view of the board and table with the screen pivoted thereon.

Fig. 5 is a side elevation of part of Fig. 4.

The device consists of a circular board **10** mounted within an opening in the table **11** and rotating with its spindle **12** on a bearing in the pedestal **13**.

The screen **14** used in connection with the board is shown in Figs. 4 and 5 and is a semi-flexible transparent film having cross hatching at an angle of 45 degrees to produce the dots needed in the photo-engraving for a black plate.

The plate **15** to receive acid-proof dots from the screen and be etched by acid in cameo on the acid eating plate, is secured to the rotating board **10** by thumb tacks or otherwise.

In order to continue the operation of the work in preparing the plates for the primary colors, the yellow plate would be used and locked on a 90 degree angle, the red plate on a 75 degree angle and the blue plate on a 105 degree angle. This is done to avoid pattern or moire effect. These films or tints are also used for one, two, three or more colors.

The pedestal **13** may be secured to a base **16** and has at its upper end a frame **17** carrying the table **11** on adjustable supports **18**, and on the frame, in bearings, is a spring pressed bolt **19** to engage the indented disc **20** on the hub **21** of the rotatable board **10**.

When it is desired to change the angle of plate **15** to effect the alteration of the hatching to enlarge the dots and increase the density of the color or tint, the bolt **19** is extracted by means of its handle **22** and the board rotated until the proper angle is indicated by the arrow **23**.

In thus providing for the rotation of the board, any edge of the plate may be brought near the artist or draftsman who is applying the gum or gelatin to receive the ink that has been applied to the screen to be transferred as dots to the plate.

To enlarge and intensify the dots on the gum, it is necessary to shift the screen **14** to an almost infinitesimal degree and as shown in Fig. 4, its hinge **24** is pivoted on the screws **25** that work in bearings **26** movable on plates **27** carried on a bar **31** attached to the table by brackets **29**.

The screen may be adjusted laterally by the screws **25** and vertically by screws **30**, even to a very small degree.

The rotating board is elevated slightly above the table so that in case the plate is larger than the board, its edges will not drag on the table. The angular degrees are indicated on the edge of the opening adjacent the board.

While the artist is working on the plate the transparent screen is lifted or removed, the latter being resorted to when printing ink is applied to the hatched side.

The board **10** may also be provided with cross lines for ensuring the proper location of the plate thereon in connection with the locking means for the various angles.

It is obvious that the parts of the device may be altered or modified without departing from the essential features above described or from the scope of the appended claims.

What I claim as new is:

1. In engravers' shading boards, the combination of a table having an opening, a rotatable board within the opening, and means for locking the board at a desired angle.

2. In engravers' shading boards, the combination of a table having an opening, a substantially flush board rotatable in the opening, a transparent screen hinged over the board, means for shifting the screen and means for locking the board at a desired angle.

3. In engravers' shading boards, the combination of a table having a pedestal and a central opening, a board pivoted in the pedestal and rotatable within the opening, an indented wheel

on the board, a bolt adapted to engage the indented wheel, and an adjustable screen hinged over said board.

4. In engravers' shading boards, the combination of a table having a circular opening, a hollow pedestal supporting the table, a board adapted to rotate in the opening, a spindle for the board and pivoted in the pedestal, an indented wheel secured to the table, a bolt adapted to engage the indented wheel to lock the board at a desired angle, and a transparent screen hinged over the board.

5. In engravers' shading boards, the combination of a table having a central opening, a rotatable board within the said opening and adapted to carry a plate to be engraved, a pedestal supporting the table, a spindle supporting the board and pivoted in the pedestal, an indented wheel secured to the board, a spring-pressed bolt secured on the table and engaging the indented wheel, angle indicating means on the table and board, a transparent screen hinged over the table, lateral adjustment means for the screen, and vertical shifting means for the same.

6. In engravers' shading boards, the combination of a table having a central opening, vertical adjusting means for said table, a stationary pedestal supporting the table, a rotating board in the opening, a spindle carrying the board and pivoted in the pedestal, locating indicators on the board and table, locking means to hold the board at a desired location, and an adjustable screen hinged over the board.

7. In engravers' shading boards, the combination of an adjustable board having a circular opening, a disc filling the opening and flush with the board, a screen supported at the back of said board, adjustable pivots on which the screen is hinged, a bar on which the pivots may be adjusted, a pedestal, and a spindle carrying the disc and rotatable in the pedestal.

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