Jan. 19, 1937. R. S. OSBORN 2,068,037

DRAWING DEVICE

Filed Sept. 30, 1935

Fig. 1.

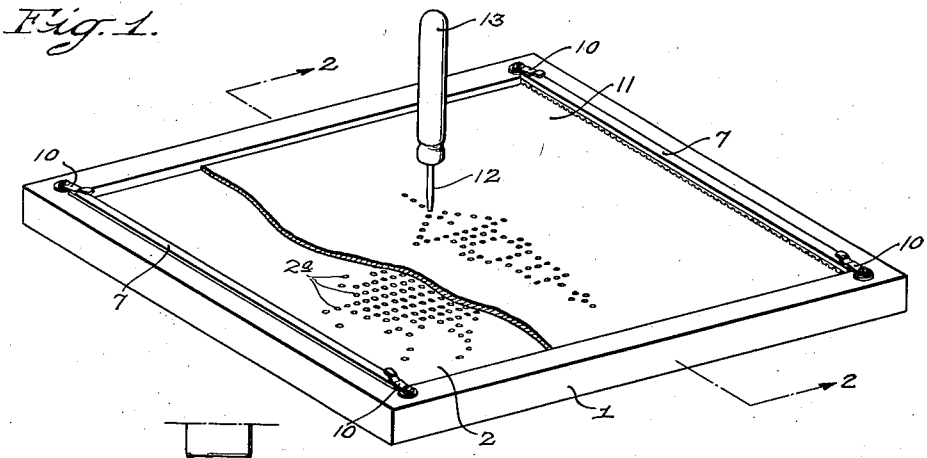


Fig. 2.

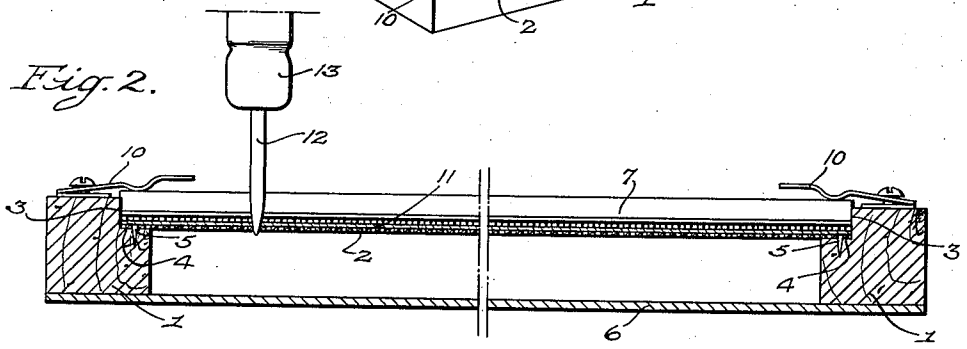


Fig. 4.

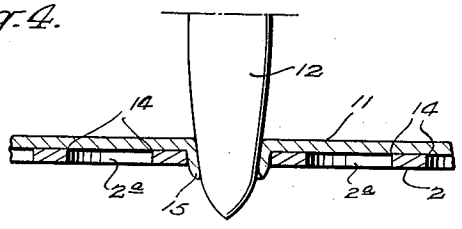


Fig. 3.

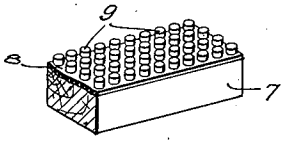


Fig. 5.

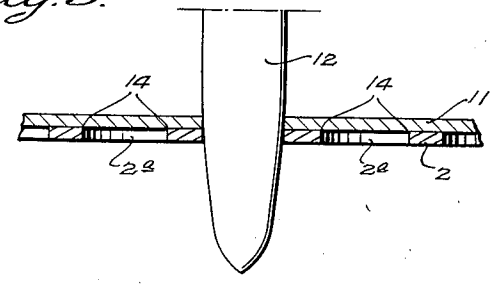
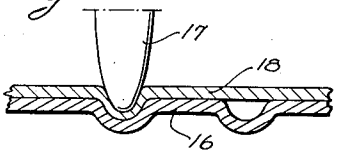


Fig. 6.



Inventor:—
Russell S. Osborn
by his Attorneys
Howson & Howson

Patented Jan. 19, 1937 2,068,037

UNITED STATES PATENT OFFICE

2,068,037

DRAWING DEVICE

Russell Stanley Osborn, Philadelphia, Pa.

Application September 30, 1935, Serial No. 42,941

2 Claims. (Cl. 164—85)

The object of this invention is to provide a novel appliance for forming on paper or other suitable sheet material ornamental or artistic configurations, letters or other desired marks or outlines, said appliance having utility both as an educational and amusement device and also in the field of commercial art, as hereinafter set forth.

In the attached drawing:

Figure 1 is a view in perspective of a preferred embodiment of my invention;

Fig. 2 is a section on the line 2—2, Fig. 1;

Fig. 3 is a fragmentary view in perspective illustrating a structural detail;

Figs. 4 and 5 are fragmentary sectional views illustrating the mode of operation, and

Fig. 6 is a fragmentary sectional view illustrating a modification within the scope of the invention.

With reference to the drawing, the preferred embodiment therein illustrated comprises a frame 1 in which is suitably supported a foraminous plate or matrix 2, said matrix being formed preferably of light gauge metal. In the present instance, the frame elements are rabbetted, as indicated at 3, to form a seat 4 upon which the edge portions of the said matrix plate rest and to which said plate is secured by means, for example, of tacks 5. In the present instance also the frame 1 is provided with a bottom cover plate or sheet 6.

The device further comprises two clamp bars 7 which may be provided at their under sides, as shown in Fig. 3, with a rubber or other suitable facing 8, this facing in the present instance consisting of a strip having small cylindrical projections 9. In assembly, these strips are adapted to occupy positions at opposite sides of the frame, as illustrated in Fig. 1, and are retained in these positions by means of clips 10 which are adjustable to release the bars when required. The clips 10 are of such form that the bars 7 in assembly are held firmly down upon the matrix plate 2 or upon those portions of the said plate which rest upon the seats 4. The clamping bars 7 and clips 10 provide means for securely clamping the edges of a paper or other work sheet 11 superimposed upon the matrix 2, as shown in Fig. 1.

The appliance further comprises a stylus 12 so formed as to permit it to be passed in whole or in part through the apertures of the matrix. Preferably the stylus is formed, as shown in Figs. 4 and 5, with an attenuated or tapering extremity of such dimensions as to pass through the matrix apertures, whereas the main body of the stylus is of somewhat greater diameter than the matrix apertures whereby the extent to which the stylus may be passed through the apertures is limited. In the present instance, the stylus 12 is provided with a suitable handle 13.

In using the appliance in accordance with my invention, the stylus 12 is employed to perforate the sheet 11 secured as described above in position overlying the matrix 2, this perforating operation being effected by passing the point of the stylus through the sheet 11 and into the apertures of the matrix 2. Preferably and as illustrated in Figs. 4 and 5, the apertures 2*a* of the matrix are formed with relatively sharp upper edges 14 so that when the stylus 12 is directed downwardly through the sheet 11, the immediately adjacent portions of the sheet indicated in Fig. 4 by the reference numeral 15 are directed downwardly through the apertures 2*a* of the matrix, and so, further, that when the surface of the stylus 12 engages with the edges 14 of the apertures 2*a*, these portions 15 of the sheet 11 will be cleanly sheared and separated from the sheet, leaving a clean-cut aperture. This effect may be efficiently obtained by slightly rotating the stylus after it has been inserted to the full extent into the matrix aperture.

Preferably the apertures 2*a* of the matrix 2 are arranged in rectilinear lines, as illustrated in Fig. 1, and relatively close together, although the exact arrangement of the apertures on the plate may vary widely without departure from the invention.

By practice of my invention many attractive ornamental and artistic configurations may be worked in small apertures upon the sheet 11. Manipulation of the device is extremely simple, and since the matrix in effect constitutes a guide, highly satisfactory results are obtainable even by those having no artistic training. In skilled hands, on the other hand, the device is capable of producing beautiful and highly artistic effects. The device, therefore, constitutes a valuable instructive appliance for development of artistic talent for both young and old. The device is useful further in the commercial art field for producing accurate and ornamental figures or letters and perforated designs of an artistic nature, as well as stencils. On a commercial basis or where duplication of design is desired, it is apparent that a plurality of sheets upon which the perforated design is to be formed may be superimposed upon the matrix instead of the single sheet 11 illustrated in the drawing.

The aforedescribed embodiment of the invention is capable of considerable modification with-

out departure from the principle of the invention as defined in the appended claims. Instead, for example, of having a perforated matrix, as illustrated and described above, the matrix may be provided with recesses or shallow indentations, the depth thereof being designed to cause a stretching embossing of the fibres of a superimposed sheet of paper or other material without actual perforation of such sheet. In this embodiment, the stylus would be formed with a more or less blunt extremity. A matrix and stylus of this general character are illustrated in Fig. 6, wherein the matrix is designated by the reference numeral **16**, the stylus by the reference numeral **17**, and the sheet upon which the design is formed by the reference numeral **18**.

I claim:

1. In a device of the stated character, the combination with a matrix having a surface marked by a plurality of closely arranged small openings, of means for detachably retaining a work sheet in fixed position against said surface, and a stylus for displacing the work sheet at selected spaced points into said openings, said openings being sufficiently small and close together to afford markings on the work sheet, through manipulation of the stylus as set forth, of the order of solid lines together with effects of light and shadow whereby said device is capable of producing designs of definite artistic value.

2. In a device of the stated character, the combination with a foraminous sheet constituting a matrix, of means for detachably retaining a work sheet in fixed position against the surface of said matrix, and a stylus adapted for insertion in said matrix apertures and constituting a means for perforating the work sheet at selected spaced points corresponding in position to the underlying matrix apertures, said apertures being sufficiently small and close together to afford markings on the work sheet, through manipulation of the stylus as set forth, of the order of solid lines together with effects of light and shadow whereby said device is capable of producing designs of definite artistic value.

RUSSELL STANLEY OSBORN.