Feb. 14, 1928. 1,658,838

E. J. EARLY

DRAFTING TABLE

Filed Aug. 6, 1925 3 Sheets-Sheet 1

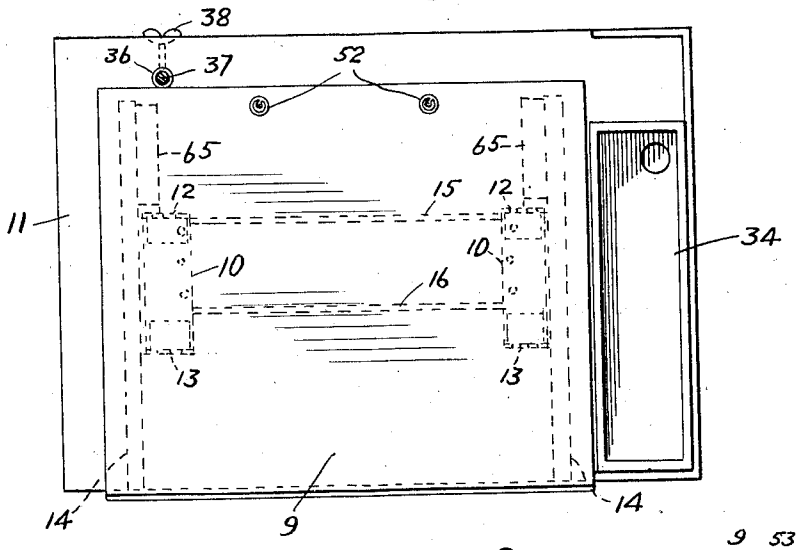


FIG. 2.

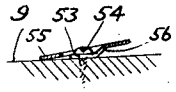


FIG. 10.

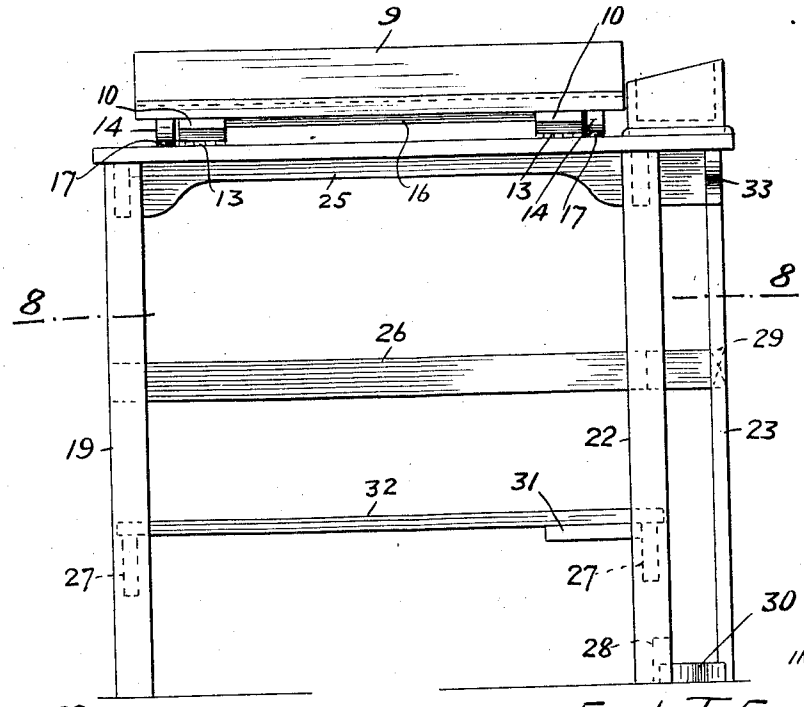


FIG. 1.

WITNESS:
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Feb. 14, 1928. 1,658,838

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DRAFTING TABLE

Filed Aug. 6, 1925 3 Sheets-Sheet 2

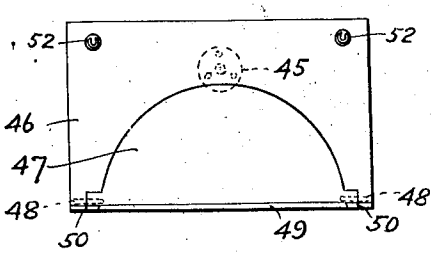


FIG. 4.

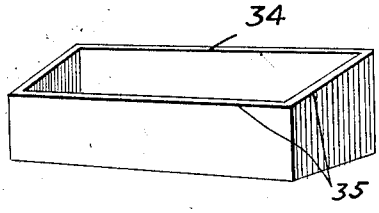


FIG. 5.

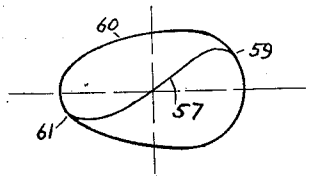


FIG. 9.

FIG. 3.

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Feb. 14, 1928. 1,658,838

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DRAFTING TABLE

Filed Aug. 6, 1925 3 Sheets-Sheet 3

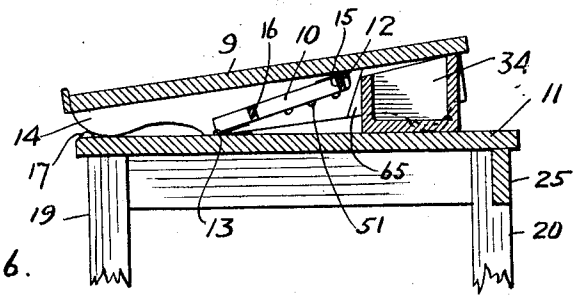


FIG. 6.

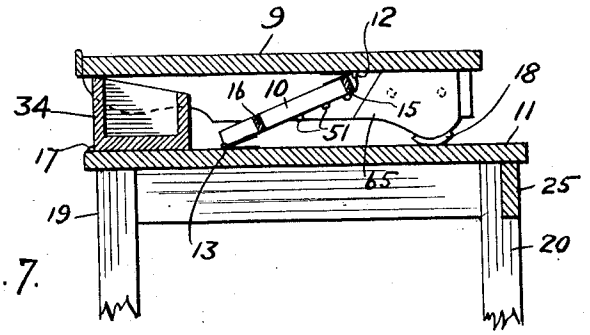


FIG. 7.

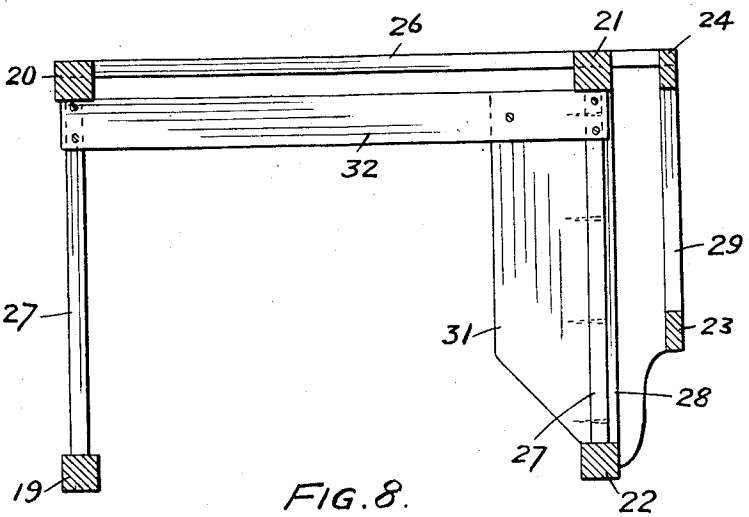


FIG. 8.

INVENTOR

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WITNESS:

Robt. R. Ritchel.

Patented Feb. 14, 1928. 1,658,838

UNITED STATES PATENT OFFICE.

EARL J. EARLY, OF PHILADELPHIA, PENNSYLVANIA.

DRAFTING TABLE.

Application filed August 6, 1925. Serial No. 48,462.

This invention relates to drafting tables or desks provided with permanently connected drafting boards adapted to be moved by the draftsman over the surface of the supporting stand and to swing into a variety of positions of inclination.

The principal object of my invention is an improved drafting table or desk provided with a board which is connected with the table in such a manner that a draftsman, while working upon the board, can adjust the board to be held at any suitable angle of inclination to suit the convenience of the draftsman either while he is sitting down, or while he is standing up or is leaning over the board.

A further object of my invention is a drafting board permanently connected with a suitable support and means for holding down and releasing the drawing paper to prevent the disfigurement of the board resulting from the use of detachable tacks.

A still further object of my invention is a drafting table or desk provided with a drafting board and with a shelf to support an object such as a model, or picture in a variety of positions suitable for copying or sketching for the draftsman in front of the board.

A still further object of my invention is a drafting table or desk provided with an adjustably connected board adapted to be used intermittently and interchangeably either for mechanical or free hand drawing by one and the same draftsman or by more than one draftsman, as may be the case in schools or class rooms.

With the above and related objects in view, this invention comprises the construction, combination and arrangement of parts hereinafter more fully described, an embodiment whereof is illustrated in the accompanying drawing and is embraced within the scope of the appended claims.

In the said drawing:—

Fig. 1 is a front elevation of the drafting table.

Fig. 2 is a top view thereof.

Fig. 3 is a side elevation thereof showing the drafting board in two different angular positions and also showing the shelf adapted to display an object for the draftsman to draw or copy from.

Fig. 4 is a plan view of the shelf shown in Fig. 3.

Fig. 5 is a perspective view of tray for use in connection with the board.

Fig. 6 is a sectional elevation of the table showing the board supported by the tray at a given angle of inclination.

Fig. 7 is a sectional elevation of the table showing the board supported by the tray in a horizontal plane.

Fig. 8 is a section on the line 8—8 of Fig. 1.

Fig. 9 is a view of an oval surface for the derivation of the runners movably supporting the board above the table.

Fig. 10 is a sectional elevation of a clip tack permanently mounted upon the board for holding a sheet of drafting paper pressed against the surface of the board.

Referring more particularly to the drawing for a detail description of my invention, the numeral 9 represents the drafting board proper, which is shown to be connected by rods or links 10 with the table top or support 11 by means of hinges 12 at the bottom of the board and in front of the links and hinges 13 on top of the table and the rear of the links. The links are joined by a bar 15 in the rear and by a bar 16 frontwardly of the bar 15.

The board 9 is fixedly mounted on runners 14 adapted to cause the board to move over the surface of the table and at the same time constituting changeable or floating fulcrums to cause the board to swing into different angular positions, the table being provided with guides, such as silent domes 17, for the runners. The runners are provided with heels 18 adapted to hold the board at a minimum angle of inclination.

The table top 11 is mounted on posts 19, 20, 21 and 22, and on uprights 23 and 24. The posts 20 and 21 and the uprights 24 are joined by boards 25 and 26, the posts 19 and 20, and 21 and 22 are joined by boards 27 and 28, and the uprights 23 and 24 are joined by a board 29. Between the posts 21 and 22 and the uprights 24 and 23 and close to their bottom ends is mounted a shelf 30, inwardly of the posts 21 and 22 is mounted a shelf 31, and rearwardly of the shelf 31 is mounted a shelf or foot rest 32. The uprights 23 and 24 are joined at the top by a board 33. The table top 11 is extended to the left of the board 9 to the width of the head of a T square. The top 11 is also extended to the right of the board 9 to provide

a support for the tray 34 adapted to carry drawing implements when not used for the purposes hereinafter described. The four walls 35 of the tray are tapered at their tops to lie in one and the same inclined plane or slope.

The table top 11 is extended to the rear of the board 9 where the top is bored vertically as at 36 for a rod 37 adapted to be clamped in a variety of vertical positions by the winged clamp 38. The rod 37 is provided at its top with a vertical bearing 39 for the leg 40 of a disc 41. The disc is provided with radial teeth to register with the teeth of a similar disc mounted centrally upon a pin 43 which is projected through the centre of the disc 41, and on the projecting end of the pin is mounted a winged nut 44.

The disc of the pin 43 is provided with a bracket 45 for a shelf 46, which shelf is provided with a semi-circular cut out for the semi-circular section 47, which section 47 is of a diameter approximately equal to that of the cut out portion of the shelf with which it is connected by hinge or pivot pins 48.

When the section 47 is turned in the position to lie in the plane of the shelf it rests upon the bracket 45 and has its raised edge 49 in alignment with the raised end portions 50 of the shelf. The section 47 may be turned to lie in the plane at right angles with that of the shelf, in which position it is held by the raised end portions 50, as shown in Fig. 3.

The normal inclination of the board for making mechanical drawings is as shown in solid lines in Fig. 3, and the normal inclination of the board for making free hand drawings is as shown in the dot and dash lines in said Fig. 3. To support the board in position different from the two normal positions, use is made of the tray 34. In Fig. 6 the tray is shown as positioned under the board to give it an inclination greater than that shown in solid lines in Fig. 3. Other angles of inclination may be secured by moving the tray frontwardly under the board with the highest edge of the tray between the stops or buttons 51 at the bottom of the links 10. To support the board in the horizontal plane parallel with that of the table top the tray is placed in the position shown in Fig. 7.

The drafting board may be moved and adjusted by the draftsman in front of the table by either pushing or pulling the board to cause it to move and swing over the silent domes.

To copy or reproduce from sketches, prints or like flat objects, the shelf 46 with the semi-circular section 47 in position as shown in Fig. 4 may be used to support the object. To copy or reproduce from an object of considerable volume the section 47 may be turned in the position shown by the dot and dash lines in Fig. 3. The vertical angle of inclination of the shelf may be varied by swinging it with its bracket 45 after the disc with its pin 43 is released by means of the winged nut 44. The proper height of the shelf above the board is secured by moving the rod 37 vertically up or down and clamping it in position by the winged clamp or screw head 38. The shelf is free to swing in a horizontal plane by turning it with the leg 40 of the disc 41 in the socket bearing 39.

The drafting board being permanently connected with the table it should be made of hard wood, such as seasoned maple, and since ordinary tacks are not adapted for insertion into hardwood and are furthermore apt to disfigure and damage the surface, I provide the board with permanently mounted clip tacks 52, each tack being provided with a fulcrum 53 fastened upon the board by screws 54, the tacks comprising arms 55 adapted to hold the drawing paper against the surface of the board and with upwardly bent arms 56 adapted, when depressed, to cause the arms 55 to release the paper, the tacks having sufficient elasticity or spring to force the arms 55 against the surface of the board except when the arms 56 are depressed.

The bottom surfaces 57 of the runners 14 are in the form of an ever varying reverse curve, otherwise known as the line of beauty or Greek letter "S" curve. The curve may be derived from the oval surface 60, by the movement of a point from the point 59 on the perimeter through the centre of the surface to the point 61 of the perimeter, the curvature decreasing as it approaches the centre where it is almost a straight line and being reversed in passing through the centre. The runners 14 are thus adapted to move the board over the surface of the table and to cause it to swing during the movement, the domes 17 providing pivots for the surfaces 57 which provide floating fulcrums.

What I claim is:—

1. In combination with a drafting board, of runners thereunder, each of said runners provided with a bottom surface which includes a portion of an ever varying reverse curve.

2. The runners claimed in claim 1, said curves being generated by the movement of a point on the circumference of an oval surface from a point of maximum curvature to a point of minimum curvature and passing through the centre of the oval surface.

3. In combination with a drafting table provided with a flat top, a drafting board thereon, runners attached to the underside of the board, each runner including in its buttom surface a portion of an ever varying reverse curve to permit of its movement

over the surface of the top so as to change its angle of inclination, and means connecting the board with the top to guide the board during its movement and to limit the inclinations between a minimum and maximum.

4. A drafting table comprising a table top, a drafting board movably mounted thereon, said board including runners whereby it may be moved over the surface of the table to change the angle of inclination of the board, said runners being normally adapted to support the board at a minimum angle of inclination, links connecting the table with the board adapted to prevent it from being moved off the table, said board including means to cause the links to support the board at a maximum angle of inclination, means adapted to be inserted between the table and the board to support at angles of inclination different from those hereinbefore described, said supporting means adapted to support the board in a horizontal plane when positioned in front of the connecting means and to support the board at angles of inclination varying between a minimum and a maximum when positioned in rear of the connecting means, said swinging means provided with stops adapted to become engaged with the supporting means to hold the board in any given angle of inclination.

In testimony whereof I have hereunto attached my signature to this specification.

EARL J. EARLY.