

March 15, 1960

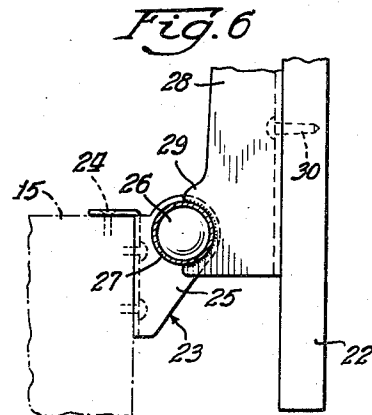
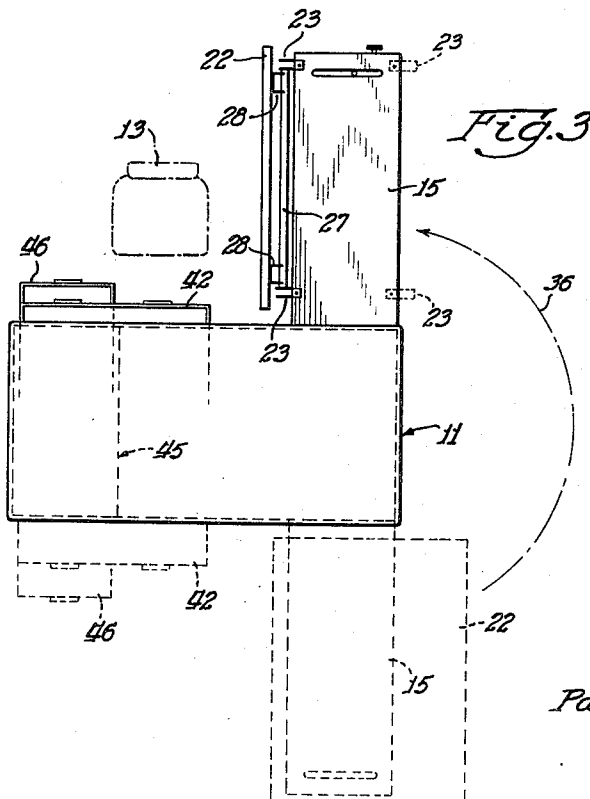
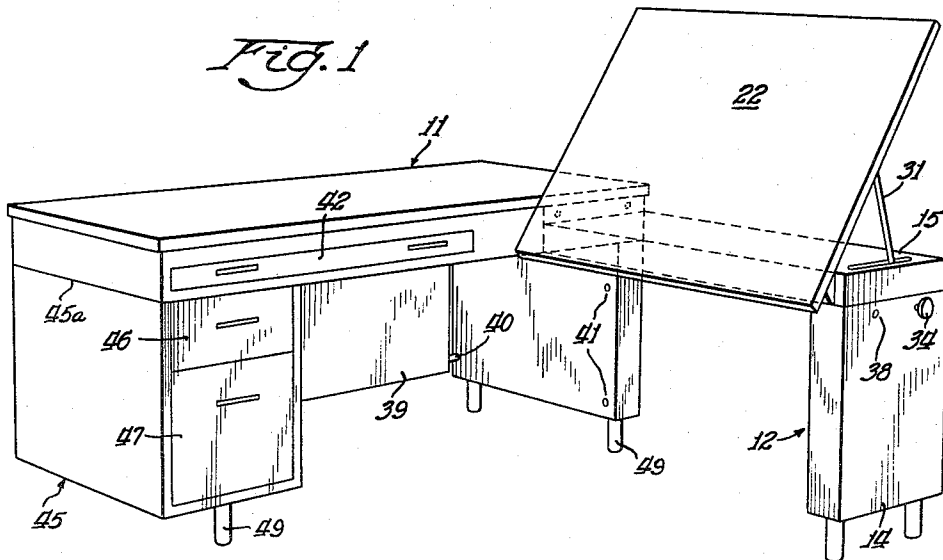
P. L. PAULSEN

2,928,703

ANGLE DRAFTING GROUP CONNECTION MEANS

Filed Oct. 22, 1957

2 Sheets-Sheet 1



Inventors:
Paul L. Paulsen,

By: Jones, Darbo + Robertson
Attys.

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Fig. 2

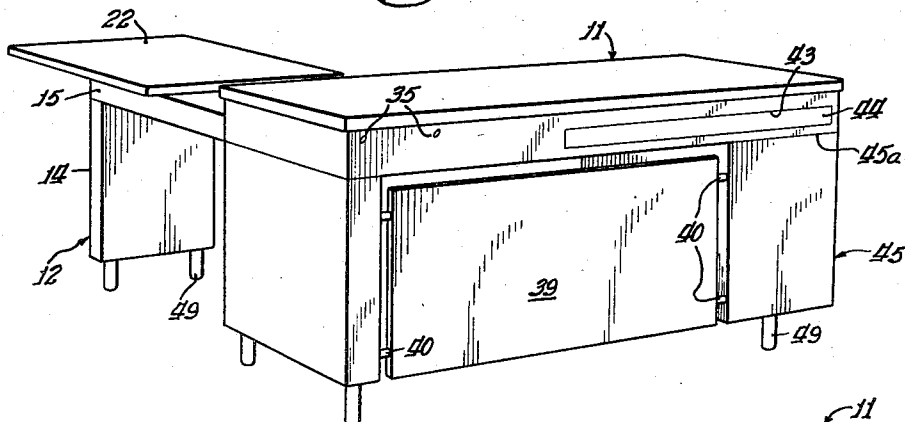


Fig. 4

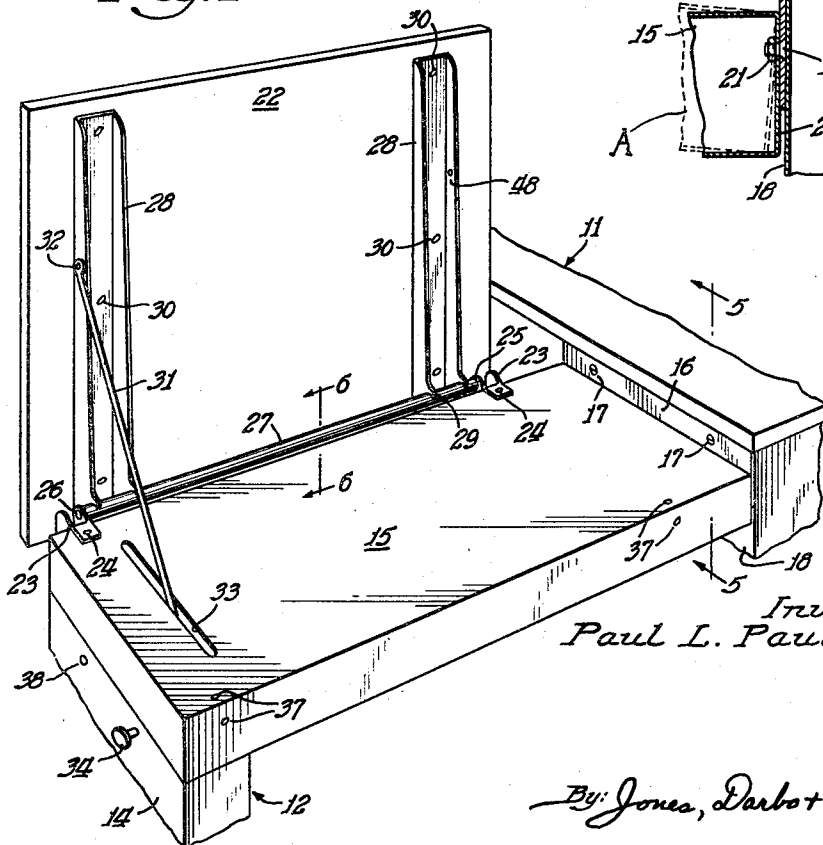
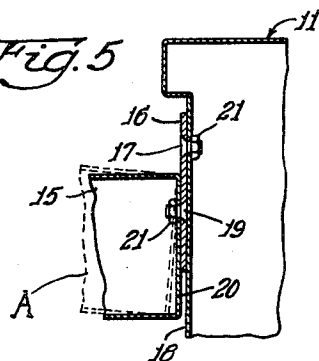


Fig. 5



Inventors:
Paul L. Paulsen,

By: Jones, Darbo & Robertson
Attys.

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ANGLE DRAFTING GROUP CONNECTION MEANS

Paul L. Paulsen, Two Rivers, Wis., assignor to Hamilton Manufacturing Corporation, Two Rivers, Wis., a corporation of Wisconsin

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1 Claim. (Cl. 312—111)

This invention relates to connection means for angle drafting group including an engineer's desk and an angularly related drawing board stand.

It has been found that the increasing demands made upon the time and abilities of engineers and supervisory draftsmen has suggested the facilities grouping of the present category by which the occupant may turn alternately from a working desk to a drawing board at his side, or vice versa, as the needs of his work may dictate, without rising from his chair and merely by rotating the latter from one position to the other.

Inadequacies having been found to exist in prior structure of this class, the present invention aims to provide improvements in structure and organization that make the unit more practical, efficient and economical.

The present invention makes possible the use of a relatively large drawing board with the group by providing improved means including a torque resisting element for supporting the board while permitting selective pivotal adjustments of the latter on its stand.

A further object of the invention is a flexible mounting for the drawing board stand on the desk that permits movements of the group as a unit on a floor plane for location purposes while providing a warning against lifting the drawing board stand relatively to the desk which might cause breakage.

A still further object is the arrangement of means for reversal of the drawing board stand from one side of the desk to the other and for reversal of the board mounting from one side of the stand to the other to suit engineering or drafting room floor layouts, thus contributing enhanced versatility and usefulness to the group.

These and other objects and advantages will be apparent from the following description, taken together with the accompanying drawings, showing an illustrative embodiment of the invention, and in which drawings—

Figure 1 is a front perspective view of the angle drafting group of the invention with the drawing board at approximately a fifty degree angle;

Figure 2 is a rear perspective view with the drawing board in horizontal position;

Figure 3 is a reduced plan view of the group of Figs. 1 and 2, certain drawers being shown open and the board in vertical position, and indicating in broken lines a reversed arrangement of the parts contemplated by the present invention, a user's chair being also indicated;

Figure 4 is an enlarged perspective view showing details of the board support;

Figure 5 is an enlarged cross-section taken on the line 5—5 of Fig. 4 showing the flexible connection for the stand; and

Figure 6 is a fragmentary section taken on the line 6—6 of Fig. 4.

The angle drafting group with which the present invention deals includes the engineer's desk 11 and ninety-degree related drawing board stand 12 mounted at one end on one end of the desk and so arranged that an engineer or supervisory draftsman, for example, sitting

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in the chair 13 (Fig. 3) may work at either the desk 11 or the drawing board stand 12 without rising from the chair and merely by rotating the latter, which may be of the conventional swivel type for that purpose.

In accordance with the present invention, the stand 12 has the single pedestal 14 at its outer end from which extends in cantilever fashion a horizontal table member 15 that is flexibly attached to the desk 11 so as to be rigid with the desk in the plane of the latter while having limited movement relatively thereto in a vertical plane transverse to the desk, for a purpose later pointed out. Such flexible attachment is here indicated by A showing a flexed position in dotted lines and illustrated in the drawings (see particularly Fig. 5) wherein a steel flexure plate 16 is shown fastened by screw bolts 17 along its upper edge to the desk wall 18 while being fastened by screw bolts 19 adjacent its lower edge to the wall 20 of the stand table member 15 contiguous with the desk wall 18. Nuts 21 for the screw bolts 17 and 19 respectively may be suitably secured on the inner faces of the walls 18 and 20 respectively so that the screws 17 and 19 may be inserted in apertures aligned with the nuts and tightened to secure the assembly. This flexible connection which in this instance has some resiliency, provides a warning against attempts to lift the stand 12 without at the same time lifting the desk 11. Such attempts would place an undue strain upon any rigid connection that might be used between the stand and the desk that would be likely to result in a destruction of the connection. The stand 12 is at the same time maintained rigidly at right angles to the desk 11 in the plane of the group at all times so as to define a chair receiving precinct in the corner between the desk and stand.

Mounted on the stand 12 along its inner edge, that is its edge nearest a person sitting in a chair 13, is the drawing board 22 which is desirably quite large as drawing boards go, so as not to be unnecessarily limited in usefulness. For pivotal mounting of the drawing board at this edge of the stand for angular movements of the drawing board in a vertical plane parallel to the desk 11, without interference with the desk, the stand has a pair of corner brackets 23 secured thereto by screws 24. Inner knuckle 25 of each of the brackets 23 is pierced to receive a trunnion 26 that is carried by each end respectively of a torque shaft 27 conveniently formed of pipe material. Between the brackets 23 there are welded to the torque shaft 27 channel bars 28, these having fingers 29 that span the torque shaft and are welded thereto. Channel bars 28 thus form the legs of a U-shape element the bight of which is defined by the torque shaft 27, the entire structure 28—27—28 providing a rigid frame for the drawing board 22 that resists torque forces tending to twist or distort the board. The channels 28 are shown secured to the board 22 as by screws 30.

To support the drawing board 22 in selective angular positions on its pivot 26 with respect to the stand 12 there is provided a brace rod 31 that is articulated with one of the channels 28, preferably the outer channel as at 32, at one end, and at its other end passes through an elongated slot 33 in the table element 15 of the stand 12 and down into the pedestal 14 where it is releasably held by a clamping element (that may be of a type well known in the art and which need not be here shown) controlled by a manually rotatable knob 34. By rotating the knob 34 in one direction the brace rod 31 may be slid to permit angular adjustment of the drawing board 22 and by turning the knob in the opposite direction the adjustment may be maintained. Such adjustment may be made through a ninety degree range, from the horizon-

tal position of the board shown in Fig. 2 to the vertical position for the board shown in Fig. 3. It will be noted from Fig. 1 that the board is so mounted on the channels 28 that its lower or nearer edge is below the edge of the stand where the torque shaft 27 is carried, thus facilitating use of the board by a person seated in the chair 13.

It will be understood that the pedestal 14 is desirably of box type so as to provide an enclosure for the lower end of the brace rod 31 and to guard against catching of the latter on clothing or the like. Furthermore, the single support for the outer end of the stand 12 provided by the pedestal 14 and the single adjustment rod 31 further contributes to the avoidance of any excesses structure at the corner between the desk 11 and the drawing board stand 12. The use of the single adjustment rod 31, for a drawing board of the size of that here depicted, is made possible by the torque resisting unit defined by the parts 28-27-28. The space underneath the stand 12 is thus a continuation of the desk kneehole so as to avoid any interference with the knees of the user.

A further important feature of the present invention is the reversibility of the parts of the group. To this end, pre-formed screw holes 35 (Fig. 2) are provided in the desk 11, for example, in which the screws 17 for the flexure plate 16 of the stand may be received when the latter is swung around as indicated by the arrow 36 from the position shown in broken lines in Fig. 3, which is its position as shown in Figs. 1, 2 and 4, to the full line position of Fig. 3. In such reversal, the drawing board 22 can also be reversed on the stand, to keep it on the inner edge of the stand, and for this purpose the table element 15 of the stand has pre-formed screw holes 37 by which the screws 24 for the brackets 23 may enter the table element to support the brackets and with them the torque shaft 37 and channel members 28 for the board 22 on the reverse edge of the stand, which now becomes the inner edge of the latter.

Only one slot 33 in the pedestal 14 is necessary but the direction of the brace rod 31 must be reversed to accommodate reversal of the stand 12 and for this purpose the control knob 34 is moved to be received in the pre-formed aperture 38 therefor in the face of the pedestal 14, the channel bar 28 at the other end of the board 22 having a perforation as at 48 for the pin 32 of the brace rod.

Since reversal of the drafting board stand as just described makes necessary a knee hole in the opposite face of the desk, the modesty panel 39 that shields the kneehole is removable, being held in position by dowels 40, so as to be insertable at either face of the desk as desired, perforations 41 accommodating the dowels 40. Similarly, the large flat drawer 42 (Fig. 1) may be swung around to the other side of the desk into an opening 43 therefor on the opposite face of the desk, the opening 43 when not in use for the drawer being closed by a plug 44 preferably of the same finish as the desk so as to be relatively inconspicuous.

The entire desk base portion 45 below the parting line 45a may be swung around with respect to the remainder of the desk for purposes or reversal of the drawers 46 and 47 to accommodate the reversal of the stand.

The units of the group may be carried on suitable feet 49 as clearly shown in the drawings.

So constructed and arranged, an angle drafting group of marked serviceability and versatility is provided, together with accommodation to variations in floor layouts contributing to economy and enhanced utility of space and drafting equipment.

The invention is not intended to be limited to details of construction shown for purposes of exemplification. Furthermore, it may not be essential that all features of the invention be used conjointly since various combinations or sub-combinations may at times be advantageously employed.

The invention having been described, what is here claimed is:

1. In angle drafting group embodying a desk, a pedestal spaced from the desk, and a table extending from the pedestal in cantilever fashion at right angles to the desk, that improvement providing a connection between the table, at its end remote from the pedestal, and the desk, comprising, a metal flexure plate extending horizontally along said table end and having its upper margin projecting above the table on the outer face of the desk, horizontally spaced apart fastening elements rigidly attaching said upper margin to the desk and the lower margin of the plate to the table, respectively, said plate being preperforated in register for reception of said fastening elements and said elements at their ends contiguous to said plate being received flush therewith, the plate being countersunk therefor, the plate being in face contact with both the desk and the table, whereby the table and desk are rigidly connected against relative movement in a horizontal plane but have limited resilient relative flexibility in a vertical plane to provide a safeguard warning against breaking said connection by lifting the table independently of the desk, and the desk projects above the table.

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