

Sept. 20, 1971

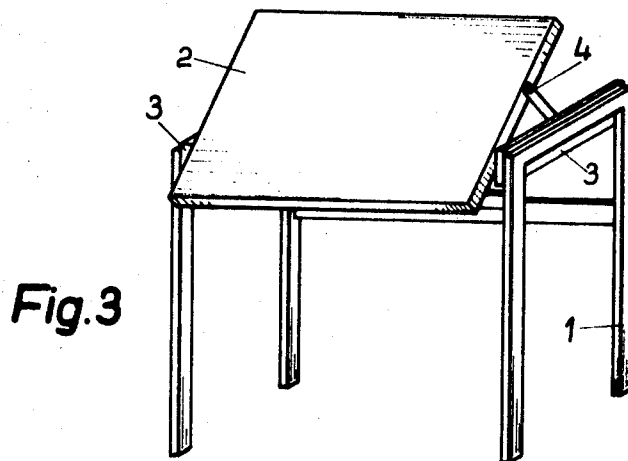
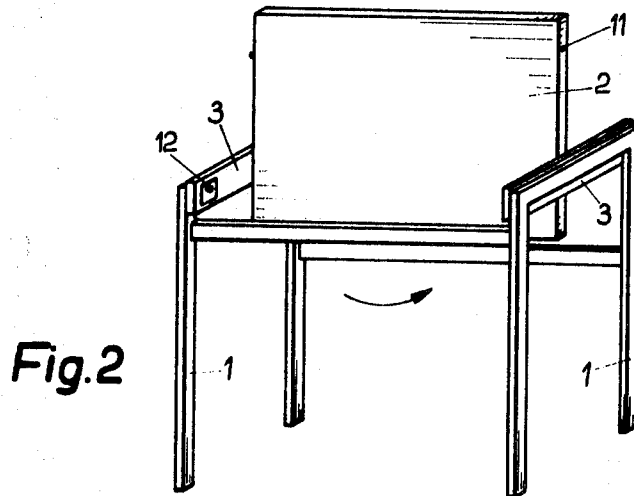
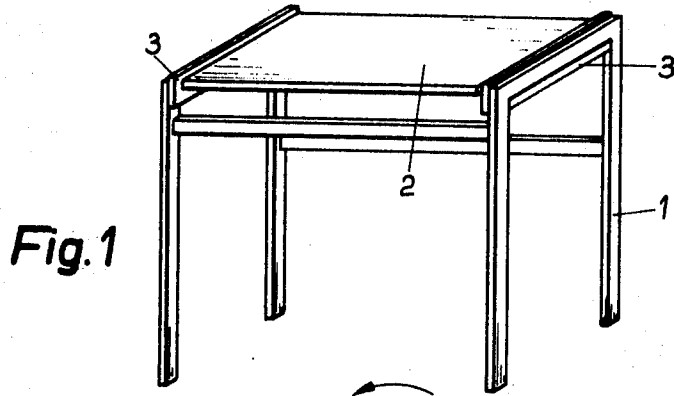
W. HEBEL ET AL

3,605,650

DRAFTING TABLE

Filed Feb. 19, 1969

2 Sheets-Sheet 1



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DRAFTING TABLE

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2 Sheets-Sheet 2

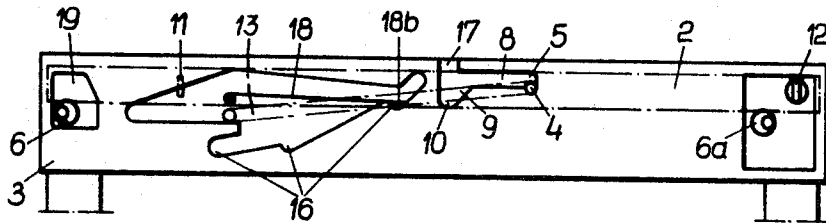


Fig. 4

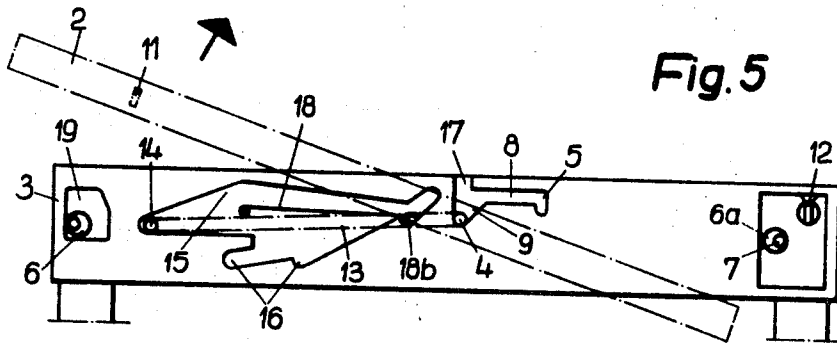


Fig. 5

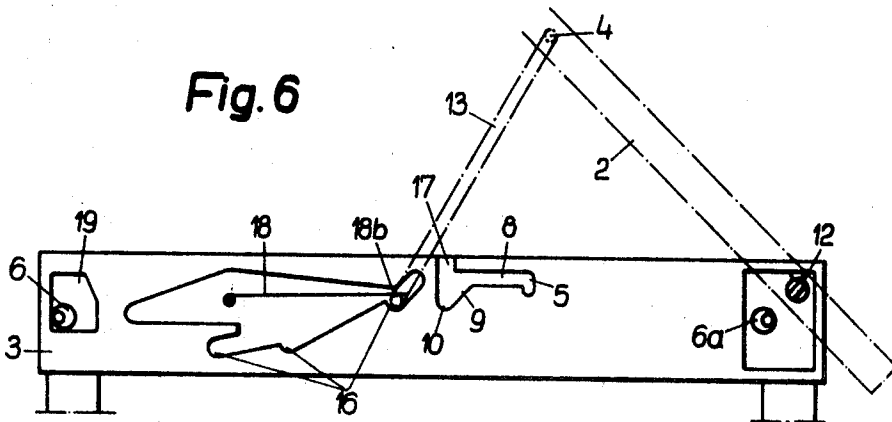


Fig. 6

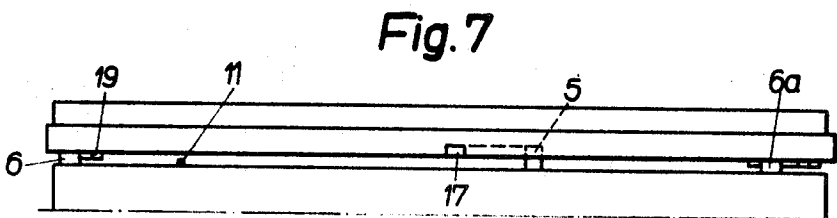


Fig. 7

1

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DRAFTING TABLE

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5242 Kirchen (Sieg), Germany
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Int. Cl. A47f 5/12

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9 Claims

ABSTRACT OF THE DISCLOSURE

This invention has to do with a drafting table and, more particularly, to such a table having a top that may be used horizontally and which can be readily changed to an inclined position.

BACKGROUND OF THE INVENTION

Tables which can be used alternatively as horizontal desks and as inclined drafting tables are well known, as shown by German Gebrachmuster Pats. Nos. 1,809,265 and 1,818,200. It has also been suggested that the angle of inclination of the table top be made adjustable; this sort of construction is shown in German Pats. Nos. 487,555 and 890,707. Furthermore, as demonstrated in the German Pat. No. 890,707, it is old to arrange the table top in such a way that its front edge extends forwardly of the edge of the supporting frame. None of these constructions permits the table top to be reversed during the change from horizontal to inclined position, so that the opposite sides of the table top can be used for different purposes. These and other difficulties experienced with the prior art devices have been obtained in a novel manner by the present invention.

It is, therefore, an outstanding object of the invention to provide a drafting table incorporating a function as a horizontal desk easily converted to function as an inclined drafting table with the forward edge of the table top extending forwardly of a supporting frame.

Another object of this invention is the provision of a table having a top which can be used on one side as a horizontal desk and on the other side after turning over as an inclined drafting surface.

A further object of the present invention is the provision of a table which has a reversible top which in an inclined drafting condition has the drafting surface extending outwardly of the table frame, so that the draftsman's knees extend under the top and so that the upper portion of the drafting surface is easily accessible to the draftsman when he is in a sitting position.

It is another object of the instant invention to provide a drafting table which is not only convertible to a desk, but has a pleasing appearance, so that it can be used in the home without clashing with conventional furniture.

A still further object of the invention is the provision of a drafting table which is useful in schools, because they do not have to be taken away to regain the space and because a drafting board does not need to be stored.

It is a further object of the invention to provide a table which can be used alternatively as a desk and as an inclined drafting surface without the necessity of removing a drawing which is in process from the drafting surface when the table is converted to use as a desk.

It is a still further object of the present invention to provide a combination desk and drawing board, wherein the turning of the table top and the adjustment for the angular position may be achieved with rapid, simple movements and, yet, the table top is securely locked in the selected position.

2

With these and other objects in view, as will be apparent to those skilled in the art, the invention resides in the combination of parts set forth in the specification and covered by the claims appended hereto.

SUMMARY OF THE INVENTION

In general, the invention has to do with a drafting table having a table top which is mounted in a frame for rotation about an axis outside of the top area but parallel to and close to it.

Close to the table edge, are positioned support pieces which in turning the table top 180° about the said axis engage with support sleeves, mounted on the frame for determining the turning axis. The table top is tiltable around this axis and at the same time moves out of the frame with the turn axis. Furthermore, on the table top are mounted tilt supports which engage arrestor guides on the frame. The table top, in the horizontal position, rests close to the edges on support members associated with the frame. The table top may be displaced parallel in its horizontal position and may be engaged or disengaged from the support members. In this way, the table top is fixed to the frame without play on one hand in horizontal writing or working position and, on the other hand, an easy change is possible to the inclined drafting position.

Another characteristic of this invention for this desk and drafting table is to be seen in that the sliding guide of the table top is formed with a pivot shaft which engages into slide guides on the frame. The slide guides are equipped on one end with an arrestor for securing the table top in base position and also is equipped with supports, which are open to the top, for turning. Furthermore, it is of advantage that the support members on the frame be designed as pins capable of adjustment eccentrically. In this way, it is possible to achieve stable and sturdy support for the table top on the support members even when the table top has the usual unpreventable slight warping. Sloped surfaces directed upwardly are arranged on the rear end of the frame and are associated with the support pieces on the table top. The effect of these sloped surfaces is that, by tilting the table top into its horizontal base position, the support pieces meet rear stop lugs and, by doing so, the turning shaft is lifted above the slope lugs into the slide guides of the frame. For locking the table top in its base position, it is only necessary to move it horizontally until its turning shaft engages the arrestor.

The support pieces arranged on the table top may be designed as flattened pins to form the tilting axis; these pins are equipped with lugs having coupling grooves and are rotatably supported on the frame. A guide bar is associated with the arresting guides on the frame above the arresting notches. This guide bar is swingably supported on one end and covers the arrestor notches. Its free end extends up to the front end of the arrestor guides. This arrangement makes it possible to lock the table top over the tilt supports after turning it 180° from its base position to several inclined positions. It also makes it possible (after exceeding the steepest position) to guide the tilt support in such a way, that the table top slides back into its base position after the turn of 180°.

BRIEF DESCRIPTION OF THE DRAWINGS

The character of the invention, however, may be best understood by reference to one of its structural forms, as illustrated by the accompanying drawings, in which:

FIG. 1 is a perspective view of a drafting table having its table top in the horizontal position,

FIG. 2 is a perspective view of the table showing the table top as it is being turned.

3

FIG. 3 is a perspective view of the table with the table top in an inclined position for drafting and showing the lower edge of the table top extending beyond the frame.

FIGS. 4 to 6 are enlarged views of the right-hand side of the frame with different positions of the table top, and

FIG. 7 is a plan view of a partial elevation of the left-hand side of the table.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The drafting table constructed in accordance with the invention consists of two main parts, the table frame 1 and the table top 2. On the left and right side of the table top 2 are arranged side plates 3 fastened to the frame. Out of the center of the table top 2 extend pivot pins 4, defining a tilt axis. These pins rest in safety arrestors 5 formed in the side plates 3 when the table top is in the horizontal position. The table top 2 rests with each of its four corners on a support member 6 or 6a when in horizontal base position. These support members are anchored on the side plates 3 and are eccentrically adjustable by means of screws 7. They can be individually adjusted in such a way that they are pressed securely against the underside of the table top 2. In the horizontal position of the table top horizontal slide guides 8 extend into the safety arrestors 5. The slide guides 8 also extend to downwardly sloped surfaces 9 which, in turn, lead into turning spots 10 on side plates 3.

As shown in FIGS. 1 and 4, which show the basic horizontal position, the upper side of the table top 2 can be used as writing and working surface. Should it be desired that the table top 2 be used as a drafting board, then the table top with the pivot pins 4 forming the turning shafts, will be lifted out of the safety arrestors 5 and displaced parallel to itself. The pins slide within the sliding guides 8 until they reach the sloped surfaces 9 and move down into the turning spots 10. In this way, the table top 2 loses its support on the forward support member 6a of the frame. The table top 2 now may be pivoted 180° as shown by the direction of the arrow in FIG. 5. It can be seen that the support pieces 11 have the form of flattened pivots, are positioned parallel to the pivots 4, and are intended for engagement with support sleeves 12 positioned in the frame 1. The support sleeves 12 are designed with a slot to receive the support pieces 11 and are turnable within a sleeve in the frame.

At the end of the tilting of the table top 2, the support pieces 11 move into the coupling groove of the support sleeves 12 and then act as an axis between table top 2 and frame 1. This axis is positioned close to the front edge of the frame. The table top 2 may now be put into an inclined position about this axis. The entrance opening into support sleeves 12 will be closed automatically and the pivots 4 of the table top, which form the axis of rotation, are released for vertical movement through an opening 17 leading from the turn spots 10. For locking the table top 2 in the different inclined positions there is hanging at least on one of the pivots 4, a brace 13, and this brace with a pivot pin 14 engages with an arresting guide 15 located on the side plates 3 of the table. On the bottom of the arresting guides 15 are provided arresting notches 16 and the pivot pin may slide from one notch 16 to the other notch 16 during the adjustment of inclination of the table top 2 to lock it in the desired inclination. A guide bar 18 is swingably supported with its rear end within the arresting guide 15 and extends in this position over all the notches 16. This guide bar 18 is provided so that the brace 13 may slide back over the arresting notches within the arresting guide 15 without any interference when the table top 2 is to be brought from its inclined position back into the horizontal position. For this purpose, the free end 18b of guide bar 18 extends only into the area of the front arrestor notch 16, and the arrestor guide 15 extends over this arrestor notch 16 to a front upwardly-inclined slope. If the table top 2 is tilted

4

further to the front after reaching the highest locking position, the pivot 14 of the brace 13 moves out under the free end 18b of guide bar 18 and meets the upper side of the guide groove. Thereafter, the brace 13 with its pivot 14 may move back without obstruction into its starting position along the upper side of the bar 18. The table top then takes this horizontal position in which the support piece may still engage the sleeve 12 but the pivot pin 4 is again engaged with the arrestor 10. The table top 2 may then be turned 180° around the main axis and the support piece 11 is automatically disengaged from the sleeve 12. The rear portions of the frame sides are provided with sloped pieces 19. By the tilting of the table top 180° into its horizontal position, the support pieces 11 are pushed toward the front of the table by the sloped pieces 19 and by the unbalanced weight of the rear part of the table top. The pivot pins 4 are lifted automatically out of the turn spots 10 and slide over the sloped areas 9. They may then slide into the horizontal guide grooves 8 of the frame 1. Thereafter, only a slight pull on table top 2 toward the front is necessary to cause the pivot pins 4 to engage the safety arrestors 5 so that the table top is locked in its basic position.

It is obvious that minor changes may be made in the form and construction of the invention without departing from the material spirit thereof. It is not, however, desired to confine the invention to the exact form herein shown and described, but it is desired to include all such as properly come within the scope claimed.

The invention having been thus described, what is claimed as new and desired to secure by Letters Patent is:

1. A drafting table with a frame having a table top tiltable about a horizontal axis, characterized by the fact that pivot pins protrude from the sides of the table top but close to the center thereof and engage the frame on occasion and support pieces are arranged along an axis parallel to the pivot pins and are mounted on the table top itself so that, by turning the table top 180° they engage support sleeves mounted on the frame and form a secondary axis in such a way that the table top is tiltable upwards around the secondary axis and at the same time the pivot pins are disengaged from the frame.

2. A drafting table as recited in claim 1, wherein braces are connected to the table top adjacent the pivot pins and are in engagement with arrestor guides mounted on the frame.

3. A drafting table as recited in claim 2, wherein the horizontally-positioned table top with the support pieces disengaged from said support sleeves 12 rests at its corners on support members associated with the frame and by parallel movement in the plane of the table may be engaged or disengaged with these supports.

4. A drafting table as recited in claim 3, wherein a sliding engagement of table top 2 with the frame is formed when the pivot pins engage slide grooves in the frame equipped on one end with a safety arrestor notch for locking the table top in a horizontal position and equipped at the other end with turn spots which are open at the top, allowing the pivot pins to be disengaged from said slide grooves.

5. A drafting table as recited in claim 3, wherein the support members are designed as eccentrically-adjustable pins supported on the frame.

6. A drafting table as recited in claim 4, wherein the turn spots are connected to the slide grooves by downwardly-directed sloping surfaces.

7. A drafting table as recited in claim 1, wherein the rear of the frame is provided with sloped stops which are engaged on occasion by the support pieces of the table top.

8. A drafting table as recited in claim 1, wherein the support pieces of the table top 2 are as flattened pins and the support sleeves are insert pieces with a coupling groove supported in the frame for turning.

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5

9. A drafting table as recited in claim 1, wherein the frame is provided with the arrestor guides having notches above which is arranged a guide bar swingably supported at one end and with its other end extending into the area of a front locking notch, the arrestor guide extending over the arrestor notch.

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6

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U.S. Cl. X.R.

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