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3,495,552

LEG AND STRUT STRUCTURE DRAFTING BOARD APPARATUS

Filed April 1, 1968

2 Sheets-Sheet 1

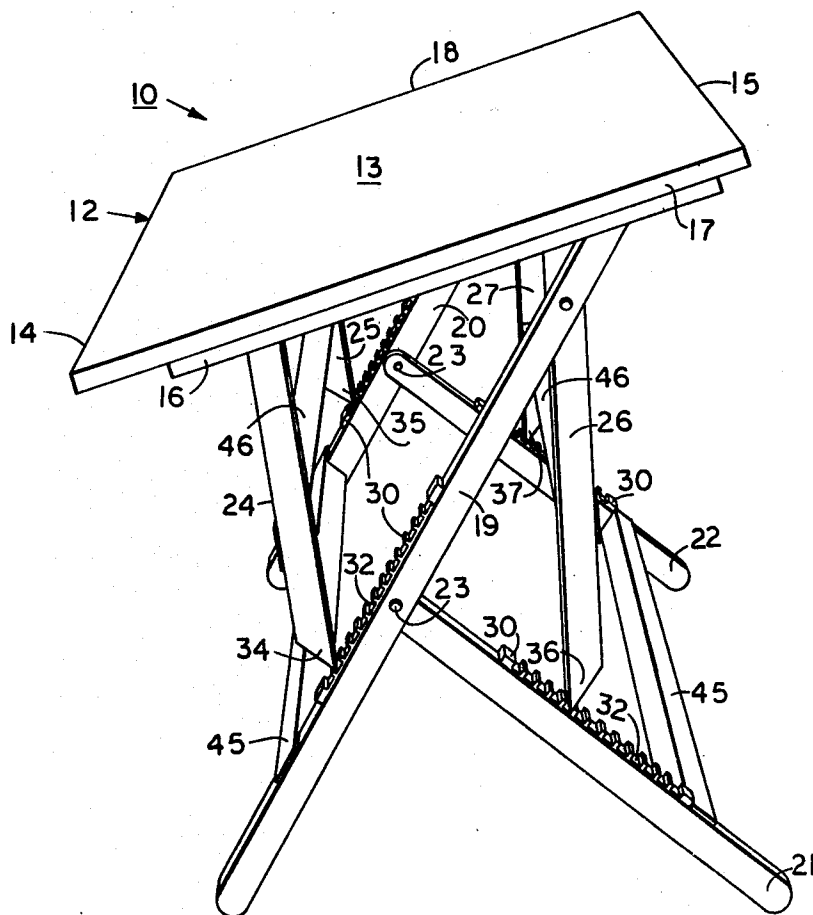


FIG. 1

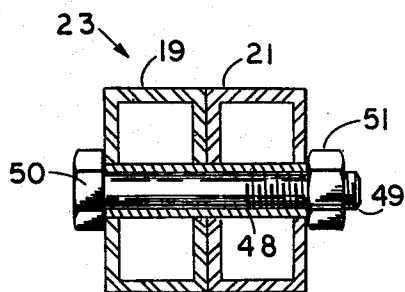


FIG. 2

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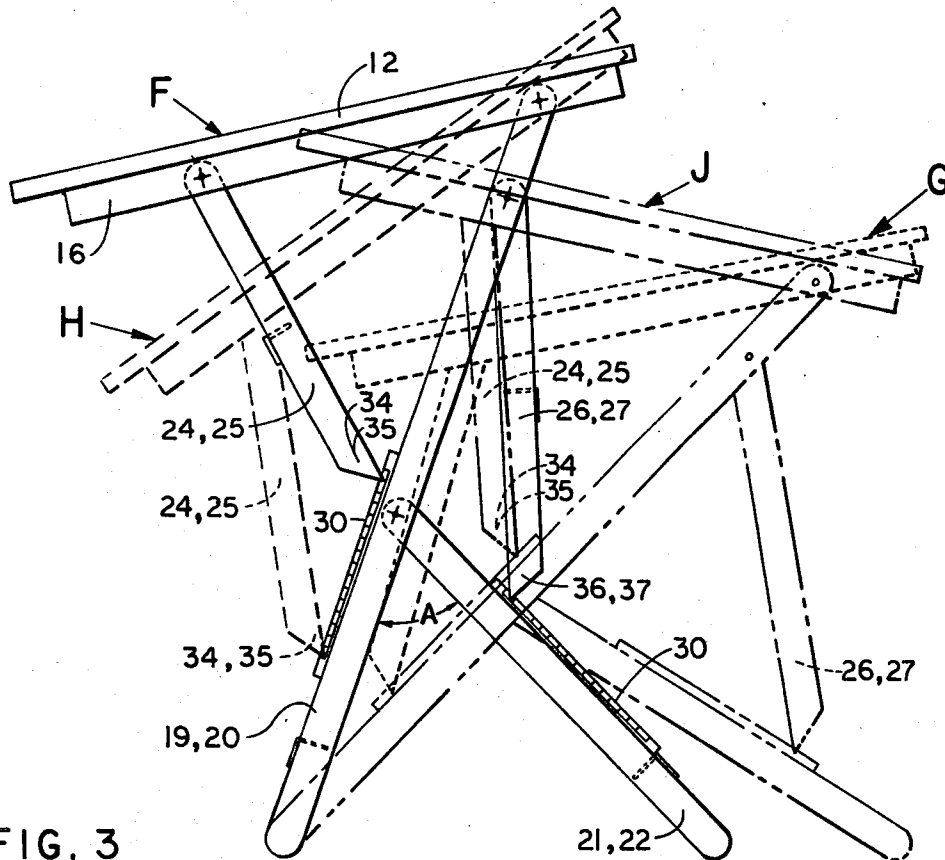


FIG. 3

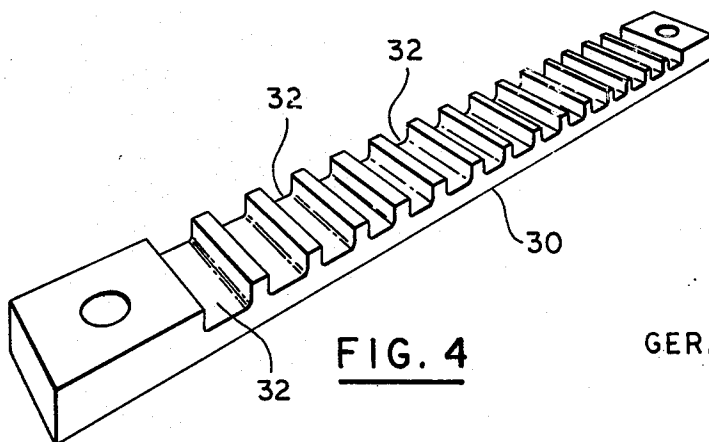


FIG. 4

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LEG AND STRUT STRUCTURE FOR DRAFTING BOARD APPARATUS

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1 Claim

ABSTRACT OF THE DISCLOSURE

A drawing board apparatus comprising a table for drawing purposes mounted on sturdy leg structures by which height and angular disposition of the table is adjustable to either side of a vertical plane passing generally through the center of the apparatus and extending towards the lateral sides or transversely of the apparatus. Such leg structures include two pairs of pivotable legs about the table. Two pairs of struts cooperatively engage such legs by having their free ends engaging any one of a multiple number of notches mounted on such legs, whereby the table is adjustable in tilt and in height to either side of such plane.

BACKGROUND OF THE INVENTION

Field of the invention

The field of art to which the invention is most likely to pertain is generally located in the class of apparatus relating to drafting board structures. Class 33, Geometrical Instruments, and Class 312, Supports, Cabinet Structures, U.S. Patent Office Classifications, appear to be the applicable general areas of art in which the claimed subject matter of the type involved here may be classified.

Description of the prior art

Drafting board apparatuses, the art to which this invention most likely pertains, are disclosed in the following U.S. patents: Nos. 808,534; 987,113 and 2,005,481.

SUMMARY

This invention relates generally to drafting board structures, and in particular to leg and strut structures adjusting the height and tilt of the table top on which drafting skills are performed.

An object of this invention is to provide for a novel drafting board apparatus.

Another object of this invention is to provide for adjustable height and tilting features for a drafting board apparatus by which work may be advantageously performed on its table top from either end edge of the apparatus.

A further object of this invention is to provide for facile and quick manipulation of adjustable leg and strut structures incorporated in the drafting board apparatus when it is desired to change the tilt and/or height of its table top.

Another object of this invention is to provide for a simplified construction of a drafting board apparatus, one which is sturdy in use, and economical to manufacture.

These and other objects and advantages will become more apparent to those skilled in the art to which this invention pertains, upon a complete and full reading of the following description, appended claim thereto, and the accompanying drawing comprising two sheets.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a drafting board apparatus embodying my invention.

FIG. 2 is a sectional view of a pivotal connection ad-

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vantageously utilized for the leg structures in my inventive device.

FIG. 3 is a side elevational view of my apparatus, in both full and phantom lines, disclosing various positions in use thereof obtained by my novel combination of leg and strut structures.

FIG. 4 is a perspective view of a member including notches cooperable with struts and mounted upon the leg structures of the apparatus.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing in which reference characters therein correspond to the numerals set forth hereinafter, reference character 10 designates my drafting board apparatus. Apparatus 10 comprises a board 12 of suitable thickness and having an areal table 13 on which drafting skills may be performed by a draftsman from either end 14, 15 of board 12. A pair of elongated flanged members, one of which is shown at 16 in FIGS. 1 and 3, is suitably securely attached to the underside of board 12 adjacent its lateral sides 17, 18. Each of a pair of primary leg members 19, 20 is suitably pivotally connected adjacent end 15 to such flanged members 16, respectively, and each of a pair of secondary leg members 21, 22 is pivotally connected, as at 23, generally midway or intermediate the lengths of primary leg members 19, 20 respectively, whereby board 12 may be supported above a ground surface. Each of a first pair of struts 24, 25 is suitably pivotally connected adjacent end 14 to flanged members 16, and each cooperatively engages its corresponding primary leg member 19, 20, respectively, as will be more fully described hereinafter. Each of a second pair of struts 26, 27 is suitably pivotally connected to its corresponding primary leg member 19, 20 respectively, each adjacent its corresponding flanged member 16. Each strut 26, 27 generally extends downwardly for cooperative engagement with its corresponding secondary leg member 21, 22, as will be more fully described hereinafter.

Each of a plurality of elongated notched runners 30 (FIG. 4) is securely mounted by suitable means such as screws (not shown) on each of primary and secondary leg members 19, 20, 21, 22 in a manner whereby each of a plurality of notches 32 incorporated in each runner 30 opens upwardly towards board 12. Each runner 30 is disposed upon its respective leg member 19, 20, 21, 22 in such fashion that each of the free ends 34, 35, 36, 37 of struts 24, 25, 26, 27, respectively, cooperatively engages any one of notches 32 in its corresponding runner 30. For example, as shown in FIG. 1, end 34 of strut 24 engages a notch 32 on runner 30 securely mounted to primary leg member 19.

As shown in FIG. 1, each of a set of laterally disposed bars 45 rigidly secures together each pair of leg members 19, 20 and 21, 22, respectively. Each of a set of similarly disposed bars 46 is provided for connecting together each pair of struts 24, 25 and 26, 27, respectively, whereby adjustment of either strut in one of such pairs, by engaging its free end into a notch 32 of runner 30, assures adjustment of the other strut in such one of such pairs in a corresponding notch 32. Thus, rigidity and sturdiness and proper adjustment of movable elements are achieved in the assembly of apparatus 10.

FIG. 2 illustrates a preferred pivotal connection 23 between each set of connecting primary and secondary leg members. A cross-section of leg members 19, 21 is illustrated. Each of such leg members is preferably rectangular in cross-section and is made of aluminum stock extruded into such rectangular configuration by a conventional method not pertinent to this disclosure. An aluminum sleeve 48 extends co-extensively with the joined widths of

leg members 19, 21 through apertures provided in such leg members. A bolt 49 having a head 50 is inserted therethrough, and a nut 51 is screwthreaded upon bolt 49. Head 50 and nut 51 are of a diameter greater than that of such apertures. Tightening of nut 51 directly against the end of sleeve 48 prevents buckling of the lengths or sides of each leg member 21, 23 while the length of the sleeve 48 provides for pivotal action of such leg members as required in the adjustment of apparatus 10.

FIG. 3 discloses the various heights and tilting advantages obtained by the combination of the leg members and struts of apparatus 10. As shown in full lines, designated as position F, greater height for board 12 is attained by decreasing angle A between the associated pairs of leg members 19, 21 and 20, 22 and engaging ends 34, 35 of struts 24, 25 and 36, 37 of struts 26, 27 in corresponding and cooperating notches 32 at the upper extremes of runners 30 secured to leg members 19, 20 and 21, 22, respectively.

The same tilt for board 12, but at a lower elevation, is shown in phantom lines designating position G for apparatus 10, and same is accomplished by increasing angle A and manipulating or pivoting the pair of strut 26, 27 into a position whereby free ends 36, 37 thereof cooperatively engage corresponding notches 32 at the lower extremities of members 30 mounted on secondary leg members 21, 22.

A greater tilt for board 12, in the same direction, is shown in phantom lines designating position H for apparatus 10, and same is accomplished by manipulating or pivoting the pair of struts 24, 25 into a position whereby their free ends 34, 35 cooperatively engage notches 32 at the lower extremities of members 30 mounted on primary leg members 19, 20.

Should tilting of board 12 be desired in an opposite direction from that shown in positions F, G or H, whereby the angular disposition of table 12 is adjusted to the other side of a vertical plane passing generally through the center of apparatus 10 and towards sides 17, 18, a position J, designated in phantom lines, is obtainable by opening angle A, and engaging free ends 34, 35 of struts 24, 25 in notches 32 at the upper extremity of runners 30 securely mounted on primary leg members 19, 20. Free ends 36, 37 of struts 26, 27 engage notches 32 in the lower extremities of members 30 mounted on secondary leg members 21, 22, in position J.

It should now be apparent that any one of numerable combinations of height and tilt of board 12 is attainable by cooperative relationship of free ends 34, 35 and 36, 37 with their corresponding notches 32 on runners 30 mounted on their corresponding pairs of primary and secondary leg members 19, 20 and 21, 22. Lateral bar set 45 provides for accurate engagement of such free ends in their respective appropriate notches on the aforesaid runners, while lateral bar set 46 provides for simultaneous movement of both struts in their respective pair, and for ease of tilting and adjusting manipulation of table 12.

Other than board 12, which may be made of any suitable material on which drafting may take place, all elements of apparatus 10 are preferably constructed from aluminum

stock. A sturdy, firm and lightweight drafting board is attained, one which is easily maneuverable about and readily adjustable for ease in utilization.

The assembly of such elements is apparent from the foregoing description, and it is believed that no further description thereof is needed.

Pursuant to the requirements of the patent statutes, the principle of this invention has been explained and exemplified in a manner so that it can be readily practiced by those skilled in the art to which it pertains, such exemplification including what is presently considered to represent the best embodiment of the invention. However, it should be clearly understood that the above description and illustrations are not intended to unduly limit the scope of the appended claim, but that therefrom the invention may be practiced otherwise than as specifically described and exemplified herein, by those skilled in the art, and having the benefit of this disclosure.

Therefore, what I claim as patentably novel is:

1. In a drafting board apparatus wherein a board for drafting purposes is titltable in either direction about a vertical plane passing generally through the center of the apparatus and towards its lateral side edges, said apparatus including a pair of supporting primary leg members about which the board is pivotable at their upper extremities, a pair of secondary leg members each pivoted generally intermediate between one of said primary leg members, a first pair of struts each pivotally connected to the board and having a free end engaging an associated primary leg member,

the combination with said primary and secondary leg members of a second pair of struts each of which is pivotally connected to an associated primary leg member near its upper extremity and each having a free end engaging its corresponding associated secondary leg member, whereby the plane of said board may be suitably tilted to any one of a number of positions in either direction of said vertical plane, means for engaging the free end of each of said second pair of struts mounted on each of said secondary leg members, said engaging means comprising a plurality of notches each cooperatively engaging the corresponding associated free end of one of said second pair of struts.

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