

July 2, 1935.

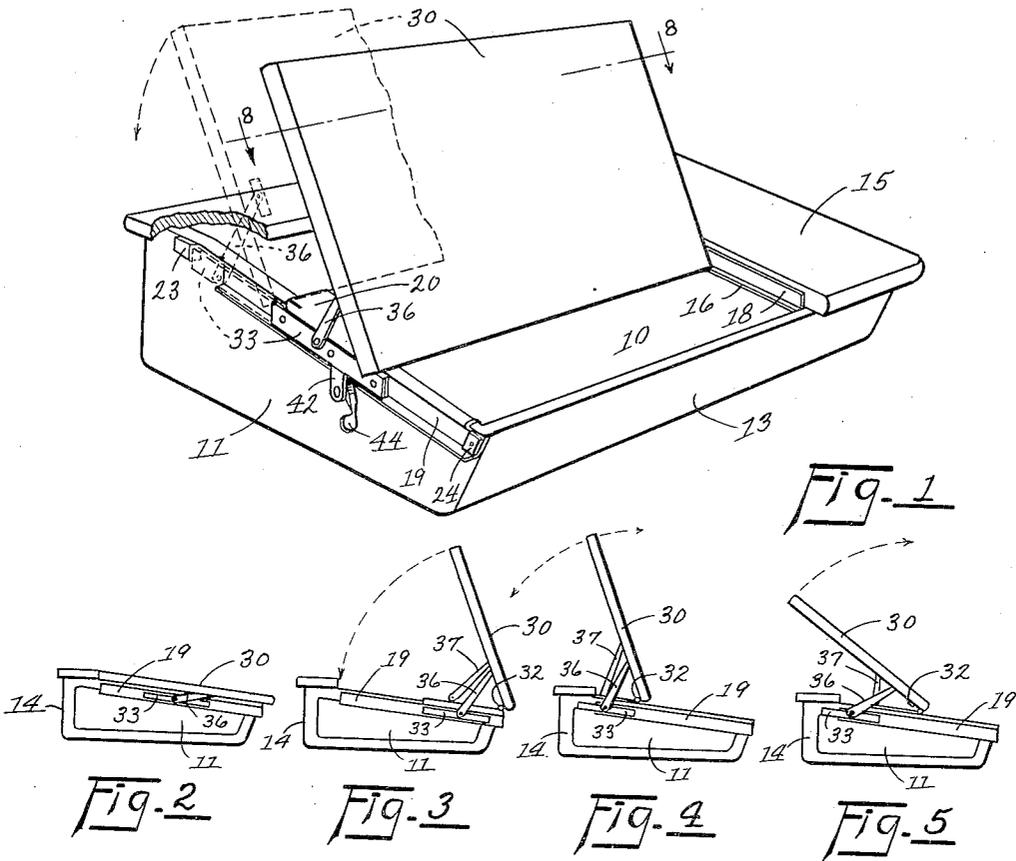
H. P. NORDMARK ET AL

2,006,603

DESK

Filed Aug. 20, 1934

4 Sheets-Sheet 1



Witness:
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DESK

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4 Sheets-Sheet 3

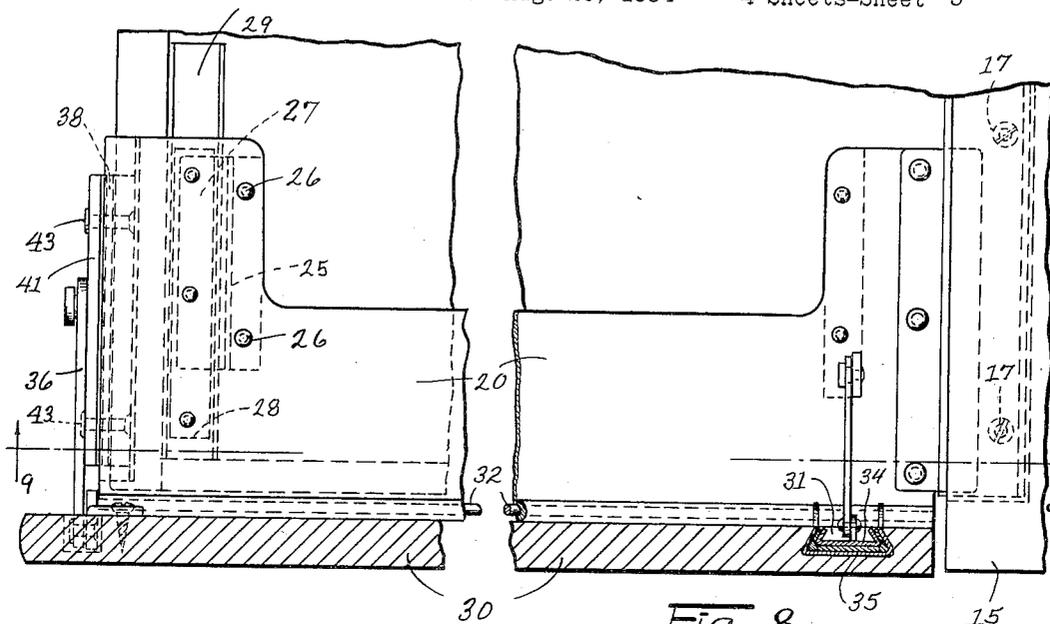


Fig-8

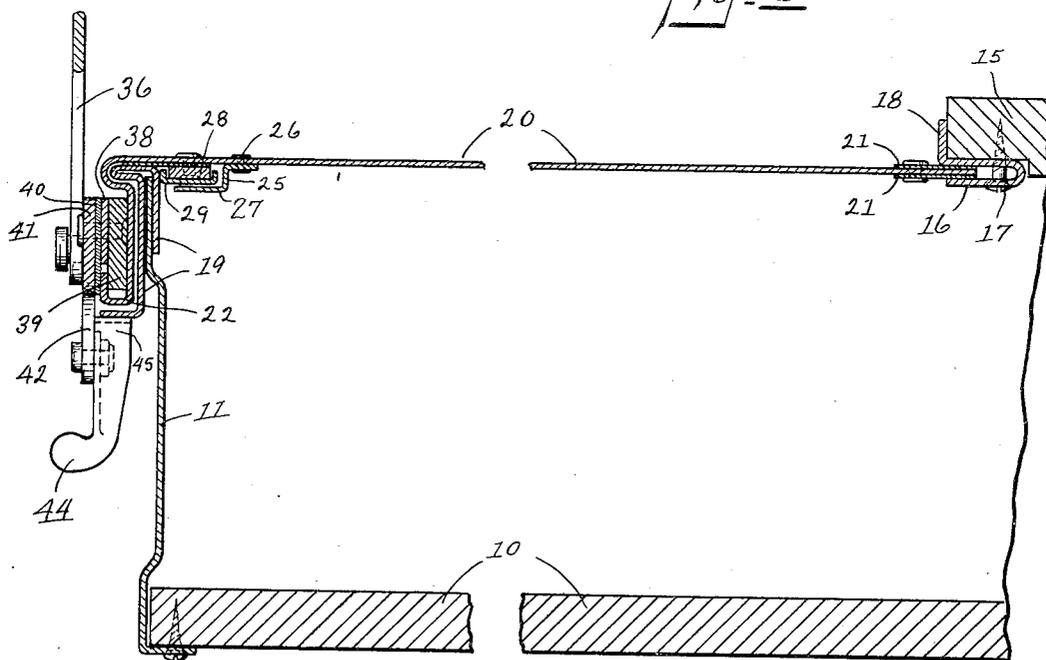


Fig-9

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4 Sheets-Sheet 4

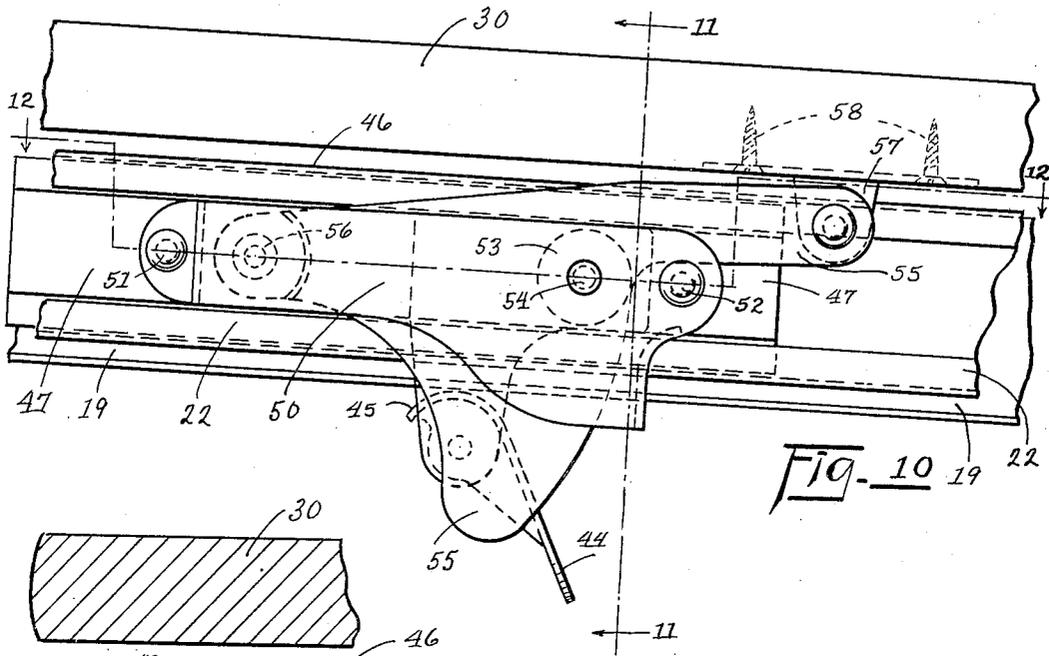


Fig. 10

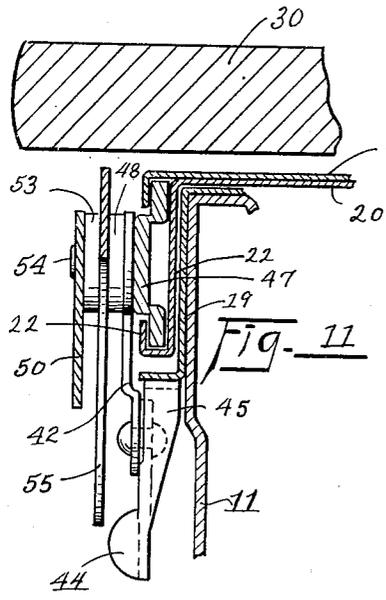


Fig. 11

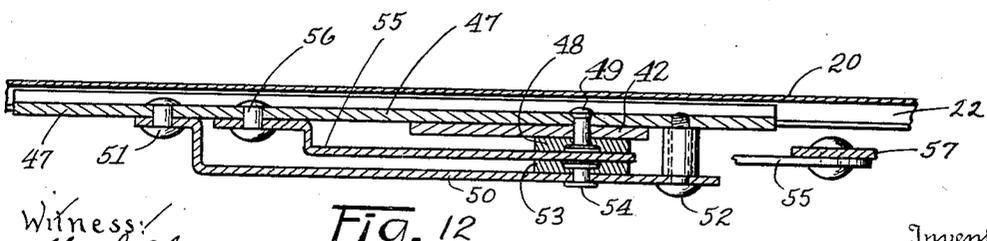


Fig. 12

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UNITED STATES PATENT OFFICE

2,006,603

DESK

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Application August 20, 1934, Serial No. 740,642

20 Claims. (Cl. 45—70)

The present invention relates to desks and more particularly to desks provided with a top having a portion thereof which is both forwardly and rearwardly slidable as well as upwardly and downwardly tiltable to form an adjustable angular support or easel for books, papers and the like.

The instant invention is a structure of the general character shown in United States Letters Patent No. 1,351,906, issued March 29, 1932, to Olive G. Henderson and under which our assignee is exclusive licensee. The instant invention is likewise in the nature of a modification of the structure shown in the co-pending application, Serial Number 738,463, filed August 4, 1934 by Henry P. Nordmark.

The primary objects of the instant invention are to provide a structure of the character above indicated which is particularly well adapted for use in the school room; to provide such a structure whose use by the school pupil is designed to minimize eye strain; to provide such a structure having unitary means for simultaneously locking both the slidable and tiltable portion of the desk top in adjusted position; and, to provide such a structure which is not only amply adjustable through less space than the adjustability of the structure of the above identified patent, but which is more economical in manufacture than is the structure of the patent above identified.

An illustrative embodiment of the invention is shown in the accompanying drawings, wherein:

Figure 1 is a perspective view of the structure, partly broken away, showing in full lines the desk top in one of its adjusted slid and elevated positions and in dotted lines the desk top in another of its adjusted slid and elevated positions;

Figure 2 is a reduced end elevational view showing the desk top when the same is folded downwardly and adaptable for use as a school desk;

Figure 3 is another reduced end elevational view showing the desk top in one of its elevated or angularly adjusted positions;

Figure 4 is another reduced end elevational view showing the desk top in one of its adjusted slid and angularly elevated positions;

Figure 5 is likewise a reduced end elevational view showing the desk top in still another slid and angularly adjusted position;

Figure 6 is an enlarged fragmentary end elevational view showing in full lines a portion of the desk top in one adjusted elevated position and in dotted lines the desk top when in down-

wardly folded position adaptable for use as a desk;

Figure 7 is an enlarged fragmentary perspective view of the desk with its top in adjusted elevated position;

Figure 8 is an enlarged fragmentary sectional view on lines 8—8 of Figure 1;

Figure 9 is a sectional view on lines 9—9 of Figure 8;

Figure 10 is a modified construction showing means for frictionally adjusting the tilting movement of the desk top;

Figure 11 is a sectional view thereof on line 11—11 of Figure 10; and

Figure 12 is a sectional view on line 12—12 of Figure 10.

Referring now to the drawings in which like parts of the structure shown are designated by the same numerals in the several views, a school desk having a wooden bottom 10, upstanding formed sheet metal end walls 11, 12, a formed metal front wall 13, and a metallic rear wall 14 is provided with a desk top portion 15 of wood mounted adjacent the upper edge of the end wall 12 and extending laterally toward the end wall 11.

A guideway, preferably of stamped sheet metal and here shown as comprising a U-shaped portion 16, is secured below the stationary desk top portion 15 adjacent its free end as by screws 17 and an upwardly extending flange portion 18 contacts the stationary desk top portion adjacent its free end, as best shown in Figures 7 and 9. A second guideway 19, likewise preferably of stamped sheet metal, is here shown as secured to and depending from the upper edge of the upstanding end wall 11 on the outside thereof, as best shown in Figures 7 and 9.

A supported platform 20 likewise preferably formed of stamped sheet metal is provided at one end with a pair of oppositely disposed strips of rawhide 21 or the like, and its other end is bent downwardly, then inwardly and again downwardly, outwardly and upwardly to form a trackway 22, all as best shown in Figure 9. This supported platform is slidably mounted within the guideways 16, 19 and its sliding movement is limited between the forward and rearward ends of the guideways by the stops 23, 24 in the guideway 19.

A third guideway 25 depends from and is secured as by rivets 26 to the underside of the slidably mounted supported platform inside of the end wall 11 and has a portion 27 projecting laterally toward the end wall 11. A plate 28 disposed parallel with respect to the guideway 25 is

likewise secured to the under side of the slidably mounted supported platform as by rivets above the laterally projecting portion 27 and a bearing plate 29, here shown as a channel bar, is slidably mounted interjacent the guideway 25 and the plate 28, as best shown in Figure 9. This channel bar bearing plate is of longer length than the length of guideway 25, and during the sliding movement of the supported platform 20, the channel bar plate likewise slides between the guideway 25, 27 and the plate 28 to prevent distortional sliding movements of the supported platform.

A desk top portion 30 having a slot 31 disposed parallel with all of the guideways is hingedly connected adjacent its forward side to the forward side of the slidably mounted supported platform as by the hinges 32.

A block generally designated 33, hereinafter more particularly described, is slidably mounted within the trackway 22 of the supported platform 20 and a shuttle 34 is slidably mounted within the slot 31. A rawhide strip 35 or the like secured within the slot 31 in any suitable manner forms a bearing surface for the shuttle.

The hinged desk top portion 30 is supported in angularly adjusted position by a pair of supporting struts 36, 37. The supporting strut 36 is hingedly secured at one end to the under side of the desk top portion 30 and at its other end is pivotally secured to the block 33 within the trackway 22 while the strut 37 is pivotally secured at one end to the shuttle 34 within the slot 31 and at its other end is hingedly secured to the upper side of the platform 20, all as best shown in Figure 7.

It will thus be seen that the desk top portion 30 may not only be elevated to adjusted angular position to form a support for books, papers or the like, but may be likewise slid to a forwardly or rearwardly adjusted position as indicated in Figures 2 to 5 inclusive.

The block generally designated 33 and slidably mounted within the trackway 22 of the supported platform 20 (Figures 1-9) and as best shown in Figure 9 comprises the bar 38, preferably of metal, and the strips 39, 40 on opposite sides thereof, preferably of rawhide or the like. An outer bar 41 of metal has a depending portion 42 and these members 38, 39, 40 and 41 are here shown as secured together by rivets 43.

Unitary means for simultaneously maintaining the desk top in both slid and angularly adjusted positions is the lever 44 pivotally secured to the depending portion 42 of the bar 41 whose cammed head 45 is adapted to engage the under side of the guideway 19 when it is swung downwardly as best shown in Figures 6 and 9.

In the modified construction shown in Figures 10 to 12, the supported platform 20 is provided with the additional element 46 which is secured to its upper side as by spot welding and which overhangs the end thereof in spaced relation therewith to form the guideway 22 for slidable block 47 as best shown in Figure 11. A depending arm 42 is secured to the block 47 interjacent the block and the washer 48 of rawhide or the like by the rivet 49 which passes through the block 47, the arm 42 and the washer 48. The lever 44 whose cammed head 45 is adapted to engage the under side of the guideway 19 when swung downwardly is pivotally secured to the depending arm 42 and provides unitary means for simultaneously maintaining the desk top in both slid and angularly adjusted positions.

Means for frictionally adjusting the tilting movement of the desk top comprises the sheet strip 50 which is secured to the block 47 by the rivet 51 and by the adjusting screw 52 and which is provided with the washer 53 of rawhide or the like secured thereto opposite the washer 48 by the rivet 54. A depending web 55 interposed between the washers 48 and 53 is secured to the block 47 by the rivet 56 and is pivotally secured at its opposite end to the depending bracket 57 which is fastened to the under side of the desk top as by the screws 58. Thus it will be seen that the tilting movement of the desk top may be frictionally adjusted by the adjusting screw 52 which controls the pressure of the washers 48, 53 on the opposite sides of the web 55.

It will likewise be seen that the supported platform 20 is limited in its rearward and forward movement by the stops 23 and 24 respectively and although the desk top 30 may extend in angularly adjusted position beyond the rear side of the desk in instances where the supported platform has been slid rearwardly as far as it will go as shown for example in Figure 5, depressing of the angularly disposed top will automatically cause the supported platform to move forwardly as soon as the slidable blocks 33 or 47 engage the stop 23. Thus the desk top 30 which is hingedly and pivotally secured to the slidably supported platform and to the blocks 33 or 47 will likewise be moved rearwardly as the top is depressed and the pupil seated forwardly of the rear side of the desk will not be struck as the desk top is depressed in instances of careless manipulation in lowering it. The cammed head 44 of the lever 45 which engages the under side of the guideway 19 will likewise be thrown out of engagement therewith when the top is depressed and its mechanism uninjured through failure to turn it before depressing the top.

While but several embodiments of this invention have been herein shown and described, it will be understood that numerous details of the constructions shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

We claim:

1. In a structure of the class described, oppositely disposed supporting members each provided with a guideway, a supported platform slidably mounted within the guideways and having a trackway, a desk top having a slot disposed parallel with the guideways and hingedly connected to the slidably mounted supported platform, a block slidable within the trackway and a shuttle slidable within the slot, and a pair of struts for supporting the desk top in adjusted angular position, one of said struts being hingedly secured at one end to the slidably mounted supported platform and pivotally secured at its other end to the shuttle and the other strut being pivotally secured at one end to the block and hingedly secured at its other end to the desk top.
2. In a structure of the class described, oppositely disposed supporting members each provided with a guideway, a supported platform slidably mounted within the guideways and having a trackway, means for limiting the sliding movement of the slidably mounted supported platform between the forward and rearward ends of the guideways, a desk top having a slot disposed parallel with the guideways and hingedly connected to the slidably mounted supported platform, a block slidable within the trackway and a shuttle slidable within the slot,

trackway, a desk top having a slot disposed parallel with the guideways and hingedly connected to the slidably mounted supported platform, a block slidable within the trackway and a shuttle slidable within the slot, a pair of struts for supporting the desk top in adjusted angular position, one of said struts being hingedly secured at one end to the slidably mounted supported platform and pivotally secured at its other end to the shuttle and the other strut being pivotally secured at one end to the block and hingedly secured at its other end to the desk top, and unitary means for simultaneously maintaining the slidably mounted supported platform in adjustably slid position and the hingedly connected desk top in angularly adjusted position comprising a clamp pivotally secured to the block and adapted to frictionally engage one of the guideways.

18. In a structure of the class described, oppositely disposed supporting members each provided with a guideway, a supported platform slidably mounted within the guideways and having a trackway, means for limiting the sliding movement of the slidably mounted supported platform between the forward and rearward ends of the guideways, a desk top having a slot disposed parallel with the guideways and hingedly connected to the slidably mounted supported platform, a block slidable within the trackway and a shuttle slidable within the slot, a pair of struts for supporting the desk top in adjusted angular position, one of said struts being hingedly secured at one end to the slidably mounted supported platform and pivotally secured at its other end to the shuttle and the other strut being pivotally secured at one end to the block and hingedly secured at its other end to the desk top, and unitary means for simultaneously maintaining the slidably mounted supported platform in adjustably slid position and the hingedly connected desk top in angularly adjusted position comprising a clamp pivotally secured to the block and adapted to frictionally engage one of the guideways.

19. In a structure of the class described, a base having upstanding end walls, a stationary desk top portion mounted adjacent the upper edge of

one of the upstanding end walls and projecting laterally toward the other end wall, guideways disposed adjacent the free end of the stationary desk top portion and adjacent the upstanding end wall opposite said stationary desk top portion, a supported platform slidably mounted within the guideways and having a trackway, a desk top portion having a slot disposed parallel with the guideways and hingedly connected with the slidably mounted supported platform, a block slidable within the trackway and a shuttle slidable within the slot, and a pair of struts for supporting the hinged desk top in adjusted angular position, one of said struts being hingedly secured at one end to the slidably mounted supported platform and pivotally secured at its other end to the shuttle and the other strut being pivotally secured at one end to the block and hingedly secured at its other end to the hinged desk top.

20. In a structure of the class described, a base having upstanding end walls, a stationary desk top portion mounted adjacent the upper edge of one of the upstanding end walls and projecting laterally toward the other end wall, a guideway disposed adjacent the free end of the stationary desk top portion and a pair of guideways disposed on opposite sides of the end wall opposite said stationary desk top portion, a supported platform slidably mounted within the guideway adjacent the stationary desk top portion and within one of said other guideways, said platform having a trackway, a bearing plate slidably mounted within the other of said guideways, a desk top portion having a slot disposed parallel with the guideways and hingedly connected with the slidably mounted supported platform, a block slidable within the trackway and a shuttle slidable within the slot, and a pair of struts for supporting the hinged desk top in adjusted angular position, one of said struts being hingedly secured at one end to the slidably mounted supported platform and pivotally secured at its other end to the shuttle and the other strut being pivotally secured at one end to the block and hingedly secured at its other end to the hinged desk top.

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