Feb. 2, 1954 W. J. BARGEN 2,668,093

ELEVATOR TOP FOR DESKS

Filed Sept. 7, 1951 3 Sheets-Sheet 1

Fig. 1.

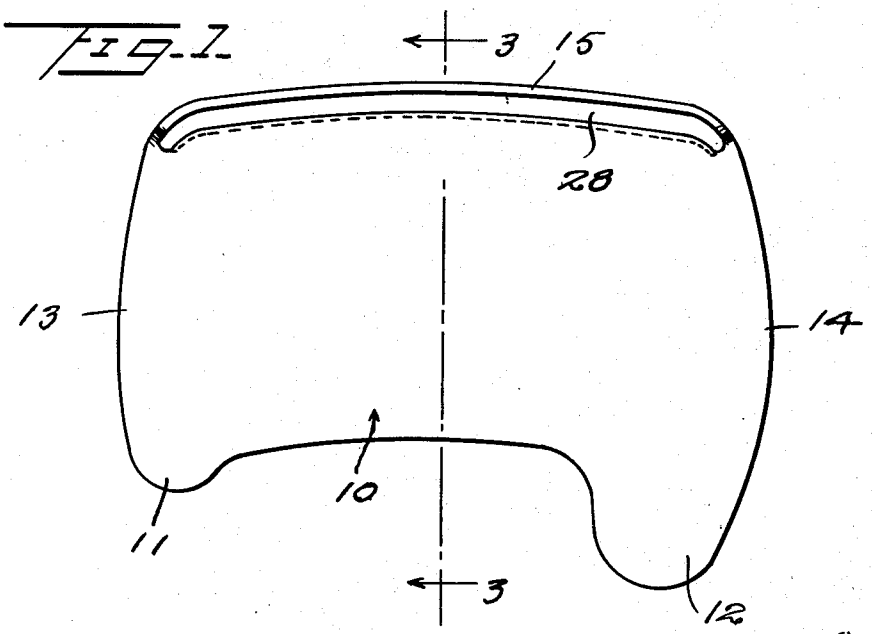
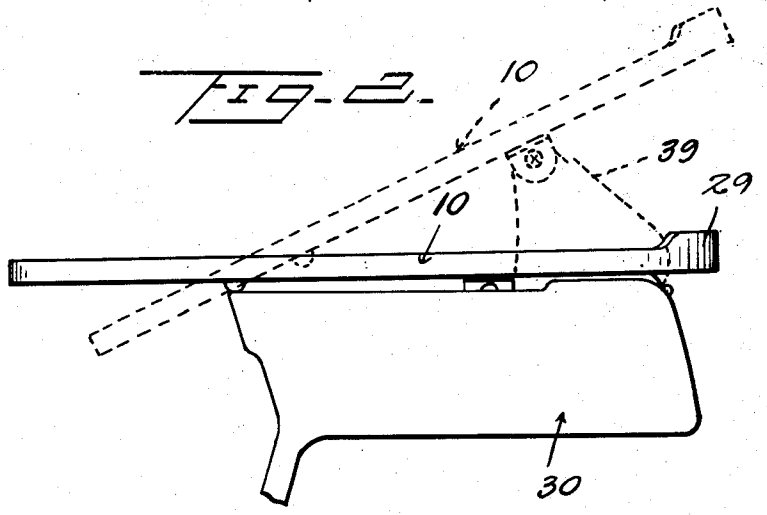


Fig. 2.



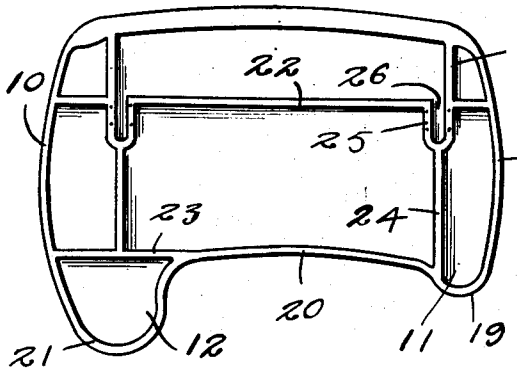


Fig. 3.

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Feb. 2, 1954 W. J. BARGEN 2,668,093

ELEVATOR TOP FOR DESKS

Filed Sept. 7, 1951 3 Sheets-Sheet 2

FIG. 3.

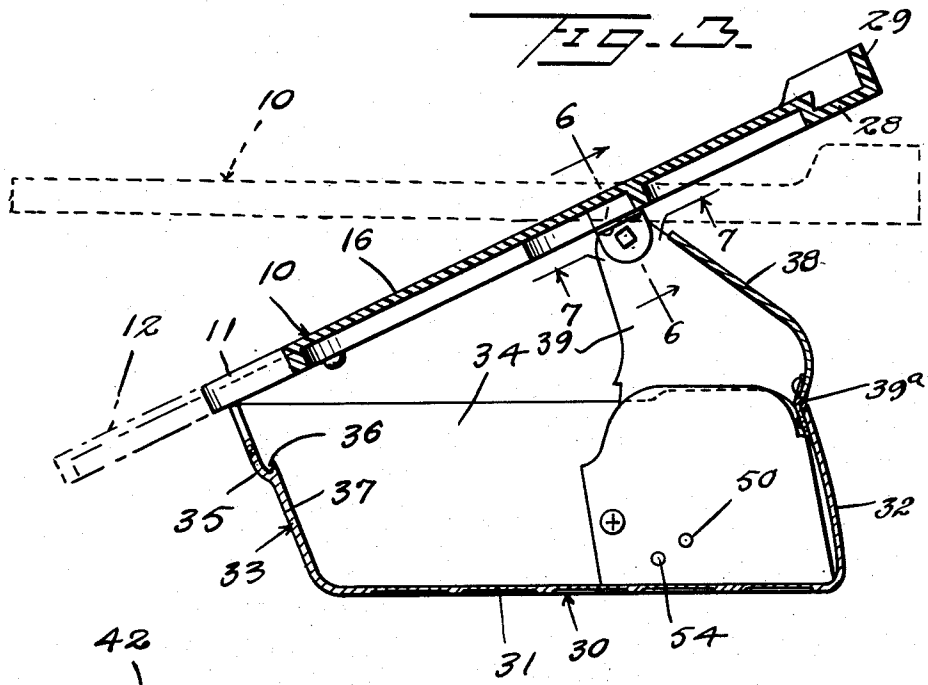


FIG. 6.

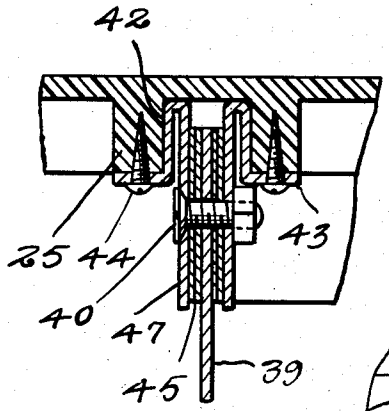
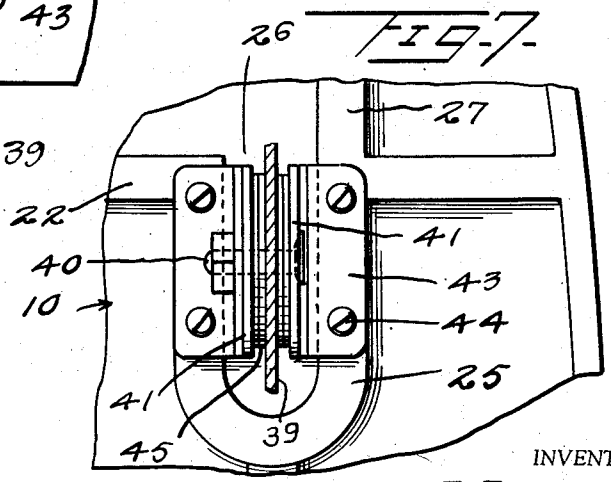


FIG. 7.



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Feb. 2, 1954 W. J. BARGEN 2,668,093

ELEVATOR TOP FOR DESKS

Filed Sept. 7, 1951 3 Sheets-Sheet 3

Fig. 4.

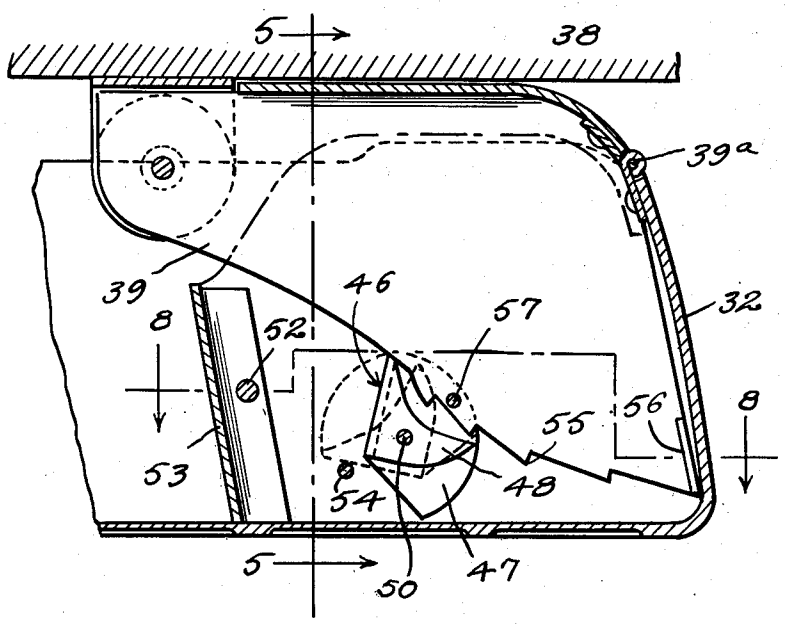


Fig. 5.

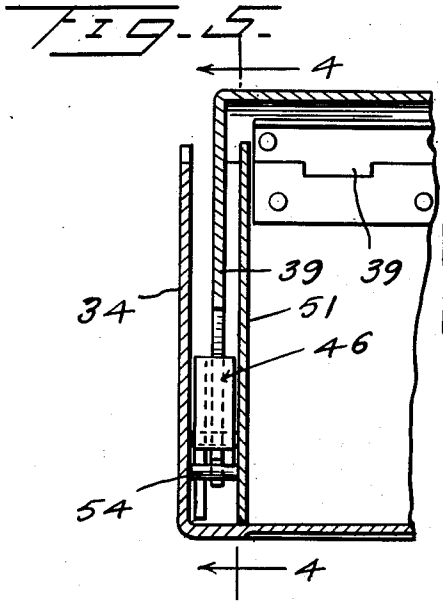
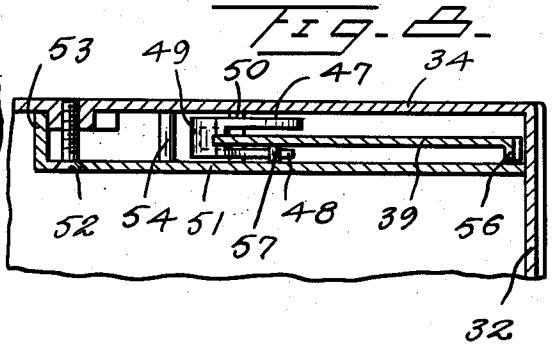


Fig. 6.



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Patented Feb. 2, 1954

2,668,093

UNITED STATES PATENT OFFICE

2,668,093

ELEVATOR TOP FOR DESKS

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Application September 7, 1951, Serial No. 245,515

3 Claims. (Cl. 312—316)

1

This invention relates to desks and more particularly to an elevator top for a desk.

An object of this invention is to provide in a desk an improved top for mounting on a support, such as a book box or other suitable supporting structure, with means whereby the angular position may be readily varied by the student.

Another object of this invention is to provide an elevator top which includes an improved releasable latching means for holding the top in adjusted angular position, and also for holding the top in an elevated position above and parallel to the book box so as to permit ready access to the book box without spilling the material disposed on the top.

A further object of this invention is to provide an improved latching means which is automatically releasable in the extreme angular position of the top and which is also automatically reset when the top is lowered to its lowermost position.

A further object of this invention is to provide an improved top which is made out of composition material, such as fiber-glass and polyester, and which will be translucent and light non-reflecting.

A further object of this invention is to provide an improved composition top for desks which includes a trough along the forward edge thereof and a flange on the forward side of the trough so as to keep the books, papers or the like from sliding off of the top when the latter is raised at its rear to effect release of the locking mechanism forming the elevator or lift structure.

There is herein provided a desk top construction whereby a person can with only the use of one finger inserted under a side arm of the desk top readily obtain a first lifting action of the desk top and thereby a first degree of adjustment of the desk top. To obtain a different degree of adjustment all that the user has to do is again lift the top in the same way and again thus use the underneath hinge action under the front ledge as a fulcrum. In the present construction the desk top can be brought up into a parallel raised position and kept there, or if then desired the full lifting action can be had from such position for access to the underside and interior of the desk under the desk top, as into a storage space thereunder.

With the above and other objects in view my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawings:

2

Figure 1 is a plan view of an elevator desk top constructed according to an embodiment of this invention,

Figure 2 is a detail side elevation of the top with the book box on which the top is pivotally mounted,

Figure 3 is a sectional view taken on the line 3—3 of Figure 1,

Figure 4 is a fragmentary sectional view taken on the line 4—4 of Figure 5,

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 4,

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 3,

Figure 7 is a fragmentary sectional view taken on the line 7—7 of Figure 3,

Figure 8 is a fragmentary sectional view taken on the line 8—8 of Figure 4,

Figure 9 is a bottom plan view of the top.

Referring to the drawings the numeral 10 designates generally a desk top which is formed with a pair of rearwardly projecting arms 11 and 12, the latter arm being substantially longer than the arm 11.

The opposite side edges of the top 10 are formed on a convex curvature as indicated at 13 and 14, and the forward or front edge of the top 10 is formed on a convex curvature 14. The top 10 is formed of a composition plate 16, and as shown in Figure 9, the opposite sides of the plate 16 are provided with depending flanges 17 and 18. The arm 11 includes a curved flange 19 merging with flange 17, and also merging with a rear flange 20.

The arm 12 includes a curved flange 21 merging with flange 20 and also merging with flange 18. A transverse bracing rib 22 extends across the lower side of the plate 16 spaced rearwardly from the forward edge thereof and a short transverse rib 23 is extended across the forward portion of the arm 12, connecting with the flange 20 and terminating at its outer end at the flange 18.

A pair of longitudinal bracing ribs 24 are disposed on the lower side of the plate 16 and terminate at their forward ends in a fork 25. The transverse rib 22 is interrupted at the forward open end of each fork 25, as indicated at 26, and one arm of each fork 25 is continued forwardly as indicated at 27, and terminates at a trough 28 which is formed at the forward end of the plate 16.

The trough 28 includes a forward wall 29 which projects upwardly above the upper surface of the plate 16 and provides a means whereby any books, papers or other articles which may be disposed on the upper surface of the plate 16 will be held

against slipping off of the forward end of the plate 16 when the latter is raised upwardly at its rear end.

A book box generally designated as 30 is disposed below the top 10, and provides supporting means for the latter. The book box 30 comprises a bottom wall 31, a forward wall 32, an upwardly and rearwardly inclined rear wall 33, and opposite side walls 34. The rear wall 33 is formed with a rearwardly offset upper portion 35, and a pencil holding trough 36 is formed at the junction of the offset portion 35 with the lower portion 37 of the rear wall 33.

The top 10 is pivotally and swingably secured to the book box 30 by means of a plate 38 which is hingedly secured as at 39a to the upper edge of the forward front wall 33. The opposite ends of the plate 38 are formed with right angularly disposed lever members 39 which are adapted to engage between the side walls 34. The top is pivotally secured to the levers 39 by means of a pivot 40 extending between a pair of ears 41, and the ears 41, as shown in Figure 6, include reverted extensions 42 engaging between the arms of the forks 25. The reverted extensions 42 have laterally extending flanges 43 which are secured by fastening means 44 to the arms of the forks 25.

Friction washers 45 are interposed between the opposite faces of the levers 39 and provide a means whereby the top 10 will be frictionally held in adjusted position relative to the box 30 when the top 10 is raised or elevated at its rear end above the box 30, as shown in dotted lines in Figure 3. The lever arms 39 are latched in selected upraised position by means of a latching pawl generally designated as 46. The latching pawl 46 comprises a plate or weight 47 and a lever 48 connected with the plate 47 by a connecting member 49.

The latching member 46 is pivotally mounted on a pivot pin 50 secured to a plate 51 which is secured by fastening means 52 to the inner side of a side wall 34. The plate 51 is formed with a rear flange 53 forming a spacer for maintaining the plate 51 in spaced relation with respect to the adjacent side wall 34.

The plate 51 also has secured thereto a stop pin 54 spaced downwardly and rearwardly from the pivot pin 50, which is adapted to be engaged by the latching member 46 when the latter is swung upwardly and rearwardly to a released position. The lower edge of each arm 39 is formed with ratchet teeth 55 which are adapted to be engaged by the latching member 46, and each lever 39 also includes an inwardly projecting latch releasing member 56. When the lever 39 is raised upwardly to substantially the limit of its upward and forward movement, release member 56 will strike lever 48 so as to thereby swing latching member 46 upwardly and rearwardly to the dotted line position shown in Figure 4. At this time the top 10, with the levers 39, may be freely lowered to the full line position shown in Figure 2.

When the top 10 is lowered to its full line position shown in Figure 2, latching member 46 is reset by means of a resetting pin 57 carried by the lever 39. Resetting pin 57 is disposed in the path of lever 48 of latching member 46 and is adapted to strike lever 48 so as to swing latching member 46 from the dotted line position shown in Figure 4 to the full line position.

In the use and operation of this desk structure, when the top 10 is in its lowered position as shown in Figure 2, the rear edge of top 10 will extend partly over or beyond the upper edge of rear wall 33. Top 10 may be inclined relative to the book box by raising the rear end of top 10, and at this time top 10 will contact plate 38 and plate 38 will rock upwardly on hinge 39a as plate 38 swings upwardly, levers 39 will swing upwardly and latching members 46 will ride over the teeth 55 so as to latch or lock the top 10 in an upwardly and forwardly inclined position, as shown in full lines in Figure 3. Top 10 is then lowered at its rear so as to rest on the rear of box 30, pivoting on pivots 40.

At the extreme upper latched position of top 10, which is shown in full lines in Figure 3, the rear edge of top 10 will be disposed forwardly of the upper edge of rear wall 33 so that the student may remove pencils or other articles from the book box 30 without raising or elevating the top. The top 10 may also be elevated to a position parallel with the box 30, as shown in Figure 3, by raising the rear edge of top 10 and at this time top 10 will swing on pivots 40 and will be frictionally held in its elevated parallel position by the friction washers 45. The means for holding the top 10 in its elevated parallel position permits free access to the box 30 for placement or removal of any articles in the box. When it is desired to lower the top 10, the levers 39 are raised upwardly to their extreme position, whereupon latch releasing member 56 will strike lever 48 and swing lever 48 upwardly and rearwardly to the dotted line position shown in Figure 4, whereupon the connecting member 49 will engage with stop pin 54. At the time the levers 39 are lowered to their lowermost position, resetting pin 57 will, in a downward swinging of levers 39, strike lever 48 so as to swing latching member 46 to its operative position, shown in full lines in Figure 4.

The double pivotal mounting of the top 10 provides a means whereby the top may be inclined upwardly and forwardly and latched in a selected inclined position, and in addition the top may be elevated to a parallel position relative to the book box by raising the rear of the top with the latter swinging upwardly on pivots 40. The elevation of the top to a parallel position permits free access to the book box when articles are scattered over the top without having such articles slip off or be unduly disturbed, and without disturbing the latched positions of levers 39.

I do not mean to confine myself to the exact details of construction herein disclosed, but claim all variations falling within the purview of the appended claims.

What I claim is:

1. In combination, a book box formed of a bottom wall, front and rear walls and opposite side walls, a plate hingedly secured to said front wall, right angularly disposed levers projecting from the opposite ends of said plate and adapted to swing interiorly of said side walls, a top, means pivotally securing said top to said levers, releasable latching means between said book box and said levers for latching said levers in selected upraised position, and friction means between said first means and said levers resisting rocking of said top relative to said lever whereby said top will be held in disengaged position relative to said box in any upraised position of said levers.

2. In a desk structure including a book box and a top, a plate hinged to the forward wall of said box, pairs of spaced ears fixed to the lower side of said top adjacent the opposite sides of said box, a pair of levers fixed to and projecting right angularly from the opposite ends of said plate,

means pivotally securing each lever between a pair of said ears, friction washers disposed between said ears and the opposite faces of said levers, said washers frictionally holding said top in predetermined angular position with respect to said plate in any upraised position of said levers, and cooperating ratchet means carried by said levers and said box for latching said levers in selected upraised position.

3. In a desk structure having a book box and a top, a pair of levers pivoted relative to said top, releasable latching means for said levers for tilting the top relative to the box, said latching means comprising ratchet teeth carried by each lever, a partly circular weight pivoted to said box and engaging on one side of said lever, a right angular pawl forming web integral with said weight and engageable with said teeth, an obliquely inclined releasing arm parallel with said weight and integral with said web, said arm engaging on the opposite side of said lever, a laterally projecting lug carried by said lever engageable with said arm upon upward swinging of said

lever to thereby rock said pawl to released position, and a resetting pin carried by said lever engageable with said arm in the upraised position thereof for swinging said arm and weight downwardly and simultaneously raising said pawl to operative position.

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