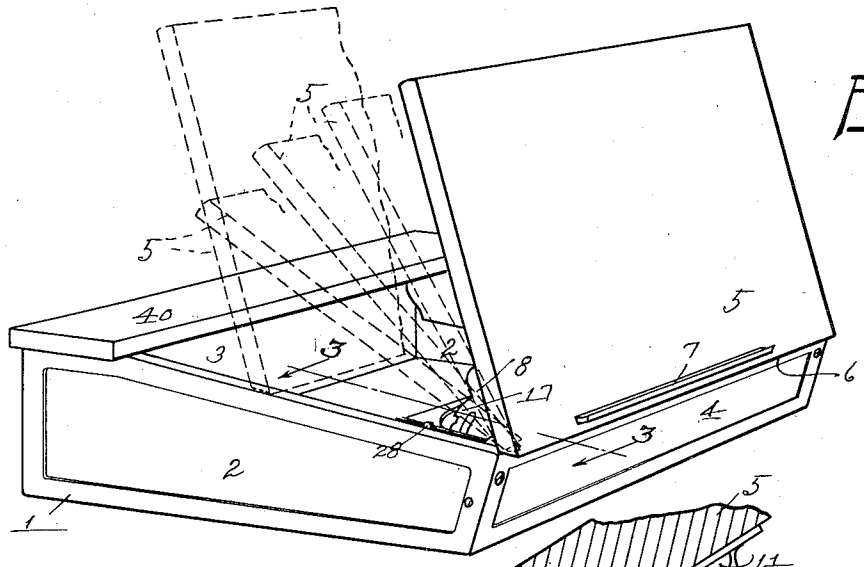
Feb. 11, 1936. G. J. BARRETT 2,030,348

DESK

Filed May 27, 1935 3 Sheets-Sheet 1

Fig. 1.



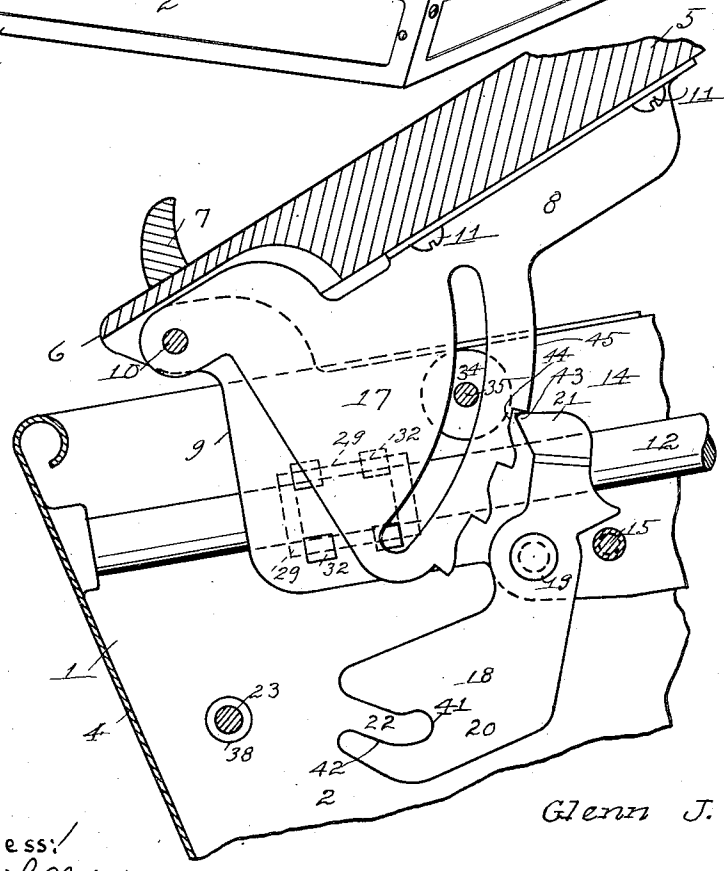


Fig. 2.

Witness:
Geo. L. Lafes

Glenn J. Barrett
INVENTOR.

BY Rice and Rice
ATTORNEYS.

Feb. 11, 1936. G. J. BARRETT 2,030,348

DESK

Filed May 27, 1935 3 Sheets-Sheet 2

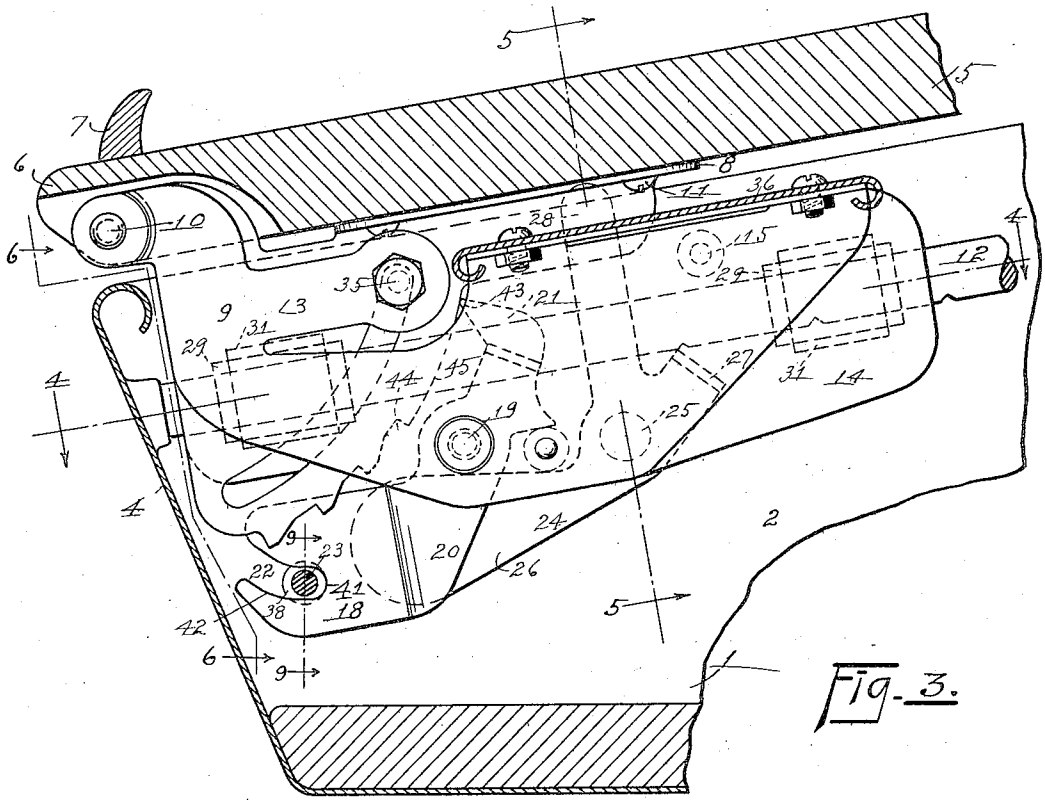


Fig. 3.

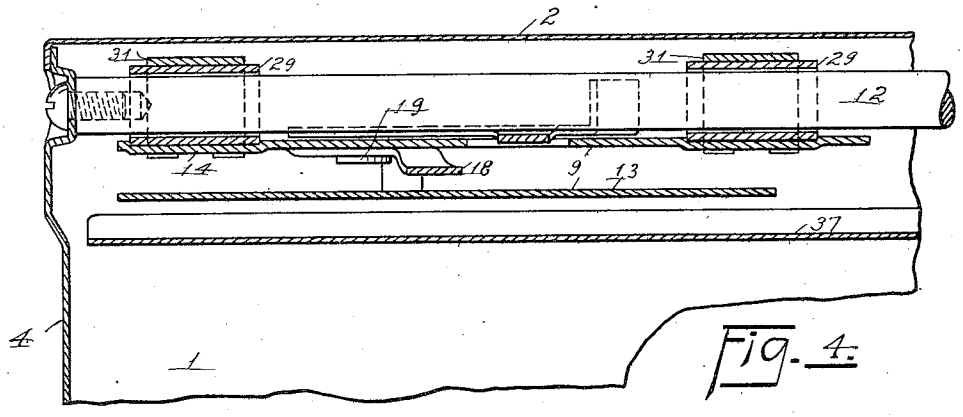


Fig. 4.

Witness:
Geo. L. Chapel

Glenn J. Barrett
INVENTOR.

BY Rice and Rice

ATTORNEYS.

Feb. 11, 1936. G. J. BARRETT 2,030,348

DESK

Filed May 27, 1935 3 Sheets-Sheet 3

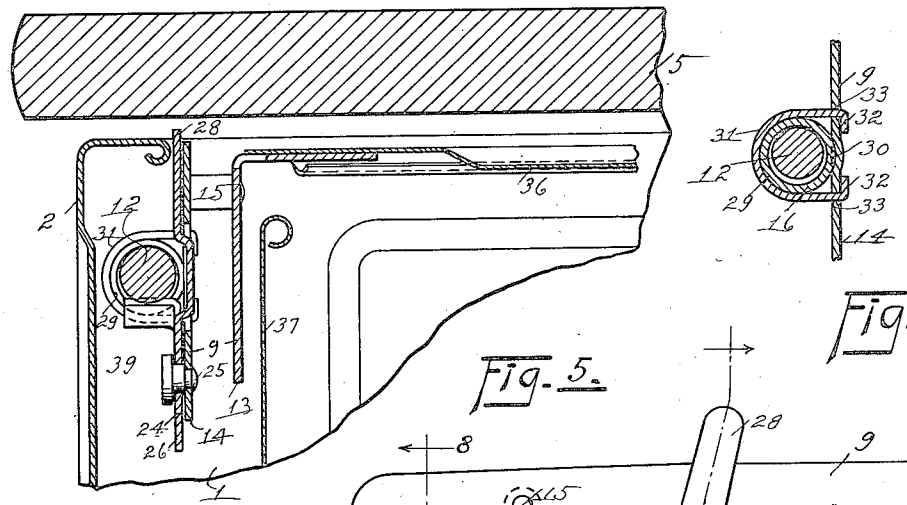


Fig. 5.

Fig. 8.

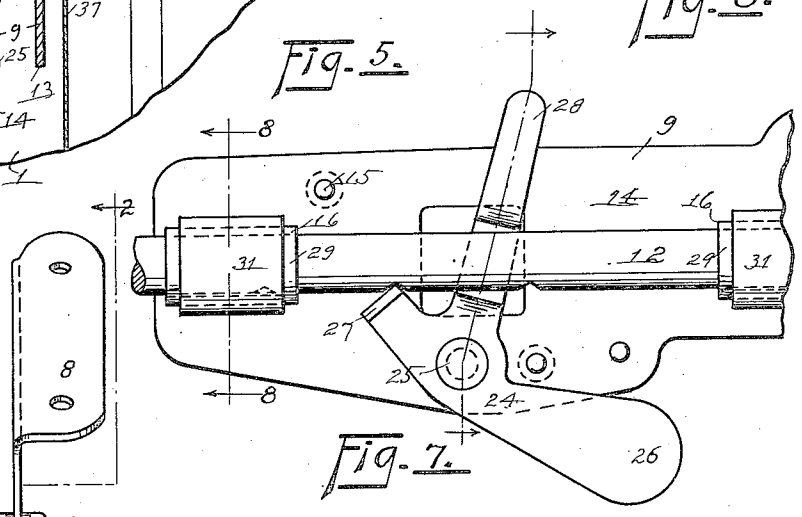


Fig. 7.

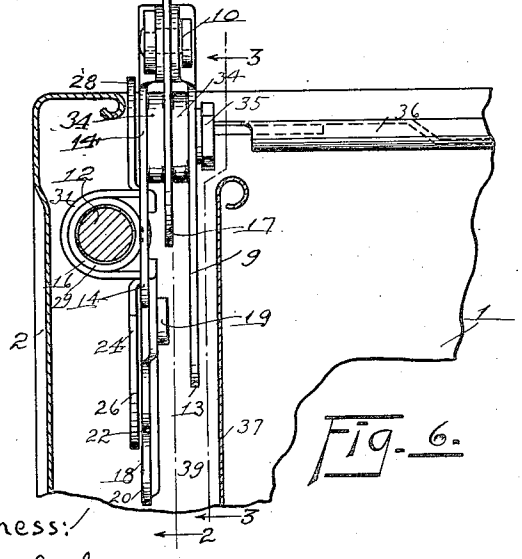


Fig. 6.

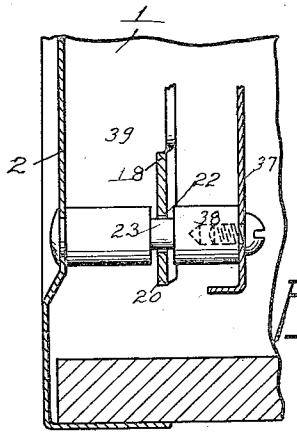


Fig. 9.

Witness:
Geo L. Chapel

Glenn J. Barrett
INVENTOR.

BY Rice and Rice
ATTORNEYS.

Patented Feb. 11, 1936 2,030,348

UNITED STATES PATENT OFFICE

2,030,348

DESK

Glenn J. Barrett, Grand Rapids, Mich., assignor to American Seating Company, Grand Rapids, Mich., a corporation of New Jersey

Application May 27, 1935, Serial No. 23,633

11 Claims. (Cl. 45—91)

The present invention relates to desks, particularly such as are used in schools and the like, and is of the type shown in my pending application, Serial No. 759,038, filed December 24, 1934.

The object of the present application is, generally, to provide a desk of that type improved in certain respects over that of my said application; and more particularly, to provide such a desk having improved means whereby the cover of the desk's top may be bodily slid or moved forwardly-rearwardly to desired positions, improved means whereby said cover may be swung or tilted to desired positions, improved means for releasably holding the cover in such positions, means for holding said cover against downward swinging movement except in a certain slid position thereof, means for holding said cover against sliding movement except in a certain swung position thereof, means for positioning such means inside the desk's top or box and in a compartment of the box out of contact with other contents of the box.

These and any other and more specific objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the illustrative desk structure particularly described in the body of this specification and illustrated by the accompanying drawings, in which:

Figure 1 is a view in perspective of a desk top showing in solid lines and indicating in broken lines its cover or lid in different open positions;

Figure 2 is an elevational side view of parts and mechanism inside the box, certain parts being broken away and other parts shown in vertical section taken on line 2—2 of Figure 6;

Figure 3 is a similar view, but showing the parts in the cover's closed position, and certain parts in vertical section taken on line 3—3 of Figure 6;

Figure 4 is a sectional view of certain parts thereof taken on line 4—4 of Figure 3;

Figure 5 is a sectional view of certain parts of the same taken on line 5—5 of Figure 3;

Figure 6 is a front end view of said mechanism, certain parts being sectioned on line 6—6 of Figure 3;

Figure 7 is an elevational side view of parts of said mechanism;

Figure 8 is a vertical sectional view thereof taken on line 8—8 of Figure 7;

Figure 9 is a vertical sectional view of certain parts taken on line 9—9 of Figure 3.

In these drawings is illustrated the top or box 1 of a school desk, comprising side walls 2, front wall 3, rear wall 4 and cover 5. This cover is mounted adjacent its rear edge 6 (next to the user) so as to be swung between closed lower position shown in Figure 3 and open or partially-open upper positions or tilted positions shown in Figures 1 and 2, and also so as to be bodily moved rearwardly and forwardly (i. e. toward or from the user) to desired positions shown or indicated in Figures 1 and 2. In these positions, the cover serves as an easel or support for books and the like resting on its ledge 7.

Means for thus mounting the cover and for holding the same in the several positions aforesaid are contained inside the box and comprise the following parts and mechanism operating in the following manner: Hinges on which the cover swings vertically are provided adjacent the opposite sides 2 of the box, comprising members or leaves 8, 9 connected by pintle 10, the leaf 8 being fastened as by screws 11 on the under side of the cover, and the leaf 9 being supported on a slide bearing comprising ratchet-notched rods 12 at the sides of the box and mounted at their ends adjacent the front and rear walls 3, 4 of the box, so that the cover may be slid forwardly-rearwardly. The hinge leaf 9 thus forms a slide member comprising parallel plate portions 13, 14 connected in spaced relation by rivets 15 or the like, one (14) of these plate portions having the bearing 16 slidable on said rod. The other hinge member or leaf 8 (fastened on the cover) has a ratchet-toothed sector plate 17 extending between the plate portions of the hinge member 9. The cover is releasably held against downward movement from adjusted raised positions by a gravity pawl 18 pivotally mounted at 19 on the hinge member 9 (i. e. on its plate portion 14), the weight arm 20 of the pawl urging its detent arm 21 into engagement with a tooth of the sector plate.

The cover is automatically released from raised position by sliding the cover rearwardly so that this pawl, i. e. the bottom 41 of the curved slot 22 of its arm 20 engages the fixed lug or projection 23, the pawl being thus turned from sector-engaging position (Fig. 2) to released position (Fig. 3) by the rearward sliding movement of the cover. It will be seen that the cover can not be otherwise released for downward movement from a raised position, and therefore it cannot be lowered so as to strike a forward portion 40 of the desk (Fig. 1). This slot 22 is so formed and its under side 42 so inclined relatively to the cover's direction of sliding movement that said side engages said lug in the position of the parts seen in Figure

3 to prevent the forward sliding movement of the cover until the cover is swung upwardly far enough to permit the extremity **43** of the detent arm **21** to enter a notch **44** of the sector plate, said extremity riding on the circular periphery **45** of this plate and thus preventing said pawl from turning to a position releasing the lug **23** until the cover is raised sufficiently to permit the entry of said extremity into such notch.

By this provision, the cover cannot be raised high enough to "clear" only the forward portion **40** of the top and then slid forwardly sweeping anything resting thereon and endangering the occupant of the next desk, but before the cover can be slid forwardly it must be raised far enough to prevent such occurrences.

The slide member (the hinge member **9** is releasably held against rearward movement from adjusted forward positions by a gravity pawl **24** pivotally mounted at **25** on the slide member or hinge member **9** (i. e. on its plate portion **14**), the weight arm **26** of this pawl urging its detent arm **27** into engagement in a notch of the bar **12** from which engagement said pawl may be manually turned by its upwardly extending arm **28**. Only one hinge (as that adjacent the left hand side of the box as shown) need be provided with the sector, pawls, etc.

To provide the slide bearing, the sleeves **29** in which the rod **12** slidingly bears (rather loosely as shown) are seated in shallow recesses **30** in the plate portion **14** of the hinge member **9**, and stirrups **31** extending over these sleeves have ears **32** passed through slots **33** in said plate portion and then turned over as shown to fix these sleeves in position. Friction disks **34** between sector plate **17** and the plates **13**, **14** of hinge member **9** are held in place by a threaded bolt **35** extending through these parts and which may be turned to adjust their friction for yieldingly holding the cover against falling movement. A flat plate **36** is secured at its ends to the plates **13** of hinge members **9** at the opposite ends of the box, so that the hinge members **8** may move together and without binding. A vertically extending partition plate **37** adjacent the end of the box and mounted on the horizontal projection **38** (Fig. 9) serves to keep the box's contents out of contact with the working parts which are thus located in a compartment **39** between said partition plate and the adjacent end of the box.

It will be seen that the cover may be slid to the desired distance from the user and tilted to the desired angle to serve its purpose as an easel; and that, when the raised cover is slid to a forward position, the box's contents are readily accessible rearwardly of the cover.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings or hereinbefore described.

I claim:

1. In a desk: a top box provided with a swingable cover; a slide bearing extending rearwardly-forwardly of the box; a hinge for mounting the cover comprising a hinge member fastened to the cover and a hinge member carried slidably on the slide bearing; a pawl pivoted on the second-mentioned member adapted to engage the slide bearing to hold the cover in slid position; a pawl pivoted on the second-mentioned member adapted to engage the first-mentioned member to hold the cover in raised position.

2. In a desk: a top box provided with a swingable cover; a slide bearing extending rearwardly-forwardly of the box; a hinge for mounting the cover comprising a hinge member fastened to the cover and a hinge member carried slidably on the slide bearing; a pawl pivoted on the second-mentioned member adapted to engage the slide bearing to hold the cover in slid position; a pawl pivoted on the second-mentioned member adapted to engage the first-mentioned member to hold the cover in raised position; means in the path of the sliding movement of the second-mentioned member adapted to be engaged by the second-mentioned pawl to move the same out of its holding engagement by the sliding movement of the second-mentioned member in one direction.

3. In a desk: a top box provided with a swingable cover; a notched slide bearing extending rearwardly-forwardly of the box; a hinge for mounting the cover comprising a hinge member fastened to the cover having a toothed sector plate, and a hinge member carried slidably on the slide bearing; a pawl pivoted on the second-mentioned member adapted to engage the notches of the slide bearing to hold the cover against rearwardly-sliding movement; a pawl pivoted on the second-mentioned member adapted to engage the teeth of the sector plate to hold the cover against downward-swinging movement.

4. In a desk: a top box provided with a cover mounted adjacent its rear edge for vertically swinging movement and for bodily movement forwardly-rearwardly of the box; a slide bearing inside the box extending rearwardly-forwardly thereof; a hinge for mounting the cover comprising a hinge member fastened to the under side of the cover having a sector portion extending into the box, and a hinge member slidably mounted inside the box on the slide bearing; a pawl pivoted inside the box on the second-mentioned member adapted to engage the slide bearing to hold the cover against rearward-sliding movement; a pawl pivoted inside the box on the second-mentioned member adapted to engage the sector portion to hold the cover against downward swinging movement.

5. In a desk: a top box provided with a cover mounted adjacent its rear edge for vertically swinging movement and for bodily movement forwardly-rearwardly of the box; a slide bearing inside the box extending rearwardly-forwardly thereof; a hinge for mounting the cover comprising a hinge member fastened to the under side of the cover having a sector portion extending into the box, and a hinge member slidably mounted inside the box on the slide bearing; a pawl pivoted inside the box on the second-mentioned member adapted to engage the slide bearing to hold the cover against rearward-sliding movement; a pawl pivoted inside the box on the second-mentioned member adapted to engage the sector portion to hold the cover against downward swinging movement, the box having a vertically disposed partition plate adjacent one side thereof forming a compartment containing the slide bearing, the sector portion and the pawls and a separate compartment in the box adapted to contain books and the like.

6. In a desk: a top box provided with a cover mounted for vertically swinging movement and for bodily movement forwardly-rearwardly of the box; a slide bearing extending forwardly-rearwardly of the box; a hinge for mounting the cover comprising a hinge member fastened to the cover and a hinge member comprising a plate portion extending at right angles to the hinge's

axis and having a recess in its side; a sleeve surrounding the slide bearing slidable therealong and seated in the recess; a stirrup extending over the sleeve and anchored at its ends in said plate portion to hold the sleeve securely in the recess.

7. In a desk: a top box provided with a cover mounted for swinging movement to upper and lower positions and for sliding movement; a slide bearing extending rearwardly-forwardly of the box; a hinge for mounting the cover comprising a hinge member fastened to the cover having a sector with a notch in its curved periphery, and a hinge member slidably mounted on said bearing; a pawl pivoted on the second-mentioned member having a detent adapted to engage said periphery remote from the notch to hold the lowered cover in a slid position; fixed means in the path of the pawl in the cover's sliding movement to its said position for engaging and holding the pawl turned to the position in which its detent engages said periphery remote from the notch and thus holds the cover against oppositely sliding movement, the pawl and said means being releasable from mutual engagement by raising the cover to a position wherein the detent portion engages in the notch so that the cover held raised by the pawl may be slid in said opposite direction.

8. In a desk: a top box provided with a cover mounted for swinging movement to upper and lower positions and for sliding movement; a slide bearing extending rearwardly-forwardly of the box; a hinge for mounting the cover comprising a hinge member fastened to the cover having a sector with a notch in its curved periphery, and a hinge member slidably mounted on said bearing; a pawl pivoted on the second-mentioned member having a detent adapted to engage said periphery remote from the notch to hold the lowered cover in a slid position and having a rearwardly-open slot inclined relatively to the direction of the cover's sliding movement; fixed means in the path of the pawl in the cover's sliding movement to its said position adapted to engage in the slot for holding the pawl turned to the position in which its detent engages said periphery remote from the notch and thus holds the cover against oppositely sliding movement, the pawl and said means being releasable from mutual engagement by raising the cover to a position wherein the detent portion engages in the notch so that the cover held raised by the pawl may be slid in said opposite direction.

9. In a desk: a top box provided with a cover mounted for swinging movement to raised and lowered positions and for sliding movement; a slide bearing extending rearwardly-forwardly of the box; a hinge for mounting the cover comprising a hinge member fastened to the cover having a sector with a continuously curved upper portion and a lower portion provided with ratchet teeth and intervening notches and comprising also a hinge member slidably mounted on said bearing; a pawl pivoted on the second-mentioned member having a detent adapted in one position of the pawl to engage in a notch of the sector in a raised position of the cover to hold the same against downward movement and adapted in another position of the pawl to engage said upper portion of the sector in a lowered position of the cover to hold the same in a slid position; fixed means in the path of the pawl in the cover's sliding movement to its said position for striking and moving the pawl to disengage its detent from said notch and for engaging and holding the pawl moved to the position in which its detent engages said upper portion of the sector and thus holds the cover in its said slid position against oppositely sliding movement, the pawl and said means being releasable from their mutual engagement by raising the cover to a position wherein the detent engages a notch of the sector so that the cover held raised by the pawl may be slid in said opposite direction.

10. In a desk of the class described having a storage box, the combination of a liftable lid for said box, a longitudinally movable carriage for said lid, a hinged connection between said lid and said carriage, an adjustable friction means for preventing the free movement of said hinged connection, a checking means for arresting the forward longitudinal movement of said carriage, a manual means for rendering said arresting means inoperative, a sector having recesses in the periphery thereof attached to said lid and forming a portion of said hinged connection thereto, a pawl pivotally mounted on said carriage to cooperate with said recesses in said sector when said lid is lifted to a predetermined point, means for forcing said pawl into engaging relation with said recesses in said sector, actuated by the longitudinal movement of said carriage away from normal position, comprising a fixed stud or projection on said box and a cam carried by said pawl to cooperate therewith; means for preventing the longitudinal movement of said carriage away from normal position when said lid is not elevated to a predetermined point comprising an arc on the periphery of said sector adapted to prevent the swinging movement of said pawl when actuated by contact of said cam thereon against said stud or projection during the movement of said carriage away from normal position; and means for moving said pawl out of engaging relation with said recesses in said sector when said carriage nears the normal longitudinal position thereof comprising said cam carried by said pawl and said fixed stud or projection.

11. In a desk of the class described having a storage box, the combination of a liftable lid for said box, a longitudinally movable carriage for said lid, a hinged connection between said lid and said carriage, means for latching said lid in a predetermined elevated position actuated by the longitudinal movement of said carriage away from normal position, means for preventing the return of said lid toward normal position from said elevated position when said carriage is away from normal position, means for releasing said preventing means actuated by the return of said carriage to normal position, and means for preventing a longitudinal movement of said carriage away from normal position when said lid is not elevated upon its said hinged connection beyond a predetermined point.

GLENN J. BARRETT.