Feb. 15, 1944. S. FLEISCHMAN 2,341,914

SEMIRIGID ROLL TOP FOR DESKS

Filed Dec. 19, 1940 2 Sheets-Sheet 1

FIG. 1.

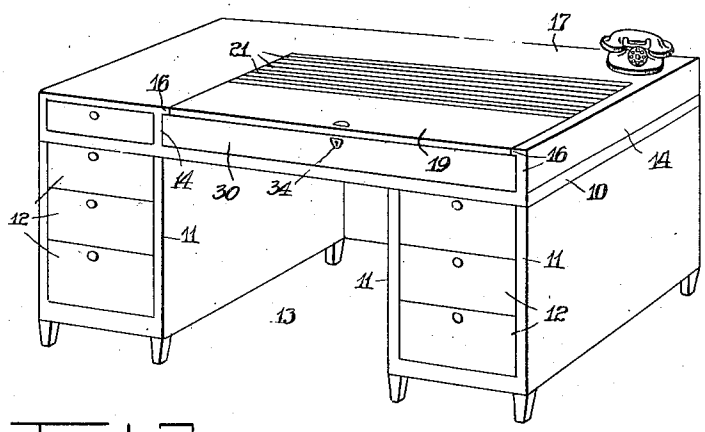


FIG. 2.

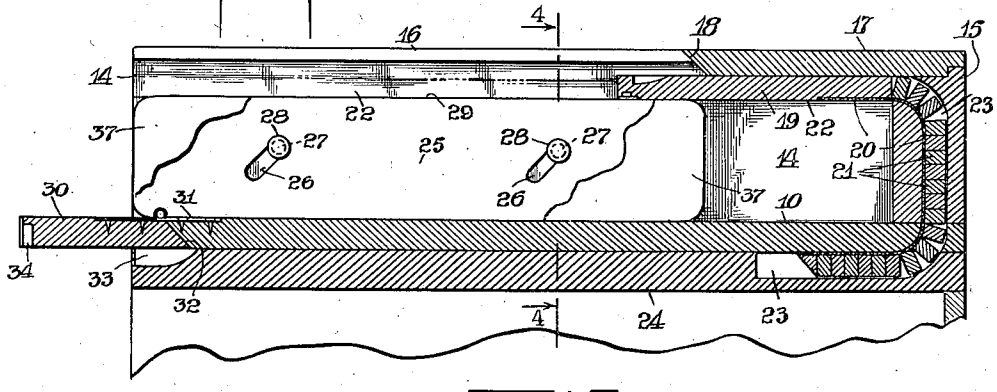
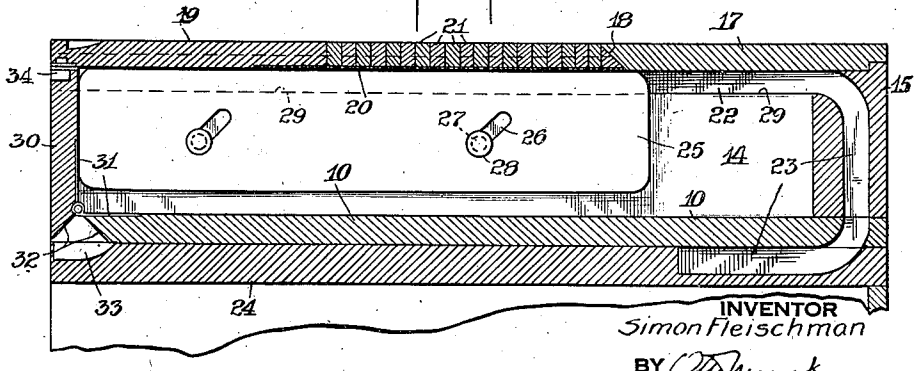


FIG. 3.



INVENTOR
Simon Fleischman
BY
his ATTORNEY.

Feb. 15, 1944. S. FLEISCHMAN 2,341,914

SEMIRIGID ROLL TOP FOR DESKS

Filed Dec. 19, 1940 2 Sheets-Sheet 2

FIG. 4.

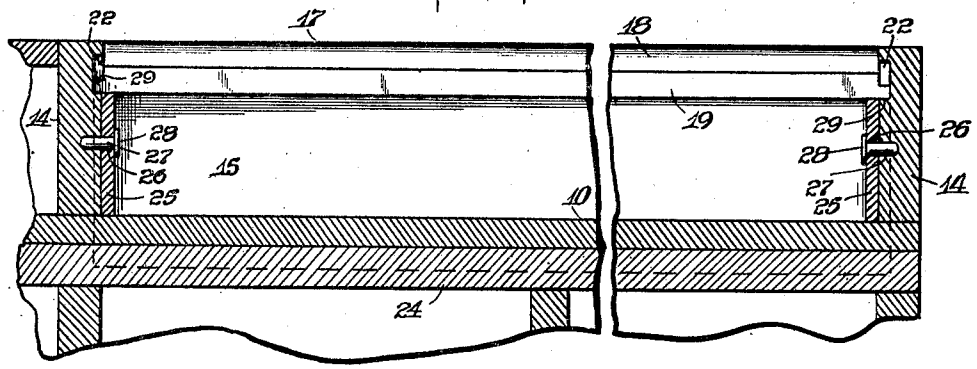


FIG. 6.

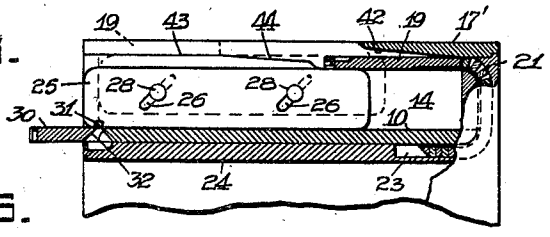
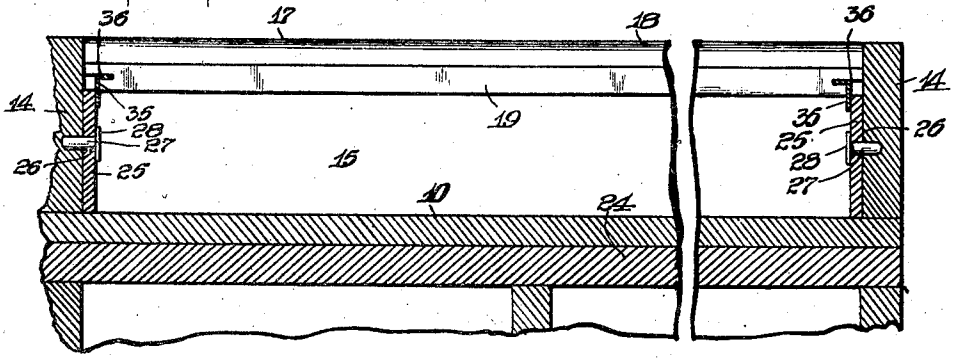


FIG. 5.



Simon Fleischman
INVENTOR
BY
His ATTORNEY

Patented Feb. 15, 1944

2,341,914

UNITED STATES PATENT OFFICE

2,341,914

SEMIRIGID ROLL TOP FOR DESKS

Simon Fleischman, Forest Hills,
Long Island, N. Y.

Application December 19, 1940, Serial No. 370,781

11 Claims. (Cl. 45—92)

My invention relates generally to flat top desks and has refeernce particularly to improvements in a semi-rigid roll top for desks of this character.

It is known to provide a flat top desk with a roll top and cooperating side rails which are either stationary or together with the roll top disappear into the body of the desk when in open position. The purpose of such a construction is obviously to afford a desk with a completely unobstructed working space when the top is open and to entirely enclose the working space when the top is closed. The roll top itself consists generally of a strip or curtain of fabric upon which a plurality of juxtaposed transversely disposed slats are mounted and when the top is in closed position the slats receive their support only at their ends on the side rails. Consequently, the top is not at all substantial and will bend and become dislocated if called upon to support any amount of weight with the result that the flat top desk is usable only when the top is open.

With the foregoing in mind, the present invention has for its object to provide a flat top desk with a semi-rigid roll top, which will afford ample support in its closed position for any work which may be placed upon it, and which will move completely from the working space of the top of the desk in its open position.

Briefly the present invention virtually provides a flat top desk with two working surfaces or decks, one thereof being the usual desk top while the second comprises the semi-rigid curtain forming the roll top in its closed position.

I accomplish the objects of my invention by means of the embodiments thereof herein described, set forth in the appended claims and illustratively exemplified in the accompanying drawings, in which

Figure 1 is a perspective view of a desk equipped with my improved semi-rigid roll top which is shown in its closed position;

Figure 2 is a substantially transverse sectional view of the desk top and curtain in open position;

Figure 3 is a view similar to that of Figure 2 showing the curtain in closed position;

Figure 4 is a substantially longitudinal sectional view taken on lines 4—4 of Figure 2;

Figure 5 is a substantially longitudinal sectional view of a desk top according to the present invention in which the side plates or brackets are slightly modified as compared with the embodiment illustrated in the other figures of the drawings;

Figure 6 is a sectional view of a desk having a modified form of support for the semi-rigid roll top.

Referring to the drawings and particularly to Figures 1 to 4, 10 denotes the top or working surface of a flat top desk and 11 the side cabinet sections upon which the top 10 is supported. The side sections 11 are filled with drawers 12 arranged in any suitable manner, and are so arranged as to leave knee space 13 therebetween. The desk top 10 is disposed on a slightly lower level than is the usual practice in flat top desks and at each end there is a side rail 14 and at the rear a back rail 15, the upper level of the rails being the plane of the elevation of the roll top or working deck when the top is closed. As a matter of convenience the upper deck is on a level slightly above the usual elevation of a flat top desk so as to afford a working surface which will not be too high. In the same manner the elevation of the top 10 will not be too low to provide a convenient working space.

The side rails 14 each comprise a strip of wood or other suitable material which stands upright along one of its longer sides upon the marginal portion of the area of the desk top to be enclosed. The side rails are permanently secured in position and are joined to the ends of the back rail 15. An inwardly projecting overhanging flange 16 is provided above the upper side of each side rail 14 and the permanent portion of the upper deck of the desk is completed by a rear board 17, which constitutes approximately one third the area of the top deck of the desk, and which is permanently secured to the side and back rails 14 and 15, respectively, along its ends and one side, the forward or free side of the board 17 being beveled rearwardly away from the top surface to provide a stop 18. It can be said that the flanges 16 and board 17 form a marginal deck for the upper working level.

Thus far I have described a flat top desk having a lower deck, an upper marginal deck and a well in a portion of the upper deck to give access to the lower deck. In order to complete the upper deck and turn it into a workable area, I provide a semi-rigid roll top which comprises a strip of wood 19 of approximately one third the width of the desk top and a trailing apron of approximately the same size consisting of a strip of fabric 20 and a series of slats 21 of wood or other suitable material secured to the fabric 20. The apron is slidably supported along op-

posite sides thereof in grooves 22 in the side rails 14 immediately beneath board 17 and flanges 16, the grooves opening into a slot 23 in the rear wall or rail 15 which slot is directed in a downward curve, then straight down and finally in a forward curve projecting into the frame work 24 supporting the top 10. In the open position of the apron, shown in Figure 2, the trailing end is moved into the slot 23 and the rigid portion or board 19 is supported in the grooves 22 beneath the fixed top board 17.

To close the apron, it is drawn forwardly along the grooves 22 until the leading edge of the board 19 is flush with the forward ends of the side rails 14. In this position the apron is supported in the grooves 22 on a plane level with the under side of the fixed board 17 of the upper deck. The closing operation is then completed by raising the apron to the level of the fixed board 17 and this is accomplished by means of movable side brackets 25. There are two such brackets and each comprises a flat metal plate substantially rectangular in shape and provided with at least two inclined slots 26, the same being disposed at approximately at an angle of 45 degrees and in an upward direction towards the rear ends of the plate. The plates 25 are mounted on the inner face of the side rails 14 by means of pins 27 which are fixed in the side rails and project through the slots 26, the plates being slidably held flat against the side rails by means of the heads 28 of the pins 27. The plates 25 are of a height corresponding to the distance between the top 10 and the lower shoulders 29 of the grooves 22, and are of a length corresponding to the distance between the front face of the desk and a point just under the beveled edge 18. It will be seen, with reference to Figure 3, that when the apron is in its extreme forward position the sides thereof project over the upper sides of the plates 25, and that the apron is then elevated in its forward position by lifting the plates until the upper surface of the apron is flush with the upper surface of the marginal upper deck.

The upward movement of the plates 25 is caused by pushing inwardly on the outer ends of the plates which ride over the pins 27 in an upwardly inclined direction. In order to mechanically operate the plates, a front panel 30 is hinged to the forward edge of the top 10 and as it is swung to closed position in the space between the top and the curtain, the hinged end moves into contact with lower corners of the plates 25 and pushes them inwardly and they simultaneously elevate and hold the apron in a position flush with the upper deck at which instant the panel 30 is completely closed.

The details of the construction described above are illustratively exemplified in the Figures 2 and 3, and comprise a flat hinge plate 31 adjacent each side rail 14, one leaf of each plate being set into the upper surface of the top 10 and the other leaf of each plate being set into the inner surface of the panel 30 at its lower side. In order to provide a perfectly flush front to the desk, the axis of the hinges 31 and the front edge of the top 10 is set back from the front plane of the desk a distance equal to the thickness of the panel 30, a distance incidentally which is the distance actually traveled by the plates 25 in a rearwardly direction. To maintain a continuous front surface for the front of the desk when the panel is closed, the meeting edges 32 of the latter and top 10 are beveled downwardly and away from the front to act, as a stop when the panel is open as in Figure 2, and as a continuation of the supporting rail 24 when the panel is closed as in Figure 3. A suitable channel 33 is cut into the upper surface of the supporting rail 24 to allow the beveled meeting edge 32 of the panel 30 to move in an arc to its extreme upright position. Fastening and locking means 34 are provided in the under side of the rigid board 19 of the apron and on the outer edge of the panel 30 in order to secure the latter in closed position.

Referring now to the modification illustratively exemplified in Figure 5, the upper edge of each plate 25 is provided with an angle iron or inwardly projecting flange 35 which enters a groove or channel 36 in the sides of the elements 19 and 21 of the apron to support the same and prevent it from being removed or lifted upwardly from the top deck in its closed position.

It is further contemplated that the inner structural appearance of the desk at the sides carrying the plates 25 is considerably improved by covering the latter with strips of wood or other suitable materials 37.

The operation of opening and closing a desk according to the present invention is extremely simple and requires a minimum of moving parts. To open the apron the front panel 30 is swung outwardly and the plates 25 will move forward and drop to lower the apron to a level below the top deck. The apron is then slid rearwardly into the space below the rear upper deck board 17, the slats receding into the slot 23. The lower desk well is then completely accessible. To close the upper deck the apron is drawn forwardly to the front of the desk and the panel 30 is swung to upright position thereby causing the plates 25 to move simultaneously upwardly and backwardly to elevate the apron to the level of the surrounding upper deck.

In its closed position the upper deck is almost completely rigid throughout since the forward and rearward sections 17 and 19, respectively, constitute approximately two thirds the area of the upper deck and the remaining one third represented by the closely juxtaposed slats 21 becomes virtually a solid and rigid portion, because of the substantial support offered by the side plates or brackets 25 and the relatively small area comprising the slats. As a result the upper deck of the desk in closed position of the apron is just as serviceable for use as a desk top, as is the under deck top.

In the modified form of the present invention illustrated in Figure 6, the fixed rear board 17' is undercut at its forward portion to provide an inclined surface 42 which allows the forward rigid section 19 of the roll top to be brought directly to the upper deck level as it is being drawn forwardly to closed position. The section 19 is guided to its upper position on shoulders 43 arranged on the inner surfaces of the side rails 14, each shoulder 43 comprising an upwardly and forwardly inclined portion 44 beginning at a point approximately midway of the opening covered by the roll portion 21 of the apron in closed position, and joining the forward portion of the shoulder at a point under the inner end of the section 19 in its closed position. Accordingly, the roll top is closed by drawing the same towards the front and in doing so the apron rides upwardly along the inclined shoulder 44 to the level of the upper deck 17, where the rigid section 19 is fully supported flush with the board 17, and the trailing section 21 is disposed over the side

plate 25, which, when raised by closing the panel 30, lifts the slats 21 into the plane of the upper deck. This construction has the advantage of bringing the section 19 into its upper deck level and supporting it there without depending upon the side plates 25, which only operate to elevate the roll section. As a result, if the panel 30 is opened for any reason, the rigid section 19 will remain at upper deck level.

Having described my invention and the manner in which the same operates, what I claim and desire to secure by Letters Patent is:

1. In a desk construction, the combination of a fixed top deck having an opening, and supporting means for said deck, a closure slidable into position below said opening, and lifting and supporting means for the closure to lift the same to a plane flush with said deck and into direct contact therewith to fill the opening.

2. In a desk construction, the combination of a fixed marginal top deck, supporting means for the deck, a partly rigid closure slidable into position below the space within the marginal deck, and lifting and supporting means for the closure to lift the same to the level of said deck and into direct contact therewith to completely fill the space within the marginal deck.

3. In a desk construction, the combination of a flat top, supporting means for the top, a fixed marginal deck supported above said top, a closure slidably mounted between the top and deck, and lifting and supporting means to receive and support the closure as it slides into a position beneath the space within the marginal deck and thereafter to lift the closure to the level of the said deck and into direct contact therewith to completely fill the space within the marginal deck.

4. In a desk construction, the combination of a flat top having upstanding side rails, a fixed back-deck supported on said rails, said deck having an area not less than one-third of the area of said top, a partly rigid closure slidably mounted to move into position between the side rails and forwardly of the deck, movable brackets adjacent said side rails normally assuming a lower forward position to support the closure in its forward position and throughout its length at a level below that of said deck, guide means for said brackets to guide the same in an upward and rearward direction for the purpose of elevating said closure in its forward position to the level of said deck, and means to engage the brackets in their lower forward position and project them upwardly and rearwardly to move the closure into contact with the deck to fill the space between the latter and said side rails.

5. A desk, as claimed in claim 4, in which said closure comprises a rigid solid section having approximately the same area as the deck, and a roll section trailing the solid section.

6. A desk, as claimed in claim 4, in which said last named means comprises a front panel to fit into position between the flat top, the side rails and rigid portion of the closure when the latter is closed, and said panel, abutting the brackets when moving into place pushes them inwardly and upwardly to elevate and hold the closure supported thereon flush with the deck.

7. In a desk, a flat top having upstanding side and back rails, a back deck supported on the side and back rails and having an area less than the flat top, a closure slidably mounted to move into position between the side rails and forwardly of the deck, said closure having a solid rigid section and a trailing apron of slats mounted on a flexible base, movable side plates normally assuming a lower forward position in which they are capable of supporting the sides of the closure when the latter is in its forward position so as to hold the closure at a level below that of said deck, guide means for said side plates to guide the same in an upward and rearward direction for the purpose of elevating said closure in its forward position to the level of said deck, and a front panel hinged to the front edge of the top and movable to closed position against said plates to cause them to move inwardly and upwardly.

8. A desk, as claimed in claim 7, in which each side plate is provided with an inwardly projecting flange along its upper edge, the sides of the closure being provided with longitudinal grooves to receive the flanges and hold the closure against being removed upwardly when the top deck is closed.

9. A desk, as claimed in claim 7, in which the meeting edges of the top and front panel are beveled inwardly and downwardly from the hinge connection.

10. A desk, as claimed in claim 7, in which each side plate is provided with upwardly and rearwardly inclined slots, and each side rail is provided with inwardly directed pegs projecting into said slots to guide the plates upwardly as they are pushed rearwardly by the closing movement of the panel.

11. In a desk, a flat top having upstanding side rails, a marginal deck supported between said rails and provided with a space within the limits of said rails, a closure having a rigid forward section and a roll rear apron slidably mounted for movement into the space within the marginal deck, a supporting guide for each end of the closure having a forward portion to support the rigid section of the closure flush with the deck and a downwardly and rearwardly inclined section to guide the rigid section to its upper forward level, and means to elevate the apron end of the closure from the inclined sections of the guides and support it at the level of the deck.

SIMON FLEISCHMAN.