Sept. 12, 1939. R. T. BOURN 2,172,605

CONVERTIBLE DESK

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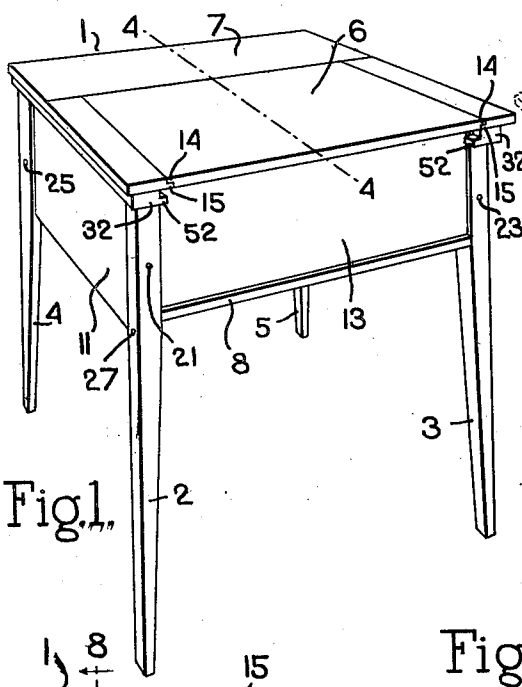

Fig. 1.

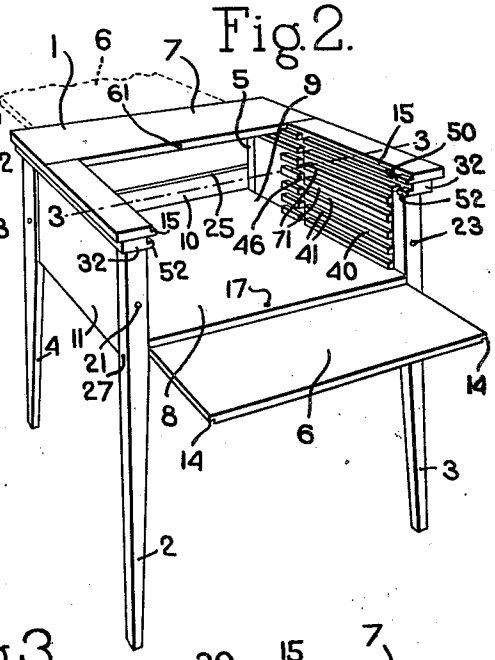

Fig. 2.

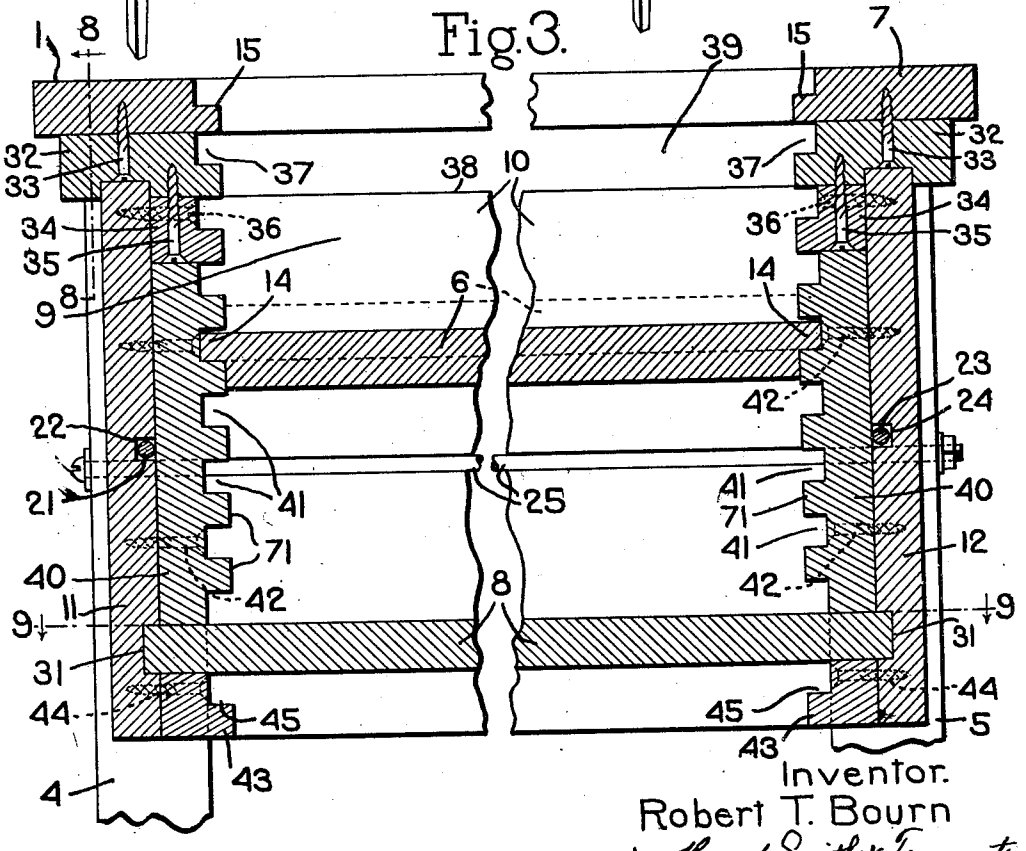

Fig. 3.

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Fig.4.

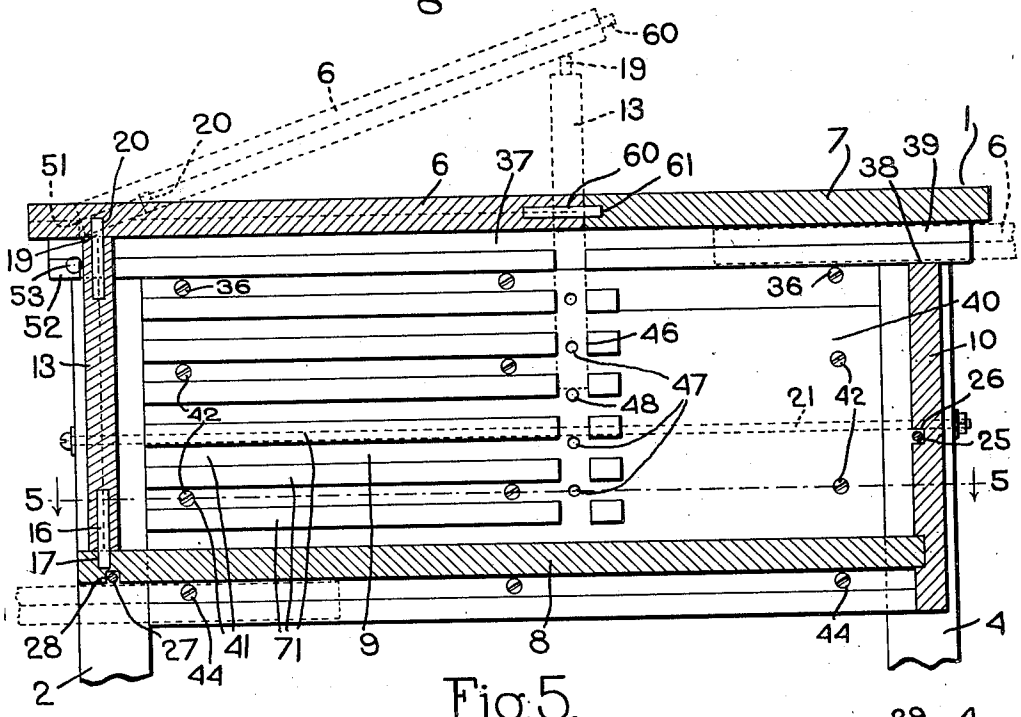


Fig.5.

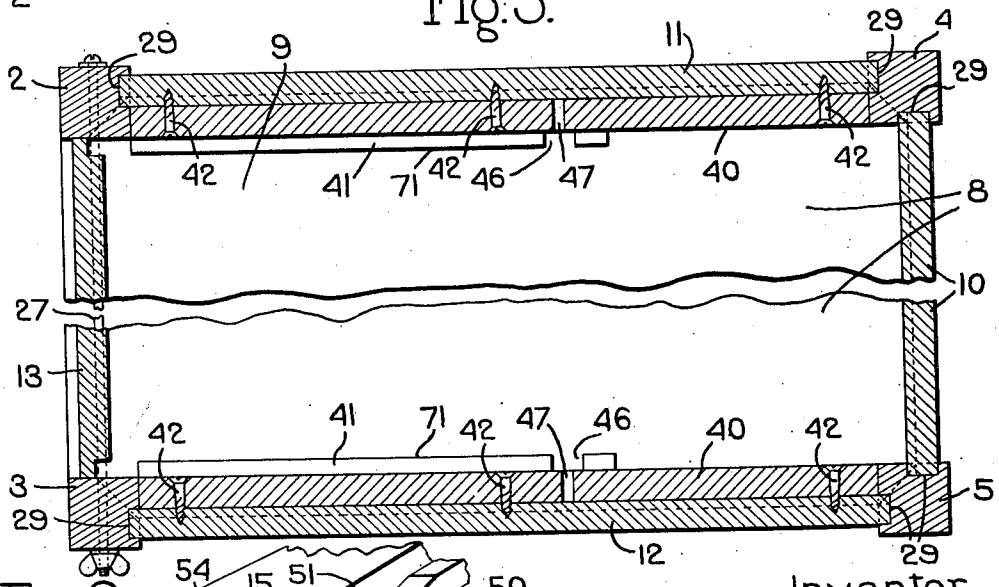


Fig.6.

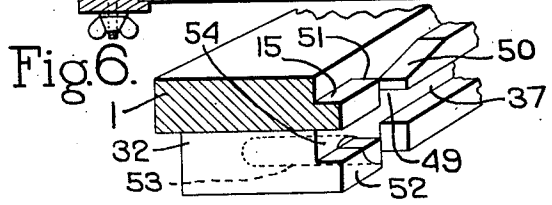


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Fig. 7.

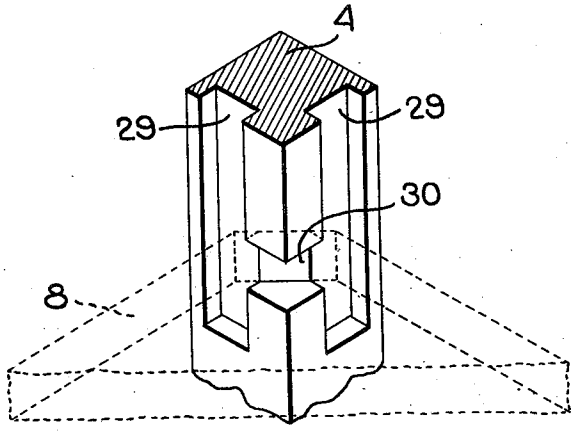
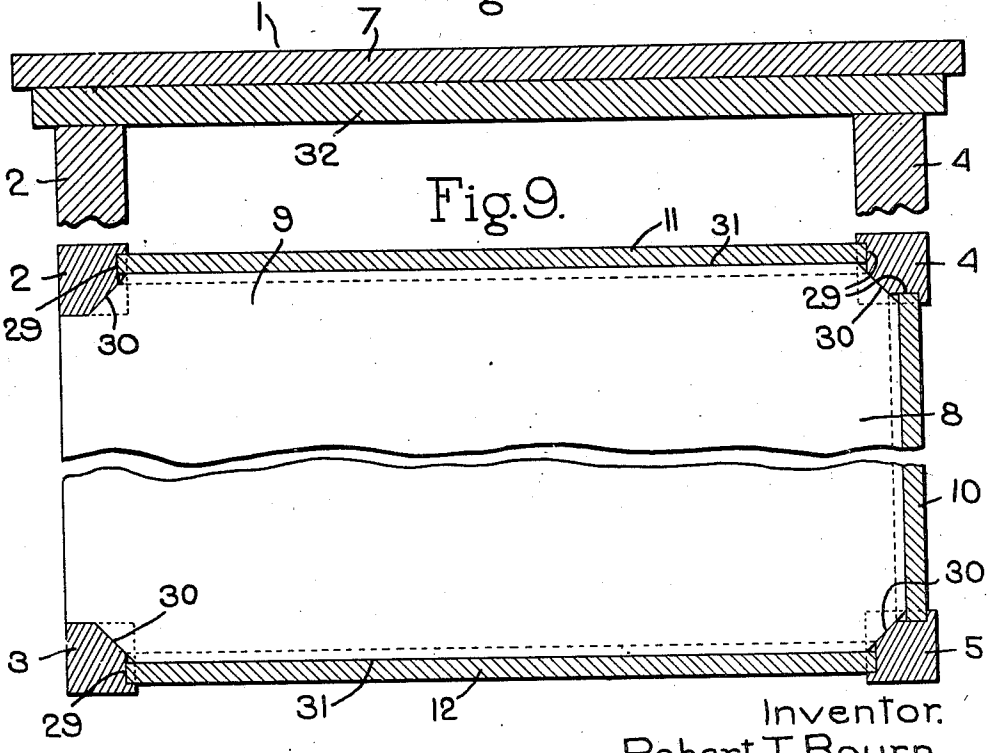



Fig. 8.

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Patented Sept. 12, 1939 2,172,605

# UNITED STATES PATENT OFFICE

2,172,605

## CONVERTIBLE DESK

Robert T. Bourn, Templeton, Mass.

Application September 30, 1936, Serial No. 103,254

9 Claims. (Cl. 45—6)

This invention relates to desks of the type which can be converted into a flat-top desk or into a desk having a compartment open at the top and front to receive a typewriter, and some of the objects of the invention are to provide a novel desk of this type which can be inexpensively manufactured; which can be shipped in a knock-down condition and can be quickly and readily assembled and erected without the use of any tools; which is constructed so that when it is converted into a typewriter desk the support for the typewriter may be placed at various elevations to suit the requirements of the operator; to provide a desk of this type in which the top may be adjusted into an inclined position to support a drawing board; to provide a desk of this type having a removable top section which is used as the adjustable support for the typewriter; to provide a desk of this type in which the removable top section can also be used to provide an extension for the top of the desk when the typewriter compartment is open; and otherwise to improve convertible desks in various particulars which will be more fully hereinafter set forth.

In order to give an understanding of the invention I have illustrated in the drawings a selected embodiment thereof which will now be described after which the novel features will be pointed out in the appended claims.

In the drawings:

Fig. 1 is a perspective view of a desk embodying my invention and showing it in use as a flat-top desk.

Fig. 2 is a similar view showing the desk converted into a typewriter desk.

Fig. 3 is an enlarged section with parts broken out taken on the line 3—3, Fig. 2.

Fig. 4 is an enlarged sectional view taken on the line 4—4, Fig. 1.

Fig. 5 is a view taken on the line 5—5, Fig. 4, with parts broken out.

Fig. 6 is a sectional detail view showing part of the support for the removable section of the table top when it is raised in inclined position to support a drawing board or the like.

Fig. 7 is a fragmentary perspective view of one of the legs showing the manner in which the floor 8 is supported thereby.

Fig. 8 is a section on the line 8—8, Fig. 3.

Fig. 9 is a section on the line 9—9, Fig. 3.

My improved desk is constructed with a top member 1 which is shown as supported on four legs comprising the two front legs 2, 3 and the two rear legs 4, 5. This top member 1 is formed with a removable section 6 which when in place, as shown in Fig. 1, is surrounded on three sides by a stationary or fixed portion 7 that is permanently secured to the legs. Said removable section 6 together with the fixed or stationary portion 7 forms the flat top for the desk or table.

Situated beneath the table top 1 is a stationary or fixed shelf or floor member 8 which is secured to the legs in the manner presently to be described, and which forms with the top 6 a compartment 9 adapted to receive a typewriter, if the desk is to be converted into a typewriter desk, or to receive books and papers, if the desk is to be used as a school desk, or to receive papers, documents and the like, if the desk is to be used as a business desk. The back side of the compartment 9 is closed by a rail or side member 10 extending between the two rear legs 4 and 5 at the upper end thereof and the two sides of the compartment adjacent the back side are closed by other side or rail members 11 and 12 extending between the front and the rear legs, the member 11 extending between the front leg 2 and the rear leg 4 and the member 12 extending between the front leg 3 and the rear leg 5, as shown in Fig. 5. The front of the compartment 9 is adapted to be closed by a removable panel 13 which is removed with the removable section 6 of the top to convert the desk into a typewriter desk as shown in Fig. 2.

The side edges of the removable section 6 are rabbeted as shown at 14 and the fixed portion 7 of the table top is provided with complemental rabbets 15 to receive the rabbeted edges 14 of the removable section, as best seen in Fig. 1. The rear edge of the removable section 6 is provided with a projecting pin 60 adapted to be received in a socket 61 formed in the edge of the section 7 when the removable section is in the position shown in Fig. 1 and in full lines, Fig. 4. The removable panel 13 is shown as having a locking pin 16 in its lower edge adapted to be received in an aperture 17 formed in the front portion of the fixed floor 8, and at its upper edge said removable panel has a similar locking pin 19 adapted to be received in an aperture 20 formed in the under side of the removable section 6.

The legs 2 and 4 are connected together by a tie bolt 21 extending through both legs and occupying a groove 22 in the inner face of the side member 11, as best seen in Fig. 3.

The two legs 3 and 5 are similarly connected together by a tie bolt 23 which extends through both legs and occupies a groove 24 in the inner

face of the side member 12. The two rear legs 4 and 5 are connected together by a tie bolt 25 extending through said legs and occupying a groove 26 in the rear side member 10. The front legs are connected together by a tie rod 27 which occupies a groove 28 on the under side of the floor 9, said tie bolt 28, therefore, thus being entirely below the compartment 9.

If desired, the legs may be provided with grooves 29 to receive the ends of the side members 10, 11 and 12, although it would be within my invention to have the ends of these side members butt against the faces of the legs without the use of the grooves. Each leg is formed with a slot or notch 30 on its inner corner in which the corner of the fixed floor 8 is received so that said floor is thus supported at its corners by the legs. The tying of the legs together by the four tie rods 21, 23, 25, 27 serves to clamp the legs firmly against the corners of the fixed bottom 8 and thus hold the structure rigid. Each of the side members 10, 11 and 12 is shown as having a groove 31 formed in its lower portion in which the edge of the fixed shelf or floor 8 is received.

The fixed portion 7 of the top 1 is supported on two supporting rails 32, one at each side of the desk, said supporting rails being secured to the fixed portion of the top by suitable screws 33 inserted from beneath. One supporting rail 32 rests on the top of the legs 2 and 4 and the other supporting rail rests on the top of the legs 3 and 5. Each supporting rail 32 has an anchoring strip 34 secured to its under side by means of suitable screws 35, the screws 35 being also inserted from beneath. These anchoring strips 34 are placed so that they fit within the side members 11, 12, as best shown in Fig. 3, and when the desk is erected said anchoring strips 34 are screwed to the side members 11, 12 by means of screws 36.

The fixed portion 7 of the desk top, the supporting rails 32 and the anchoring strips 34 constitute a unit which is secured in place by the screws 36, said screws thus being the means for securing the desk top in position.

In erecting the desk or table, the legs, the top, the side members, and other compartments of the desk are assembled and connected together by the tie bolts 21, 23, 25 and 27 and without the use of glue. The only tools necessary for erecting the desk are a screw-driver and possibly a wrench for use in tightening the nuts on the tie bolts, although if wing-nuts are employed these nuts may be tightened by hand. The tightening of the nuts on the tie bolts draws the legs firmly against the side members 10, 11 and 12 and firmly against the fixed bottom or floor 8 and thus makes a rigid structure. The fixed portion of the top is rigidly held in place by the screws 42 as described above.

Because of the constructional features above-described the desk can also be easily disassembled for shipment or storage should occasion arise.

Each supporting rail 32 is provided on its inner face with a groove 37 adapted to receive the removable section 6 of the table top and these grooves extend the full length of the supporting rails. The upper edge 38 of the rear side 10 is located below the side rails so that there is an opening 39 at the back of the desk between the fixed or stationary portion 7 and said back side 10.

If it is desired to use the desk with the compartment 9 open and it is also desired to have additional space on the top of the desk, the removable section 6 will be removed from its position shown in Fig. 2 and then placed in the runways 37 and pushed backwardly through the opening 39 so that it projects beyond the back of the desk top, as shown in dotted lines, Fig. 2. When in this position the removable top section is out of the way so far as the use of the compartment 9 is concerned, but at the same time it is in a position where it may be used to provide an extension to the desk surface.

The removable section 6 of the desk top may be used also to provide a false floor for the compartment 9 which may be placed at different elevations. This is convenient when the desk is used as a typewriter desk and it is desired to place the typewriter at a different elevation from that afforded by the fixed floor 8.

Situated on the inside of each of the side members 11 and 12 is a supporting slab or member 40 provided with a plurality of horizontal grooves 41, said slabs being secured to the side members by suitable screws 42. The grooves 41 are adapted to receive the rabbeted edges 14 of the removable top section 6, and, therefore, if it is desired to provide the compartment 9 with a floor at a higher elevation than the fixed floor 8, the removable section 6 can be placed in the desired grooves 41, as shown in Fig. 3.

Due to the rabbeted construction at the edges of the removable section 6 the supporting face of said section can be given two different elevations for each groove 41. If, for instance, the removable section 6 is placed in a pair of grooves 41, as shown in full lines, Fig. 3, it will provide a floor at a given elevation. By removing the removable section 6 and turning it bottom side up and then re-inserting it into the same grooves 41 the supporting face will have a higher elevation, as shown in dotted lines, Fig. 3. With a given number of grooves, therefore, it is possible to provide twice as many vertical positions for the floor of the compartment as there are grooves.

Situated beneath the fixed floor 8 at each side is an additional supporting rail 43, said rails being secured in place by suitable screws 44. These supporting rails 43 are formed with ways 45 to receive the removable section 6 whenever it is desired to store it in some out of the way place.

When the removable top section 6 is in the ways 45 it may be partially withdrawn therefrom, as shown in Fig. 2, thereby to provide added desk room.

The removable top section 6 is also adapted to be supported in an inclined position, thus converting the desk into one suitable for use as a drawing desk. This is shown in dotted lines in Fig. 4 and when used in this way the removable panel 13 is employed as a means of supporting the removable section. Each supporting slab or member 40 is made with a vertically-extending groove 46 adapted to receive the removable panel 13 and each supporting slab is also provided with a plurality of apertures 47 in the bottom of each groove 46. If it is desired to place the removable top section 6 in its inclined position the panel 13 will be removed from its position in the front of the desk and slipped into the grooves 46. A pin 48 placed in one of the holes 47 at each side forms a support for the panel and by adjusting the pin 48 into any desired hole said panel may be supported with its upper edge projecting a greater or less distance above the top of the table. The supporting rails 32 overlie and project forwardly slightly beyond the front legs 2 and 3, and the fixed portion 7 of the top as well as the supporting rails 32 are provided with vertical grooves 49 on each side, which grooves are occupied by the

upper portion of the front panel 13 when the latter is in place. The rib of the fixed portion 7 of the table top formed by the rabbeted construction is cut away on an incline, as shown at 50, directly in the rear of the groove 49 in order to receive the front edge of the removable section 6 when the latter is to be placed in its inclined position. At such time the front edge of said removable section 6 rests against the shoulder 51 (see Fig. 6) formed by the front edge of the slot 49, while the rear edge of said removable section rests on the panel 13 which is supported in the grooves 46, as shown in dotted lines Fig. 4. The shoulder 51 prevents the removable section 6 from sliding forwardly and by inserting the pins 48 into different apertures 47 the panel 13 may be placed at such an elevation as to give the removable section 6 the desired inclination.

When the desk is converted into a typewriter desk with the typewriter occupying the compartment 9, the panel 13 may be placed in the grooves 46 and used to support the stenographer's notebook while she is transcribing her notes. The pins 48 and the holes 47 provide for adjusting the panel to the desired height and the notebook can be readily hung over the pin 19 projecting from the edge of the panel 13, or, if desired, some notebook support other than the panel 13 may be used in the grooves 46.

The supporting rails 32 will naturally be made so that the grain of the wood runs longitudinally thereof and in order to protect the front corner of the rib 52 against chipping I will preferably insert a dowel pin 53 transversely into the supporting rail 32 and in a position so that when the vertical groove 49 and the rabbeted groove 54 are cut in the rail they will cut through the dowel pin so that the latter forms the corner of the portion 52 of the rib in front of the groove 49.

My improved desk, therefore, is adapted for use as a flat-top desk or table, as shown in Fig. 1, or it may be converted into a typewriter desk by removing the removable top section 6 and the front panel 13, or it may be converted into a school desk by removing the front panel 13, while leaving the removable section 6 of the top in the position shown in Fig. 1, thereby providing a desk with a compartment 9 open at the front to receive school books, papers, etc. When used in this way the removable panel 13 may be slit into some one of the grooves 41 to provide a shelf in the compartment 9.

I claim:

1. A convertible desk comprising a plurality of legs, a top member supported thereon and having a fixed section and a removable section, said fixed section being permanently and stationarily secured to the legs and forming the back portion of the desk top, means for removably supporting the removable section in front of and flush with the fixed section, said two sections then jointly forming the desk top, a platform or floor member permanently secured to the legs below the top and means between the top and the floor member to support the removable section of the table top in fixed position at any one of a plurality of different elevations.

2. A convertible desk comprising leg members, a top member supported thereon and having a fixed section permanently secured to the legs and forming the back portion of the desk top, and also having a removable section, means supporting the removable section in front of and flush with the fixed section, the two sections then jointly forming the desk top, a floor member secured to the legs below the top and forming with the top a typewriter-receiving compartment, side members extending between the legs on the back and on the two adjacent sides and forming the side walls of said compartment, and means at opposite sides of said compartment to support the removable section of the top in fixed position at any one of a plurality of different elevations.

3. A desk or table comprising two front leg members and two rear leg members, two supporting rails, one resting on the top of each front leg and the top of the corresponding rear leg, a table top member secured to said supporting rails, side members extending between each front leg and the corresponding rear leg, tie bolts tying the front legs to the rear legs and clamping said legs against the side members, anchoring strips situated beneath and secured to the supporting rails, said anchoring strips extending from the front to the rear of the desk and being situated on the inside of the side members, and means securing the side members to the anchoring strips.

4. A table comprising front and rear legs, a table top member supported on said legs and provided with a fixed and a removable section, means supporting said removable section in the plane of the fixed section, and means providing a horizontal runway for the removable section immediately below the top which runway is open at both the front and the back of the desk, whereby the removable section of the top may be placed in said runway and projected beyond the table top at the rear to form a rear extension thereof.

5. A convertible desk comprising a top member having a fixed section and a removable section, means for removably supporting the removable section in front of and in the plane of the fixed section, legs supporting said fixed section, a stationary floor member supported by the legs below the top member, a removable front panel situated between the floor and the top at the front, side portions extending between the front legs and back legs and with said panel forming side walls for the space between the floor and the top member, each side member having a vertical guiding groove open to said space and situated near the rear edge of the removable section and adapted to receive the front panel when the removable top section is removed, said panel when in the vertical grooves serving as a rest for the rear edge of the removable section of the top member.

6. A convertible desk comprising a top member having a removable section, legs supporting said top member, a stationary floor member supported by the legs below the top member, a removable front panel situated between the floor and the top at the front, side portions extending between the front legs and back legs and with said panel forming side walls for the space between the floor and the top member, each side member having a vertical guiding groove open to said space and situated near the rear edge of the removable section and adapted to receive the front panel when the removable top section is removed, and means to support the front panel at different elevations in said guiding grooves, said panel when in the guiding grooves serving as a rest for the rear edge of the removable section of the top member.

7. A convertible desk comprising a top member having a removable section and a fixed section, legs supporting the fixed section of the top, side

portions extending between the front and back legs immediately below the top, each side portion having a vertically-extending guiding groove near the rear end of the removable section of the top, and a supporting member adapted to be held in the guiding grooves with its edge projecting above the fixed portion of the top member, said fixed portion having a rest adjacent its front edge for supporting the front edge of the removable section when the latter is placed in an inclined position resting on said support.

8. A convertible desk comprising leg members, a top supported thereby and having a fixed section and a removable section, side portions extending between the front legs and back legs immediately below the top, each side portion having a vertically-extending guiding groove, a supporting panel fitting said grooves with its upper edge extending above the top, means for supporting the panel at different elevations, said fixed section of the top having at its front portion notches to receive the front edge of the removable section when the latter is placed in an inclined position resting on the adjustable supporting panel.

9. A convertible desk comprising a top member having a fixed section and a removable section, leg members to which the fixed section is rigidly and fixedly secured, means for supporting the removable section in front of and at the same plane as the fixed section, a stationary floor member secured to the legs below the top and forming therewith a storage compartment, fixed side members between the legs at the ends and back of the desk forming the side walls of said compartment, a removable panel member extending between the top and the floor member and forming the front of said compartment, and means within said compartment adapted to receive and support the panel member in an upright position at the rear of said compartment when the removable section is removed, said panel member, when so supported, constituting a rest for the rear edge of the removable section.

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