March 20, 1928. 1,663,407

J. A. HUGHES

DESK

Filed June 7, 1926 4 Sheets-Sheet 1

Fig. 1.

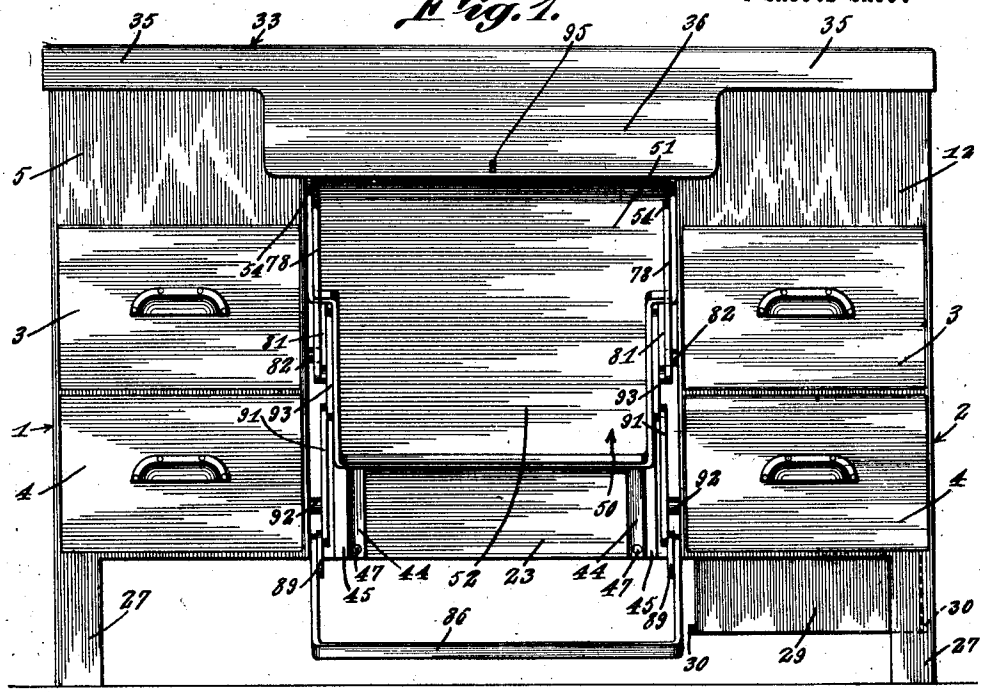
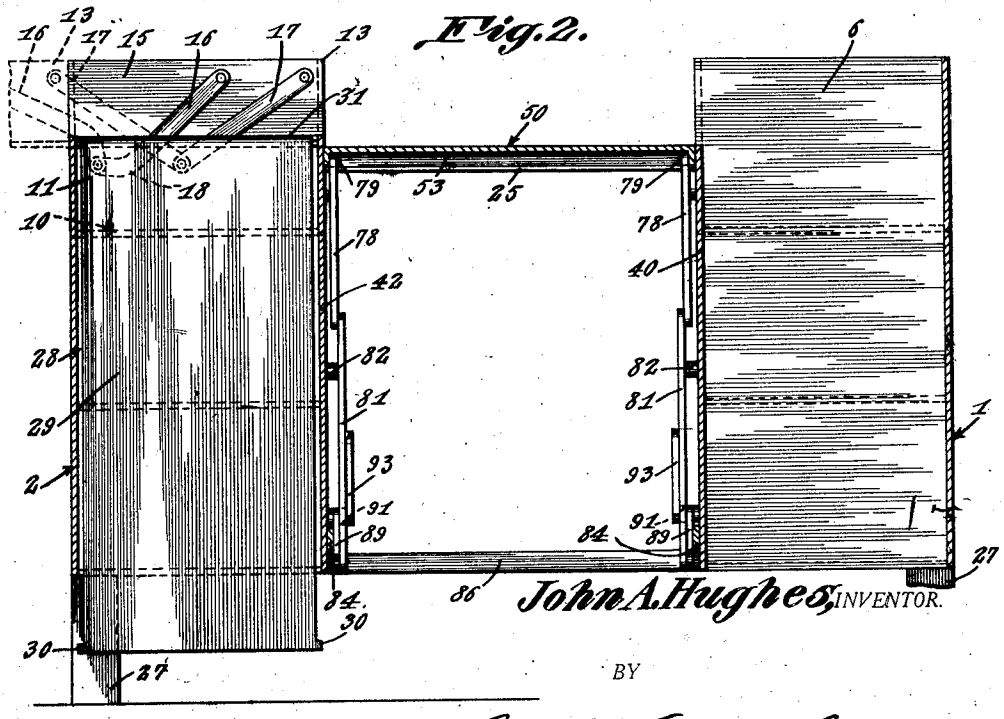


Fig. 2.



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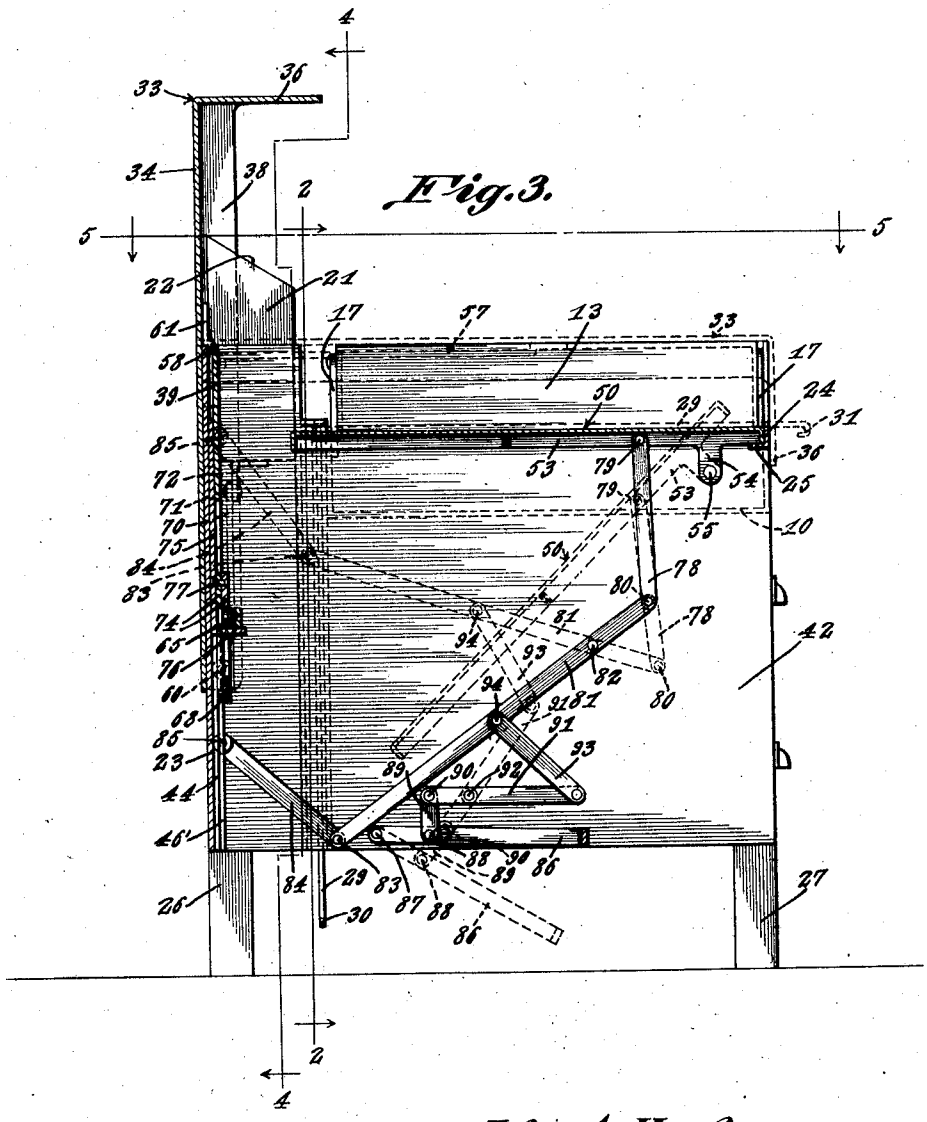
DESK

Filed June 7. 1926 4 Sheets-Sheet 2

Fig. 3.



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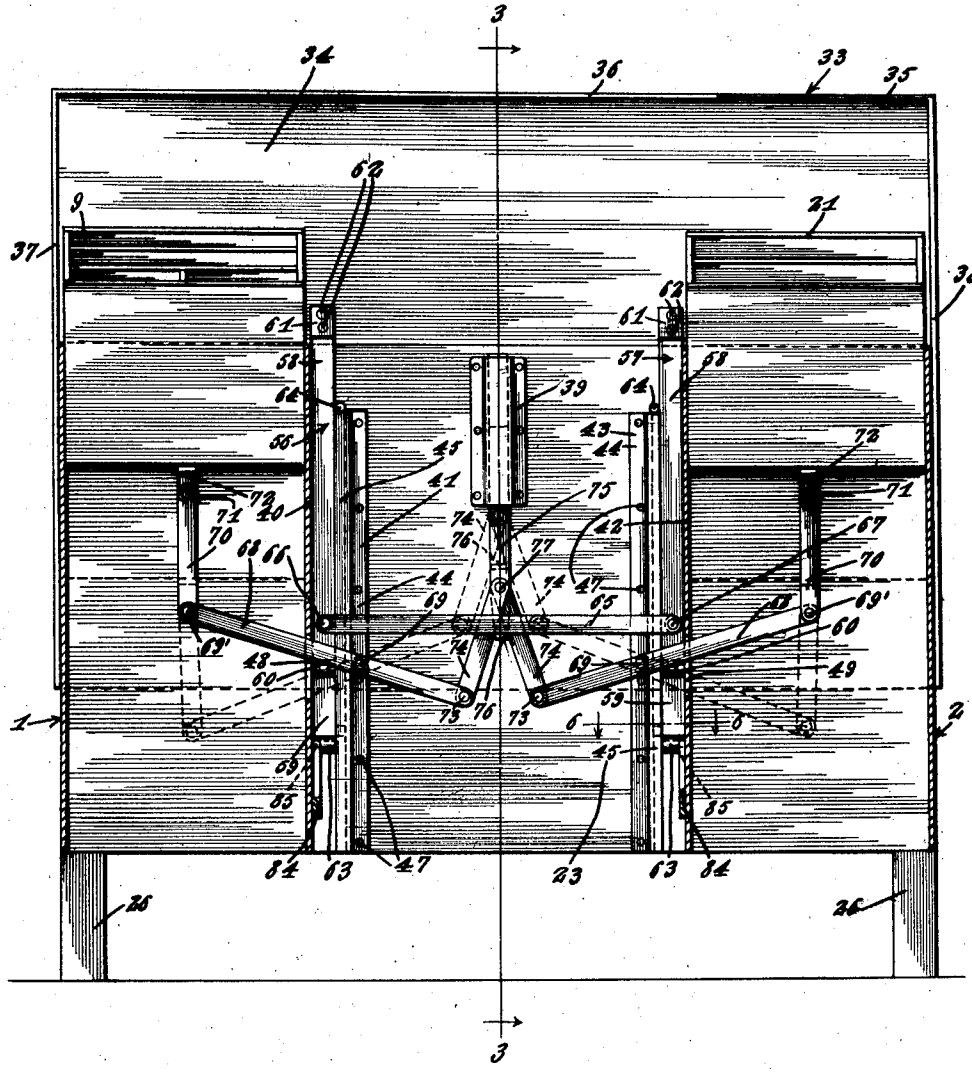
DESK

Filed June 7. 1926 4 Sheets-Sheet 3

Fig. 4.



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DESK

Filed June 7. 1926 4 Sheets-Sheet 4

Fig. 5.

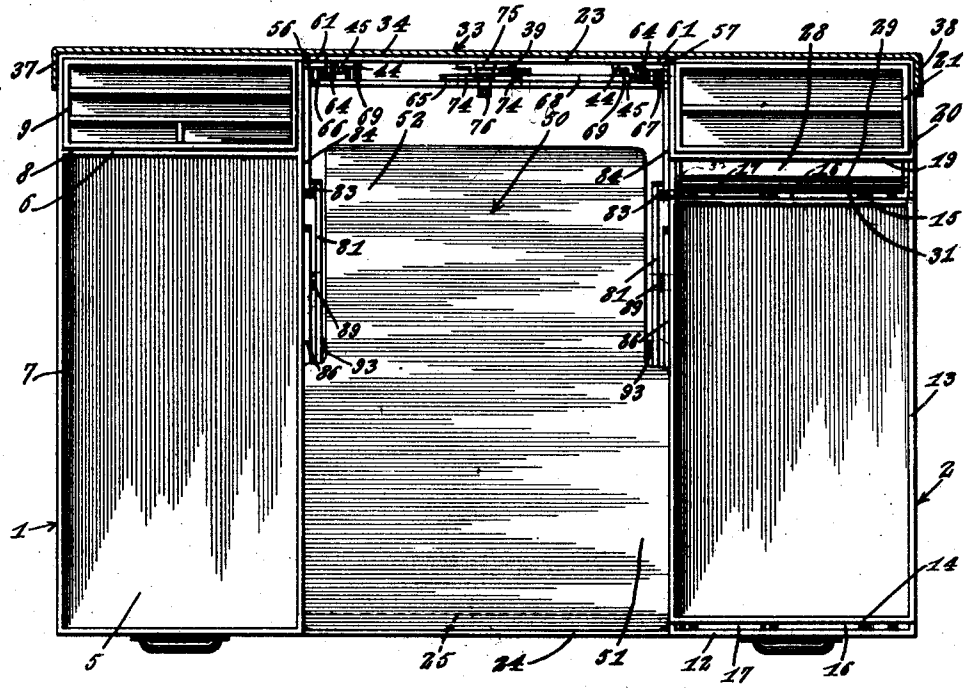


Fig. 6.

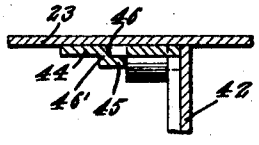
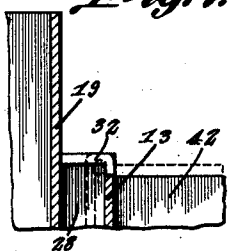


Fig. 7.



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Patented Mar. 20, 1928. 1,663,407

UNITED STATES PATENT OFFICE.

JOHN A. HUGHES, OF WACO, TEXAS.

DESK.

Application filed June 7, 1926. Serial No. 114,340.

This invention relates to desk constructions more particularly to furniture for office use such as a combination typewriter and cabinet desk, and has for its object, to provide in a manner as hereinafter set forth, a normally closed desk including a stationary body portion and a shiftable top therefor constituting means for normally closing the upper end of said body portion, and with the latter provided with means for supporting a typewriter in position for a typist's use when the top is shifted from closure position and for concealing the typewriter when the top is shifted to closure position, and further providing the desk with a pair of vertically movable receptacles carrying supplies or other articles for the typist and with such receptacles shiftable synchronously with the typewriter support to a position in convenient reach of the typist when the top is moved from closure position and concealed by the top when the latter is in closed position with respect to the body portion of the desk.

A further object of the invention is to provide, in a manner as hereinafter set forth a desk of the class described, including a body portion, a shiftable top therefor, a shiftable typewriter carrier or support connected with the body portion, a pair of shiftable receptacles, and a link and lever mechanism connected to the body portion and to said top for shifting said carrier to expose and conceal the typewriter on the opening and closing of the top and further to position said receptacles in convenient reach of the typist.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a combination typewriter and cabinet desk which is comparatively simple in its construction and arrangement, strong, durable, conveniently shifted to open and closed position, thoroughly efficient in its use, readily assembled, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Figure 1 is a front elevation of a combination typewriter and cabinet desk in accordance with this invention and with the same closed.

Figure 2 is a section on line 2—2, Figure 3.

Figure 3 is a section on line 3—3, Figure 4 with the desk open.

Figure 4 is a section on line 4—4, Figure 2 with the desk open.

Figure 5 is a section on line 5—5, Figure 3.

Figure 6 is a section on line 6—6, Figure 4.

Figure 7 is a sectional detail.

The combination typewriter and cabinet desk, in accordance with this invention, comprises a body portion, a shiftable top therefor, a typewriter support or carrier pivotally connected to and within said body portion, a pair of superposed filing trays carried by the body portion and with the upper tray shiftable relative to the lower tray, an open top file case arranged in parallelism with and opposing said trays and carried by the body portion, means to provide a combined arm rest and closure for the open top of the upper tray, a pair of vertically shiftable compartment receptacles mounted in the body portion, and a link and lever mechanism to provide for the synchronous shifting of the top, support and compartment receptacles on the opening and closing of the desk.

The body portion includes a pair of drawer sections referred to generally by the reference characters 1 and 2 and which are of rectangular contour and arranged in spaced relation. Each of said sections is provided with a pair of drawers 3, 4 arranged in superposed relation and with the upper drawer 3 spaced a substantial distance from the top of its respective drawer section. The drawers are of less length than the length of said sections, but the drawers 3, 4 in the section 1 are of greater length than the drawers 3, 4 in the section 2. The section 1 in proximity to the top of the drawer 3 thereof is provided with a flat partition member 5 which extends from the front of the section 1 and terminates at a point removed therefrom and abuts a vertically disposed partition member 6 spaced from the rear end of the section 1. The partition 5 in connection with the partition 6 as well as the sides and front of the section 1 form an

open top file case 7. The partition 6 in connection with the rear end of the section 1 forms a vertically disposed space 8 in which is arranged a vertically movable compartment receptacle 9.

The section 2 in proximity to the drawer 3 thereof is provided with a partition 10 forming a tray 11 having the front wall 12 thereof of greater height than its side and end wall. Arranged upon the side walls of the tray 11 and rearwardly with respect to the front wall 12 of the latter is a tray 13. The end walls of the tray 13 are indicated at 14, 15 and which are connected to the end walls of the tray 11 by a pair of links 16, 17. Each pair of links has its upper end connected to an end wall of the tray 13 and to an end wall of the tray 11. The two pair of links provide means whereby the tray 13 can be shifted laterally with respect to the tray 11 and suspended. Each link 16 has a curved lower end as indicated at 18 in Figure 2. The section 2 is furthermore provided with a vertically disposed partition member 19, which in connection with the rear end of said section 2 forms a passage 20 for a vertically shiftable compartment receptacle 21. The compartment receptacle 9, as well as the receptacle 21 is of less height than the height of either one of said sections 1 or 2. Each of said receptacles has a beveled top as indicated at 22 in Figure 3. The compartment receptacles are provided for receiving typists' supplies such as stationery, envelopes, etc. The rear end of the sections 1 and 2 are formed by a back 23, see Figures 4 and 5 and which acts to maintain the sections 1 and 2 in spaced relation at the rear thereof. The sections 1 and 2 at the top thereof are connected together by an angle iron 24 formed of a vertical and a horizontal leg and with the latter indicated at 25 and projecting rearwardly from the lower end of the vertical leg. The sections 1 and 2 are supported by a rear pair of supporting legs 26 and a front pair of supporting legs 27. The partition 19 is spaced from the rear end of the trays 11 and 13 and also the rear ends of the drawers 3 and 4 of the section 2 to provide a space 28.

Arranged in the space 28, see Figures 2, 3 and 5, is a panel 29 provided at its lower end with a pair of lateral lugs 30 and the upper end of said panel 29 is formed with a curved terminus 31, see Figure 3. Secured to the inner face of each side wall of the section 2, at the upper end thereof is a curved bracket 32, see Figure 7, and which is engaged by the lugs 30 thereby providing a fulcrum for the panel so that the panel can assume a position to close the tray 11 and also to constitute an arm rest. The lugs 30 coact with the bracket 32 to prevent the withdrawal of the panel from the section 2, that is to say the complete withdrawal of the panel. When the panel 29 is in its vertical or non-active position the curved terminal portion 31 thereof engages over the end wall of the tray 11, see Figure 7.

The shiftable top, which is referred to generally by the reference character 33 is in the form of a rectangular hood open at its rear and consisting of a top wall 34, a front wall 35 having its intermediate portion 36 of greater height than its end portion, and a pair of side walls 37, 38 of the same height as the height of the end portions of the front wall 35. The intermediate portion 36 of the front wall 35 is of greater length than the width of the space between the sections 1 and 2 of the body portion of the desk whereby when the top is in closed position the end terminal portions of the intermediate portion 36 and the front wall 35 will extend at the front of the sections 1 and 2 of the body portion of the desk. When the top 33 is shifted to open position it extends vertically and the wall 34 is arranged rearwardly of the back 23 of the body portion, see Figure 3.

Secured to the back 23, on its forward face, at its vertical median and near its top is a combined guide and keeper 39 which is vertically disposed. Secured to the forward face of the back 23 and spaced from the inner wall 40 of the section 1 is a vertically disposed guide member 41. Secured to the forward face of the back 23 and spaced from the inner wall 42 of the section 2 is a vertically disposed guide member 43. The guide members 41 and 43 extend from the lower edge of the back 23 and terminate at a point below the top edge thereof. The guide member 41 is oppositely disposed with respect to the guide member 43. Each of the guide members is constructed in a manner as shown in Figure 6 and is formed of a pair of end portions 44, 45 and an intermediate portion 46'. The end portion 45 is offset with respect to the end portion 44. The end portion 44 is secured to the back 23 and the end portion 45 spaced from the back 23 to provide a guide passage 46. The construction as set forth with respect to a guide member is when a guide member is in transverse section as shown in Figure 6. The hold fast devices for fixedly securing the guide members to the back 23 are indicated at 47. The side wall 40 of the section 1 is formed with a vertically disposed slot 48 and the side wall 42 of the section 2 is formed with a vertically disposed slot 49 which opposes the slot 48. The function of the slots 48 and 49 will be presently referred to. The combined guide and keeper 39, guide members 41 and 43 and slots 48 and 49 are associated with the link and lever mechanism which coacts to provide for the synchronous shifting of the top 37, the typewriter support or carrier to be presently re-

ferred to and the vertically movable compartment receptacles.

The typewriter support or carrier is referred to generally by the reference character 50 and is arranged in the space formed between the sections 1 and 2 of the body portion. The support 50 extends from the front end of the space between the sections 1 and 2 and terminates at a point removed from the back 23. The forward portion of the support 50, as indicated at 51, is of the same width as the width of the space between the sections 1 and 2 of the body portion, but the rear portion of the support 50, as indicated at 52 is of less width than the width of the space between the sections 1 and 2, see Figure 5. The cutting away of the rear part 52 of the support 50 provides a clearance when the latter is shifted to and from supporting position or rather when the latter is shifted to and from active and inactive position to expose and conceal a typewriter, not shown, secured to said support. When the support 50 is shifted for the purpose of positioning a typewriter for convenient access thereto by a typist, the support assumes a horizontal position and its forward end is mounted on the horizontal leg 25 of the angle iron 24, see Figure 3. The support 50 is provided with a depending flange 53 which is coextensive therewith. Depending from the flange 53, at each side thereof and in proximity to its forward end, is a hanger 54. The inner walls 40 and 42 of the sections 1 and 2 respectively, are provided with stub shafts 55, see Figure 3, upon which the hangers 54 are pivotally mounted. When the support 50 is shifted to expose the typewriter, it will be in the position as shown in full lines in Figure 3 and when shifted to a position to conceal the typewriter it will be as indicated in dotted lines in Figure 3.

The link and lever mechanism which coacts with the top 33, compartment receptacles 9 and 20 and support 50 includes a pair of slidable hinges for the top 33 and which are coupled together by an actuating means for a pair of oppositely disposed shifting devices for said receptacles 9 and 20. Said mechanism further includes a pair of elevating and lowering devices for the support 50 and a manually operated actuating means for said mechanism.

The slidable hinges which associate with the top 33 are indicated generally by the reference characters 56, 57. As each of the hinges are of the same construction, but one will be described, as the description of one will apply to the other. Each of said hinges consists of a pair of sections 58, 59 having the opposed ends pivotally connected together as at 60. The section 58 is of materially greater length than the section 59 and the upper terminal portion of the section 58 is inset as at 61 and fixedly secured to the wall 34 of the top 33 as at 62. The insetting of the terminal portion 61 of the section 58 provides for the major portion of said section to be offset with respect to the portion 61 thereby permitting of the back 23, when the top is shifted, to slide between the wall 34 of the top 33 and the sections 58 of the hinges and in this connection see Figure 3. The hinges 56 and 57 slide between the guide members 41, 43 respectively and the walls 40, 42 respectively and in this connection see Figure 4. The section 59 of the hinge at its lower end is formed with a laterally extending lug 63 which rides in the guide passage 46, see Figure 6. Also see Figure 4. To prevent the separation of the hinges 56 and 57 with respect to the guide members 41, 43 stop lugs 64 are secured to the back 23 and positioned at the upper ends of the guide passages 46 and in this connection see Figure 4. The hinges 56 and 57 are connected together to provide for the synchronous movement thereof through the medium of a coupling bar 65, which is connected at one end as at 66 to the hinge 56 and at its other end as at 67 to the hinge 57. The coupling bar 65 also provides means for actuating the pair of oppositely disposed shifting devices for the compartment receptacles 9 and 20.

As the pair of oppositely disposed shifting devices for the compartment receptacles 9 and 20 are of the same construction, but one will be described, as the description of one will apply to the other. Each of said devices consists of a lever arm 68 pivotally connected, as at 69 to a guide member 41 or 43. The lever arm 68 extends through a slot 48 or 49 and has its inner end pivotally connected as at 69′ to a vertically disposed link 70 which is pivotally connected as at 71, to a hanger 73 which depends from the bottom of a compartment receptacle and in this connection see Figure 4. The outer end of the lever 68 is pivotally connected as at 73 to the lower end of an upstanding link 74. Slidably mounted in the combined guide and keeper 39 is a shifting member 75 which is common to the pair of oppositely disposed shifting devices for the compartment receptacle and said shifting member 75 has its lower end provided with a nose 76.. The upper ends of the links 74 of the said shifting devices, are pivotally connected to a common pivot 77 carried by the member 75 above the nose 76. The nose 76 of the member 75 is in the path of the coupling bar 65 so that when the latter moves downwardly the member 65 will be carried therewith, and under such conditions moving the link 74 downwardly and shifting the levers 68 on their pivots, whereby the inner ends of the levers will assume the full line position

shown in Figure 4 and elevate the compartment receptacles 9 and 20. When the hinges 56 and 57 move upwardly, carrying the bar 65 therewith, the receptacles 9 and 20 will move downwardly by gravity, whereby the lever arms 68 will assume the dotted line position shown in Figure 4. The compartment receptacles 9 and 20 are moved upwardly to the position shown in Figure 4 when the top 33 is swung to open position and the upward movement of the receptacles is caused by the swinging of the levers 68 due to the engagement of the bar 65 with the nose carried at the lower end of the member 75, but as before stated the lowering movement of said receptacles is caused by gravity.

As the pair of elevating and lowering devices for the support 50 are of the same construction, but one will be described, as the description of one will apply to the other. Each of said elevating and lowering devices comprising a depending link 78, which is pivotally connected at its upper end as at 79 to one side of the flange 53 and said link 78 has its lower end pivotally connected as at 80 to the upper end of a lever arm 81, the latter being pivoted between its transverse median and its upper end, as at 82 upon a pivot extending from the inner wall of the sections 1 or 2 of the body portion and in this connection see Figure 3. The lower end of the lever arm 81 is pivotally connected as at 83 to the lower end of an upstanding link 84, the latter having its upper end pivotally connected as at 85 to a hinged section 59, and in this connection see Figures 3 and 4. When the top 33 is swung to open position, so as to be disposed vertically with respect to the body portion of the desk, and as shown in Figure 3, the position of each elevating and lowering device will be as indicated in full line in Figure 3 whereby the support 50 will be disposed horizontally with respect to the body portion of the desk. When the top 33 is shifted to closure position, with respect to the body portion of the desk, each elevating and lowering device for the support 50 will be in the position as indicated in dotted lines in Figure 3. When the support 50 is lowered to conceal the typewriter, it will be as shown in dotted lines in Figure 3.

The manually actuated operating means for the link and lever mechanism comprises a yoke shaped member 86 having its arms pivoted as at 87 to the inner walls of the sections 1 and 2. Pivotally connected as at 88 to each arm of the member 86, is the lower end of a link 89 and said link 89 has its upper end pivotally connected as at 90, to a lever arm 91, which is pivotally connected as at 92 to an inner wall of the section 1 or 2 of the desk body. The pivot 89 is disposed between the vertical median of the lever arm 91 and its rear end. The forward end of the lever arm 91 is pivotally connected to the lower end of an upstanding rearwardly inclined link 93 which has its upper end pivotally connected, as at 94, to the lever arm 81 below the pivot 82 for the latter.

By operating the member 86 in the manner so that it will assume the dotted line position shown in Figure 3, the top 33 will be shifted upwardly so it can be grasped and moved to the full line position shown in Figure 1. The member 86 is operated by foot pressure. The top 33 is shifted to open position manually, that is to say it is started and the weight thereof will assist it to assume the vertical position shown in Figure 3. A suitable locking means indicated at 95, Figure 1 can be employed for securing the top 33 in closed position. When the top is shifted to the position shown in Figure 3, the weight thereof will maintain the top in full line position so that the support will be retained in its horizontal position to prevent the shifting thereof when the typist is operating on the typewriter mounted on said support 50. The top 33 further provides a closure for the tray 13 and filing case 7. When the top is shifted to open position the compartment receptacles are moved so that they will be in convenient access to the typist and furthermore as the file case 7 and trays are arranged at each side of the support 50 they will also be in convenient reach of the typist.

It is thought the many advantages of a combination typewriter and cabinet desk, in accordance with this invention can be readily understood, and although the preferred embodiment of the invention is as illustrated and described, but it is to be understood that changes in the details of construction can be had which will fall within the scope of the invention as claimed.

What I claim is:

1. A desk of the type described comprising a body portion, a shiftable typewriter support arranged within the latter, a pair of spaced, vertically movable open top receptacles arranged within the body portion at the rear thereof, a shiftable hinged top common to said receptacles and body portion, and slidably connected to the front of the back of the latter, and a link and lever mechanism pivotally connected with said top, support and receptacles and slidably and pivotally connected to said body portion to provide for the synchronous shifting of the support and receptacles to open and closed positions on the opening and closing of said top respectively.

2. A desk of the type described comprising a body portion, a pair of spaced, vertically movable open top receptacles arranged within said body portion, a shiftable hinged top common to said receptacles and body

portion and slidably connected to the front of the back of the latter and a link and lever mechanism pivotally connected with said top and receptacles and slidably and pivotally connected to said body portion to provide for the synchronous shifting of said receptacles to open and closed positions on the opening and closing of said top respectively.

3. A desk of the type described comprising a body portion, a pair of spaced, vertically movable open top receptacles arranged within said body portion, a shiftable hinged top common to said receptacles and body portion, means for slidably connecting said top to the front of the back of the body portion, and a link and lever mechanism pivotally connected with said top and receptacles and slidably and pivotally connected to said body portion to provide for the synchronous shifting of said receptacles to open and closed positions on the opening and closing of said top respectively.

4. A desk of the type described comprising a body portion, a shiftable hinged top for normally closing said body portion, a pair of hinges connected to said top and slidably connected to the back of said body portion, a shiftable typewriter support arranged within the body portion, and a link and lever mechanism connected to said support and to said hinges to provide for the shifting of said support to open and closed positions on the opening and closing of said top respectively.

5. A desk of the type described comprising a body portion, a shiftable hinged top for normally closing said body portion, a pair of hinges connected to said top and slidably connected against the forward face of the back of said body portion, said hinges offset to overlap the back of the body portion, a shiftable typewriter support arranged within the body portion, and a link and lever mechanism connected to said support, body portion and hinges to provide for the shifting of said support to open and closed positions on the opening and closing of said top respectively.

6. A desk of the type described comprising a body portion, a manually shiftable, hinged top slidably connected to the front of the back of said body portion and providing means for normally closing the upper part of the body portion, a shiftable typewriter support arranged within the body portion, and a link and lever mechanism pivotally connected to the slidable connection between the body portion and top and pivotally connected to said support for shifting the support to open and closed positions on the opening and closing of said top respectively.

7. A desk of the type described comprising a body portion, a manually shiftable hinged top slidably connected to the back of said body portion and providing means for normally closing the upper part of the body portion, a shiftable typewriter support arranged within the body portion, a link and lever mechanism connected with said body portion, top and support for shifting the support to open and closed positions on the opening and closing of said top respectively, and a manually operated yoke shaped member connected to said body portion and mechanism for actuating the latter to initially start the top to closed position.

8. A desk of the type described comprising a body portion including a back and a pair of drawer sections spaced from each other, said body portion having an open upper end, a manually shiftable hinged top slidably connected to the forward face of the back of said body portion and providing means for normally closing the upper part of the body portion, a shiftable typewriter support arranged between said drawer sections, a link and lever mechanism connected to said drawer sections, top and support for shifting the support to open and closed positions on the opening and closing of said hinged top respectively, and a manually operated means arranged between said drawer sections, connected therewith and to said mechanism for actuating the latter to initially start the top to closed position.

9. A desk of the type described comprising a compartment body portion, a shiftable typewriter support arranged within the latter, a pair of spaced vertically movable open top receptacles positioned within the body portion and arranged rearwardly of said support, a shiftable top for enclosing the upper end of said body portion and providing a closure common to said receptacles, means for slidably connecting the top to the front of the back of the body portion and providing a hinge for the top, and means pivotally connected to said slidable connection, slidably and pivotally connected to said body portion and pivotally connected to said support and receptacles to provide for the synchronous shifting of the support and receptacles to open and closed positions on the opening and closing of said top respectively with respect to the upper end of said body portion.

10. A desk of the type described comprising a compartment body portion, a shiftable typewriter support arranged within the latter, a pair of vertically movable open top receptacles positioned within the body portion and arranged rearwardly of said support, a shiftable hinged top for enclosing the upper end of said body portion, means connected to said top, body portion, support and receptacle to provide for the synchronous shifting of the support and receptacles to open and closed positions on the opening

and closing of said top respectively with respect to the upper end of said body portion, and said means including a pair of hinges fixed to said top and bodily carried therewith and further slidably connected to the body portion and further having link connections with said support and receptacles.

11. A desk of the type described comprising a body portion including a pair of spaced drawer sections and a back common to said sections, a shiftable typewriter support positioned between said sections, vertically movable open top receptacles positioned at the rear of each of said sections, a shiftable hinged top slidably connected to said back and common to said receptacles and body portion, and a link and lever mechanism connected with said top, support, sections and receptacles to provide for the synchronous shifting of the support and receptacles to opened and closed positions on the opening and closing of said top respectively.

In testimony whereof, I affix my signature hereto.

JOHN A. HUGHES.