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C. BALZI ET AL
DESK DRAWER FOR TYPEWRITERS, INCLUDING
ELEVATING TYPEWRITER SUPPORTS

2,455,156

Filed March 3, 1945

3 Sheets-Sheet 1

Fig. 1

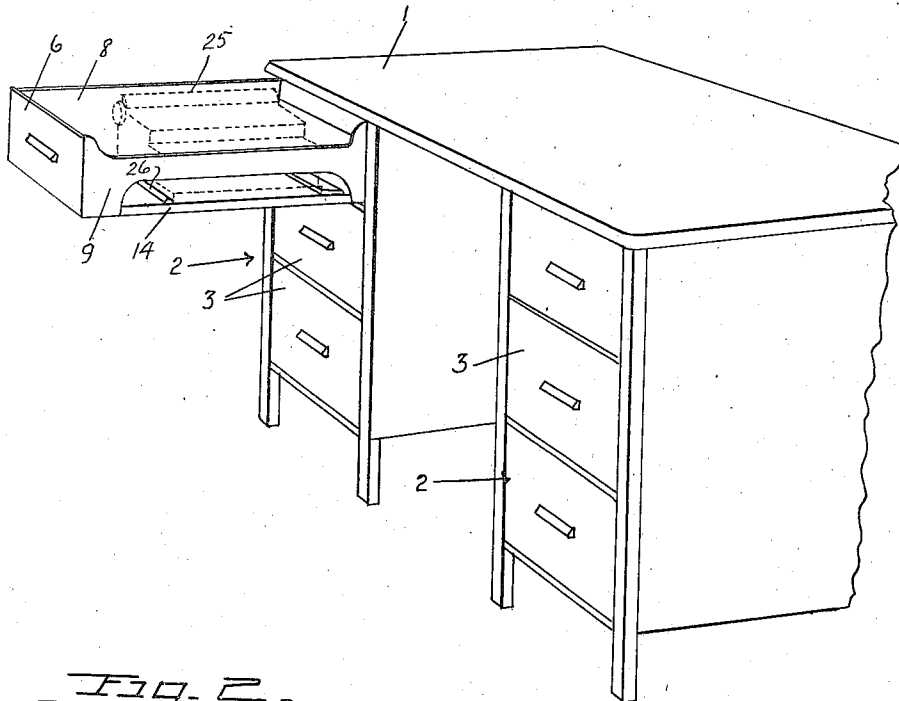
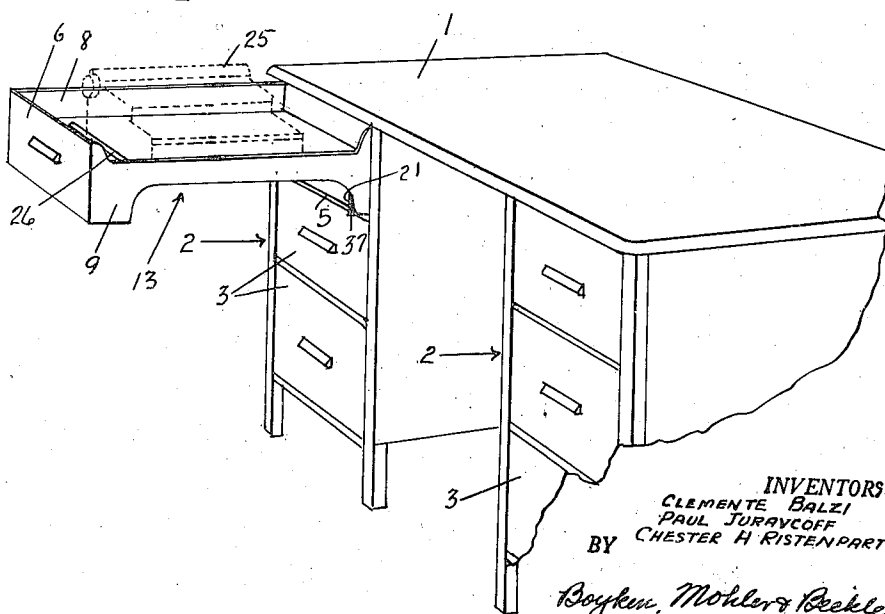


Fig. 2



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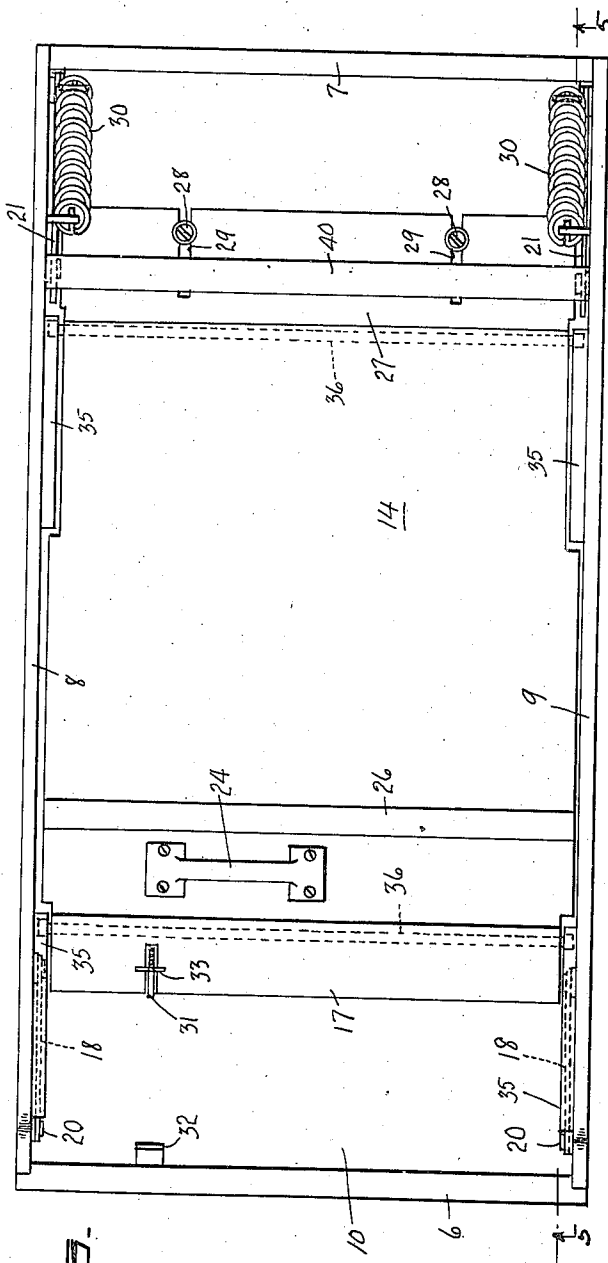
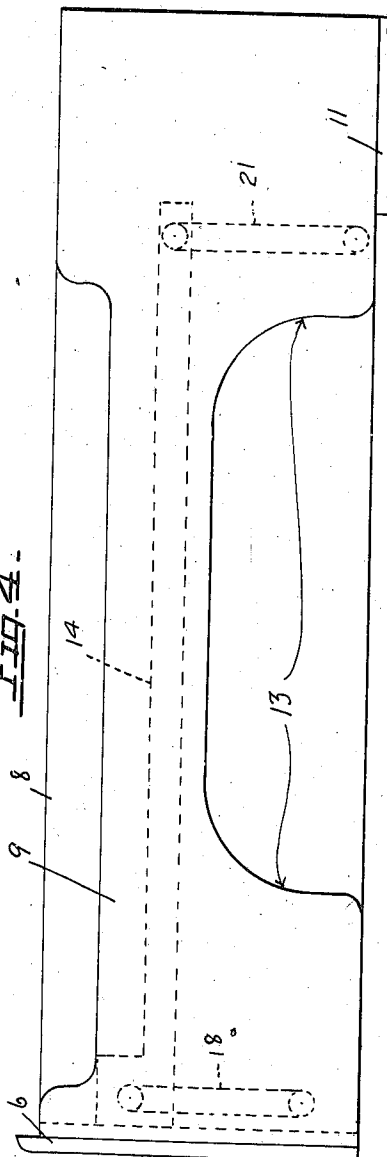


Fig. 3-

Fig. 4-



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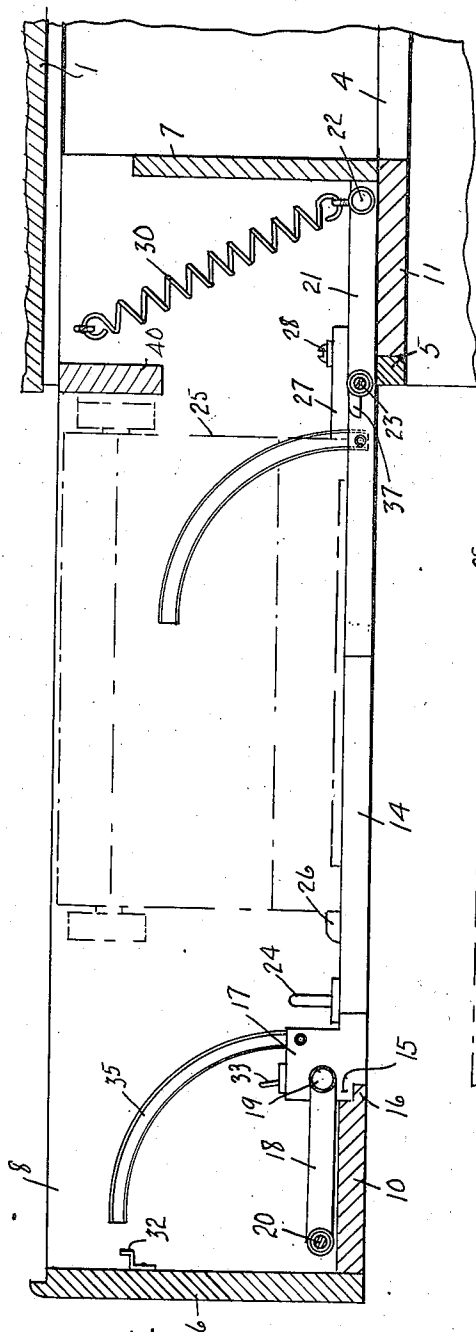


Fig. 5-

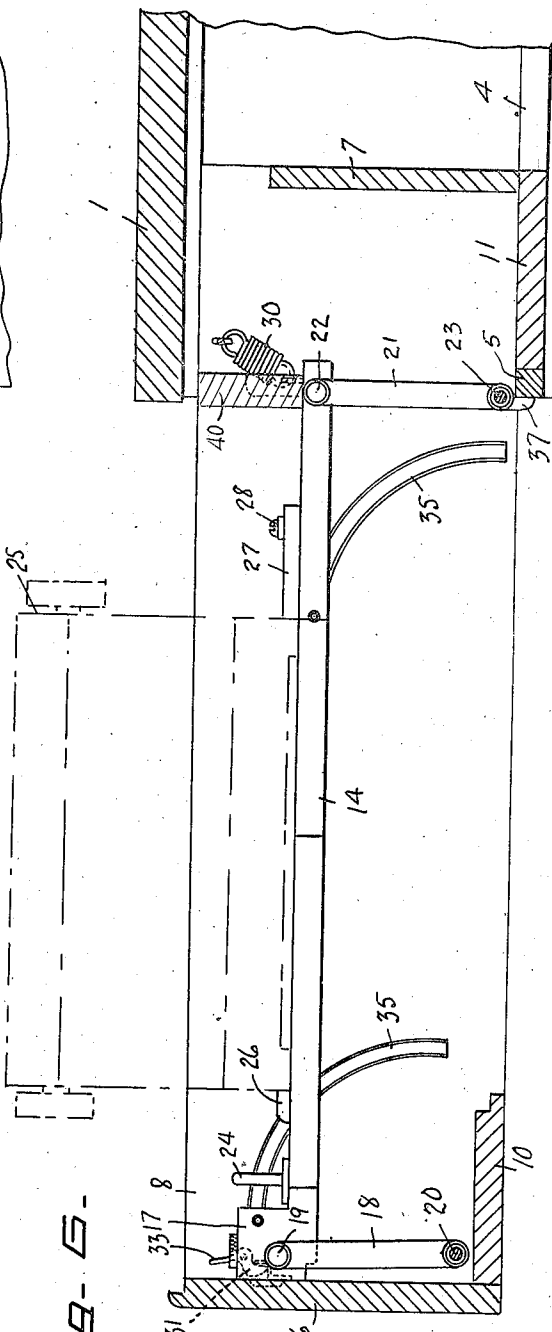


Fig. 6-

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DESK DRAWER FOR TYPEWRITERS; INCLUDING ELEVATING TYPEWRITER SUPPORTS

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12 Claims. (Cl. 312--28)

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The invention relates generally to a typewriter desk and has for one of its objects the provision of improved means in a desk for storing a typewriter when not in use and for supporting the same for use. The invention is particularly suitable for portable typewriters which are relatively light in weight and compact.

Most of the conventional office or home writing desks have no simple, easily manipulated and economically made means for holding a typewriter at the correct typing level and for storing it away when the typewriter is not in use. The conventional typewriter desks having the displaceable top portion carrying the typewriter render the greater portion of the desk top useless when the typewriter is in use, and furthermore, the mechanism used is costly, complicated and the typewriter must be bolted in place.

In some desks a drawer has been used for holding the typewriter and which drawer is provided with a side or end that may be swung down to make the typewriter accessible. The objections to this structure are that the desk top must be objectionably high if the typewriter is to be at the correct height for typing, or else the typewriter will be objectionably low if the top of the desk is at the correct level.

Still other attempts have been made to provide a convenient support for the typewriter in which the typewriter is bolted or fastened to the support so as to prevent its dislodgement during manipulation of the support. This is objectionable, both because supports requiring the securing of the typewriter thereto are generally quite complicated and expensive to make, and because the typewriter cannot be lifted freely from the support for carrying to some other place. Also, such structures generally render a substantial portion of the desk unfit for any other purpose than for the typewriter whether the latter is used or not.

Another object of this invention is the provision of a desk and of improved means therein for overcoming all of the above-mentioned objections, and a still further object is the provision of means for insuring against accidental injury to a typewriter in using the invention. Other objects and advantages will appear in the description and in the drawings.

In the drawings Fig. 1 is a fragmentary perspective view of a conventional desk illustrating one embodiment of the invention and showing in dotted line an outline of the typewriter before being elevated for use.

Fig. 2 is a fragmentary view similar to that of

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Fig. 1 but, with the typewriter support elevated, the typewriter being indicated in dotted line in elevated position.

Fig. 3 is an enlarged plan view of the typewriter-carrying drawer separate from the desk and without the typewriter therein.

Fig. 4 is a side elevational view of the drawer of Fig. 3, with the typewriter support in the drawer shown in elevated position in dotted lines.

Fig. 5 is a sectional view of the drawer taken substantially along line 5--5 of Fig. 3, but which view shows the typewriter support in elevation and also part of the desk supporting the drawer.

Fig. 6 is a sectional view similar to that of Fig. 5, showing the typewriter support in elevated position.

As already mentioned, the present invention is particularly intended for use with portable typewriters which are relatively light, compact and which are frequently carried by the user on trips and should therefore be free from any securement to a desk or to any other support.

In detail, the desk illustrated in Fig. 1 is provided with a top 1 that is at the desired writing height from the floor, which may be from about twenty-nine to about thirty-one inches. This desk is of the conventional type having a pedestal 2 at one of both ends supporting the top and having knee space below the top at one side of one pedestal, if only one is used or between the pedestals where two are used. Each pedestal is ordinarily provided with one or more drawer openings for carrying sliding drawers 3 therein. The drawer openings and drawers are not necessarily of standard sizes. Sometimes some drawers may be relatively shallow and some may be usually deep.

The present invention relates particularly to the top drawer in either a left or a right hand pedestal of a desk, although it is preferably used on the left hand pedestal as the desk appears from the user's side as indicated in Figs. 1, 2. Said upper drawer is slidable on the conventional slides 4 (Figs. 5, 6) that are secured to opposed sides of the pedestal. Only the slide on the far side is indicated in Figs. 5, 6, it being understood that a similar slide is on the near side that is not shown. A cross bar 5 across which said drawer slides defines the lower edge of the drawer opening.

The drawer itself comprises a main frame that is made up of a vertical front-end panel 6 and a rear-end panel 7 that respectively connect the corresponding opposite ends of elongated opposed side frame member 8, 9, the latter frame mem-

ber being the one nearest a user that is seated at the desk.

At the forward end of the drawer adjacent the front panel is a horizontal bottom portion 10 (Fig. 5) that extends along said front panel and between said side frame members, while a second horizontal bottom portion 11 extends along the rear panel 7 and between the rear ends of the side frame members. However, said portion 11 is relatively short and is offset below the level of the lower edges of ends of said side frame members whereby it will engage the cross bar 5 of the desk when the drawer is pulled out in extended position thereby preventing the operator from accidentally withdrawing the drawer completely from the desk. This portion 11 also functions as a spacer so that a sufficient length of the rear end of the drawer will be held in the pedestal to insure against objectionable tipping of the outer end of the drawer under the weight of the typewriter when the drawer is in extended position. The side frame members 8, 9 may be considered as the two lateral sides of the drawer. The side 8 may be exactly like the corresponding sidewall in any conventional drawer, but the side 9 is centrally relieved from its lower edge intermediate its opposite end portions to provide a recess 13 (Figs. 2, 4) adapted to provide knee room for the knees of an operator facing said side 9. The bottom portions 10, 11 are positioned at opposite ends of said recess outwardly thereof; hence they would not interfere with the knees.

Within said drawer and between said end portions 10, 11 is a platform 14 that is adapted to extend across the space between said portions, and when in lowered position (Fig. 5) forms the main bottom of the drawer.

A lip 15 along the forward edge of platform 14 is adapted to rest on a ledge 16 formed on portion 10. When said lip is on said ledge the rear end of the platform extends over portion 11 and its rear edge is closely adjacent the rear-end panel 7. Thus the platform is horizontal.

Along the front edge of the platform is an upstanding relatively wide rib 17 that extends the width of the platform. A pair of similar parallel links 18 are respectively pivotally secured at one of their ends to the ends of said rib as at 19, and are pivotally secured at their opposite ends at 20 to the side walls 8, 9 at points adjacent the front panel 6 and adjacent the bottom portion 10.

A second pair of similar parallel links 21 are pivotally secured at one of their ends to the side edges of the platform 14 at points closely adjacent the rear end edge of said platform as indicated at 22, while the opposite ends of said links are pivotally connected at 23 with the sides 8, 9 of said drawer. Said links 21 are substantially horizontal when the platform is supported on portions 10, 11, as are the links 18. The lengths of said links 18, 21 are such that upon pulling upwardly on handle 24 that is adjacent rib 17, the platform will swing upwardly to the elevated position seen in Fig. 6 and will be maintained horizontal during and after said movement. Thus a typewriter thereon, such as is indicated in dot dash lines at 25 in Figs. 5, 6, need not be secured to the platform, but will move upwardly with the latter without fear of dislodgement, and the operator can freely lift the typewriter from the platform at any time.

Said platform preferably has a pair of cross strips 26, 27 secured on its upper surface for properly positioning the typewriter and to hold it against shifting laterally when the typewriter

is being used. The strip 27 is adjustable toward and away from strip 26 so that any one of several widths of typewriters can be positioned between the strips, the screws 28 (Fig. 3) being adapted to hold the strip 27 in adjusted position, said strip being formed with slots 29 for said screws.

At the rear end of the platform 14 and adjacent the rear corners is a pair of similar expansion spiral springs 30 that have one end of each secured to the platform adjacent each of said corners. The opposite ends of said springs are preferably secured to the sides 8, 9 of the drawer near the upper edges of said sides and forwardly relative to said rear corners when the platform is in its lowered position on portions 10, 11. These springs 30 function like counterbalances for the weight of the typewriter, thereby greatly facilitating the raising of the typewriter platform with the typewriter thereon to elevated position of the platform.

When the platform 14 reaches the elevated position best seen in Fig. 6, a finger operated spring latch 31 is adapted to automatically engage hook 32 (Fig. 5) carried on the front panel 6, thereby holding the platform elevated until the finger actuable handle 33 of the latch is actuated. This handle is close to the handle 24 that is used for elevating the platform, so that the operator may simultaneously hold the handle 24 while actuating the latch.

Unless the platform 14 is relatively close and in substantially sliding engagement with the side walls 8, 9 of the drawer, there may be a tendency under certain conditions for the platform to tilt as to become slightly canted relative to horizontal under the unequally distributed weight of the typewriter. This tendency is overcome by means of oppositely opening channel strips 35 (Fig. 6) secured to sides 8, 9 adjacent the front and rear ends of the platform. Rods 36 may respectively extend through rib 17 (Fig. 3) and through the rear end of the platform with rollers on their ends extending into the channel strips between the sides thereof. The strips are curved to conform to the normal paths of travel of said rollers during swinging of the platform to and from elevated position. Thus the movement of the platform is made easier and the platform is stabilized at all times for holding it horizontal.

It has already been mentioned that the bottom portion 11 of the drawer is adapted to engage the cross bar 5 of the pedestal to prevent accidental complete withdrawal of the drawer from the pedestal. In as much as the typewriter might be severely injured, particularly its carriage, were the operator to attempt to close the drawer when the typewriter is elevated, this objection is overcome by providing extensions 37 on the ends of links 21 (Figs. 5, 6) that will swing down across the side of cross bar 5 when the platform is elevated, thereby locking the drawer to the bar 5 until the platform is lowered. This locking and unlocking is automatic with elevating and lowering platform 14.

The upper edge of side 9 of the drawer is preferably cut away or recessed from about the front panel 6 to a point over the rear end of recess 13 so as to remove any possible interference by said side with manipulation of the typewriter keys. However, a substantial length of the full width of side 9 remains between said recesses and the rear end of the drawer to insure proper sliding of the drawer between its slides, and to hold the drawer rigid and horizontal when extended.

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When the said platform 14 is elevated, its upper surface at its rear end will substantially engage a cross frame member 40 that is at the rear end of the portion of the upper edge of the side 9 that is relieved. This cross frame member also functions to hold the drawer rigid.

When the platform 14 is in lowered position the same and the typewriter 25 thereon are fully disposed within the laterally projected confines of the front panel 6 and side wall 8 and the drawer may be freely slid into the pedestal like any other drawer. Upon pulling the drawer out to extended position (Fig. 1) the platform 14 is in a position obstructing movement of the operator's knees into recess 13, and the typewriter is not accessible for typing. However, upon pulling upwardly on handle 24 the platform 14 will immediately swing upwardly to the position seen in Fig. 2 and will be releasably locked in this elevated position and also the drawer will be releasably locked in its extended position. Both locking actions are automatic and are caused by swinging of the platform to elevated position.

In elevated position the platform 14 is at the correct typing height, although below the level of the table top and above the bottom of the drawer. Also the raising of the platform and typewriter automatically clears the recess 13 to receive the knees of the operator. The operator seated at the desk may readily swing from the desk to the drawer for alternately typing and working at the desk without inconvenience to himself or disturbance of any work that is on the table.

As the drawer carrying the typewriter functions like any other drawer, except for the means for locking the drawer in extended position, it is merely a matter of replacing the typewriter drawer with a conventional drawer, if the user desires, in order to convert the desk to a conventional desk. In other words, the desk drawer of this invention does not impair the desk for use of a conventional drawer if the user should dispose of his typewriter and desire to use the space occupied by the drawer in the usual manner.

It is to be understood that the drawings and description are not to be considered as being restrictive of the invention, but merely illustrative thereof.

We claim:

1. A horizontally elongated drawer adapted to slide longitudinally thereof into and out of a desk comprising a horizontal platform for holding a typewriter upright thereon for movement therewith, a main frame including opposed side frame members and a front and a rear frame member respectively connecting the corresponding ends of said side frame members, means swingingly supporting said platform on said frame between said front and said rear frame member for generally vertical movement upwardly from a lowered position to an elevated position and vice versa, means for releasably securing said platform in said elevated position, and a portion of the lower edge of one of said side frame members for a substantial distance between its ends being appreciably elevated above the said lowered position of said platform to provide knee space below said portion for the knees of an operator when the platform is in elevated position, said portion being at about the height of the said elevated position of said platform.

2. A horizontally elongated drawer adapted to slide longitudinally thereof into and out of a desk comprising a horizontal platform for holding a

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typewriter upright thereon for movement therewith, a main frame including opposed side frame members and a front and a rear frame member respectively connecting the corresponding ends of said side frame members, means swingingly supporting said platform on said frame between said front and said rear frame member for generally vertical movement of said platform in an arcuate path upwardly from a lowered position to an elevated position and vice versa, means for releasably securing said platform in said elevated position, and a portion of the lower edge of one of said side frame members for a substantial distance between its ends being appreciably elevated above the said lowered position of said platform to provide knee space below said portion for the knees of an operator when the platform is in elevated position, said portion being at about the height of the said elevated position of said platform, arcuately extending channel strips carried by said side members and elements on said platform extending into the channel openings of said strips and secured to opposite ends of said platform for stabilizing said platform during said movement from said lowered position to said elevated position and vice versa.

3. A horizontally elongated drawer adapted to slide longitudinally thereof into and out of a desk comprising, a horizontal platform for holding a typewriter upright thereon for movement therewith, a main frame including opposed side frame members and a front and a rear frame member respectively connecting the corresponding ends of said side frame members, means swingingly supporting said platform on said frame between said front and said rear frame member for generally vertical movement upwardly from a lowered position to an elevated position and vice versa, means for releasably securing said platform in said elevated position, and a portion of the lower edge of one of said side frame members for a substantial distance between its ends being appreciably elevated above the said lowered position of said platform to provide knee space below said portion for the knees of an operator when the platform is in elevated position, said portion being at about the height of the said elevated position of said platform, said front frame member being a rigid vertical panel providing a closure for the front end of the drawer, and the said elevated and lowered positions of said platform being entirely within the laterally projected confines of said panel at all times.

4. A horizontally elongated drawer adapted to slide longitudinally thereof into and out of a desk comprising a vertical front end panel and a horizontally elongated vertical side panel of equal vertical widths connected at one end of each, a horizontal platform providing a bottom for said drawer adapted to support a typewriter thereon in a position with said typewriter fully disposed within the laterally projected confines of said end panel and side panel, an end frame member and a side frame member secured together at one end of each and respectively opposed to said end panel and side panel and respectively connected at their opposite ends thereto, a portion of the lower edge of said side frame member for a substantial distance between the ends of the latter being elevated a substantial distance above said platform when said platform is in its lowest position, means supporting said platform for generally vertical movement from said lowest posi-

tion in which it is adjacent the lower edges of said front end panel and said side panel to a position at substantially the level of said portion of the lower edge of side frame member and vice versa.

5. In a typewriter desk having a top and a pedestal below one end thereof provided with a drawer opening adjacent said top, a horizontally elongated drawer slidable longitudinally thereof through said opening from an extended position projecting from said pedestal and outwardly of said top to a closed position within said pedestal, said drawer having a vertical front wall integral therewith for fully closing said opening when said drawer is in said pedestal, a platform for supporting a typewriter within said drawer and below said top when said drawer is in said closed position, means for securing said platform within said drawer and for supporting it for generally vertical upward movement when said drawer is in said extended position to an elevated position, vertically disposed opposed side wall members on said drawer extending horizontally away from the lateral edges of said front wall and past two opposite edges of said platform into said pedestal, one of said side wall members being formed with a downwardly opening recess where it passes said platform for providing access from one side of said drawer to the space directly below said platform when said drawer is in said extended position and the platform is elevated to give knee room for an operator, said space being obstructed by said platform when said platform is lowered from said elevated position for movement of said drawer to said closed position.

6. In a typewriter desk having a top and a pedestal below one end thereof provided with a drawer opening adjacent said top, a horizontally elongated drawer slidable longitudinally thereof through said opening from an extended position projecting from said pedestal and outwardly of said top to a closed position within said pedestal, a platform for supporting a typewriter within said drawer and below said top when said drawer is in said closed position, means for securing said platform within said drawer and for supporting it for generally vertical upward movement when said drawer is in said extended position to an elevated position, a recess formed in one side of said drawer for providing access from said one side of said drawer to the space directly below said platform when said drawer is in said extended position and the platform is elevated to give knee room for an operator, said space being obstructed by said platform when said platform is lowered from said elevated position for movement of said drawer to said closed position, means for locking said drawer in said extended position against longitudinal movement thereof in either opposite direction when said platform is in said elevated position, said last mentioned means including a portion of said pedestal below said drawer and a portion of the said means for securing said platform in said drawer and for supporting the platform for said vertical movement.

7. In a typewriter desk having a top and a pedestal below one end thereof provided with a drawer opening adjacent said top, a horizontally elongated drawer including two opposed side walls and a front wall slidable longitudinally thereof through said opening from an extended position projecting from said pedestal and outwardly of said top to a closed position within

said pedestal, a platform for supporting a typewriter within said drawer and below said top when said drawer is in said closed position, means including a pair of parallel links for securing said platform within said drawer and for supporting it for generally vertical upward movement when said drawer is in said extended position to an elevated position, said links being pivotally connected at one end of each to the sides of said drawer respectively and being pivotally connected at their opposite ends to the end of said platform that is remote from said front wall, engaging stop elements respectively on said drawer and pedestal for limiting outward movement of said drawer to said extended position and locking means on one of said links automatically engaging the said stop means that is on said pedestal when said platform is in said elevated position for locking said drawer against movement from said extended position to said closed position, said locking means being movable to a position releasing said drawer for said movement to said closed position upon downward movement of said platform to its lowered position within the drawer.

8. In a typewriter desk having a top and a pedestal below one end thereof provided with a drawer opening adjacent said top, a horizontally elongated drawer including two opposed side walls and a front wall slidable longitudinally thereof through said opening from an extended position projecting from said pedestal and outwardly of said top to a closed position within said pedestal, a platform for supporting a typewriter within said drawer and below said top when said drawer is in said closed position, means including a pair of parallel links for securing said platform within said drawer and for supporting it for generally vertical upward movement when said drawer is in said extended position to an elevated position, said links being pivotally connected at one end of each to the sides of said drawer respectively and being pivotally connected at their opposite ends to the end of said platform that is remote from said front wall, engaging stop elements respectively on said drawer and pedestal for limiting outward movement of said drawer to said extended position and locking means on one of said links automatically engaging the said stop means that is on said pedestal when said platform is in said elevated position for locking said drawer against movement from said extended position to said closed position, said locking means being movable to a position releasing said drawer for said movement to said closed position upon downward movement of said platform to its lowered position within the drawer, opposed pairs of oppositely opening channel strips secured to opposite inner sides of said drawer, and elements carried by said platform projecting into the open sides thereof for stabilizing said platform during said movement, said channel strips being curved to follow the path of movement of said elements.

9. In a desk having a top and a pedestal below one end thereof and which desk is provided with a drawer opening adjacent said top, a horizontally elongated drawer adapted to slide longitudinally thereof through such opening from an extended position projecting from such pedestal and outwardly of such top to a closed position within such pedestal, said drawer including a vertical front end wall movable therewith adapted for fully closing said opening when said drawer is in said closed position, a platform

within said drawer for supporting a typewriter thereon and below said top when said drawer is in said closed position, means for securing said platform within said drawer and for supporting it for generally upward movement when said drawer is in said extended position to an elevated position, said drawer further including side members extending horizontally from the ends of said front end wall and alongside two opposite edges of said platform into said pedestal, the portion of one of said side members alongside one of said side edges being at a level substantially above one of said side edges of said platform when the latter is in lowered position in said drawer and substantially at the same level as said platform when the latter is elevated and the space below said platform and said portion being entirely unobstructed when said platform is in said elevated position whereby the knees of an operator alongside said drawer may freely enter said space from one side of said drawer, said space being obstructed by said platform when the latter is lowered into said drawer for moving the latter to said closed position.

10. A drawer for sliding into a desk comprising, a vertical front wall, a bottom wall, and a pair of side frame members extending parallel and horizontally from the opposite lateral edges of said front wall, said bottom wall including a horizontal typewriter platform in a lowered position at a level about even with the lower edge of said front wall, means supporting said platform for generally vertical movement from said lowered position to an elevated horizontal position nearer the top edge of said front wall than said lower edge, said side frame members being arranged to extend past opposite side edges of said platform and the portion of one of said members extending past one of said side edges of said platform being substantially elevated above said edge when said platform is in said lowered position and at about the level of said edge when said platform is in said elevated position, the space below said platform and said portion being unobstructed when said platform is in said elevated position whereby access to said space is provided for the knees of an operator sitting alongside said drawer.

11. In a desk having a horizontal top and a horizontally extending elongated drawer below said top having front and rear end walls and a pair of opposed side walls rigidly connecting said front and rear end walls, means supporting said drawer for horizontal movement longitudinally thereof from a closed position in which the upper edge of said front end wall is in substantially adjoining relation to the under surface of said table to an extended position in which the major length of said drawer between said front and rear end walls projects laterally from below said top, a horizontal platform within said drawer adapted to support a typewriter therein in a posi-

tion disposed wholly within the laterally projected area of said front and wall, means supporting said platform on said drawer for bodily upward movement of said platform to an elevated position in which said typewriter will project substantially above the upper edge of said front wall, said front end wall being rigid between its uppermost and lowermost edges at all times, and the upper edge of one of said side walls being substantially lower than the upper edge of said front end wall along the portion that is adapted to extend past a typewriter on said platform.

12. In a desk having a top and a pedestal below one end thereof provided with a drawer opening adjacent said top, a horizontally elongated drawer slidable longitudinally thereof through said opening from an extended position projecting from said pedestal and outwardly of said top to a closed position within said pedestal, said drawer including a front end wall rigid with said drawer and movable therewith from said extended position to said closed position fully closing said opening when in said latter position with its upper edge closely adjacent said top, a horizontal platform for supporting a typewriter within said drawer with said typewriter wholly disposed within the laterally projected area of said front end wall when said drawer is in its closed position, means carried by said drawer supporting said platform for swinging said platform upwardly to an elevated position in which said platform is still within the laterally projected area of said front wall and in which elevated position a typewriter on said platform projects substantially above said front wall when said drawer is in said extended position, one of the edges of said platform being substantially in engagement with the inner lateral side of said front end wall when said platform is in said elevated position thereby preventing movement of said platform past said front end wall in a direction longitudinally of said drawer.

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