Sept. 29, 1931. E. W. SIBLEY 1,825,369

TYPEWRITER DESK

Filed Dec. 14, 1929 2 Sheets-Sheet 1

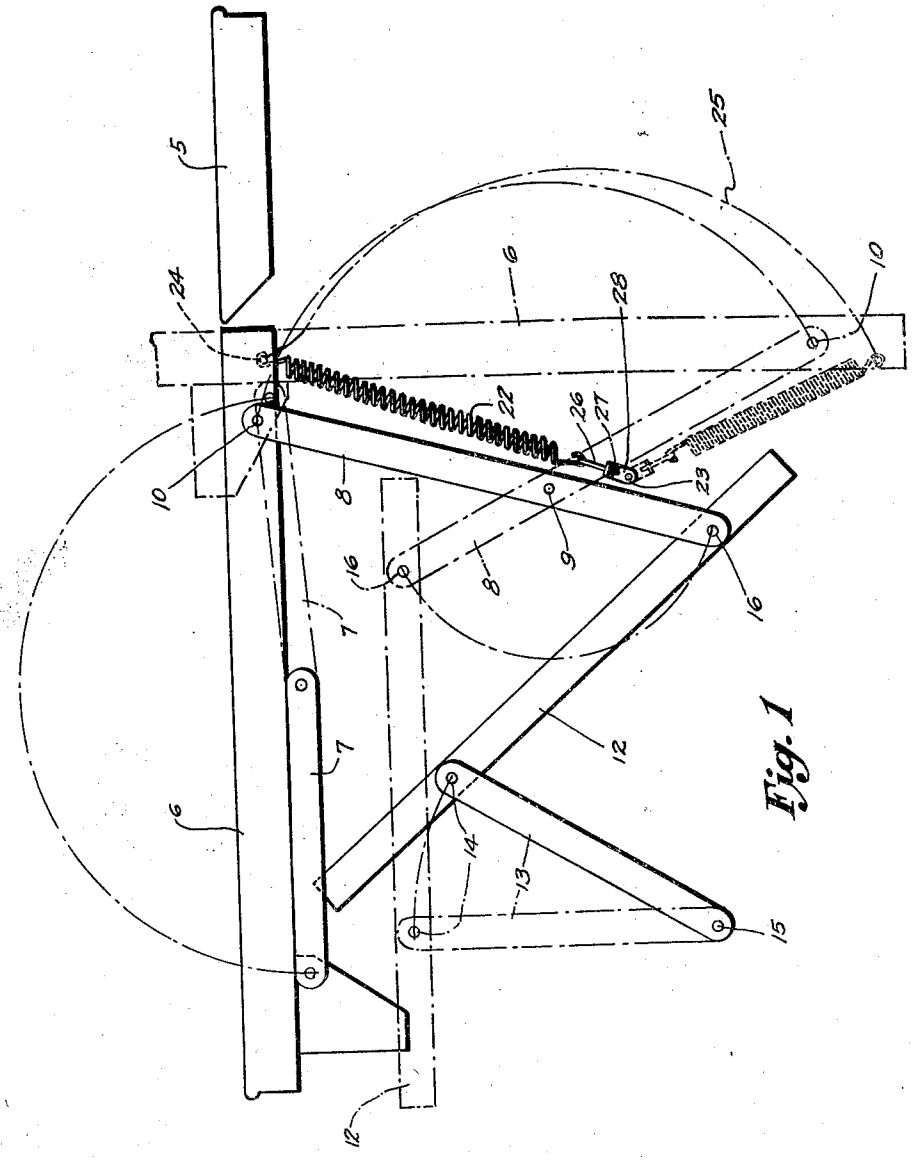


Fig. 1

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Fig. 3

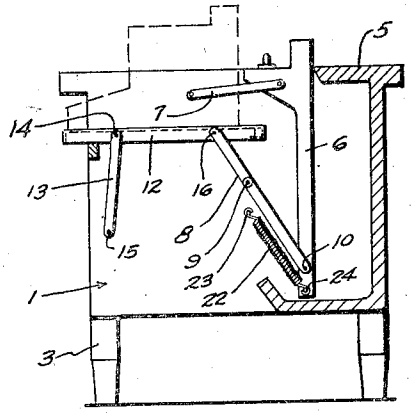


Fig. 4

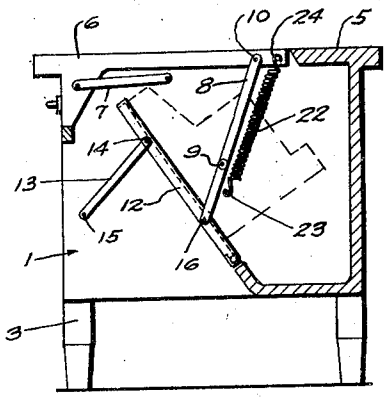


Fig. 5

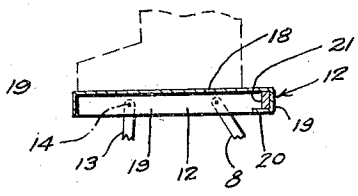


Fig. 6

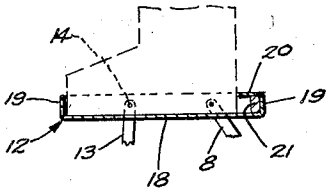
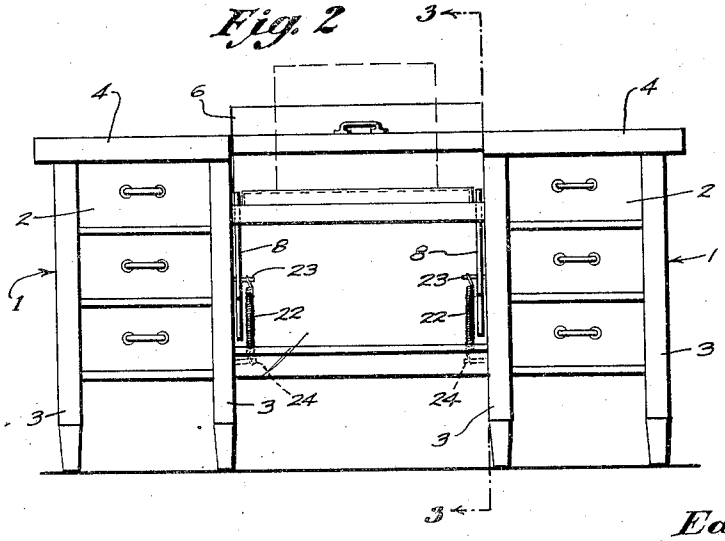


Fig. 2



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1,825,369

UNITED STATES PATENT OFFICE

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TYPEWRITER DESK

Application filed December 14, 1929. Serial No. 414,181.

This invention relates to typewriter desks, and has particular relation to disks equipped with a cover or supplemental top portion and a typewriter support that is so mounted and connected by linkage mechanism that the support and typewriter carried thereby may be swung downwardly into a compartment provided therefor in the desk when the cover is closed.

In the present invention the cover and the typewriter support are pivotally attached to the opposite ends of a pair of levers which are pivotally mounted intermediate their ends to the desk proper. The typewriter support has an additional pair of levers, mounted adjacent its other end, and pivotally attached to the main body of the desk. This linkage constrains the typewriter support to movement in a predetermined path. The cover has similar auxiliary pivot levers and it moves in a predetermined path and in predetermined relation with the typewriter support.

In desks of this type, there is a position in which the moments of the typewriter and the cover counteract each other and the support and typewriter are in a state of equilibrium. At one side of this line the weight of the typewriter and its support tends to maintain the cover closed with the typewriter enclosed in the desk and on the other side of this line, the weight of the cover tends to maintain the cover open and the typewriter in an operative position.

There is a resulting tendency, from the particular arrangement of levers necessary to move the cover and the support into the desired positions, for the combined weight of the cover and typewriter to cause the cover to close violently if it is released before it reaches its closed position.

One of the objects of the present invention is to prevent the cover of the typewriter desk of the type described from slamming shut due to its weight and that of the typewriter, if released before it is entirely closed, by providing means for yieldably opposing the force set up in closing the cover.

A further object of the invention is to provide a desk of the character described having a spring that is so arranged that it will exert little force during the first stages of the closing movement of the cover but which will become increasingly active during the latter stages thereof, particularly after the aforementioned zone is reached wherein the preponderance of moments tending to close the cover becomes very large.

A further object of the invention is to provide a typewriter desk having a support, the level of which may be quickly and easily varied according to the location of the keyboard and the size and weight of the particular make of typewriter employed and which may be provided with counter-weights of different sizes so as to maintain the parts as nearly as possible in equilibrium.

Further objects of the invention will appear from the following description and appended claims.

In the accompanying drawings:

Fig. 1 is a diagrammatic view of the cover and typewriter support of a desk constructed according to the invention showing the arrangement and relative positions of the several parts in full lines with the cover in closed position and in dotted lines with the cover open and the typewriter support in working position.

Fig. 2 is a front elevation of the typewriter desk with the cover open.

Fig. 3 is a vertical sectional view taken on line 3—3 of Fig. 2 and showing a typewriter desk with the cover open.

Fig. 4 is a view similar to Fig. 3 with the cover closed.

Figs. 5 and 6 are detail views of the interchangeable typewriter support showing it in different positions for the purpose of raising or lowering the typewriter according to the height of the keyboard on the typewriter used.

Referring more in detail to the accompanying drawings, a desk constructed according to the invention is shown as comprising spaced pedestals 1 having the usual drawers 2, legs 3, and tops 4 which are connected across the back of the desk by a transverse portion 5. A swing cover or top portion 6 is mounted between the pedestals 1 by means

of links 7 which are pivotally connected at their forward ends to the sides of the cover adjacent to the front edge thereof and which extend rearwardly and are pivotally connected to the pedestals 1. The rear portion of the cover 6 is supported by a pair of levers 8 which are pivotally connected intermediate their ends to each of the pedestals 1, as at 9, while the longer ends are pivotally connected to the sides of the cover 6 adjacent the rear edge thereof as at 10. The cover may thus be swung rearwardly and downwardly from a horizontal position in which it forms a continuation of the desk top to the vertical position between the pedestals shown by dot and dash lines in Fig. 1.

A typewriter support 12 is movably mounted between the pedestals 1 and is supported adjacent its forward edge by a pair of levers 13 which are pivotally connected at their upper ends to each side of the support as at 14 and at their lower ends to the pedestals 1, as at 15. The rear portion of the support is pivotally connected as at 16 to the shorter arms of the levers 8. Thus it will be seen from an inspection of Fig. 1 that as the cover 6 is swung rearwardly the levers 8 will rotate about their pivots 9 in a clockwise direction thereby causing the shorter arms thereof to raise the rear portion of the typewriter support 12 and swing the forward portion forwardly about the pivot 15 in a counter-clockwise direction until the parts assume the positions indicated by the dot and dash lines in Figure 1 in which the cover is entirely open and the support and typewriter are in a position to be used. Conversely, when it is desired to lower the typewriter and close the desk, the cover is swung upwardly and forwardly in a counter-clockwise direction.

As shown in detail in Figs. 5 and 6 the typewriter support 12 comprises a flat metallic plate portion 18 having flanges 19 bent at right angles thereto about its four edges and a flange 20 formed on one of the flanges and extending inwardly parallel to the plate 18. The levers 13 and 8 are pivotally connected to the support 12 on the flanges 19. The typewriter support may be used with the plate portion 18 either at the top or at the bottom of the flanges 19 as shown in Figs. 5 and 6 respectively. With the support in the position shown in Fig. 5 the keyboard of a standard typewriter mounted thereon will be in correct working position. With the support inverted, as in Fig. 6, an electric typewriter, or any other typewriter having a higher keyboard, may be used. The space between the flange 20 and the top portion 18 is adapted to receive a counter-weight 21, the size of which is determined by the weight and center of gravity of the typewriter to be accommodated so that the combined moments of the typewriter and its supporting parts will be correctly related to the moment of the cover.

A pair of extension springs 22 are each pivotally attached at one end to the pedestals 1 and at the other end to one point on the cover. In the embodiment set forth in the drawings the spring 22 is shown as being secured to the pedestal 1 at a point directly below the fulcrum of the lever 8 as indicated at 23, and to the cover 6 at a piont rearwardly of the pivotal connection designated at 10 indicated at 24. In Fig. 1 the spring 22 is shown in its extended position in full lines and in its contracted position in dotted lines. The path taken by the end of the spring fastened to the cover is shown by the dot and dash line 25 in Fig. 1.

In the operation of the typewriter desk constructed as above described, and in the movement of the cover from the open position shown in dot and dash lines in Fig. 1 to the closed position shown in full lines, the springs 22, by reason of the particular location of the pivotal connection 23 in adjacent relation to the pivot 9 for the levers 8, will have the tension gradually increased as shown by the dot and dash lines so that the spring will exert an increasing tension upon the cover and its operation on the levers 8 to effect a substantial counterbalance between the cover and the typewriter support with its typewriter mounted thereon. To prevent the sudden closing of the cover and the sudden dropping of the typewriter into its closed or covered position a further tensioning of the spring is obtained immediately preceding the movement of the cover into its final closed position for preventing a sudden banging of the cover into closed position by counter-balancing its weight and movement about the pivotal connection on levers 8. In this way the operation of the cover and the typewriter support with its typewriter, to open and closed positions is made considerably easier due to the counter-balancing action of the springs 22 and the sudden jarring of the parts into either the closed or open positions is substantially eliminated, particularly when the parts move into the closed position.

The end of the spring 22 which is secured to the pedestals of the desk is attached to a suitable link member 26 which is provided with a screw threaded end portion receiving an adjusting nut 27 which engages an angle bracket 28 pivotally secured at the point 23 to the pedestal. By means of the nut 27 the tension of the spring may be varied within desired limits so as to adjust the tension for obtaining the proper counter-balancing of the parts.

The use of the weights in the typewriter support also permits of the proper compensation for variation in the weights of various typewriters mounted on the support in order

that sufficient compensation may be made between the weight of the typewriter and the weight of the remaining parts so that the spring 22 may be adjusted to secure the counter-balancing action.

What is claimed is:

1. A typewriter desk having a compartment and a cover for normally closing said compartment, a typewriter support normally housed in said compartment, pivotal means supporting the cover and the support and adapted to dispose the support and a typewriter carried thereby in a working position when the cover is opened, a spring secured at one end in the compartment and at the other to the cover, the tension on said spring being increased at a substantially uniform rate during the major portion of the cover closing movement to effect an approximate counter-balance between said cover and said support and at an increased rate during the last part of the cover closing movement to cushion the final closing thereof.

2. A typewriter desk having a compartment and a cover therefor, a typewriter support housed in said compartment, linkage mechanism movably mounting the cover and typewriter support in the desk for movement into open and closed positions, the typewriter support positioning a typewriter carried thereby for use in the open position of the parts, said linkage mechanism mounting the cover and the typewriter support so that the weight of the cover has counter-balancing cooperation with the typewriter support and the typewriter carried thereby, and a spring cooperating with the cover and linkage mechanism, said spring having a minimum tension in the open position, having uniformly increasing tension as the cover is moved from the open toward the closed position, and having a substantially increased tension as the cover approaches the closed position for producing a substantially uniform counter-balancing of the cover and the support and typewriter.

3. A typewriter desk having a compartment and a cover therefor, a typewriter support housed in said compartment, means pivotally connecting the cover and the support and rotatably mounted in the compartment intermediate of said pivotal connections, and a tension spring secured at one end within the compartment directly below said rotatable mounting and having its other end attached to the cover rearwardly of the pivotal connection of said means therewith.

4. A typewriter desk having a compartment and a cover therefor, a typewriter support housed in said compartment, a pair of levers each of which is pivotally connected at its opposite ends to the cover and the support and rotatably mounted intermediate its ends within the compartment, and a tension spring having one end secured within the compartment adjacent said rotatable mounting and the other end secured to the cover adjacent the pivotal connection of the levers therewith.

5. A typewriter desk having a compartment and a cover for normally closing said compartment, pivotal means movably mounting said cover, and a typewriter support comprising a supporting plate, marginal flanges thereon, and a pocket formed adjacent one of said marginal flanges, said pivotal means being further adapted to mount said typewriter support by engagement with said marginal flanges so that the position of the supporting plate relative to the flanges may be reversed to vary the height thereof, said pocket being provided to receive a compensating weight of a size that will cause the combined weight of the typewriter, the support, and the compensating weight to cooperate with the cover.

6. A typewriter desk having a compartment and a cover for normally closing said compartment, a typewriter support normally housed in said compartment, pivotal means supporting the cover and the support and adapted to dispose the support and a typewriter carried thereby in a working position when the cover is opened, a tension spring secured at one end in the compartment and at the other end to the cover, said spring being tensioned at a substantially uniform rate during the major portion of the cover closing movement to effect an approximate counter-balance between said cover and said support and at an increased rate during the last part of the cover closing movement to cushion the final closing thereof, and a compensating weight carried by the support and whose weight is complementary to that of the typewriter carried by said support whereby a substantial counter-balance is obtained between the cover and the said support with a typewriter thereon.

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