Oct. 12, 1943. H. SISKIN 2,331,576

DISAPPEARING TYPEWRITER SUPPORT

Filed Aug. 29, 1942 2 Sheets-Sheet 1

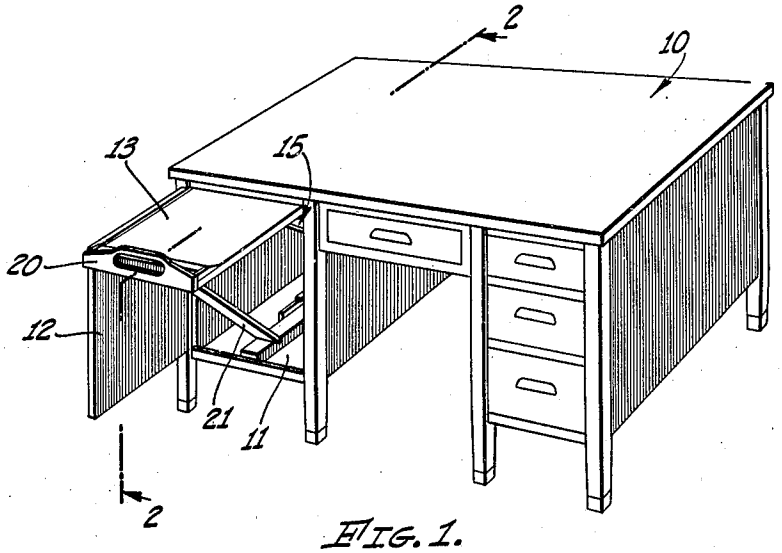


FIG. 1.

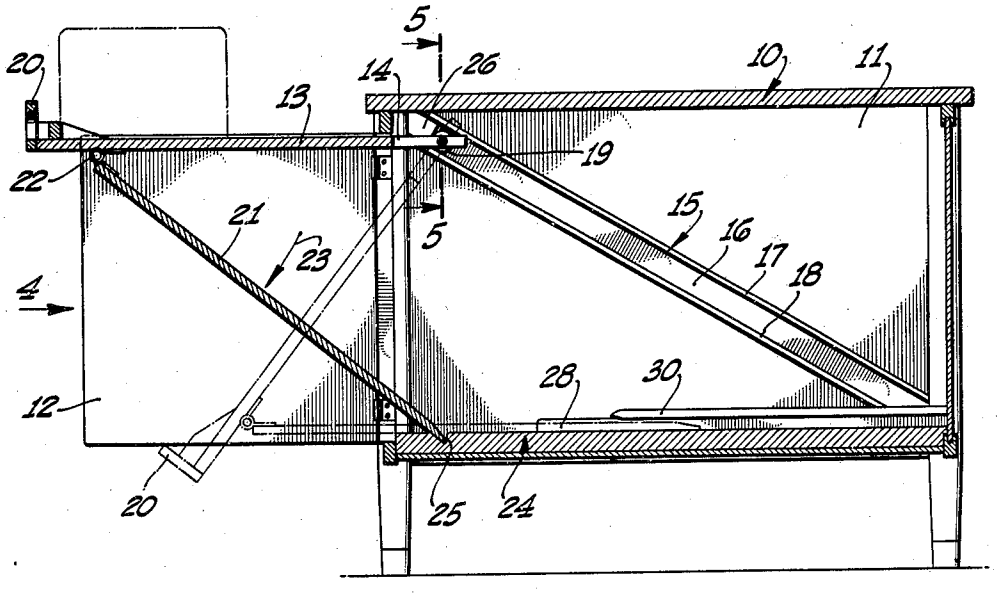


FIG. 2.

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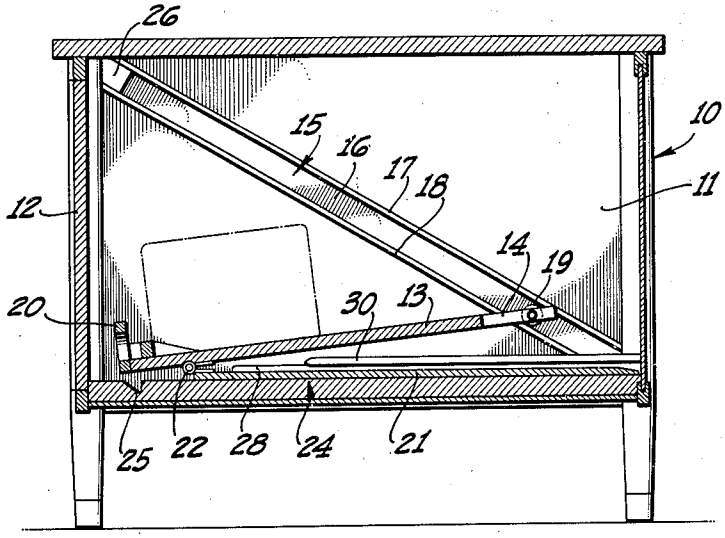


FIG. 3.

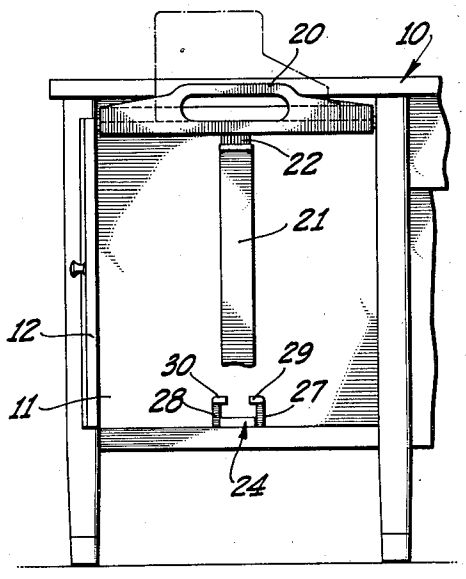


FIG. 4.

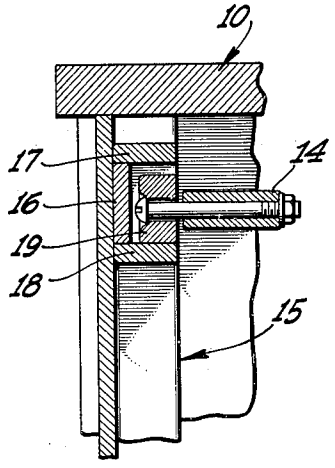


FIG. 5.

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2,331,576

DISAPPEARING TYPEWRITER SUPPORT

Harry Siskin, Los Angeles, Calif.

Application August 29, 1942, Serial No. 456,665

9 Claims. (Cl. 312—29)

This invention relates to a disappearing typewriter support for use on secretarial desks, and similar structures.

The present conventional construction for supporting the typewriter shelf or table employs a number of metallic rock shafts and springs enabling the shelf to assume either an extended and elevated position or a retracted and lowered position within a compartment of the desk. The springs employed are designed to carry a substantial portion of the weight of the typewriter to facilitate its being withdrawn and extended or elevated from the desk, these mechanisms being formed of metal and at the present time unavailable.

A primary object of the present invention is to provide an improved disappearing support for typewriters and the like which will enable the typewriter shelf and typewriter thereon to assume either an extended and elevated position or a retracted position within the compartment, the design being such that very few metal parts are required.

While the present invention has been primarily designed to replace the rock shaft and spring mechanisms, above-mentioned, and to eliminate the use of a large number of metal parts, it will be readily understood that many of the parts of the present construction could be formed of metal if so desired.

Another object of the invention is to provide an extremely simple and durable construction whereby the typewriter shelf can assume either an extended and elevated position or a retracted position within the compartment which is so designed as to enable various movements to be accomplished with the requisite mechanical advantage whereby the typewriter may be withdrawn and elevated with a minimum amount of physical effort.

Still another object of the invention is to provide a disappearing typewriter support which is of not only durable construction but which is very sturdy, particularly when the shelf is in its extended and elevated position, thus forming a rigid support for the typewriter when in use.

With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawings for an illustrative embodiment of the invention, wherein:

Figure 1 is a perspective view of a secretarial desk embodying the present invention;

Fig. 2 is a vertical section taken substantially upon the line 2—2 in the direction indicated, and illustrating the shelf in withdrawn and elevated position;

Fig. 3 is a view similar to Fig. 2 but illustrating the typewriter shelf in retracted position within the compartment;

Fig. 4 is a partial view in front elevation taken in the direction of the arrow 4 upon Fig. 2; and

Fig. 5 is a partial view in vertical section taken substantially upon the line 5—5 upon Fig. 2 in the direction indicated.

Referring to the accompanying drawings wherein similar reference characters designate similar parts throughout, 10 indicates generally a desk which may be of any preferred or conventional design. It will be understood that the present invention may be embodied in any type of structure that provides a compartment 11 usually closed by a hinged door 12. The typewriter table or shelf is indicated at 13, which usually at its rear has a pair of rearwardly extending arms 14 at the sides thereof.

In accordance with the present invention upwardly and forwardly inclined guides or rails 15 are mounted on the sides of the compartment 11. These may be formed of metal but due to present-day metal scarcities, I prefer to form them of wood. Each rail or guide consists of a side portion 16 that may be fastened against the side walls of the compartment 11 and top and bottom flange portions 17 and 18, respectively. Rollers 19 are mounted on the outer sides of the arms 14 and are disposed within the channel-shaped rails 15. These rollers may be formed of metal, plastic, or even wood. Their primary function is to reduce friction between the rear arms 14 on the shelf 13 and the inclined rails. They enable the rear end of the shelf 13 to be moved lengthwise of the rails and to pivot relatively thereto, as indicated by the dotted lines on Fig. 2. At the front of the shelf 13 provision is made for a handgrip indicated at 20 by which the shelf may be pulled forwardly and then upwardly from within the compartment 11. A brace 21 is hingedly mounted on the underside of the shelf 13 adjacent the forward end thereof such as by a hinge 22 which is preferably but not necessarily a spring hinge, urging the brace to swing in the direction of the arrow 23. At the bottom of the compartment 10 there is a rail or guide 24 for the brace. This rail or guide has a notch 25 adjacent its forward end which receives the tapered lower end of the brace and holds it against displacement and in a position that supports the table 13 in

a horizontal position when the rollers 19 have engaged stops 26 at the upper ends of the rails.

The rail or guide 24 has upstanding sides 27 and 28 and these, in turn, have inwardly extending flanges 29 and 30 which overlie the top of the brace when the brace is in its fully retracted position within the compartment as shown in Fig. 3.

As will be noted from an inspection of Fig. 2 the sides 27 and 28 terminate short of the forward end of the guide or rail 24 and in a similar manner the flanges 29 and 30 terminate short of the forward ends of the sides 27 and 28.

The operation and advantages of the improved form of construction are as follows: Assuming that the shelf 13 is loaded with a typewriter indicated by phantom lines on Fig. 2, and that the shelf is in the retracted position illustrated in Fig. 3 within the compartment, if it is desired to withdraw the typewriter into elevated and extended position this is accomplished by opening the door and first pulling the shelf 13 forwardly. The initial movement imparted to the hand-grip 20 is largely in a forward horizontal direction during which the rollers 19 move upwardly and forwardly on the inclined rails 15. The brace 21 being confined to a horizontal sliding movement by the flanges 29 and 30 remains in a horizontal position with the result that during this initial movement, while the rear of the shelf 13 is rising on the rails 15 the weight of the typewriter is largely supported by the brace 21 on the rail 24. When the rollers 19 have engaged the stops 26 the hand-grip 20 is then lifted outwardly and upwardly during which movement the shelf 13 turns about the rollers against the stops 26 as a center. During such movement approximately one-half of the weight of the typewriter is supported by the rear end of the shelf on the rails 15. When the shelf reaches the horizontal position shown in Fig. 2, brace 21 has its lower end snapped into the notch 25 by the spring hinge 22 so that the shelf 13 is supported in horizontal position. In this position, it will be noted that the reaction of the weight of the typewriter on the brace 21 is such as to maintain the rollers 19 at the rear of the shelf in tight engagement with the stops 26, thus supporting the shelf rigidly in its extended and elevated position.

In order to return the typewriter to the compartment 11 the shelf 13 is lifted slightly so that the lower end of the brace 21 will clear the notch 25. It is then allowed to swing downwardly and rearwardly during which movement the brace 21 is lifted to clear the notch and is caused to slide rearwardly on the guide or rail 24. When the shelf 13 reaches the dotted line position shown in Fig. 2, the shelf is pushed downwardly and rearwardly during which the rollers 19 roll down the rails 15 until the shelf assumes a position shown in Fig. 3.

From the above-described construction, it will be appreciated that the improved disappearing typewriter support is a very simple, inexpensive, but highly durable design. Virtually the only metal parts that need be employed are the mounting means for the rollers 19, the rollers themselves, if these are formed of metal, and the hinge 22. It will, of course, be appreciated that additional parts may be formed of metal if metal is readily available. When the shelf is in its extended and elevated position it provides a rigid support for the typewriter, and during withdrawal or return movements, the weight of the typewriter is adequately distributed so that sufficient mechanical advantage is available to shift the typewriter with a minimum physical effort.

Various changes may be made in the details of construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. In a structure providing a compartment adapted to receive a typewriter or the like, a shelf adapted to support the typewriter, means providing upwardly and forwardly inclined rails at the sides of the compartment, means for supporting the shelf on the rails so as to enable its movement lengthwise of the rails and pivotal movements relatively thereto, stop means limiting upward and forward movement of the last mentioned means, a brace pivotally mounted adjacent the forward end of the shelf, means for confining the brace to a longitudinal and substantially horizontal forward movement until the rear end of the shelf has risen to the upper and forward ends of the rails, and means for holding the brace in an upwardly and forwardly extending position supporting the shelf in a horizontal position and urging the supporting means against the stop means.

2. In a structure providing a compartment adapted to receive a typewriter or the like, a shelf adapted to support the typewriter, means for guiding the rear end of the shelf on a path extending upwardly and forwardly in the compartment and enabling the shelf to pivot relatively thereto, stop means for limiting upward and forward movement of the rear end of the shelf, a brace hingedly mounted upon the shelf, and means for guiding movements of the brace in a substantially horizontal longitudinal direction until the rear end of the shelf has reached the upper end of said path to enable the brace to carry a portion of the load on the shelf while the shelf is having its rear end moved forwardly and upwardly, and means for holding the brace in an upwardly and forwardly extending position when the shelf is in an upper horizontal position whereby an element of the first mentioned guiding means will be urged against the stop means.

3. In a structure providing a compartment adapted to receive a typewriter or the like, means providing upwardly and forwardly inclined rails at the sides of the compartment, a shelf having its rear end mounted for movement along the lengths of the rails and pivotal movements relatively thereto, a brace hingedly mounted upon the shelf, a rail in the compartment for the brace, means on the rail for holding the lower end of the brace against downward and rearward displacement, said rail having sides and flanges embracing the brace when the brace is in its retracted position.

4. In a structure providing a compartment adapted to receive a typewriter or the like, a shelf adapted to support the typewriter, means for guiding the rear end of the shelf on a path extending upwardly and forwardly in the compartment and enabling the shelf to pivot relatively thereto, stop means limiting upward and forward movement of the rear end of the shelf, a brace hingedly connected to the shelf adjacent the forward end thereof, means for supporting and guiding the brace for horizontal forward movement whereby the brace may be moved forwardly and serve to partially support the shelf

while the rear end of the shelf is ascending said inclined path, the last-mentioned means enabling the shelf to be then swung upwardly and the brace to assume a downwardly and rearwardly inclined position so that by reaction it will maintain the shelf in engagement with the stop means, and means for holding the lower end of the brace against rearward displacement in its inclined position.

5. In a structure providing a compartment adapted to receive a typewriter or the like, a shelf adapted to support the typewriter, means for guiding the rear end of the shelf on a path extending upwardly and forwardly in the compartment and enabling the shelf to pivot relatively thereto, a brace hingedly connected to the shelf adjacent the forward end thereof, means for slidably supporting the brace for forward sliding movement and restraining the rear end of the brace against upward movement during such forward movement whereby as the shelf is drawn forwardly its rear end will be caused to ascend along said upwardly and forwardly inclined path and its load will be partially carried by the brace and thereafter the shelf may be swung upwardly into supporting position and the brace caused to assume a downwardly and rearwardly extending position, and means for holding the lower end of the brace against rearward displacement whereby by reaction to the load the inclined position of the brace will maintain the shelf in engagement with the stop means.

6. In a structure providing a compartment adapted to receive a typewriter or the like, a shelf adapted to support the typewriter, means for guiding the rear end of the shelf to traverse an upwardly and forwardly inclined path in the compartment and enabling the shelf to pivot relatively thereto, a brace hingedly connected to the shelf forwardly of its rear end, means for slidingly supporting the brace to enable it to slide forwardly from within the compartment, and in so doing to support the forward end of the shelf while the rear end of the shelf is ascending said upwardly and forwardly inclined path, the last-mentioned means then enabling the shelf and brace to be swung upwardly so that the shelf may assume a substantially horizontal position and the brace assume a downwardly and rearwardly inclined position therefrom, and means for releasably holding the lower end of the brace against downward and rearward displacement when so positioned.

7. In a structure providing a compartment adapted to receive a typewriter or the like, a shelf adapted to support the typewriter, means for guiding the rear end of the shelf to traverse an upwardly and forwardly inclined path in the compartment and enabling the shelf to pivot relatively thereto, a brace hingedly connected to the shelf forwardly of its rear end, means for slidingly supporting the brace to enable it to slide forwardly from within the compartment, and in so doing to support the forward end of the shelf while the rear end of the shelf is ascending said upwardly and forwardly inclined path, the last-mentioned means then enabling the shelf and brace to be swung upwardly so that the shelf may assume a substantially horizontal position and the brace assume a downwardly and rearwardly inclined position therefrom, means for holding the lower end of the brace against downward and rearward displacement when so positioned, and means limiting upward and forward movement of the rear end of the shelf on said upwardly and forwardly inclined path.

8. In a structure providing a compartment adapted to receive a typewriter or the like, a shelf adapted to support the typewriter, means for guiding the rear end of the shelf to traverse an upwardly and forwardly inclined path in the compartment and enabling the shelf to pivot relative thereto, a brace hingedly connected to the shelf forwardly of its rear end, means slidably supporting the brace as it is drawn forwardly from within the compartment and holding the rear end of the brace against upward displacement whereby as the shelf is drawn forwardly its rear end will ascend said inclined path and the forward end of the shelf will be at least partially supported by the brace, means limiting upward and forward movement of the rear end of the shelf, the supporting means for the brace being so constructed as to enable the shelf and brace to be swung upwardly when said limiting means has been engaged whereby the shelf may then be caused to assume a substantially horizontal position and the brace a downwardly and rearwardly inclined position therefrom, and means for releasably holding the lower end of the brace against downward and rearward displacement when so positioned.

9. In a structure providing a compartment adapted to receive a typewriter or the like, a shelf adapted to support the typewriter, means providing upwardly and forwardly inclined rails adjacent the sides of the compartment, means adjacent the rear end of the shelf for supporting the rear end of the shelf on said rails for upward and forward movements thereon, and pivoting relative thereto, means limiting the upward and forward movement of the rear end of the shelf relatively to said rails, a brace hingedly connected to the shelf forwardly of its rear end, guide means for the brace within the compartment enabling the brace to be drawn forwardly from within the compartment and to partially support the shelf as the shelf is withdrawn from within the compartment, said guide means enabling the shelf and brace to be swung upwardly when the rear end of the shelf has reached its foremost position whereby the shelf may assume a substantially horizontal position and the brace a downwardly and rearwardly inclined position therefrom, and means for releasably holding the brace against downward and rearward displacement when so positioned.

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