Oct. 17, 1950 H. P. THOMAS ET AL 2,525,975

DESK CONSTRUCTION

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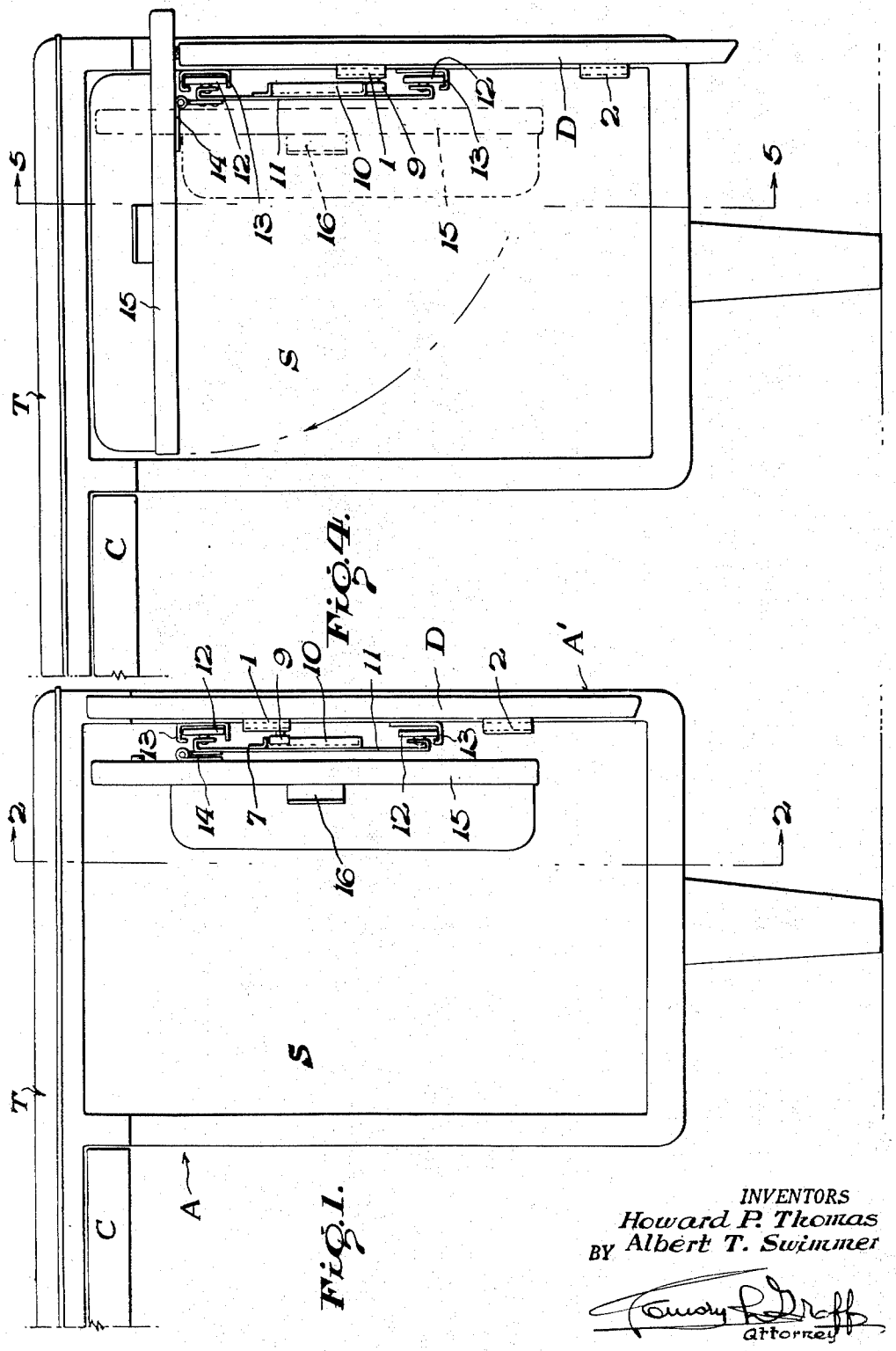


Fig. 4.

Fig. 1.

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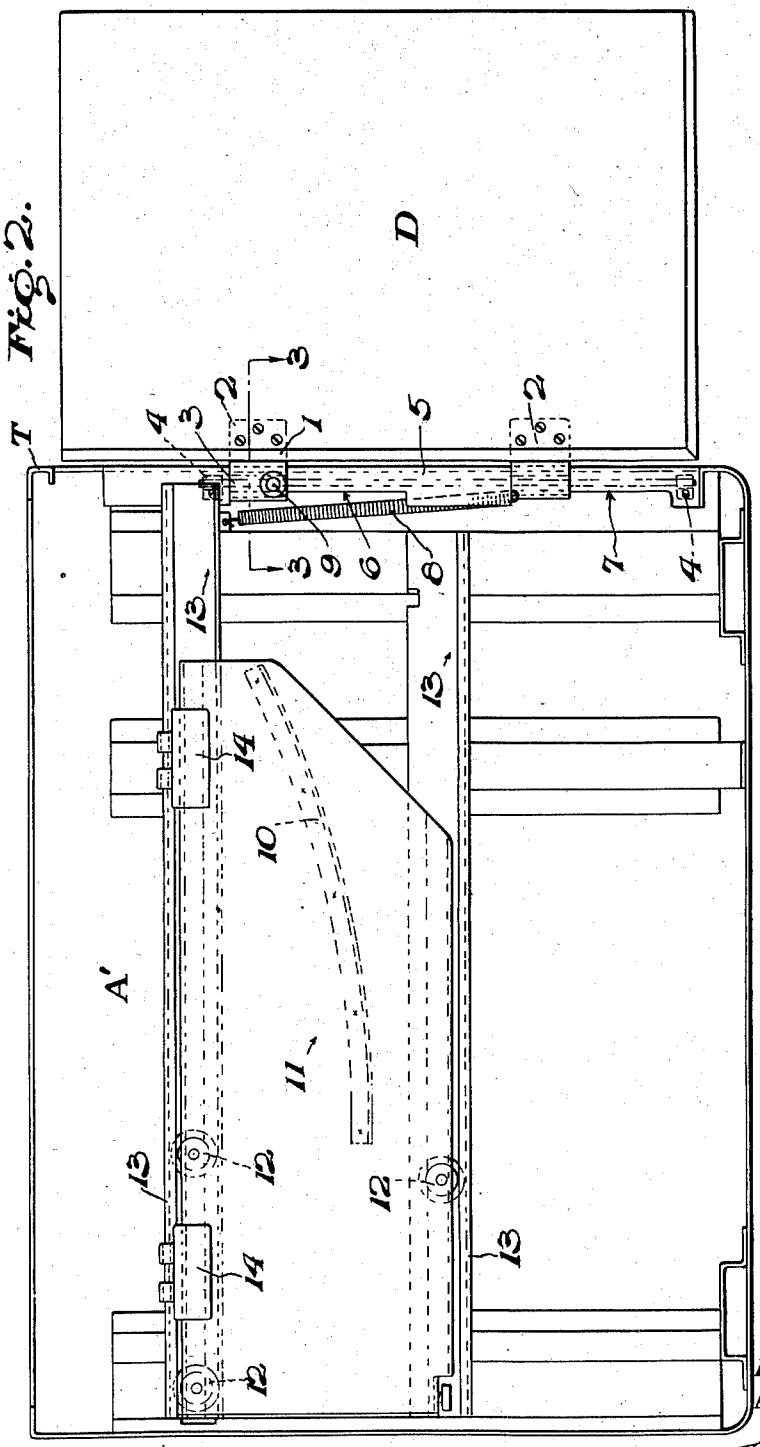
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DESK CONSTRUCTION

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Fig. 2.



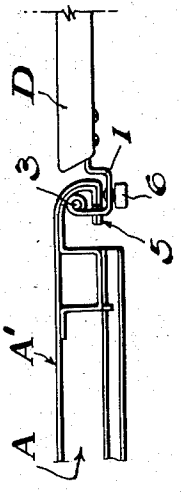


Fig. 3.

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Fig. 5.

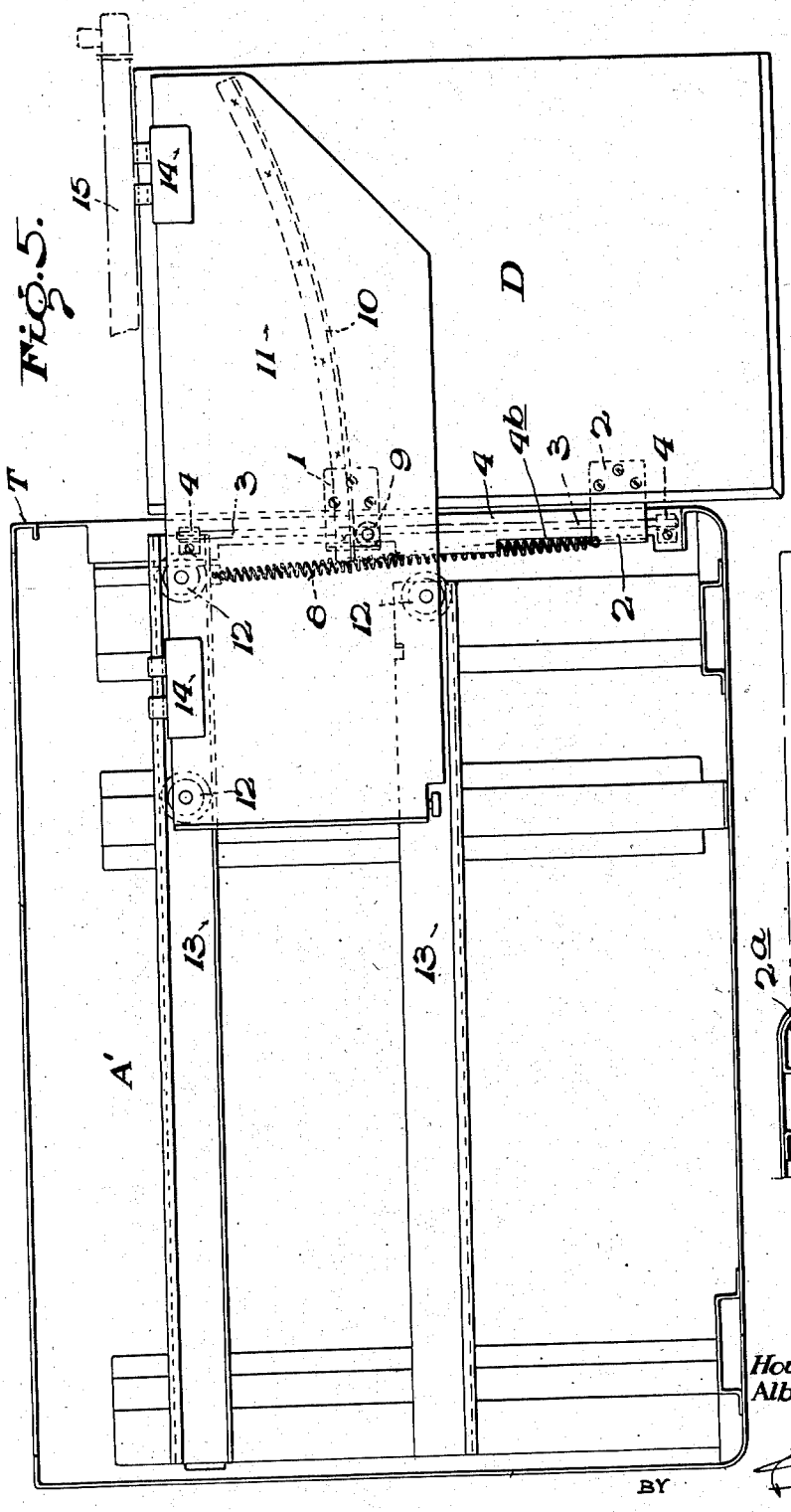
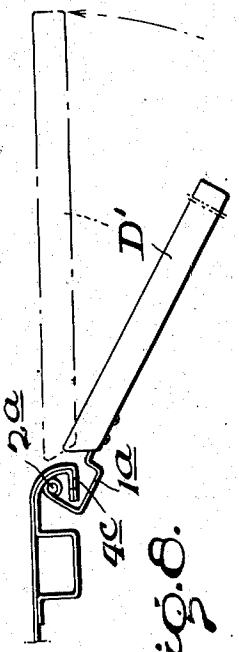


Fig. 8.



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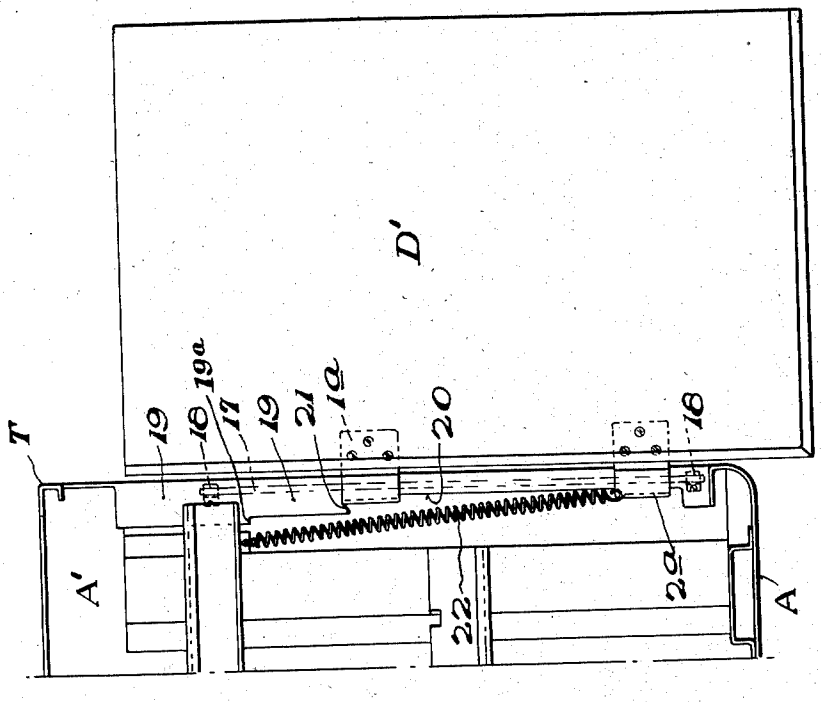


FIG. 7.

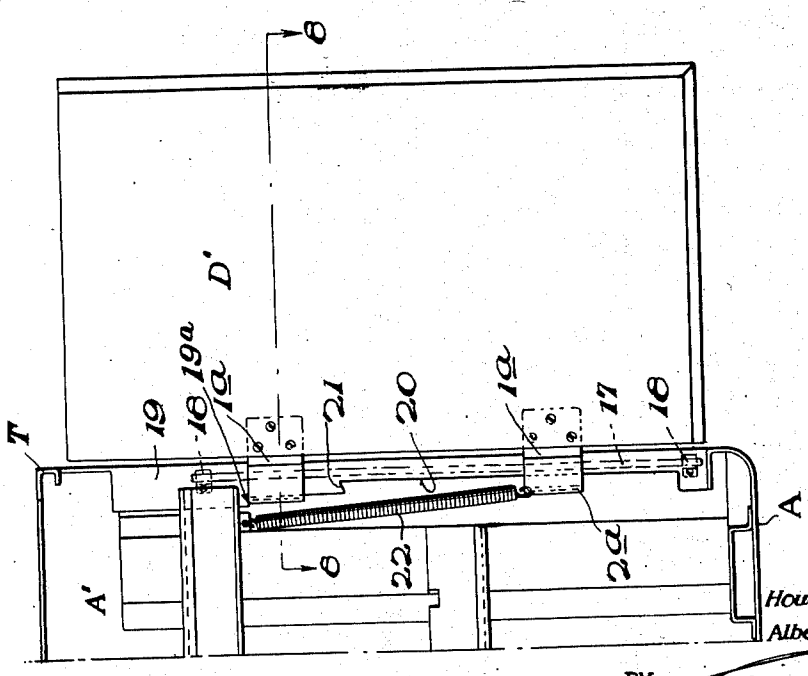


FIG. 6.

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Patented Oct. 17, 1950 2,525,975

UNITED STATES PATENT OFFICE

2,525,975

DESK CONSTRUCTION

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Application December 31, 1946, Serial No. 719,482

9 Claims. (Cl. 312—22)

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This invention relates to office furniture, and more particularly to an improvement in desks for typists' use wherein the typewriter may be readily moved from a stored position to a position of use, and vice versa.

The patent to Reitzel and Baumert, No. 2,271,-241 dated January 27, 1942, illustrates a shelf construction to which a typewriter may be attached to be supported in both its stored and usable positions. As illustrated, the shelf on which the typewriting machine is supported is hinged to a carriage which slides into and out of a compartment in one of the desk pedestals. When the shelf is in stored position the shelf and the typewriter are vertically disposed. When the door to the compartment is opened, the carriage moves outwardly and carries the shelf until the latter clears the doorway. The shelf and the typewriter may then be moved to and maintained in a horizontal working position. As will also be observed from this patent, when the typewriter shelf is in a horizontal position, the edge of the shelf opposite the typist's position is disposed below the upper edge of the door and the latter is mounted on fixed hinges to swing from open to closed position.

According to the present invention, it is proposed to utilize the same shelf sustaining means shown in the patent, but it is proposed to mount the door to the typewriter storage compartment in such a way that it may be moved downwardly when it is open thereby to permit the shelf when swung to a horizontal position to overlie the upper edge of the door. Thus, when in its lowered position, the door permits the shelf to rest upon it and therefore acts as a further support for the shelf in addition to the mechanism described in the patent referred to. Also, the arrangement provided by the present invention permits the use of a wider shelf because a portion of the shelf overlies the door, thereby making it possible to accommodate larger typewriters in such a way that they will not interfere with the operation of the center drawer of the desk.

Another object of the invention is to provide a construction wherein the downward movement of the opened door is effected automatically by pulling out the carriage on which the shelf is pivotally mounted. Thus, after the door has once opened the storage compartment and has been moved to an angle of 90° from the doorway, it will be automatically moved to a lowered position by cooperating means on the door and the carriage.

A further object of the invention is to provide

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a construction and arrangement whereby the lowering of the door may be effected by hand, as distinguished from automatically, thereby making it possible to use the distinctive feature of the invention in constructions which are less costly than those having the preferred automatic operation.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 is a detail front elevation of a desk pedestal with the door open and showing the shelf in the collapsed vertical position.

Figure 2 is a vertical sectional view of the pedestal taken on the line 2—2 of Figure 1 showing the innermost position of the sliding carriage with the shelf removed from the hinges on the carriage for the sake of clarity.

Figure 3 is a detail horizontal sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a view similar to Figure 1 showing the shelf in its horizontal position and the door moved downwardly.

Figure 5 is a vertical sectional view taken on the line 5—5 of Figure 4.

Figure 6 is a detail section showing the door in elevation, and illustrating a modified form of the invention where the door may be controlled by hand.

Figure 7 is a view similar to Figure 6 with the door locked in its manually depressed position.

Figure 8 is a detail sectional view taken on the line 8—8 of Figure 6.

Similar reference characters designate corresponding parts throughout the several figures of the drawings.

Referring first to Figure 1, it will be observed that the desk pedestal A is positioned, as usual, beneath the top T and to one side of a center drawer C. The pedestal is formed with a storage compartment designated generally as S which is rendered accessible by the opening of the door D as shown in Figure 1.

When the door is open, as will be observed from Figures 1, 2 and 3, the same is in parallel alignment with the outer wall structure A' of the compartment. That is to say, the door D is mounted on the hinge leaves 1 and 2 which are of angular formation as shown in Figure 3 and

have their inner ends slidably embracing a hinge pintle 3 (Figs. 2 and 3) which is supported at its upper and lower ends by the clips 4 on the inner face of the inturned flange 5 of the jamb side of the doorway. This flange has its inner edge formed with elongated recesses 6 and 7. The hinges 1 and 2 are slidable in the notches or recesses and the upper edges of the hinges are normally held in abutting relation with the upper edges of the notches by a spring 8 having its upper end anchored to a fixed portion of the desk structure while its lower end is secured to the lower hinge 2.

The angular formation of the hinge insures the opening of the door to a position 90° from its closed position since the bight of the hinge engages the outer face of the flange 5. Thus, when the door is fully opened the roller 9 carried by the upper hinge leaf 1 will be in position to be engaged by an arcuate cam 10 on the carriage 11. The roller 9 thus constitutes a movable abutment for the cam 10.

The said carriage is provided with a plurality of rollers 12 adapted to slide in tracks 13—13 carried by the inner wall of the pedestal compartment, and the upper portion of the carriage is provided with hinge leaves which swingably carry the shelf 15. When the carriage 11 is in its retracted position as shown in Figures 1 and 2, and the door D is in the open position shown in these figures, the typist or operator can grasp the pull element 16 and move the carriage outwardly, whereupon the cam 6 will engage the roller 5 and depress the door D from the position shown in Figures 1 and 2 to the position shown in Figures 4 and 5. The shelf 15 may then be swung from the vertical position shown in Figure 1 to the horizontal position shown in Figures 4 and 5.

In connection with the foregoing, it will be observed that the movement of the door D from normal closed position to lowered open positin is automatically effected by the pulling out of the carriage 11, and that when the door is in its lowered position it serves as a support for the outer edge of the horizontally disposed typewriter supporting shelf 15. Likewise the shelf is wider than that shown, for example in Patent No. 2,271,241. When it is desired to store the typewriter, the shelf 15 is lowered and the carriage 11 is pushed inwardly. The cam 10 then permits the roller 9 on hinge 1 to rise under the influence of spring 8 and the door is returned to normal position.

Referring to the modified form of the invention shown in Figures 6, 7 and 8, it will be observed that the door D' is provided with hinge leaves 1^a—2^a which are of angular formation as shown in Figure 8, thereby to be slidably mounted in the hinge pintle 17 supported in clips 18 within the inturned flange 19 of the jamb portion of the doorway. As will be seen from Figures 6 and 7, the inner edge of the flange 19 is provided with a fixed hinge abutment 19^a and a single elongated notch or recess 20 whose upper edge is undercut as indicated at 21 to provide a second abutment means. The door D' is yieldingly held in its normal elevated position by spring 22 causing the upper hinge 1^a to engage abutment 19^a. The said spring has its upper end anchored to an appropriate portion of the pedestal construction while its lower end is engaged with the lower hinge leaf 2^a. When the door D' is moved to a partially open position as shown in Figure 8, that is anywhere from 15° to approximately 80° relative to the doorway, it is only necessary to exert hand pressure on the top edge of the door and push it down and hold it against the pressure of the spring 22 until the door swings to the 90° position, whereupon the upper hinge leaf 1^a engages with the undercut portion 21 of the recess 20. The door will then be held in its lowered position and the carriage which supports the typewriter shelf may be manually pulled out of the pedestal compartment and the shelf erected from a vertical to a horizontal position in the same manner as that shown in Figures 4 and 5. Thus, according to this form of the invention, the operation of the door is entirely manual.

According to both forms of the invention the door to the pedestal compartment is mounted on angular hinges whose axes are at the inner side of an inturned jamb flange. In Figures 1–5, when the door A is moved 90° relative to the plane of the doorway, it may be moved downwardly automatically thereby to permit the typewriter shelf to project over and rest on the top edge of the door. In Figures 6–8, when the depression of the door is entirely manual, it is only necessary to partially open the door to start its downward movement. In fact, the depression of the door must be accomplished before the door reaches its fully open position so that while manually depressed, the door may be swung so that the upper edge of the top hinge gets beneath the undercut portion 21 before it reaches fully open position. When fully open, hand pressure may be released and the spring 22 will pull the door against said undercut portion. To close the door of Figures 6 and 7, it is only necessary to press it down first and then swing it toward closed position. When the upper hinge clears the undercut portion 21, it will jump upwardly to normal position.

Without further description, it is thought that the features and advantages of the invention will be readily understood by those skilled in the art, and it will of course be understood that changes may be resorted to within the scope of the appended claims.

We claim:

1. A closure construction for a doorway, comprising, an inturned flange at one side of the doorway, a door, angular hinges secured to the door, hinge pintle means carried on the inner face of said flange and swingably supporting the inner ends of said angular hinges, abutment means on the inner edge of said flange, spring means for urging one of said hinges normally against said abutment means, and cam and roller means respectively carried by a sliding member and said door for holding the same depressed relative to the doorway when the door is in open position.

2. In a desk, a pedestal including a typewriter storage compartment having a doorway, a door for said compartment, means for pivotally and slidably mounting said door at one side of the doorway, spring means for supporting said door in the plane of the doorway, an abutment on the door, a support slidable relative to the side of the compartment to which the door is hinged, a typewriter shelf hinged to the support and having an extension portion adjacent the hinge of greater width than the space between the axis of the hinge and the inner face of the door, and cam means on the support for engaging the abutment on the door when the latter is opened 90 degrees relative to the doorway to depress the door against the tension of said spring means, whereby, said shelf may be raised to a horizontal

position and a portion thereof will overlie the upper edge of the door.

3. In a desk, a pedestal including a typewriter storage compartment having a doorway, a door for said compartment, means for pivotally and slidably mounting said door at one side of the doorway, spring means for supporting said door in the plane of the doorway, a roller abutment on the door, a support slidable relative to the side of the compartment to which the door is hinged, a typewriter shelf hinged to the support and of greater width at its hinged edge than the space between the hinging axis and the inner face of the door, and arcuate cam means on the support for engaging the abutment on the door when the latter is opened 90 degrees relative to the doorway to depress the door against the tension of said spring means, whereby, said shelf may be raised to a horizontal position and the portion thereof adjacent its hinge connection with the support will overlie the upper edge of the door.

4. In a desk, a pedestal including a typewriter storage compartment having a doorway, including, an inturned flange at one side, said flange having elongated recesses at its inner edge, a door, angular hinges having their outer ends secured to the door, hinge pintle means carried by the inner face of the flange and swingably and slidably supporting the inner ends of said hinges, and the bight of said hinges movable in said recesses when the door is open, a spring anchored at one end to a part of the pedestal and having its other end anchored to a hinge for normally holding said hinge in abutting relation to an edge of one of said recesses, an abutment on the door, a carriage slidably mounted in the compartment and movable in a plane parallel to the door when the latter is in fully open position, and cam means on the carriage adapted to engage the abutment on the door when the carriage is pulled out of the compartment to automatically depress the door.

5. In a desk, a pedestal including a storage compartment having a doorway, an inturned flange at one side of the doorway and having an elongated recess in the inner edge thereof, an abutment on the inner edge of said flange, hinge pintle means carried by the inner face of the flange, a door, upper and lower angular hinges carried by the door and having their inner ends slidably and swingably mounted on the said hinge pintle means, and spring means for urging said door to doorway closing position where a portion of the door engages the abutment means on the inner edge of the flange, whereby, when the door is partially opened it may be manually depressed until the upper hinge moves away from said abutment and into the zone of the recess, whereupon, the door may be moved to fully open position and manual pressure released to permit the upper hinge to move in response to tension of the spring to engage behind the upper edge of the recess to be held in depressed position.

6. A door and shelf construction for compartments having a doorway, comprising, in combination, a door hinged to one side of the doorway, means for slidably mounting the door for depression below the plane of the doorway when the door is opened, a support slidable relative to the side of the compartment to which the door is hinged, a shelf, hinge means connecting the said shelf to the support, said shelf having an extension portion adjacent the hinge means of greater width than the space between the hinge means and the inner face of the door, whereby when said door is opened, the shelf may be raised from a vertical to a horizontal position, and said extension portion thereof will overlie the upper edge of the door.

7. In a desk, the combination, including, a pedestal having an office machine storage compartment provided with a doorway, a door for said doorway, means for pivotally and slidably mounting said door at one side of the doorway, spring means for supporting said door in the plane of the doorway, means for maintaining the door depressed below the doorway when said door is opened, a support slidable relative to the side of the compartment to which the door is hinged, a shelf, hinge means connecting said shelf to said support, said shelf having an extension portion adjacent the hinge means of greater width than the space between the hinge and the inner face of the door whereby when said shelf is raised from a vertical to a horizontal position, said extension portion will overlie the upper edge of the door.

8. A closure construction for a doorway, comprising, an inturned flange at one side of the doorway, a door for the doorway, angular hinges secured to the door, hinge pintle means carried by the inner face of said flange and swingably supporting the inner ends of said angular hinges, upper and lower downwardly facing abutments on the inner edge of the flange, and spring means for normally urging said door to hold one of said hinges against said upper abutment and maintain said door in closing position relative to said doorway, said door when moved downwardly on the pintle means against the tension of said spring having said last-mentioned hinge engaging said lower abutment to hold the door depressed below the plane of the doorway.

9. A closure construction, comprising, a doorway frame, upper and lower abutments on the frame, a pintle element on the frame, a door, hinges on the door and slidable at their inner ends on the pintle element, and spring means for normally urging the door upwardly to maintain the upper hinge in engagement with the upper abutment and keep the door in closing relation to the frame, said door when open and pressed down having its upper hinge engaging the lower abutment to hold the door depressed below the doorway frame.

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