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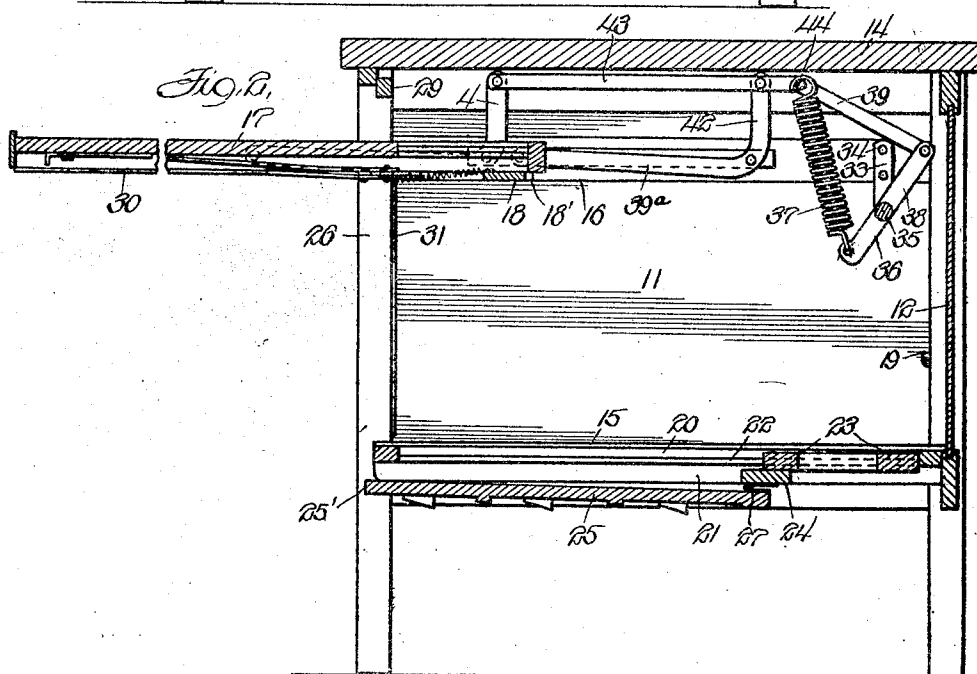
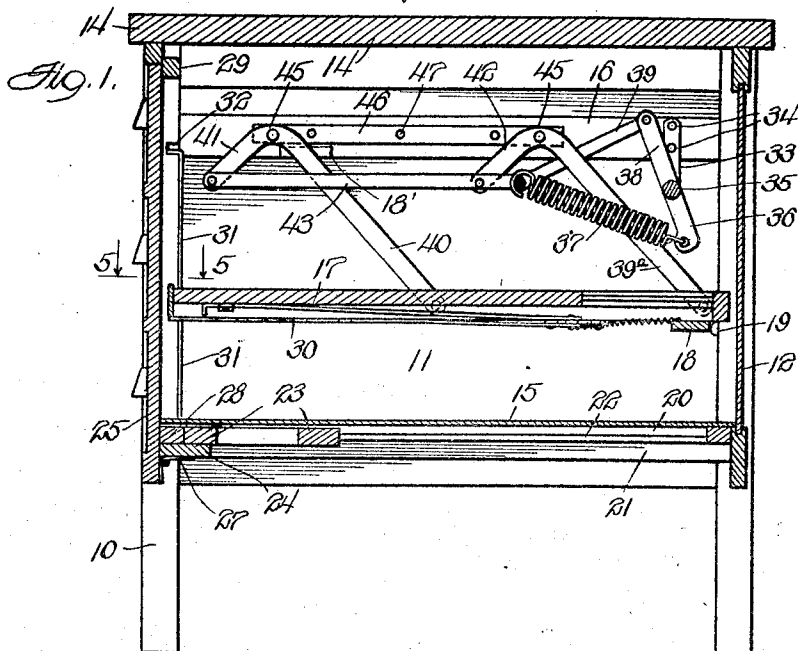
1,565,246

J. L. AXEN

OFFICE DESK

Filed Aug. 17, 1923

2 Sheets-Sheet 1



Inventor:
JOHN L. AXEN
By *Jesse Bain* *Attorney*

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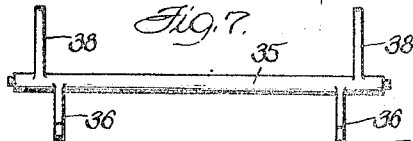
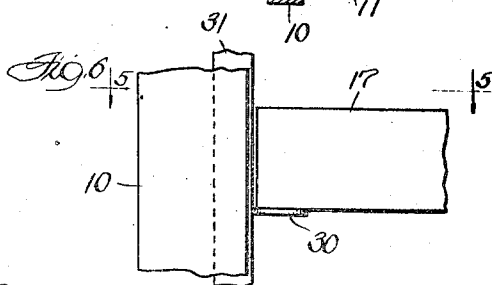
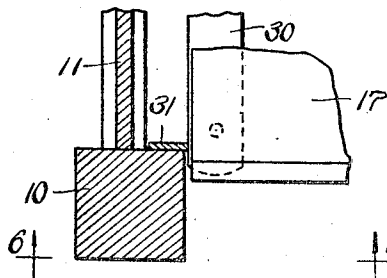
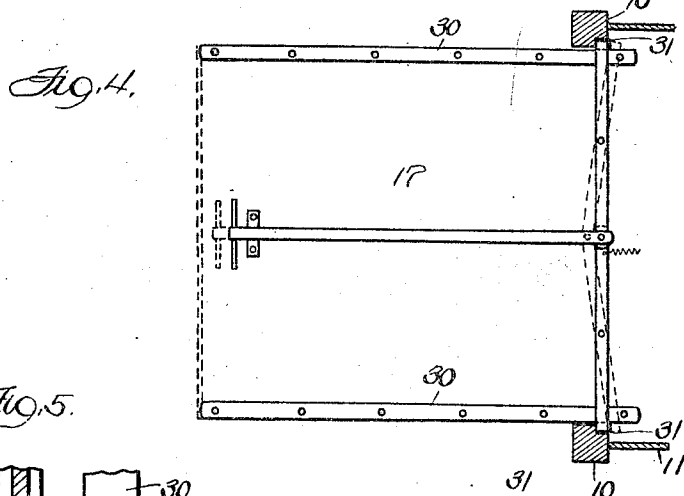
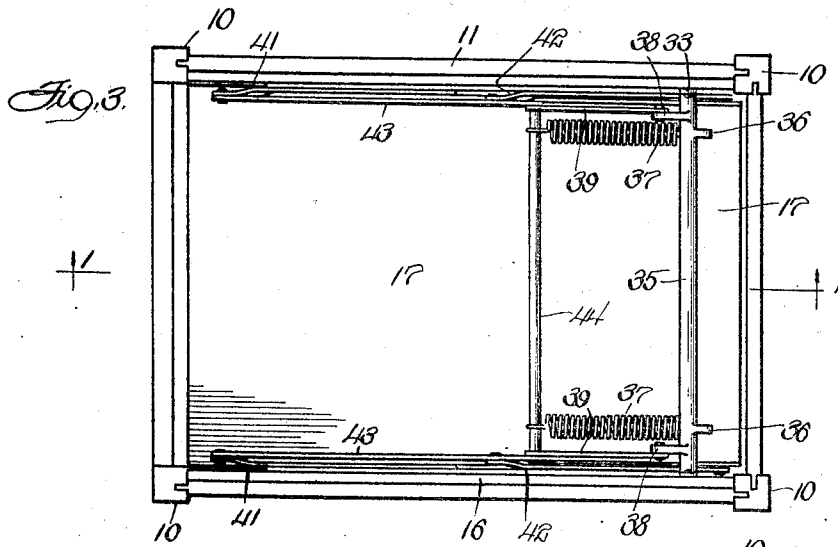
J. L. AXEN

1,565,246

OFFICE DESK

Filed Aug. 17, 1923

2 Sheets-Sheet 2



Inventor:
JOHN L. AXEN
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UNITED STATES PATENT OFFICE.

JOHN L. AXEN, OF CICERO, ILLINOIS.

OFFICE DESK.

Application filed August 17, 1923. Serial No. 657,901.

To all whom it may concern:

Be it known that I, JOHN L. AXEN, a citizen of the United States, residing at Cicero, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Office Desks, of which the following is a specification.

The invention relates to office desks.

It will be explained in connection with its use as a typewriter desk.

One of the objects of the invention is to provide an improved mechanism for holding and guiding the shelf while it is being raised and lowered in position.

Another object is the provision of means for preventing relatively moving surfaces of the shelf and cabinet from actual rubbing contact.

Another object is to provide an improved closure for the cabinet which can be moved into a position entirely out of the way when the cabinet is open.

Another object is to generally improve desks.

A further object is to provide improved means for maintaining horizontal rigidity of the floating suspended shelf in all of its positions.

Other advantages and more specific objects will become apparent to persons skilled in the art from a consideration of the following description, when taken in conjunction with the drawings, wherein:—

Fig. 1 is a central section of the desk taken on line 1—1 of Fig. 3, showing the floating shelf within the cabinet.

Fig. 2 is a view, similar to that of Fig. 1, showing the shelf extended and the mechanism in appropriate position.

Fig. 3 is a plan view of Fig. 1 below the top of the cabinet.

Fig. 4 is a bottom plan view of the shelf.

Fig. 5 is an enlarged section on line 5—5 of Fig. 1, and of Fig. 6.

Fig. 6 is a front elevation of a fragment of the shelf and one front leg of the cabinet.

Fig. 7 is an elevation of an oscillatable shaft to the arms of which the lifting springs and links of the mechanism are connected.

In all the views the same reference characters indicate similar parts.

The cabinet consists, as usual, of four corner posts 10, three fixed vertical walls 11, 12 and 13, a top 14 and a bottom horizontal wall. 15 A strip 16 extends along side

walls 11 and 13, near the top thereof, to which the mechanism for controlling the shelf 17 is attached.

At the rear end of the shelf, attached thereto and extending between the walls 11 and 13, is a stop and guide strip 18 which serves as a guide to prevent lateral motion of the rear end and to serve as a stop at both ends of the movement of the shelf. When the shelf 17 is within the cabinet, as in Fig. 1, the stop strip 18 abuts rubber buffers 19 fixed to the rear posts 10 and when the shelf is extended the stop strip 18 limits the upperward movement of the shelf when it is brought into contact with the lower surface of the strips 16. The shelf therefore has a definite extent of movement controllable by these stops and it is prevented from moving laterally inside the cabinet by the strip 18.

Below the floor of the cabinet and on each side thereof are a pair of parallel strips 20 and 21, or a single strip with a longitudinally extending groove 22 within which a slidable rectangular frame 23 is movable. To this frame is connected a cross strip 24.

A closure 25 to close the front opening 26 when the shelf 17 is within the cabinet, as shown in Fig. 1, is hinged by spring hinges 27. The springs are sufficiently strong to hold up the front end 25' of the closure without other support.

When the closure 25 is pulled outwardly until the frame 23 abuts a cross strip 28, the spring hinges 27 will raise the closure 25 and yieldingly hold it in a vertical position between the posts 10—10 of the cabinet. A cross strip 29 serves as a stop for the upper end of the closure 25. The closure may now be locked.

The mechanism for controlling movement of shelf 17 is similar in some respects to that disclosed in my Patent No. 1,491,781, issued April 29th, 1924, but possesses some refinements not present in my prior application.

In the movement of the shelf in and out of the cabinet, the sides of the shelf are liable to rub on the vertical confronting surfaces of the posts 10. The friction between the parts disfigure them by rubbing off the varnish or other finish. To avoid this result I place on the longitudinal edge of the shelf a thin wearing strip or metal strip and let it project slightly beyond the vertical surface of the edge of the shelf. At

right angles to the strips 30 I place similar metallic or wearing strips 31, one on each of the front legs or posts 10, and permit it to project slightly beyond the edge of the posts.

When the shelf 17 is moved alternately out of and into the cabinet the strips 30 and 31 will contact with each other edge to edge and prevent contact of the wooden parts of the shelf and posts.

The upper ends of the strips 31 may be turned into notches 32 which serve as latch members to receive the latch members on the shelf 17.

From the strips 16, one on each side, depends a shaft hanger 33 secured thereto by screws 34. An oscillatable shaft 35 is supported in the hangers 33 and this shaft has four arms, fixed thereto or as integral parts thereof. To the arms 36 are connected springs 37, respectively. To the arms 38 are pivotally connected links 39. This arrangement rigidly connects the links 39 so that one may not be moved without moving the other. Pivotally connected to the rear end of the floating shelf 17 are the longer arms 39' of a pair of bell-crank levers, and pivotally connected to mid-portions of the shelf 17 are longer arms 40 of a pair of bell-crank levers. The shorter arms 41—42 of said levers are pivotally connected together by links 43. The links 43 extend rearwardly of the arms 42 and are connected together by a cross rod 44. The springs 37 are connected to this cross rod.

The vertices 45 of the bell-crank levers are pivotally connected to the front and rear ends of metal plates 46, which are secured to the strips 16 by screws 47.

Instead of connecting the springs 37 directly to the shaft 35, as in my copending application, they are connected to arms 36 radiating from the shaft. This produces a more uniform resistance to the movement of the shelf and substantially balances the typewriter at every point in the path of movement of the shelf.

The latch for positively holding the shelf

in elevated position is substantially similar to that disclosed in my former application.

Having described my invention what I claim as new and desire to secure by Letters Patent, is:

1. A cabinet having an open front with posts on opposite sides thereof; a floating shelf occupying a relatively low position when in the cabinet and a relatively high position when out of the cabinet, in combination with wearing strips secured to the posts and projecting slightly beyond the parallel edge of the post and toward the shelf and similar wearing strips secured to proximate longitudinal edges of the shelf and projecting slightly therebeyond toward said posts, for contact with the wearing strips on the posts during the entire movement of the shelf.

2. In a cabinet, a shelf movable into and out of said cabinet, a pair of bell-crank levers each pivoted to opposite side walls of said cabinet at their respective vertices and to opposite sides of said shelf at one of their respective ends, a rod link-connecting the other ends of said levers, an oscillatable bar extending between said side walls and having oppositely directed arms, links connecting the arms on one side of said bar to said rod and springs connecting the arms on the other side of said bar to said rod.

3. In a cabinet, a shelf movable into and out of said cabinet, bell crank levers fulcrumed on the side walls of said cabinet and pivotally connected at one end to said shelf for movement thereof, a connecting rod rigidly connecting the other ends of said levers, an oscillatable rod extending between said side walls and having oppositely directed arms, and resilient means and link means connecting said oppositely directed arms respectively to said connecting rod, said link means tending to raise said shelf at all times by resultant action of said spring.

In testimony whereof I hereunto subscribed my name.

JOHN L. AXEN.