June 18, 1946. C. W. KOCH 2,402,412

TYPEWRITER TABLE

Filed May 23, 1945 2 Sheets-Sheet 1

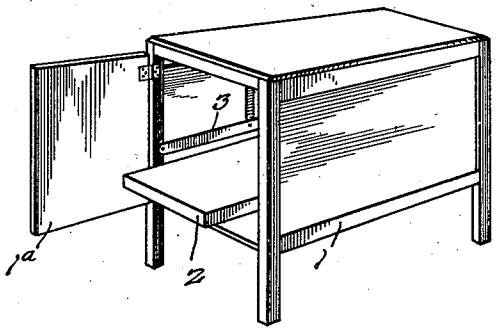


Fig. 1

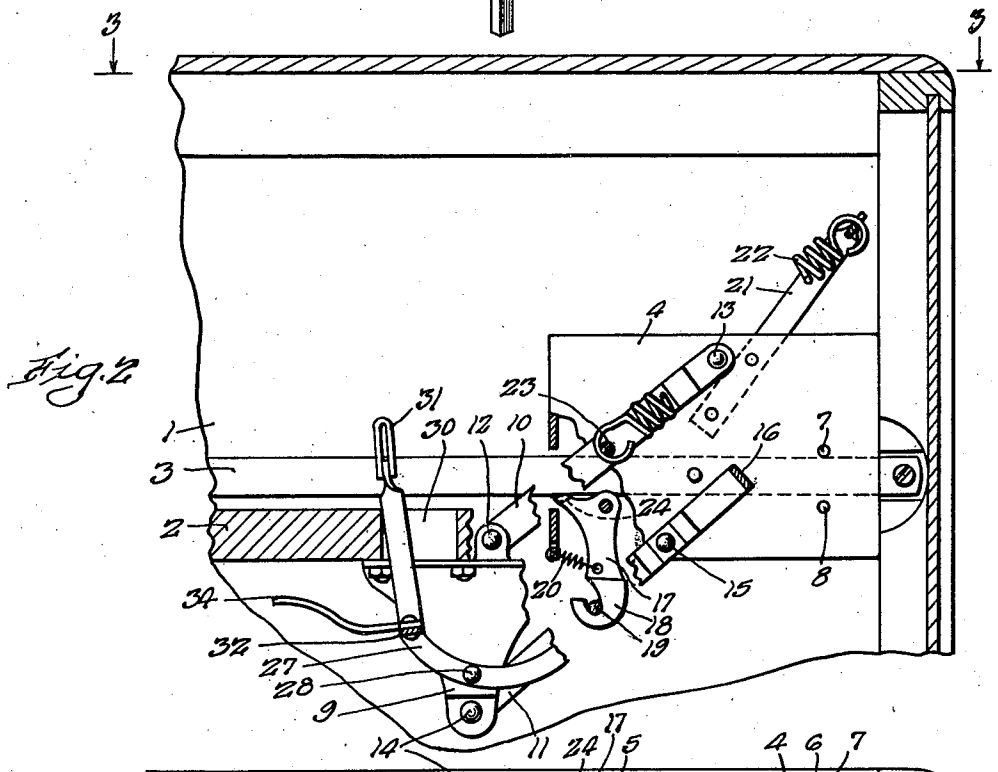


Fig. 2

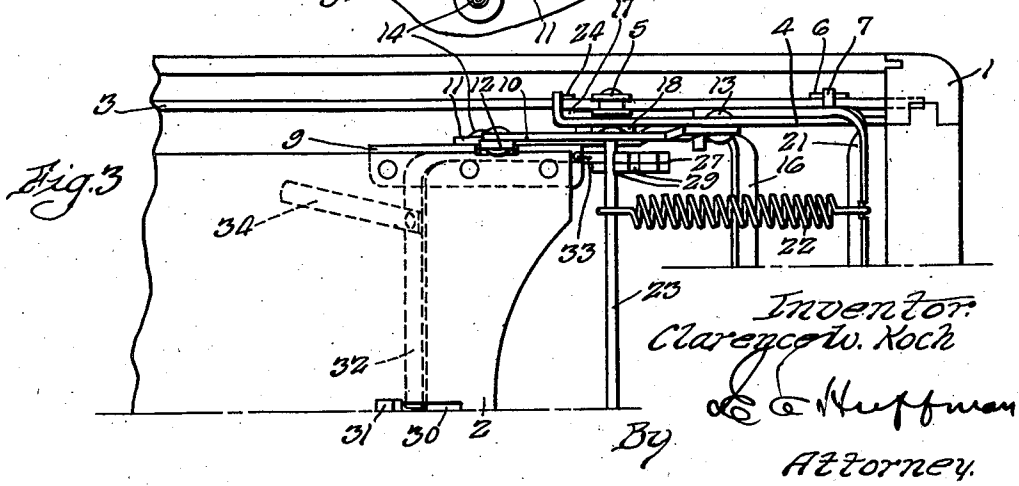


Fig. 3

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TYPEWRITER TABLE

Filed May 23, 1945 2 Sheets-Sheet 2

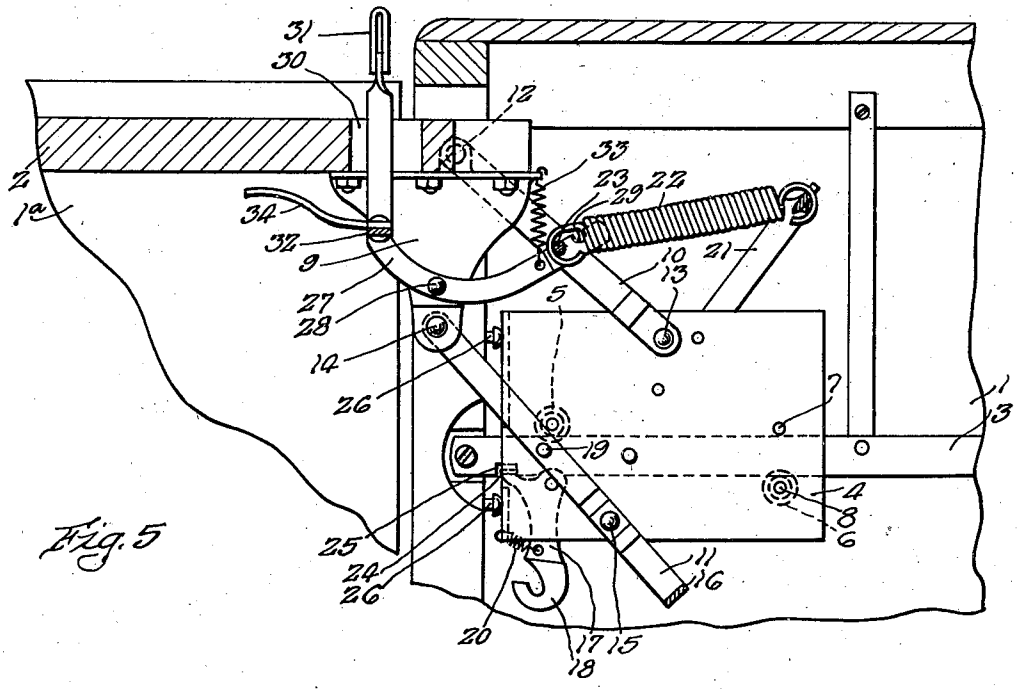


Fig. 5

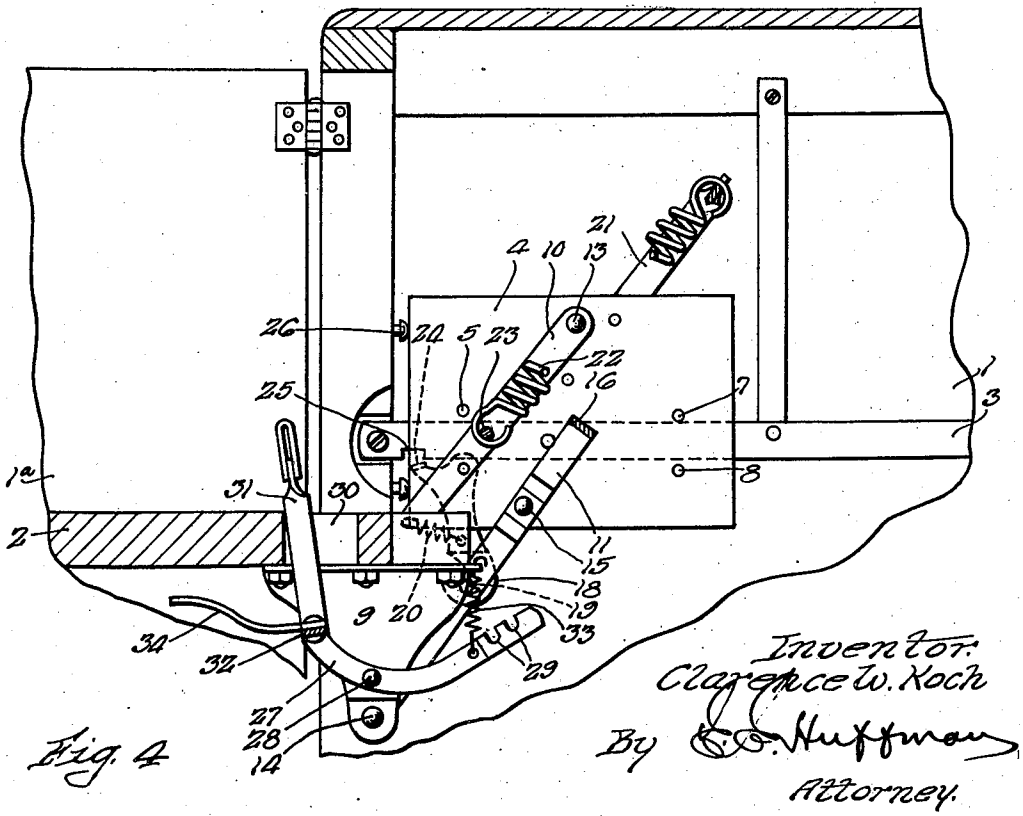


Fig. 4

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UNITED STATES PATENT OFFICE

2,402,412

TYPEWRITER TABLE

Clarence W. Koch, St. Louis, Mo.

Application May 23, 1945, Serial No. 595,341

5 Claims. (Cl. 312—29)

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This invention relates to office furniture and in its more specific aspects is directed to a typewriter table or platform which is more easily withdrawn from and retracted into the desk or pedestal.

The object of the invention is to provide an article of furniture having a retractible platform therein in which the platform is movable vertically from its lower position to the upper position and in which means is provided for adjusting the height of the platform to the requirements of an individual operator.

In the drawings:

Figure 1 is a perspective view of a piece of furniture incorporating the invention;

Figure 2 is a view taken substantially along the line 2—2 of Figure 3 showing the platform travelling mechanism in retracted position inside the pedestal;

Figure 3 is a plan view of the operating mechanism taken along the line 3—3 of Figure 2;

Figure 4 shows the positions of the parts with the platform in its lowermost position; and

Figure 5 shows the platform in its elevated position.

Office furniture in which typewriters or similar devices are supported and stored have in the past employed platforms which are swung through a considerable arc, usually one hundred and eighty degrees, in moving them from their retracted positions to operative positions and considerable effort is required in overcoming the inertia of rest in the platform by reason of the spring elements supporting the platform in its two positions. This invention seeks to provide a structure whereby the arcuate movement of the instrument supporting platform is eliminated and in which a substantially direct vertical motion is imposed thereon when moving from retracted to operative position.

The above objects and advantages are achieved in the mechanism set forth in the several drawings in which numeral 1 generally illustrates a pedestal or housing with a hinged closure 1*a* for a typewriter or a device which is to be supported on a movable platform 2 arranged therein which may be retracted into the pedestal 1 as is customary in the art and which may be vertically moved to the proper height above the floor at will. Arranged within pedestal 1 is a track member 3 to support carriage 4 which is slidable along the track member 3. The track member 3 and carriage 4 are duplicated on the other side of pedestal 1. Carriage 4 has a plurality of rollers 5 and 6 preferably arranged in pairs on axles such as 7 and 8 to enable the carriage to freely move along the track members 3.

Platform 2 has a bracket 9 secured thereto at one end by means of appropriate screws or other securing means. This bracket and platform 2

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are suspended from carriage 4 by means of a pair of arms or bar members 10 and yoke 11. One end of arm 10 is pivoted to an auxiliary bracket 12 on bracket 9 and the other end of arm 10 is pivoted at 13 to carriage 4. One arm or link of yoke 11 is pivoted to bracket 9 at 14 and is pivoted to carriage 4 at 15. The other arm or link of yoke 11 on the other side of the platform is joined to carriage 4 (not shown) in a similar manner, member 16 constituting the cross element of the yoke.

A member 17 pivoted to carriage 4 has a hook 18 thereon which receives a pin 19 secured to each arm of yoke 11. Pin 19 arrests the downward movement of platform 2 to prevent overtravel of the platform in the downward direction and locks the carriage to the track. A spring 20 is connected between member 17 and carriage 4 to hold hook 18 and pin 19 in locked position. Secured to carriage 4 is another U-shaped yoke element 21 whose arm members are rigidly secured to each of the carriages 4.

The U-shaped yoke member 21 serves as an anchor for a plurality of springs 22 which act on platform 2 through arm 10 to assist in the raising of the platform to an elevated position. A rod 23 extending between arms 10 has springs 22 hooked thereon to give the assisting motion to platform 2.

The yoke member 21 and the yoke 11 in addition to the above functions assist in keeping the motion of carriage 4 aligned with its cooperating carriage.

In Figure 4 platform 2 is withdrawn from pedestal 1 just prior to being elevated. It will be noted at this point that spring 22 acts substantially parallel to arm 10 with sufficient difference in angular position so that the line of action lays at a very slight angle or distance below the pivot 13 of arm 10 so that springs 22 will act to keep platform 2 in its lowered position. However, the angle between springs 22 and arms 10 is such that only a slight effort will be required to bring platform 2 to the upper position illustrated in Figure 5 wherein the positions of arms 10 and yoke 11 are shown with springs 22 acting to keep the table in its elevated position. It will be noted that member 17, which is pivoted to carriage 4, in the Figure 4 position is different from that in Figure 5. The purpose of the pivoting action is to lock carriage 4 in position so that it may not travel along track 3 when the platform 2 is in elevated position. In order to accomplish this there is an extension 24 on member 17 engaging slot 25 in track 3 which is held therein by spring 20. The movement of arm 10 and the link of yoke 11 about their pivots 13 and 15 is arcuate but the resulting movement of arms 10 and the link of yoke 11 with respect to platform 2 is such that it will be moved substantially directly vertically from the position shown in Fig-

ure 4 to that illustrated in Figure 5. Suitable stops such as 26 are provided to prevent an overtravel of carriage 4 on track 3.

Means are provided for adjusting the vertical position of platform 2 which comprises a two-armed yoke 27, one arm of which is pivoted at 28 to bracket 9. The other arm of yoke 27 is provided on bracket 9 complemental to the one illustrated. One end of the arm has a plurality of notches 29 therein which are intended to engage with rod 23. Extending upward through a slot 30 in platform 2 is a lever 31 which is secured to yoke 27 by means of a connecting member 32 of yoke 27 so that when arm 31 is moved to the right against the tension of spring 33 which is connected between the arms of yoke 27 and a portion of bracket 9, one of the notches 29 will be brought into engagement with rod 23. The yoke 27 may also be pivoted about 28 by means of a lever 34 disposed below platform 2, two being provided, one near each edge of platform 2, thereby more readily enabling the operator to release the yoke 27 and its notches 29 from rod 23. When platform 2 is being elevated from the Figure 4 position to the Figure 5 position, notch 29 nearest pivot 28 will first engage with rod 23, thereby placing platform 2 in its lower position. Should the operator desire a higher or different position, he will grasp lever 31, moving it toward the right to disengage one notch 29 from rod 23, thereby allowing the second notch 29 to be engaged therein to place platform 2 at a different elevation. By providing a plurality of notches 29 in yoke 27, a plurality of elevations of platform 2 will thereby be made possible.

Having fully described my invention, that which I claim as novel and desire to protect by Letters Patent of the United States is:

1. A typewriter desk comprising a longitudinally movable carriage means; a platform; means to connect said platform to said carriage means for motion with relation thereto, said means including a first pair of links pivotally connected to said carriage means and to said platform, and a second pair of links pivotally connected to said carriage means and to said platform and whose points of pivoting are vertically displaced from the points of pivoting of said first pair of links, said links and said pivote points so arranged that said platform is enabled to move substantially in a vertical direction from a lower to an upper position; and means to maintain said platform in an elevated position.

2. A typewriter desk comprising a longitudinally movable carriage means; a platform; means to connect said platform to said carriage means for motion with relation thereto, said means including a first pair of links pivotally connected to said carriage means and to said platform, and a second pair of links pivotally connected to said carriage means and to said platform and whose points of pivoting are vertically displaced from the points of pivoting of said first pair of links, said pairs of links and said pivot points so arranged that said platform is enabled to move substantially in a vertical direction from a lower to an upper position; means to maintain said platform in an elevated position; and means to adjust the vertical position of said platform.

3. A typewriter desk comprising a longitudinally movable carriage means; a platform assembly; means to connect said platform assembly to said carriage means for motion with relation thereto, said means including a first pair of links whose ends are pivotally secured to said platform assembly and to said carriage means and a second pair of links whose ends are pivoted to said platform and to said carriage means and whose pivoted ends are vertically displaced from the pivoted ends of said first pair of links, said pair of links and said pivot points so arranged that said platform is enabled to move substantially in a vertical direction from a lower to an upper position; a rod connected between said first pair of links; means operative on said rod to hold said platform in said upper position; and a manually operable lever pivoted to said platform assembly, said lever having a plurality of notches therein selectively engageable with said rod to adjust the vertical position of said platform assembly.

4. A typewriter desk comprising a pair of track members; a carriage longitudinally movable along each track; a platform assembly; means to connect said platform assembly to said carriage means for motion with relation thereto, said means including a first pair of links whose ends are pivotally secured to said platform assembly and to said carriages and a second pair of links pivoted at their ends to said platform and to said carriages and whose pivoted ends are vertically displaced from the pivoted ends of said first set of links, said pair of links and said pivot points so arranged that said platform is enabled to move substantially in a vertical direction from a lower to an upper position; spring anchoring means secured to said carriages; a rod connected between said first pair of links; spring means connected between said anchoring means and said rod to hold said platform assembly in said upper position; and a lever pivoted to said platform assembly, said lever having a plurality of notches therein selectively engageable with said rod to adjust the vertical position of said platform assembly.

5. A typewriter desk comprising a pair of track members; a carriage longitudinally movable along each track; a platform assembly; means to connect said platform assembly to said carriages for motion with relation thereto, said means including a first pair of links whose ends are pivotally secured to said platform assembly and to said carriages and a second pair of links pivoted at their ends to said platform and to said carriages and whose pivoted ends are vertically displaced from the pivoted ends of said first set of links, said pair of links and said pivot points so arranged that said platform is enabled to move substantially in a vertical direction from a lower to an upper position; spring anchoring means secured to said carriages; a rod connected between said first set of links; spring means connected between said anchoring means and said rod to hold said platform assembly in said upper position; a lever pivoted to said platform assembly having a plurality of notches therein selectively engageable with said rod to adjust the vertical position of said platform assembly; and a plurality of handles secured to said lever to actuate same, one of said handles being disposed above said platform and the remainder disposed below said platform.

CLARENCE W. KOCH.