Feb. 13, 1951 C. W. KOCH 2,541,075

TYPEWRITER DESK

Filed July 10, 1947 2 Sheets-Sheet 1

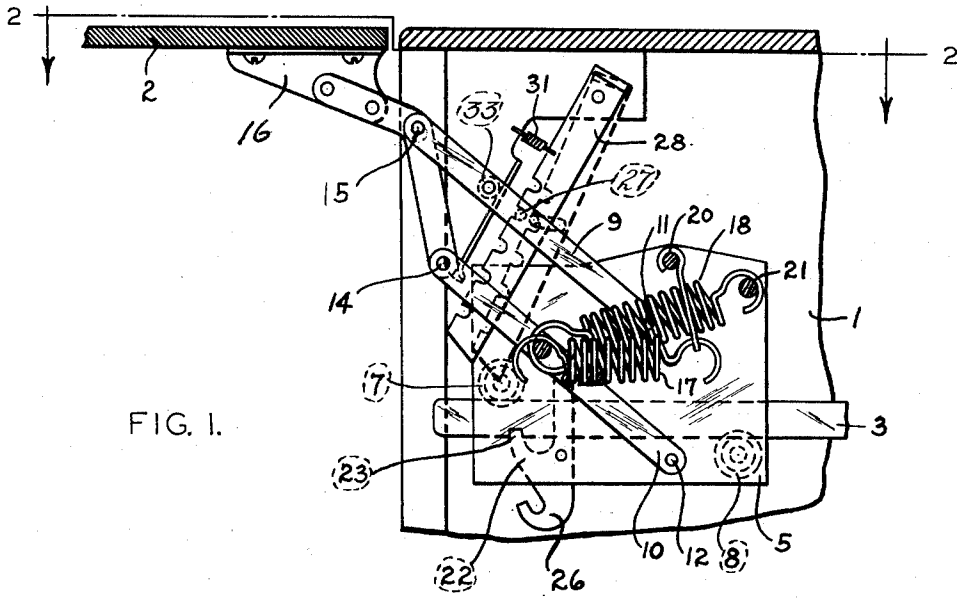


FIG. 1.

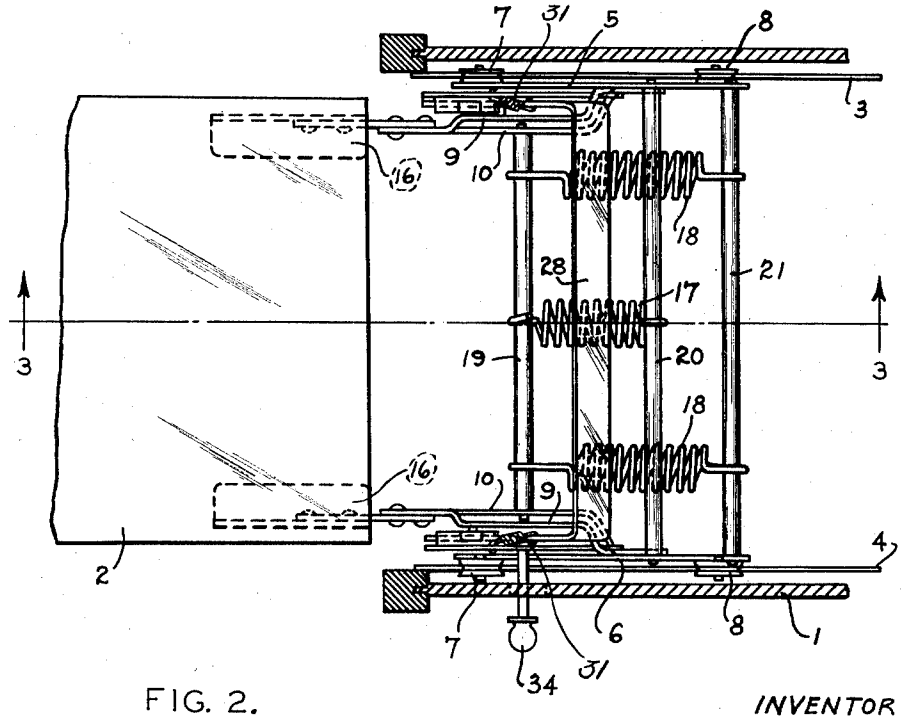


FIG. 2.

INVENTOR:
CLARENCE W. KOCH
BY Alfred F. Rees
ATTORNEY

Feb. 13, 1951 C. W. KOCH 2,541,075

TYPEWRITER DESK

Filed July 10, 1947 2 Sheets-Sheet 2

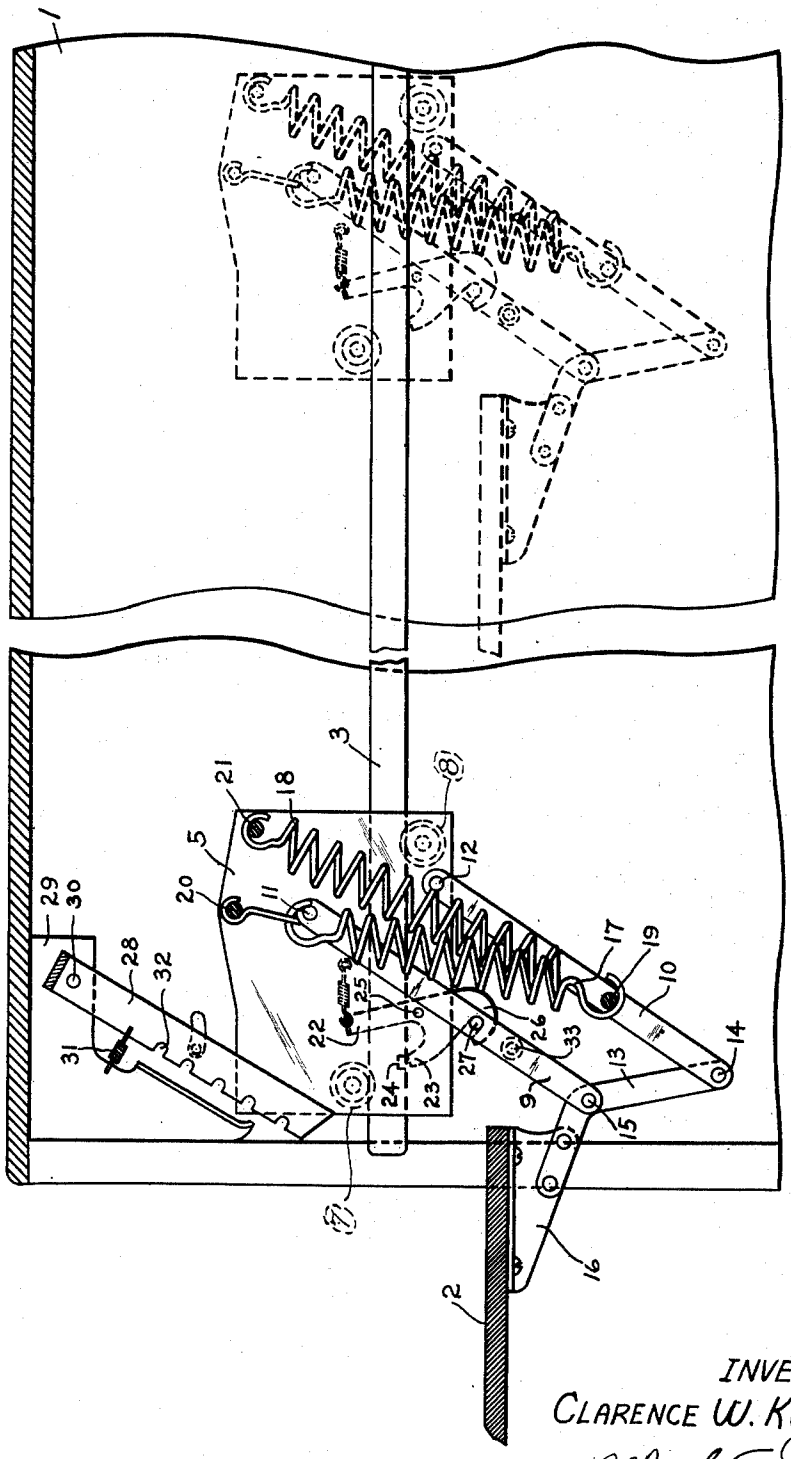


FIG 3

INVENTOR
CLARENCE W. KOCH
BY Alfred F. Rees
ATTORNEY

Patented Feb. 13, 1951

2,541,075

UNITED STATES PATENT OFFICE

2,541,075

TYPEWRITER DESK

Clarence W. Koch, St. Louis, Mo.

Application July 10, 1947, Serial No. 760,007

2 Claims. (Cl. 312—28)

1

This invention relates to typewriter desks and in its more specific aspects is directed to a spring balancing device for a retractible and vertically movable typewriter supporting platform for the desk.

The object of this invention is to provide an article of furniture, e. g., a typewriter desk, having a retractible and vertically movable typewriter supporting platform therein on which one spring means acts to balance the platform during one portion of its vertical motion, which spring means is supplemented by a second spring means to assist said one spring means in balancing the platform during another portion of the vertical motion of the platform.

In the drawings Figure 1 shows an elevational view of the typewriter platform balancing and supporting device in one vertically adjusted position;

Figure 2 discloses a plan view thereof; and

Figure 3 shows an elevational view similar to Figure 1 but with the platform in its lowermost position and also indicated in retracted position in the typewriter desk.

Numeral 1 is a desk in which a typewriter supporting platform 2 is mounted for movement vertically outside of the desk as well as in and out of the well in desk 1. The desk well is provided with a pair of tracks 3 and 4 on each of which carriages 5 and 6 are slidably mounted. The carriages are provided with a pair of wheels 7 and 8 with one of the wheels being disposed on top of the track and the other being disposed below the track as illustrated.

The platform 2 is supported on the carriage by means of a pair of levers 9 and 10 pivoted to the carriages on pins 11 and 12. The pins are disposed one above the other slightly out of vertical alignment and the opposite ends of levers 9 and 10 are connected to lever 13 by means of pins 14 and 15 so that the longitudinal axes of the levers are parallel to each other. The upper end of lever 13, as viewed in Figures 1 and 3, is bent to the left to which brackets 16, 16 are fastened and to which brackets the platform 2 is secured to provide a complete support for said platform.

After the withdrawal of the platform 2 from the desk wall it is vertically moved by means of springs 17 and 18. Levers 10, 10 are connected by means of a rod 19 and carriages 5 and 6 are connected by means of rods 20 and 21. Spring 17 is connected between rods 19 and 20 and springs 18, 18 are connected between rods 19 and 21. The springs 18, 18 control the motion

2

of platform 2 during the first stages of its vertical motion from its uppermost position to a lower position and when it has moved substantially sixty percent of the distance downwardly, springs 18, 18 will have stretched to the limit of their tension and will offer very little further resistance to further downward movement of the platform and at this time spring 17 will supplement the action of springs 18, 18 for the balance of the downward movement of the platform so that it will move in a much more uniform manner.

A spring retracted latch 22 is pivotally connected to each of the carriages 5 and 6 and is provided with a member 23 which engages in an appropriate notch 24 in each of the tracks 3 and 4. The lever is pivoted at 25 and at its lower end is provided with a hook 26. This hook engages with pins 27 which are connected to levers 9, 9 and when they are in engagement will prevent any tendency of platform 2 to move vertically when it is in the well of the desk.

The vertical adjustment of platform 2 is controlled by means of a U-shaped lever 28 pivoted to bracket 29 on pin 30. The spring 31 maintains lever 28 in the position indicated in Figure 3 and each of the legs of the lever is provided with a plurality of notches 32. These notches are selectively engageable with pins 33 secured in each lever 9 to thereby adjust the vertical position of platform 2. In the particular proportions illustrated platform 2 is capable of being adjusted to a position above the top of desk 1 and may be adjusted to a position well below the top of said desk and thereby give the typist a wide selection of typewriter platform heights. A manually operable lever 34 extends through the wall of desk 1 and is secured to one leg of lever 28 which is capable of moving the notched levers to the dotted position illustrated in Figure 1 whereupon different vertical positions of platform 2 may be selected.

In operation the typist withdraws the platform assembly from the dotted line position illustrated in Figure 3 to the full line position whereupon lever 23 will be engaged in notch 24 and spring 17 will start moving platform 2 upwardly and when its tension has been expended, further upward movement of platform 2 will be performed by springs 18, 18. Lever 34 is now moved by the typist such that the notched levers 28 will be in the dotted line position and held there until platform 2 has been moved to its desired vertical position. The reverse mo-

tion of platform 2 is accomplished by a reversal of the operation just set forth.

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 having a pair of substantially parallel and spaced apart plates, a pair of rods having the ends thereof rigidly attached to said respective plates, a typewriter platform, a pair of mechanical linkages for connecting said platform to said carriage for vertical motion with relation thereto, each of said linkages comprising a pair of substantially parallel arms, means for pivoting one end of each of said arms to one of said plates, an attaching means comprising an angular bracket and lever arm, means for attaching said bracket to said platform and means for pivoting said lever arm to the other ends of said arms, a rod having the ends thereof attached to corresponding arms of said pair of linkages, a pair of springs, one end of each of said springs being attached to said last mentioned rod and the other end of one of said springs being attached to one of said pair of rods, a linkage for attaching the other end of the other of said springs to the other of said pair of rods, said last mentioned spring being adapted to be fully retracted when said platform is in its uppermost position and both of said springs being adapted to be fully extended when said platform is in its lowermost position.

2. A typewriter desk construction comprising a platform for carrying the typewriter into and out of a compartment in the desk, a movable carriage having a pair of substantially parallel and spaced apart plates, a pair of rods having the ends thereof rigidly attached to said respective plates, a pair of mechanical linkages for connecting said platform to said carriage for vertical motion with relation thereto, each of said linkages comprising a pair of substantially parallel arms, means for pivoting one end of each

of said arms to one of said plates, an attaching means comprising an angular bracket and lever arm, means for attaching said bracket to said platform and means for pivoting said lever arm to the other ends of said arms, a rod having the ends thereof attached to corresponding arms of said pair of linkages, a pair of springs, one end of each of said springs being attached to said last mentioned rod and the other end of one of said springs being attached to one of said pair of rods, a linkage for attaching the other end of the other of said springs to the other of said pair of rods, said last mentioned spring being adapted to be fully retracted when said platform is in its uppermost position and both of said springs being adapted to be fully extended when said platform is in its lowermost position, a spring biased lever pivotally attached to a side wall of said compartment, said spring biased lever having a plurality of spaced notches in one side thereof, a stud mounted on one of said substantially parallel arms for selectively engaging any one of said notches so that said typewriter platform may be selectively adjusted to any position ranging from a position well above to a position well below the top of the typewriter desk.

CLARENCE W. KOCH.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
972,073	Flindall	Oct. 4, 1910
1,492,324	Hoover	Apr. 29, 1924
1,838,613	Durard	Dec. 29, 1931
2,245,526	Fox	June 10, 1941
2,402,412	Koch	June 18, 1946

FOREIGN PATENTS

Number	Country	Date
579,591	Germany	June 28, 1933