Feb. 5, 1929. 1,700,941

A. G. F. KUROWSKI

TYPEWRITING MACHINE CASING

Filed Dec. 11, 1924 2 Sheets-Sheet 1

Fig. 1.

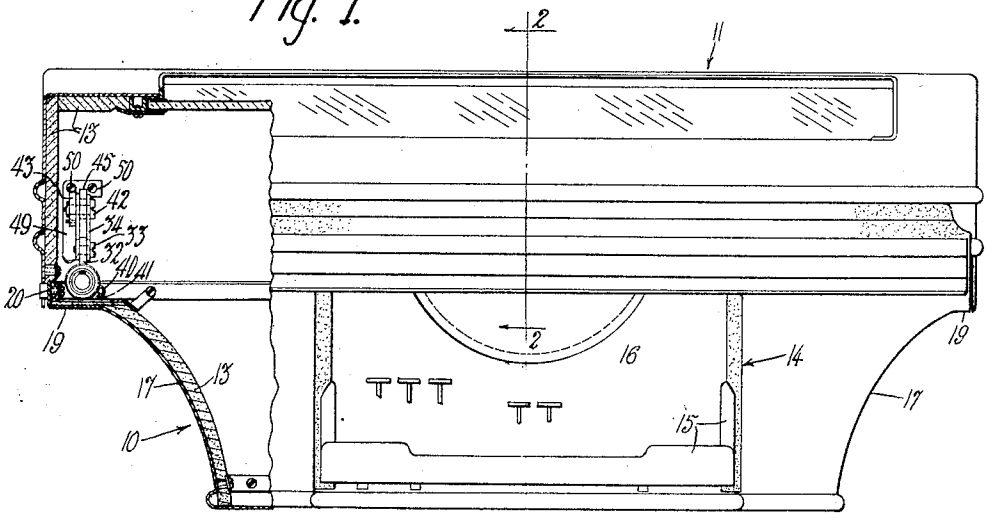
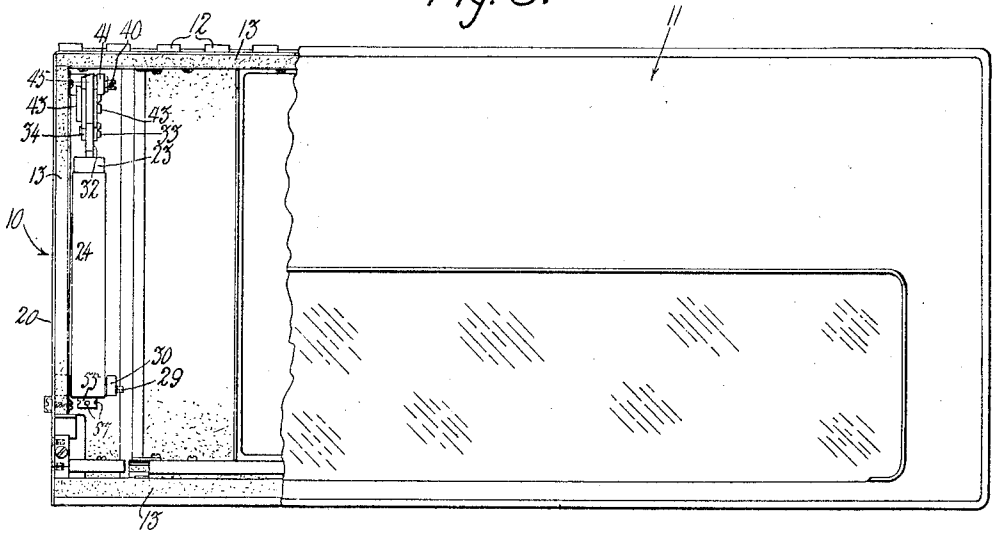


Fig. 3.



Inventor
Alfred G. F. Kurowski
by B. B. Stickney
Attorney

Feb. 5, 1929. 1,700,941

A. G. F. KUROWSKI

TYPEWRITING MACHINE CASING

Filed Dec. 11, 1924 2 Sheets-Sheet 2

Fig. 2.

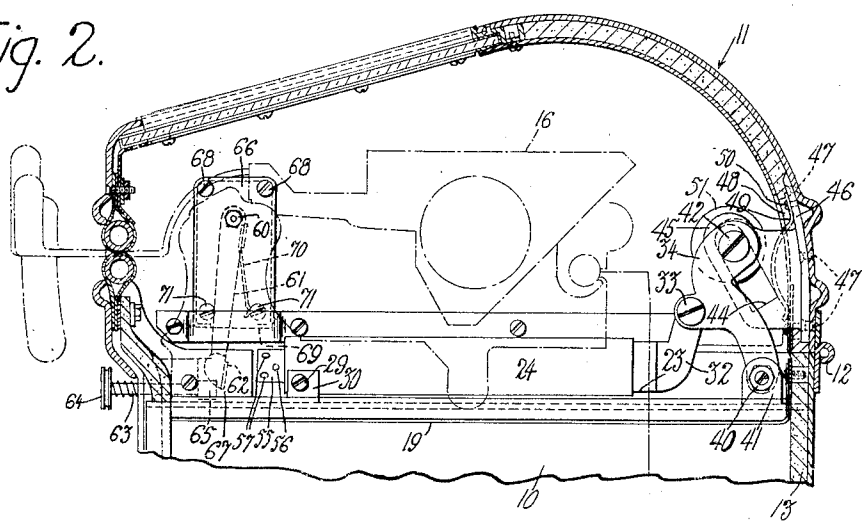


Fig. 4.

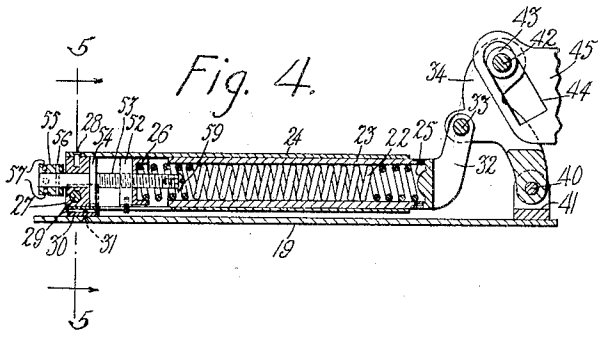


Fig. 5.

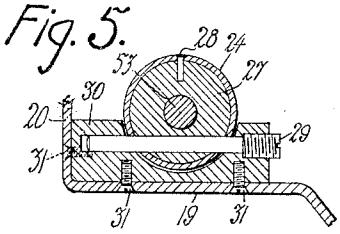


Fig. 6.

Inventor
Alfred G. F. Kurowski
by D. C. Hickney
Attorney

Patented Feb. 5, 1929. 1,700,941

UNITED STATES PATENT OFFICE.

ALFRED G. F. KUROWSKI, OF BROOKLYN, NEW YORK, ASSIGNOR TO UNDERWOOD ELLIOTT FISHER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPEWRITING-MACHINE CASING.

Original application filed September 27, 1922, Serial No. 590,756, now Patent No. 1,570,309, dated January 19, 1926. Divided and this application filed December 11, 1924. Serial No. 755,137.

The present invention relates to sound-deadening cases for typewriting machines, and is a division of my co-pending application, Serial No. 590,756, filed September 27, 1922 (now Patent No. 1,570,309, dated January 19, 1926). These cases are usually made of a body-part and a cover, the body-part having a front opening therein through which the key-board-extension of the machine may project and the cover being hinged near the top of the rear wall of said body-part and arranged to be swung open rearwardly to permit access to the machine for erasures and other purposes.

A feature of the invention is the provision of a cover-opening spring-device, which may be of any desired strength or force, while requiring but little space for its movements and housing. In this connection, a feature of the invention is the use, between the spring-opening device and the cover, of means for amplifying the motion of the spring-device, so that an ample cover-opening movement may be had with small movement of the spring-device, and so that, small movement of the spring-device being required, the same may be in the form of a relatively heavy coil-spring, conveniently housed by telescoping members.

Another feature is to provide means for holding the cover in its closed position, said means including a hook pivotally connected to the cover and arranged to engage a device on the body-part to hold the cover in its closed position.

Another feature is to provide means for readily releasing said hook to allow the cover-opening spring-device to automatically open the cover.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a view, in front elevation, partly in cross-section, of the casing; the key-board-extension of a typewriting machine being shown protruding through the front wall of the casing.

Figure 2 is a view, in cross-sectional side elevation, taken on the line 2—2 of Figure 1.

Figure 3 is a top plan view of the casing, the cover being broken away to show the cover-opening element and its associated parts.

Figure 4 is a view, in cross-sectional side elevation, through the cover balancing or opening device; the parts being in the position assumed when the cover is closed.

Figure 5 is a view, in cross-section, on the line 5—5 of Figure 4.

Figure 6 is a view, in side elevation, of the cover opening or balancing device and its connections to the casing body and cover, with the cover in open position.

The casing is in two principal parts, to wit, a body-portion 10 and a cover 11; the cover being hinged at 12 at the rear thereof to the body-portion to swing from Figure 2 to Figure 6 position. The rear, front, and side walls of the casing-body are lined with sound-deadening material 13. The front wall of the casing is cut away, as at 14, so that the keyboard-extension 15 of the typewriting machine 16 may protrude therethrough.

As shown in Figure 1, the casing is flared laterally upward and outward on the lines 17, to provide room in the top thereof for movement of the platen-carriage in letter-feed and return directions. The flaring side walls 17 terminate, at their upper ends, in horizontal overhangs 19, the ends of which are turned upward, to form flanges 20. The left-hand overhang 19 is wider than the right, to serve as a platform for a cover-opening spring-device. This device comprises a coil-spring 22 (see Figure 4), enclosed in a housing, consisting of two telescoping sleeves 23 and 24; the spring bearing, at one end, on a head 25 of the housing-member 23, and bearing, at its other end, against an adjustable head 26 in the housing-member 24. The housing-member 24 has, at its forward end, a head 27, fixed therein by pins 28; and, passing horizontally through the head 27 (see Figures 4 and 5), is a hinge-pin 29, set and threaded into a block 30, secured by screws 31 to the over-hang 19 of the casing-body at the upper left-hand side of the latter. The housing as a whole may, therefore, have an up and down pivotal movement around the pin 29. On the head 25 of the housing-member 23 is formed an arm 32, pivotally connected at 33 to an arm 34, which, in turn, is pivotally mounted at 40 on a bracket 41, also set upon, and suitably secured to, the over-hang 19 of the casing-body. The arm 34 carries a pin 42, on which is a roller 43, adapted to work in a slot 44 in an arm 45, forming part of a bracket 46, secured by

screws 47 to the sheeting of the cover 11, and at the rear of the latter. The cover-lining-member 13 is slotted, as indicated at 48, to receive the bracket-arm 45.

The spring 22 is compressed when the cover is closed, and, consequently, tends to force rearward arm 32, arm 34 and bracket-arm 45, to swing the cover rearward around the hinge 12. The cover in swinging rearward and upward, in the opening operation, causes the housing 23—24 to swing upward on its pivot 29, as indicated in Figure 6. The slot 44 is so directed as to permit of the pivotal movements of the cover and spring-housing; while providing for the direct pressure of the roller 43 on the bracket-arm 45. The lower rear end wall of the slot 44 serves as a stop to determine the throw of the cover in the opening operation.

To serve as a brake or cushion, to prevent shocks to the cover, when the same is arrested in the opening operation, there is a leaf-spring 49, set in the cut 48 in the lining-member, and secured to the bracket 46 by a screw 50. At the end of the pin 42 is a collar 51, against which the leaf-spring 49 is caused to bear with increasing pressure as the cover is opened. In other words, the upward movement of the cover, in the opening operation, brings the bellied portion of the leaf-spring (see Figure 6) into braking and buffing engagement with the collar 51, so that the cover is brought to open position smoothly and noiselessly. The collar 51 may be eccentric, and angularly adjustable on the pin 42, for adjustment of the tension of the spring 49.

The tension of the spring 22 in the housing is adjusted by varying the position of the head 26 therein. For this purpose, the head 26 is secured to a block 52, in threaded engagement with a stud 53. The stud 53 is held in the front head 27 of the housing, against longitudinal movement therein, by means of a collar 54, set into a recess in the stud, against the inner face of the head 27, and a collar 55, secured by a key 56 to the end of the stud, at the outer face of the head 27. The collar 55 has pin-holes 57 therein, to receive a pin, by means of which the collar, and, consequently, the stud 53, may be turned, to move the head 26 in one or the other direction. To prevent the head 26 from overriding the inner end of the stud 53, the latter has a headed screw 59 set into the inner end thereof.

For locking the cover against the action of the spring-device, just referred to, there is pivoted at 60, to one of the side walls of the cover, a hook 61, which depends into the body-portion of the casing. When the cover is shut and the hook 61 is swung forward, it engages a detent 62, carried by the casing-body. Mounted to be slid rearward and forward in the front wall of the casing-body is a pin 63, carrying on its outer end a finger-piece 64, and having on its inner end a head 65, adapted to engage the end of the hook 61. When the key or finger-piece 64 is pressed rearward, the pin 63 disengages the hook from the detent 62 and releases the cover to the action of the spring 22.

In order that the hook may not be injured by the typewriting machine, in the operation of removing the latter from the casing, and may not be struck by the operator, or otherwise bent or injured, it is set in a housing. This housing is in two sections, one section 66 being on the cover, and the other section 67, which forms a continuation of the section 66, being on the casing-body. As shown in Figure 2, the housing 66 is a punched-press piece in the form of a pan, set edge-on to the casing-cover against bushings, staked or riveted on the side wall of the cover; and anchored to such bushings by screws 68, which pass through the bottom of the pan and thread into the bushings. The lower side wall of the pan has an opening 69 therein, through which the hook 61 passes, and within which the hook may swing. A leaf-spring 70, secured at one end to the rear of the hook 61, and at its other end bearing against one of the bushings, acts to throw the hook forward into cover-locking position. The release-button-housing 67 is also made of a punching, and is secured to the flange 20 of the body-portion of the casing by two flat-head screws 71. The front and rear walls of the housing may serve as stops to limit the throw of the hook.

Referring to the cover-opening device, it will be noted that the length of the arm between the pivot 40 and the roller 43 is greater than the length of the arm between the pivot 40 and the pin 33. In other words, the arm 34 serves to amplify the movement received by it from the member 32; and the cover-operating arm 45 receives a greater motion than does the arm 32. To effect an ample movement of the cover, a relatively small movement of the spring-actuated arm 32 is, therefore, required. Since the spring 22 needs but slight expansion in the cover-opening operation, the spring may be made of a size and strength to perform its function effectively. Furthermore, the space required for the expansion of the housing, and for the swing of the housing on its pivot, may, by reason of the amplifying arm 34, be less than would otherwise be required to give the cover its full opening movement.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a sound-deadening casing for a typewriting machine, having a body-portion and a swingable cover, a spring-actuated arm secured to the casing-body, a second arm pivoted to the body-portion of the casing, and

having connections, at different radial distances thereon, to the spring-actuated arm and the cover, to cause the movement of the spring-actuated arm to be amplified, an adjustable buffer-element carried at the free end of the second arm, and a buffer engaging said element in gradually increasing tension as the cover swings open.

2. In a sound-deadening casing for a typewriting machine, having a body-portion and a swingable cover, a spring-actuated arm secured to the casing-body, a slotted tongue on the cover, a second arm pivoted to the casing-body, a pin on the second arm engaging the slot in the tongue on the cover, a pivotal connection of the spring-actuated arm to the second arm an eccentric element carried by the second arm, and a buffer engaging said element as the cover swings open, said element being adjustable to vary the tension exerted by said buffer.

3. In a sound-deadening casing for a typewriting machine, having a body-portion and a swingable cover, a spring-actuated arm secured to the casing-body, a slotted tongue on the cover, a second arm pivoted to the casing-body, a pin on the second arm engaging the slot in the tongue on the cover, a pivotal connection of the spring-actuated arm to the second arm; said pivotal connection of the spring-actuated arm to the second arm being at a shorter radial distance from the pivot of the latter than is the pin thereon for engagement in said slot, a buffer in the form of a leaf-spring carried by the cover, and an eccentric disk adjustable about said pin and engaging said leaf-spring as the cover swings open, the tension of said leaf-spring being controlled by the adjustable eccentric.

4. In a sound-deadening casing for a typewriting machine, having a body-portion and a swingable cover, a spring-actuated arm secured to the casing-body, a slotted tongue on the cover, a second arm pivoted to the casing-body, a pin on the second arm engaging the slot in the tongue on the cover, a pivotal connection of the spring-actuated arm to the second arm, an eccentric disk angularly adjustable on said pin, and a spring engageable with said disk, for cushioning the cover-opening operation.

5. In a sound-deadening casing for a typewriting machine, having a body-portion and a cover hinged thereto, a spring-actuated arm secured to the casing-body, a slotted tongue on the cover, a second arm pivoted to the casing-body, a pin on the second arm engaging the slot in the tongue on the cover, a pivotal connection of the spring-actuated arm to the second arm, and a leaf-spring on the cover adapted to be engaged by the pin on the second arm, to cushion the cover-opening operation.

6. In a sound-deadening casing for a typewriting machine, having a body-portion and a swingable cover, a cover-opening device including a telescoping housing containing a coil-spring, an extensible element propelled by the spring, an arm pivoted to the casing, means connecting the extensible element of the spring-housing and the cover to said arm, and other means connecting the cover to said arm.

7. In a sound-deadening casing for a typewriting machine, having a body-portion and a cover hinged thereto, a spring-device for opening the cover comprising a housing of two telescoping sleeves, a coil-spring within the housing, bearing at one end against one member of the housing, and at its other end against a collar within the other element of the housing, a head in such other element of the housing, a turn-screw set in said head, in threaded engagement with said collar-bearing for the spring, and means for turning the screw to adjust the tension of the spring.

8. In a sound-deadening casing for a typewriting machine, having a body-portion and a cover hinged thereto, a cover-opening device comprising a telescoping housing pivotally connected to the casing-body, and containing a coil-spring for expanding the same, an arm pivoted to the casing-body, and means pivotally connecting the arm to the expansible member of the housing and to the cover.

9. In a sound-deadening casing for a typewriting machine, having a body-portion and a cover hinged thereto, a spring-actuated arm secured to the casing-body, a slotted tongue on the cover, a second arm pivoted to the casing-body, a pin on the second arm engaging the slot in the tongue on the cover, a pivotal connection of the spring-actuated arm to the second arm, an eccentric collar on the pin, a leaf-spring on the cover adapted to be engaged by the eccentric collar, to cushion the cover-opening operation, and means for adjusting the angular setting of the eccentric collar on the pin, to vary the tension of the cushion-spring.

ALFRED G. F. KUROWSKI.