April 20, 1937. W. A. DOBSON 2,077,379

TYPEWRITING MACHINE

Filed April 24, 1935

FIG.1.

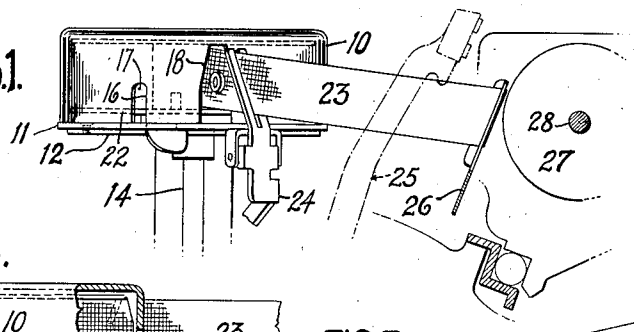


FIG.2.

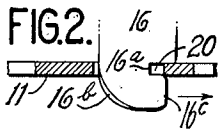


FIG.3.

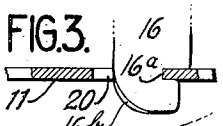


FIG.4.

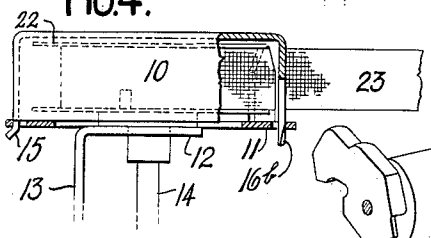


FIG.5.

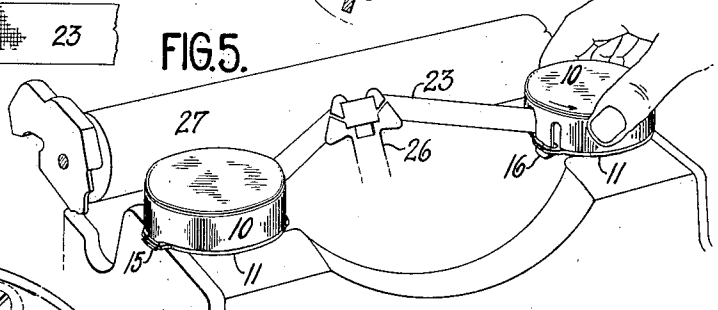


FIG.6.

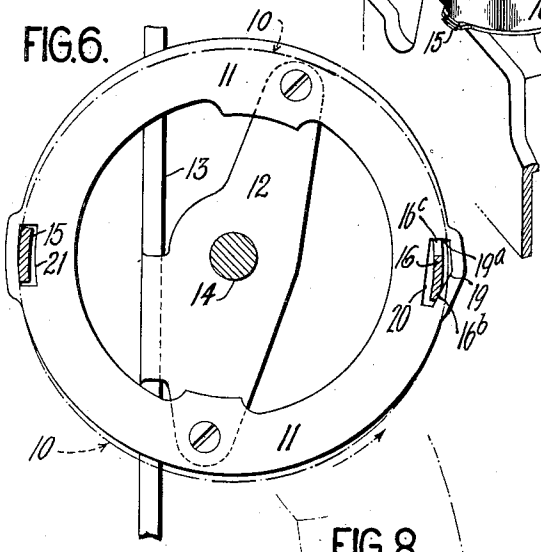


FIG.7.

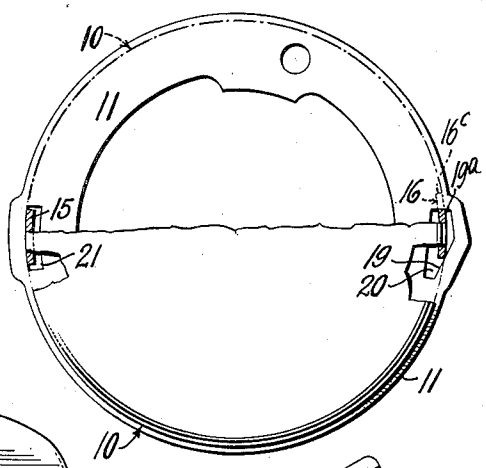


FIG.8.

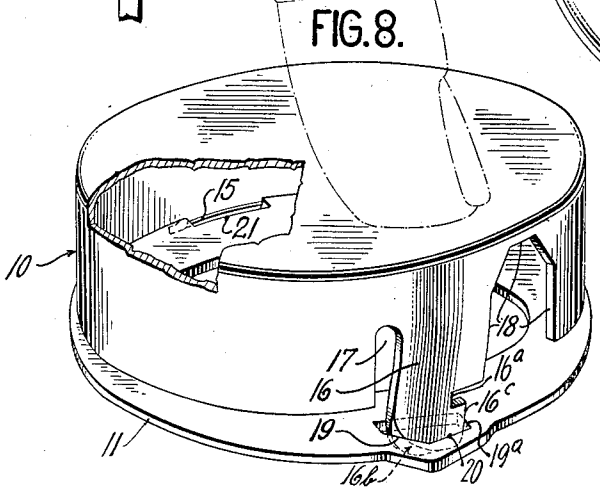
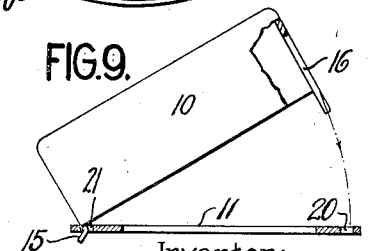


FIG.9.



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2,077,379

TYPEWRITING MACHINE

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Application April 24, 1935, Serial No. 17,904

8 Claims. (Cl. 197—186)

This invention relates to improvements in a ribbon-spool cover or case for typewriting machines.

The improved cover rests upon a base-plate, which has slots to receive nibs projecting down from opposite sides of the cover. After one nib is inserted, the cover may be pressed down and snapped into a closed position. The locking nib, which is spring-like, is pressed between cramping jaws formed in the base-plate and consisting of the edges of a slot, one edge being a cam or bevel. The bevel-edge acts like a wedge against the nib and tends to bend it with reference to a vertical axis, and, by the application of downward finger-pressure on the cover, will produce a lateral or eccentric distortion or movement of the cover, until a notch in the edge of the nib snaps and locks under the edge of the jaw in the slot of the cam-plate.

The cover is removed by turning and lifting it until one nib is released, whereupon the cover is tilted upon the other nib and removed from the base-plate.

Other features and advantages will hereinafter appear.

In the accompanying drawing,

Figure 1 shows the left-hand ribbon-spool cover in its place.

Figures 2 and 3 are details of the cam-flange, Figure 2 showing the earlier stage of the cam-action, and Figure 3 showing the spool-cover locked in position.

Figure 4 is a fragmentary front view of the left-hand ribbon-spool cover locked in place.

Figure 5 is a perspective showing the left and right hand ribbon-spool covers in position.

Figure 6 is a plan of the base-plate connected to the machine-frame, and illustrating one stage of the cam-action of the locking device.

Figure 7 is a plan similar to Figure 6, but showing the cover locked in place, as shown in Figure 3.

Figure 8 is a perspective of the cover being attached to the base-plate.

Figure 9 is a side view showing the first stage of the operation of attaching a cover.

A ribbon-spool cover 10 is arranged upon a base-plate 11, fixed to a supporting bracket 12 of the machine-frame 13. A vertical ribbon-spool shaft 14 is journaled in the bracket 12.

The cover 10 may be in the form of a top plate having a circular skirt, and is equipped with two bottom nibs, one 15 being bent out to afford an anchorage at one side of the cover, and serving as a pivot, and the other 16 being on the opposite side of the skirt from 15, and being bendable with reference to a vertical axis and serving as a snap-lock. A narrow vertical slit 17 is formed in the skirt on one side of the snapping nib 16, and a wider cutout 18 is formed on the other side of said nib, making the nib of the right size, making it flexible and adapting it to snap.

The cutout 18 affords a passage for the ribbon, and in addition accommodates lateral motions of the cover, while putting it on and off.

The cutouts 17 and 18 permit spring-like bending to nib 16 while it is being pressed against a bevel or cam-edge 19 which is formed in the outer side of a locking-cam-slot 20 in base-plate 11. The nib 16, which has a notch 16^a, near its lower end, is rounded like a cam and has a beveled edge at 16^b, opposite 16^a.

In Figure 1 a spool 22 is shown under cover 10, a ribbon 23 being threaded through the usual reversing lever 24. A type-bar 25 is shown by dotted lines. Ribbon 23 is also threaded through vibrator 26 in front of the platen 27, journaled on shaft 28.

In applying the cover, the anchoring nib 15 must first be inserted in slot 21 of base-plate 11, so that this nib may serve roughly as a pivot in helping to guide the opposite nib 16, so that the latter may readily find the opposite slot 20 and pass into it. By pressing the cover further down, a bending or spring-like action in nib 16, with reference to a vertical axis, will be produced owing to the pressure of the confined nib against the beveled cam 19.

The cam-edge 19 is under-spaced from the outer or anchoring edge of the opposite slot 21. The cover-skirt must therefore be deformed, that is, its sides must be pressed towards each other, so as to incline or bend the nib 16 inwardly, to permit it to be pressed down in the restricted space afforded by the cam-edge 19. This inward cramping of the nib 16 is of course dependent upon the coaction of the beveled side or cam 19, and for this purpose the side of the nib 16 is cramped against the cam by the engagement of the rear edge 16^c of the nib with the edge or jaw 19^a of the slot 20 in the base-plate. The front edge of the nib 16 being rounded or inclined, and the cam 19 being under-spaced from the anchorage-slot 21, it results that the mere pressing of the cover downwardly, Figure 8, causes more and more inward flexing of the nib 16, and consequently an eccentricity of the cover, as shown in Figure 6. This downward forcing is continued until the notch 16^a is reached, permitting the nib 16 to spring or snap into its normal shape, as it is no longer cramped by the inclined

cam-jaw 19. The cover resumes its normal circular form, the nib 16 hooking under the edge or jaw of notch 20, thereby locking the cover to the base-plate 11, as shown in Figures 3 and 7.

To detach the cover, it will be necessary to turn it in the opposite direction, while slightly lifting the same at its ribbon-outlet side, whereupon the cover will come off, as shown in Figure 5. The backward turning of the cover serves to release the locking notch 19a from the locking jaw 16c.

Figure 6 shows nib 15 inserted into anchorage-hole 21. The nib 16 is just touching the beveled cam-jaw 19 of slot 20. The cover is now in a compressed or deformed condition, as shown by dotted line 10.

Figure 8 shows the same position.

Figure 7 shows the cover-skirt as locked, and as having recovered its normal circular form.

Figure 9 illustrates the first step of anchoring the cover at one side preparatory to closing it down to the base-plate.

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 typewriting machine, the combination with a base-plate, of a ribbon-spool cover having on its opposite sides nibs projecting downwardly, said base-plate having means to catch said nibs to hold the cover upon the base-plate; said catching means having the form of openings cut in the base-plate, one of said openings having a bevel side edge, and the nibs being inserted in said openings and hooked under the base-plate, the nib on one side being insertible to anchor the cover, and the nib on the other side being in the form of a snap which is thrust down through the bevel-sided base-plate opening and swung into engagement therewith, by a twisting motion of the nib with reference to a vertical axis, by downward pressure upon the cover, said bevel edge serving to press the cover-nib inwardly, to permit it, when fully depressed, to snap outwardly into hooking engagement with the base-plate.

2. In a typewriting machine, the combination with a base-plate, of a ribbon-spool cover having on its opposite sides nibs projecting downwardly, said base-plate having means to catch said nibs to hold the cover upon the base-plate; said catching means having the form of openings cut in the base-plate, and the nibs being inserted in said openings and hooked under the base-plate, the nib on one side being insertible to anchor the cover, and the nib on the other side being in the form of a snap which is thrust down through the base-plate opening and swung into locking engagement therewith by downward pressure upon the spool, said locking nib being resilient, and said base-plate opening having edges which form cramping jaws between which the locking nib is forced, whereby it is flexed.

3. The combination with a base-plate, of a ribbon-spool cover having a top and a skirt, and opposite nibs projecting down from the bottom of the skirt at its opposite sides, one of said nibs being bent out to afford an anchorage, and the other nib being bendable and serving as a snap-lock; a narrow vertical slit being formed in the skirt on one side of the snapping nib, and a ribbon-opening being formed at the other side of said nib, to make the nib the right size for the necessary flexibility.

4. The combination with a base-plate having opposite slots, of a ribbon-spool cover having a top and a skirt, and opposite nibs projecting down from the bottom of the skirt at its opposite sides, one of said nibs being bent out to afford an anchorage, and the other nib being bendable and serving as a snap-lock; said base-plate having an inclined cam-edge forming a jaw which co-operates with an opposite jaw to flex the other nib while the cover is being pressed down, as the other nib is being forced through said slot, said base-plate having means with which the other nib snaps into locking engagement upon passing said opposite jaw in the base-plate.

5. The combination with a base-plate having opposite slots, of a ribbon-spool cover having a top and a skirt, and opposite nibs projecting down from the bottom of the skirt at its opposite sides, one of said nibs being bent out to afford an anchorage, and the other nib being bendable and serving as a snap-lock; said base-plate having an inclined cam-edge forming a jaw which co-operates with an opposite jaw to flex the other nib while the cover is being pressed down, as the other nib is being forced through said slot, said base-plate having means with which the other nib snaps into locking engagement upon passing said opposite jaw in the base-plate, said other nib being rounded or beveled where it engages said cam-edge, so as to be flexed inwardly by said cam-edge as the other nib is held against it by means of said opposite jaw.

6. In a typewriting machine, the combination with a base-plate, of a ribbon-spool cover having on its opposite sides nibs projecting downwardly, said base-plate having means to catch said nibs to hold the cover upon the base-plate; said catching means having the form of slots or openings cut in the base-plate, one of said openings being a cam-slot, and the nibs being inserted in said openings and hooked under the base-plate, the nib on one side being insertible to anchor the cover, and the nib on the other side being in the form of a snap which is thrust down through said base-plate opening or cam-slot and swung into locking engagement therewith by downward pressure upon the spool, the cam-edge in said cam-slot being underspaced from the anchoring edge of the companion slot at the opposite side of the base-plate, whereby the locking nib is sprung and the cover-skirt is deformed, its sides being pressed toward each other, with the effect that the locking nib is inclined or bent inwardly as it is forced down in the restricted space afforded by the cam-slot in the base-plate.

7. In a typewriting machine, the combination with a base-plate, of a ribbon-spool cover having on its opposite sides nibs projecting downwardly, said base-plate having means to catch said nibs to hold the cover upon the base-plate; said catching means having the form of slots or openings cut in the base-plate, one of said openings being a cam-slot, and the nibs being inserted in said openings and hooked under the base-plate, the nib on one side being insertible to anchor the cover, and the nib on the other side being in the form of a snap which is thrust down through said base-plate opening or cam-slot and swung into locking engagement therewith by downward pressure upon the spool, the cam-edge in said cam-slot being underspaced from the anchoring edge of the companion slot at the opposite side of the base-plate, whereby the locking nib is sprung and the cover-skirt is deformed, its sides being pressed toward each other, with the effect that the locking nib is inclined or bent inwardly as it is forced down in the restricted space af-

forded by the cam-slot in the base-plate, said nib having a rounded edge to engage said cam in the cam-slot, said rounded edge being cramped against said cam by engagement of an edge of the nib with the opposite edge or jaw of the cam-slot.

8. In a typewriting machine, the combination with a base-plate, of a ribbon-spool cover having on its opposite sides nibs projecting downwardly, said base-plate having means to catch said nibs to hold the cover upon the base-plate; said catching means having the form of slots or openings cut in the base-plate, one of said openings being a cam-slot, and the nibs being inserted in said openings and hooked under the base-plate, the nib on one side being insertible to anchor the cover, and the nib on the other side being in the form of a snap which is thrust down through the base-plate opening or cam-slot and swung into locking engagement therewith by downward pressure upon the spool, the cam-edge in said cam-slot being underspaced from the anchoring edge of the companion slot at the opposite side of the base-plate, whereby the locking nib is sprung and the cover-skirt is deformed, its sides being pressed toward each other, with the effect that the locking nib is inclined or bent inwardly as it is forced down in the restricted space afforded by the cam-slot in the base-plate, said nib having a rounded edge to engage said cam in the cam-slot, said rounded edge being cramped against said cam by engagement of an edge of the nib with the opposite edge or jaw of the cam-slot, said nib having a notch permitting it to catch or snap beneath said opposite jaw to interlock the cover and the base-plate.

WILLIAM A. DOBSON.