

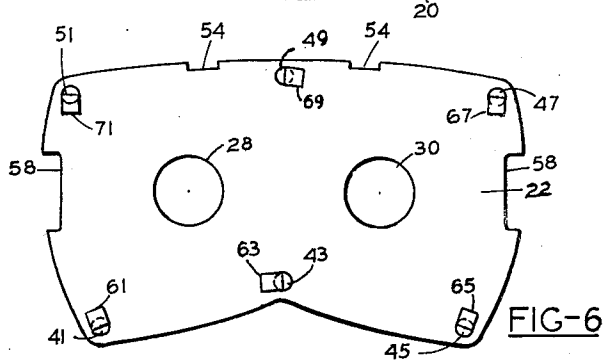
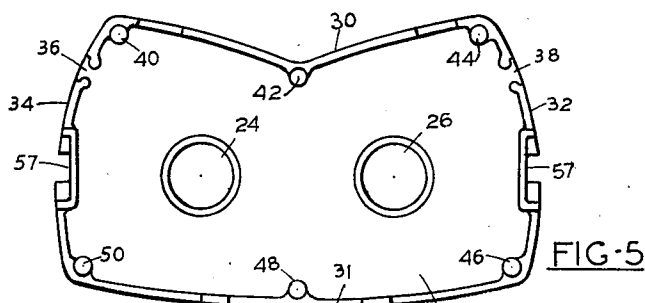
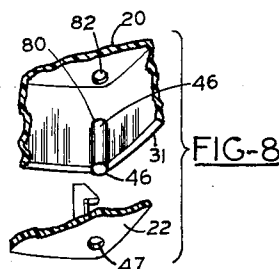
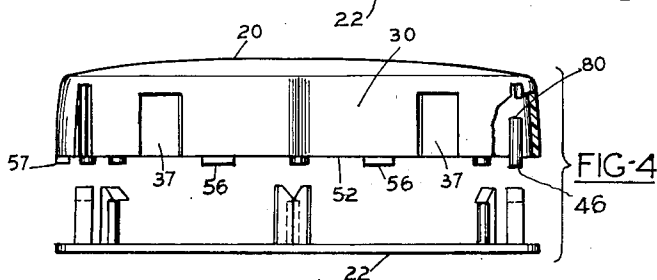
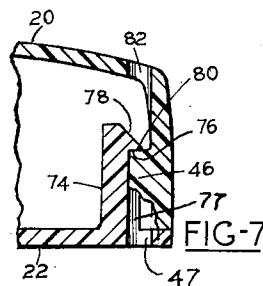
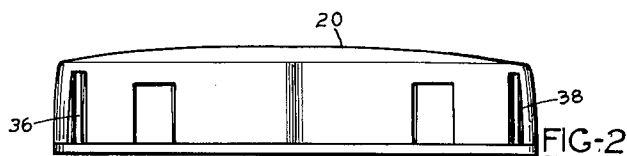
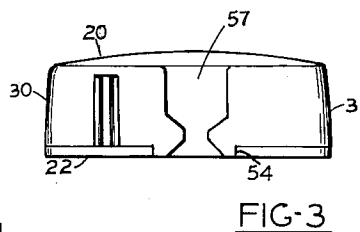
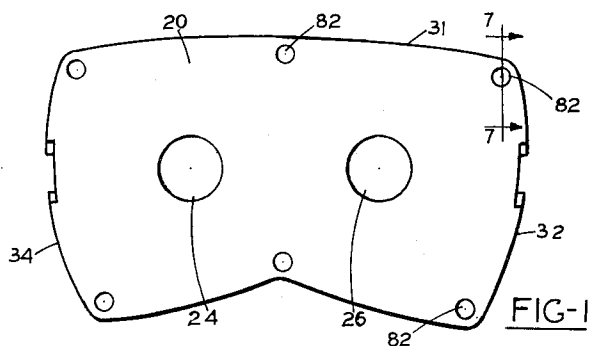
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3,075,627

INKED RIBBON CARTRIDGE CASING

Filed Oct. 2, 1961



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3,075,627

INKED RIBBON CARTRIDGE CASING

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1 Claim. (Cl. 197—151)

This invention relates to a cartridge casing for inked ribbons employed in conjunction with typewriters and the like.

Cartridges comprising a casing and a pair of ribbon spools, which may be flangeless, and journaled in the casing wall have been proposed, as for example in Whippo 2,986,260, issued May 30, 1961. Such casings may be formed of plastic and comprise a cover having a peripheral skirt or side wall, and a bottom plate. It is necessary to assemble the casing about a pair of spools upon which is provided a length of inked ribbon, the ends of which are attached to the spool drums, and the length of which is wound upon one of the drums. Securing the plastic cover and bottom plate together with the ribbon and rolls within quickly and with a minimum of time and expense has necessitated expensive equipment such as heat sealing machines and the like.

It is an object of the present invention to eliminate the necessity for any casing assembly apparatus, whereby the spools and ribbon carried thereon may be quickly disposed within the casing cover with a loop of the ribbon emerging therefrom, and the bottom thereafter applied and locked in place, to form the complete cartridge. The invention further has to do with the formation of integral locking means in the form of appropriately disposed internal locking hooks and cooperating shoulders on the respective parts which may be molded in a single operation, and which are capable of being snapped in place on application of the cover to a plate, whereby the casing will be permanently locked closed, and the casing thereafter becoming adapted for treatment as a permanent replacement ribbon cartridge.

The above and other objects of the invention will appear more fully hereinafter from the following detailed description when taken in conjunction with the accompanying drawings. It is expressly understood that the drawings are employed for purposes of illustration only and are not designed as a definition of the limits of the invention, reference being had for this purpose to the appended claims.

In the drawings, wherein like reference characters indicate like parts:

FIGURE 1 is a top plan view of the ribbon cartridge casing;

FIGURE 2 is a front elevational view;

FIGURE 3 is an end elevational view;

FIGURE 4 is an exploded view with a portion broken away of the parts prior to assembly;

FIGURE 5 is a bottom plan view of the cover;

FIGURE 6 is a top plan view of the bottom plate;

FIGURE 7 is an enlarged section taken on the line 7—7 of FIGURE 1, and

FIGURE 8 is an exploded perspective view of the one corner of the cover and bottom plate prior to assembly.

Referring to FIGURES 1, 2 and 3 there is shown a cartridge casing comprising a hollow cover 20, and a relatively flat bottom plate 22. The cover is provided with apertures 24 and 26 to receive the upper reduced diameter end portions of drums of a pair of flangeless ribbon spools as more particularly shown in Whippo 2,986,260, and the bottom plate 22, as shown in FIG-

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URE 6 is provided with corresponding apertures 28 and 30 to receive the lower reduced diameter ends of flangeless ribbon spools. The cover is provided with an integral skirt comprising side walls 30 and 31 and end walls 32 and 34. The skirt is provided with slots 36 and 38 for the loop of an inked ribbon, the ends of which are affixed to the spools within the cartridge casing. Additional openings such as 37 may be provided as necessary.

The casing cover is provided with a plurality of circular bosses or pin projections 40, 42, 44, 46, 48 and 50 which are adapted to project into corresponding apertures 41, 43, 45, 47, 49 and 51, in the base plate, and such pins project beyond the lower edge 52 of the cover skirt, not greater than the thickness of the bottom plate and accurately locate the bottom plate in respect to the cover when the parts are assembled. The bottom plate is notched as at 54 to interfit with lugs 56 projecting downward from the cover side wall 31, and is notched as at 58 to interfit with hold down locking channels 57 at either end of the cover.

In practice, the cartridge casing is sold with two spools disposed within, having a ribbon wound on one spool, and with one end extending in a loop external of the casing, the loop end emerging from and reentering the casing through the ribbon slots 36 and 38 and being affixed to the other spool.

In order to provide for permanently locking the bottom plate to the top plate, after placement of a ribbon and spools within the cover, with a minimum of effort and time and without the need for expensive apparatus, the bottom plate is provided with integral upstanding hooks adjacent the corners and midway along the length of the sides of the bottom plate as at 61, 63, 65, 67, 69 and 71. Each of the hooks are substantially identical, as shown in FIGURES 7 and 8, and comprise an upstanding shank portion 74, and a hook 76, having an inclined head as at 78. The inside surface of the shanks of each hook may be concave or cylindrical, as at 77, so that the underlip 76 of the hook will be semicircular, and can be formed by a round pin in the mold that projects through the apertures, such as 47 adjacent each hook.

The corner pins 40, 42, 44, 46, 48 and 50 of the cover terminate within the cover, with a shoulder such as 80, at a height to correspond with the length of the hook shank 74, so that when the cover is pressed into position on the bottom plate, the hooks will be cammed along the pins by the cam heads 78 and ride along the smooth exterior of the respective pins, such as 46 until the hook clears the shoulder and snaps into the position shown in FIGURE 7, with the cover seated against the bottom edge 52 of the skirt, and centered by the respective pins 40, 42, 44, 46, 48 and 50 projecting into the apertures 41, 43, 45, 47, 49 and 51.

The cover may be molded in a single operation, and the length of the pins 40, 42, 44, 46, 48 and 50, may be controlled in respect to the shoulders 80 on each by use of mold pins, which may enter the cover through apertures such as 82 aligned with each of the pins. The hooks 67 and 71 may face upwardly, as seen in FIGURE 6, whereas the hooks 61 and 65 may be angled and face downwardly and inwardly also as indicated in FIGURE 6. The hooks 63 and 69 will be oppositely directed to the right and left as indicated. The plastic employed may be of polypropylene, or any other suitable plastic, that is resistant to ink, and having the desired strength and resiliency to permit the assembly, and yet securely hold the parts assembled.

The hooks may be disposed as set forth, and as indicated in FIGURE 6, so that the hooks will lie in nor-

mally unoccupied space and will not interfere with a full ribbon roll, on either spool of a diameter as great as permitted by the cover member.

It will be seen from the above, that a casing of two parts are provided which may be assembled together 5 around a pair of spools and ribbon without resort to expensive tools or apparatus. The two parts are sprung together, and are permanently locked to form a cartridge complete with spools and ribbon.

While a single modification of the invention has been 10 illustrated and described, it is to be understood that the invention is not limited thereto. As various changes in the construction and arrangement may be made without departing from the spirit of the invention, as will be apparent to those skilled in the art, reference will 15 be had to the appended claims for a definition of the limits of the invention.

What is claimed is:

An inked ribbon cartridge casing comprising a cover having an integral peripheral skirt of substantially uni- 20 form height, and a bottom plate bearing against the lower edge of said skirt, said cover and bottom plate each having spaced apertures to receive the opposite ends of a pair of laterally spaced ribbon rolls, said skirt having a plurality of pins having pin projections 25 extending beyond the skirt, and extending into corresponding apertures in the bottom plate, and said bot-

tom plate having apertures to receive said pin projections, and being of a thickness not greater than the length of said projections, said pins extending upwardly and inwardly of the cover skirt a distance short of the skirt height and terminating with ends lying in a transverse plane intermediate the height of said skirt, and said base plate having integral hook projections extending into the cover and comprising an upstanding shank portion disposed immediately adjacent each of said apertures, and having a hook portion extending partially over its adjacent aperture, said hook portion being spaced from said plate by a distance substantially the same as the height of said pins within the cover skirt and engaging over the respective ends of said pins, whereby to lock the cover and bottom plate together as a unit, the shank portions of said hooks being resilient and adapted to yield laterally in respect to said pins on assembly of the bottom plate to the lower edge of the cover skirt whereby said hooks may snap into position 20 over said ends and securely lock the plate to the cover in a wholly concealed manner.

References Cited in the file of this patent

UNITED STATES PATENTS

2,825,450	Lambert	Mar. 4, 1958
2,927,710	Raber	Mar. 8, 1960
2,986,260	Whippo	May 30, 1961