Aug. 28, 1956 F. S. SCHADE 2,760,490

SHEET PACK SWIVEL BAR SUPPORT FOR LOOSE LEAF RING BINDERS

Filed July 12, 1955

FIG. 1.

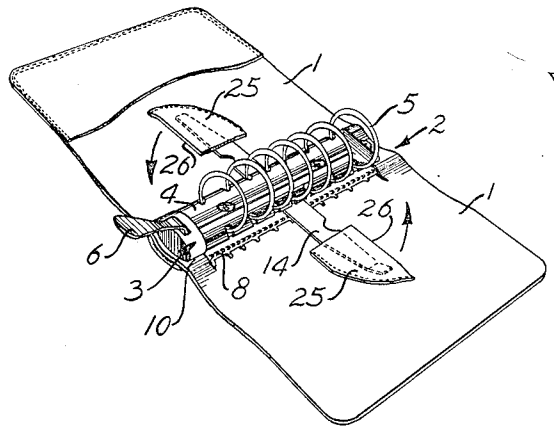


FIG. 2.

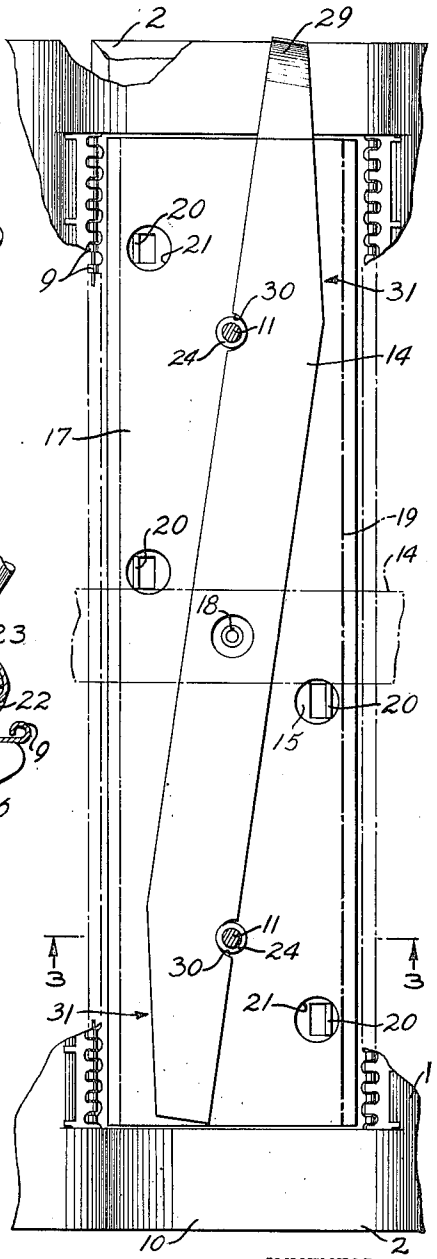


FIG. 3.

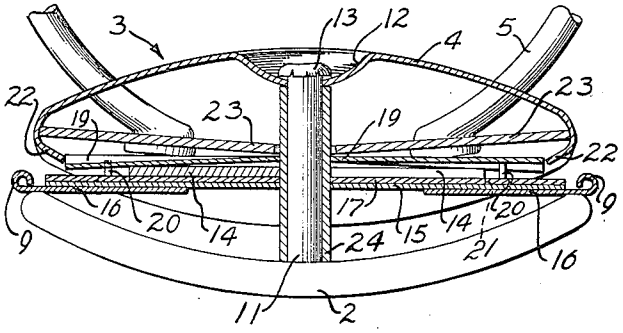
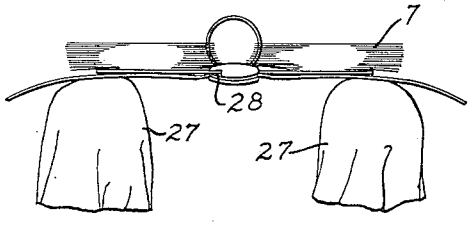


FIG. 4.



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SHEET PACK SWIVEL BAR SUPPORT FOR LOOSE LEAF RING BINDERS

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2 Claims. (Cl. 129—1)

This invention relates to loose leaf ring binders and more particularly to the type of binder having side cover panels freely hinged at opposite sides of a back panel on which a standard loose leaf ring and toggle plate mechanism may be mounted, the loose leaf sheets being adapted to turn on the rings against either cover panel for support thereby in open position.

An object of the invention is to provide a special device between the toggle plate mechanism and the back cover of the unit and from which a pivotal bar may be swung to and from a concealed position, longitudinally of the back panel, and a position transversely thereof. In the latter position the bar will thus be adapted to straddle the hinge lines between the covers and back panel and to lie in supporting position underneath a partial stack of loose leaf sheets threaded on the rings and turned to open position at either lateral side of the ring mechanism.

Another object of the invention is to provide an improved swivel bar assembly of the type described for supporting pages of a binder when in open position so that the user may maintain the open pages of a binder sheet pack in horizontally disposed position without maintaining the cover panels and back portion in flat supporting relation at all times.

Another object of the invention is to provide a novel swivel bar assembly in a ring binder unit which may be used, as for example, by a person holding the unit on his lap with the knees in spaced relation supporting the ends of the swivel bar to prevent the binder from collapsing at the hinge lines and slipping between the knees to fall to the floor.

The above and other specific objects and advantages will be seen from the following description of an embodiment of the invention in which,

Fig. 1 is a perspective view of a ring binder with the stack of loose leaf sheets removed and showing a swivel bar in operative position;

Fig. 2 is a plan view of the swivel bar and mounting plate assembly with ring binder parts removed;

Fig. 3 is an enlarged section as on line 3—3 of Fig. 2 showing the assembly of Fig. 2 as mounted in the binder unit of Fig. 1; and

Fig. 4 is an end elevational view on a reduced scale of a ring binder unit with a sheet pack on the rings and supported in open position between a user's knees to illustrate the use of the bar.

In the drawings a binder unit is shown with covers 1 hinged at each side of a back panel 2 on which the ring binder sheet holding toggle plate assembly 3 is mounted. The ring assembly 3 is of a conventional toggle plate type with a spring cover plate 4 and arched ring halves 5 overlying the same. A conventional booster lever for opening the ring halves is shown at 6. A paper sheet pack is adapted to be threaded on the rings 5 as shown at 7 by Fig. 4.

At each side of the binder mechanism at a hinge line 8 (Fig. 1) is a hinging mechanism of a standard type as

indicated in Fig. 2 by the spaced rolled hinged portions 9 which mate with similar spaced portions fixed to the cover panels 1 and joined with a suitable pintle pin. In the particular cover panel structure shown in the drawings integral connecting straps 10 (Fig. 2) of the same material as the inner liner of the cover panel 1 join the covers across each end of the back panel.

The ring binder metal assembly 3 is mounted on upstanding rivet posts 11 of the back panel (see Fig. 3), being secured thereto at the recessed dimpled portions 12 of the top wall of spring plate 4 by the headed portions at 13.

As indicated by Fig. 1 a swivel bar 14 is adapted to swing from a nested concealed position (see Fig. 2) to a position transversely of the ring assembly 3, this position also being indicated in Fig. 2 by the fragmentary dot-dash lines 14.

The swivel bar mounting assembly includes, as shown by Fig. 2, a metal mounting plate 15 bridged between the lateral sides of the curved back panel 2. Along the edges of the plate 15 at the underside thereof are fixed hinge straps 16 provided with the spaced hinge portions 9. The outer edges of the straps rest on the opposite edges of panel 2 and provide the means for support of the plate on the back panel. On the upper surface of the plate 15 is a pad 17 preferably of an imitation leather material overlying the plate 15 for a smooth frictional swinging of the swivel bar 14 thereon. The swivel bar is pivoted centrally of the plate on a riveted pin 18 securing the plate 15, pad 17 and swivel bar 14 together. A swivel bar cover plate 19 (shown in dot-dash lines in Fig. 2) is superimposed over the swivel bar, being supported in spaced relation thereto at diagonally opposite edge portions by pairs of upstanding lugs 20 (see Figs. 2 and 3). Openings at 21 in the pad 17 are provided for passage of the lugs. As will be noted by Fig. 2, the lugs 20 centrally of the ends of the plate are in diametrically opposite positions with respect to the swivel bar pivot 18 so as to form stops for the transverse operative position of the bar 14.

It will also be noted from Fig. 3 that the turned outer edges at 22 of the spring plate 4 lie in assembled position in the binder at substantially the same elevation as the swivel bar cover plate 19. Thus clearance is provided for swinging the bar between the pad 17 and toggle plate assembly. The toggle plates on which the ring halves 5 are mounted are shown at 23.

As shown by Fig. 3 also, the spring plate 4 and parts associated therewith are held in spaced relation relative to the back cover 2 by spacer sleeves 24 sleeved about the rivet posts 11. Thus it will be appreciated that even when the toggle plates are carried upwardly at their central hinged edges, the assembly will be maintained with the edges 22 permitting passage of the swivel bar 14. As will also be noted from Fig. 3 at the left hand side of the swivel bar cover plate 19, the edge portion thereof is inclined downwardly toward the mounting plate 15. The metal of the cover plate 19 is preferably of a stiff but flexible character and it will be appreciated that along the unsupported edges of the cover plate 19 those portions will tend to be canted as shown by Fig. 3. Thus in the concealed position of the swivel bar 14 as shown in full line in Fig. 2 the bar will be yieldably pocketed against a free swinging outward movement on its pivot. The result is that at the initial swing of the bar from its concealed position the cover plate provides a yieldable frictional drag on the outer end portion of the swivel bar which is then relieved for a free swing of the bar as it leaves its concealed position and travels to its transverse supporting position against the center or stop lugs. It will also be noted that the swivel mounting plate is slidably supported on the rivet post sleeves 24 so

that the assembly as a unit can "float" between the panel 2 and ring mechanism 3 and relieve any possible drag of the bar against the edge at 22 or hinge portions at 9 after long usage.

Referring now to Fig. 4 the binder with a portion of the sheet pack 7 turned on the rings to open position against each of the covers is shown with the swivel bar 14 rigidly extending across the hinge lines of the back cover and in supporting relation to the loose leaf packs of sheets. If preferred, as shown by Fig. 1, the inside of each cover may be provided with a pocket member 25 having an open flap edge as at 26 to receive the end portions of the swivel bar. Such pockets may be adapted to hold the cover panels in adjacent relationship to the swivel bar and thus prevent the covers from swinging away from the pack of sheets threaded on the rings.

As indicated by Fig. 4 the pockets may be omitted and when the binder unit is held between spaced supports as indicated by a pair of knees at 27 the back panel need not be independently supported. With the ordinary binder cover construction it will be readily seen that in the absence of the swivel bar supporting relationship the cover and back panels would cause the binder to collapse and fall between the user's knees. The covers would then snap shut and the unit would slip to the floor. With the swivel bar support the binder pages are readily supported in flat position for making any desired notations or for reference purposes without the user exercising the degree of care otherwise essential.

At 28 an indentation is provided in the turned end wall skirt of the spring plate 4 for receiving the tip 29 or handle end (see Fig. 2) of the swivel bar 14. Also as shown in Fig. 2 the swivel bar may, if necessary, be provided with notched indentations at 30, nesting in concealed position against the wall of the spacer sleeve 24, and the edges of the bar at 31 may be slabbed off or angled so as not to extend beyond the diagonally opposite edges of the back panel assembly.

What is claimed is:

1. In a loose leaf binder of the type having a back panel and cover panels hinged thereto with a ring binder toggle plate mechanism disposed along said back panel and longitudinally spaced rivet posts extending upwardly of the back panel affixing said binder mechanism thereto; spacing means between said back panel and said binder mechanism holding the latter in spaced relation to said back panel and the hinge lines between back and cover panels, a swivel bar assembly disposed between the binder mechanism and back panel and extending transversely between said cover hinge lines and comprising a mounting plate supported by said back panel between said hinge lines, an elongated bar pivotally mounted at the center of said plate and a cover plate in spaced relation above said bar, said mounting plate having pairs of longitudinally spaced lugs engaging the marginal underside of said cover plate at diagonally opposite sides of the end portions thereof, the lugs centrally of the ends of the plate engaging opposite edges of said swivel bar in transversely disposed position of the bar relative to the mounting plate, said bar being disposed at its opposite position of pivotal movement in overlying relation to said plate between diagonally opposite unsupported end portions thereof, whereby said swivel bar may be swung from a concealed position between the back panel and the binder mechanism to a position transversely of the latter in supporting relation to the leaves of a paper sheet pack threaded on said ring binder mechanism.

2. In a loose leaf binder of the type having a back panel and cover panels hinged thereto with a ring binder toggle plate mechanism disposed along said back panel and longitudinally spaced rivet posts extending upwardly of the back panel affixing said binder mechanism thereto; spacer sleeves on said rivet posts extending between said back panel and said binder mechanism and holding the latter in spaced relation to the back panel and the hinge lines between the back and cover panels, a swivel bar assembly disposed between the binder mechanism and back panel and bridging said cover hinge lines and comprising a mounting plate supported by said back panel between said hinges and slidably carried on said spacer sleeves, an elongated bar pivotally mounted at the center of said plate between said rivet posts and a cover plate in spaced relation above said bar, said mounting plate having a liner pad overlying the same over which said bar passes during pivotal movement thereof and pairs of longitudinally spaced upstanding lugs on said mounting plate passing through said liner and engaging the marginal underside of said cover plate along diagonally opposite sides of the end portions thereof, the lugs centrally of the ends, of the plate engaging opposite edges of said bar in transversely disposed position of said bar relative to the mounting plate, said bar being disposed at its opposite position of pivotal movement in overlying relation to said plate between diagonally opposite unsupported end portions thereof with a handle tip at one end of the bar extending beyond the end of said binder mechanism, whereby said swivel bar may be swung from a concealed position between the back panel and the binder mechanism to a position transversely of the latter in supporting relation to the leaves of a paper sheet pack threaded on said ring binder mechanism.

No references cited.