

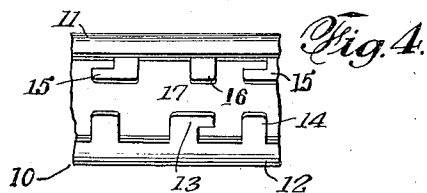
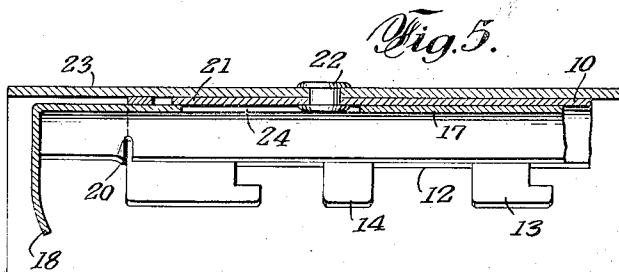
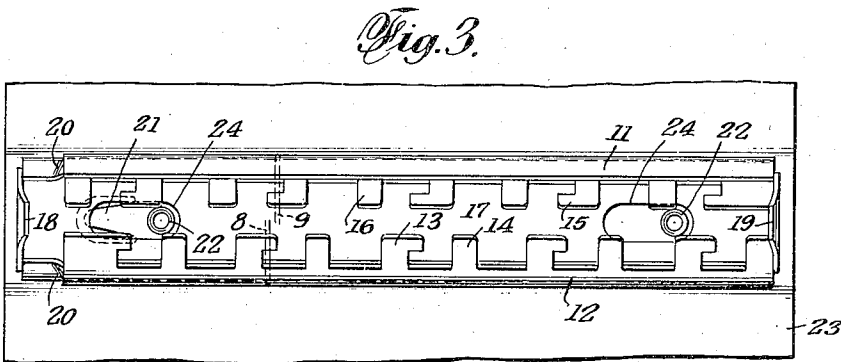
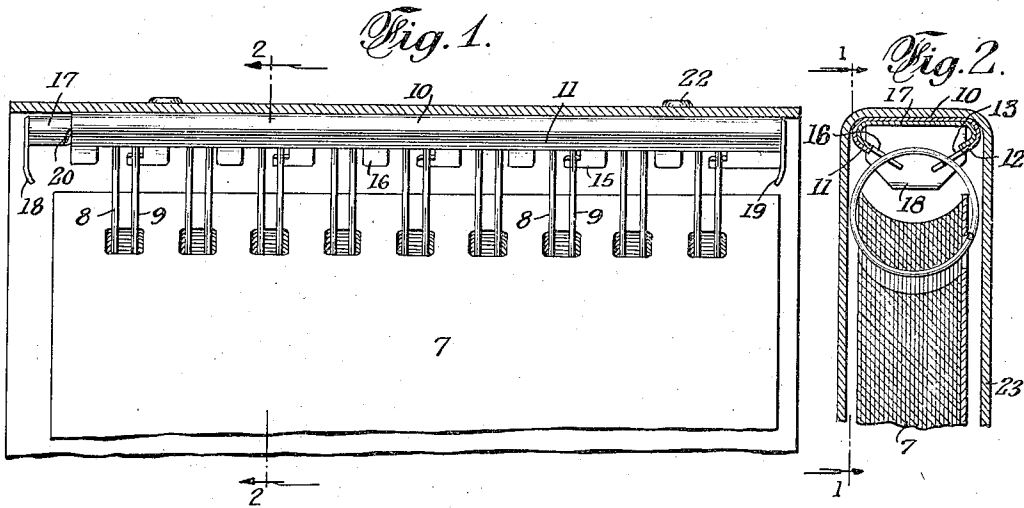
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BINDER

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BINDER

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15 Claims. (Cl. 281—19)

The invention herein disclosed relates particularly to ring binders and more especially to means for releasably securing wire bound refills within the covers or supports provided for the same.

Objects of the invention are to improve such holding and securing means, particularly to enable quick and easy insertion in and removal of the refills from the holder and to furnish such means in an inexpensive but thoroughly practical and desirable form.

The objects stated are attained by the novel features of construction, combinations and relations of parts hereinafter described, illustrated and broadly claimed.

The drawing accompanying and forming part of the specification illustrates a present practical and desirable form of the invention, but structure may be modified and changed all within the true intent of the invention as hereinafter defined and broadly covered in the claims.

Fig. 1 is a broken view of the complete structure including the wire bound refill and cover for the same, the front cover appearing in section as on substantially the plane of line 1—1 of Fig. 2.

Fig. 2 is a broken transverse sectional detail as on substantially the plane of line 2—2 of Fig. 1.

Fig. 3 is a face view of the holder structure, in the locked ring securing position of the parts, portions of the cover indicated as broken away.

Fig. 4 is a generally similar broken view showing the slide member shifted to effect release of the hooks from the rings of the binder.

Fig. 5 is a broken sectional detail.

In the embodiment illustrated, the refill consists of a pad of leaves 7, held together by rings made up each of spaced parallel strands 8, 9, all connected together in the same length of wire.

The holder is shown as comprising a channel-shaped casing 10, for receiving the back portions of the rings and having inwardly angled opposite edges 11, 12. The latter edge is shown as carrying inwardly projecting hooks 13, all faced in one direction and spaced to engage and enter in alternate rings of the binder. Plain hookless lugs 14, are shown positioned between adjoining hook elements, these lugs having substantially equal spacing with the shank portions of the hooks.

At the opposite side of the casing, there is provided a series of inwardly projecting hooks 15, faced in the opposite direction and spaced to engage opposite sides of the same alternate binder rings. Spaced in the same equal relationship

between the second set of hooks are the hookless lugs 16, similar to lugs 14, at the opposite side.

The hooks are interspaced lugs at opposite sides of the casing are relatively shiftable longitudinally of the casing for effecting hooking engagement and unhooking of the binder rings. This is accomplished in the illustration by mounting the second set of hooks and lugs 15, 16, on a slide 17, operating in the undercut guide formed by the inturned edges 11, 12, of the channel structure.

The double strand spring ring form of binder works particularly well in the holder, since as indicated in Fig. 3, one strand of a ring will be engaged and fully seated in the hook at one side, while the other strand of the same ring be engaged and firmly held in an oppositely facing hook at the opposite side. The spring character of the strands enables the rings to seat themselves firmly in the holder and to compensate for any slight irregularity that may exist either in the refill or holder or cover structure.

The binder structure however may be of the type cut from sheet material with the rings attached in spaced relation to a common back piece or bar.

Other forms of binders may be used in the holder, the latter because of its channel form being well adapted to freely receive the back portions of the rings.

The slide is shown formed also as of undercut channel construction, Fig. 2, so as to slidingly fit with an amount of spring friction in the undercut channel 10 of the holder.

The ends of the slide are indicated bent outwardly at an angle to form the finger push elements 18, 19.

While the frictional engagement of the slide within the holding channel may be sufficient for some purposes, it is generally considered preferable to provide a lock which will positively hold the slide in the refill securing position.

Such lock is provided in the present disclosure with the abruptly angled lugs 20, struck up from the inturned sides of the slide near one end of the same and adapted to snap outward over the ends of the inturned flanges 11, 12, or the holder as in Figs. 3 and 5.

For the purpose of thrusting the slide outward in the enclosing channel so the locking shoulders 20 will snap over the ends of the flanges 11, 12, there is provided in the illustration, a spring tongue 21, shown in Figs. 3 and 5 as partly cut out of the back of the holding channel 10, and tensioned downward as shown in Fig. 5. By forcing the end of the slide slightly upward or

springing it by upward pressure on the finger piece 18, the holding shoulders 20, may be forced upwardly and inward in the channel to pass within the inwardly inclined flanges 11, 12. The action of releasing the catch 20 and shifting the slide in a ring unlocking direction may be all part of one simple pressure of a finger on the end piece 18 of the slide.

The holder is shown secured by rivets 22, within a one piece cover 23. The slide is shown as made with cutouts 24, to clear the heads of the rivets at the inside of the holder. Other forms of fastenings and other forms of covers may be employed.

15 What is claimed is:

1. In combination, a ring binder having spaced connected rings and a holder for the same, comprising a casing having hooks along one edge faced in one direction and spaced to engage rings of said binder at one side and a slide operable in said casing having hooks faced in the opposite direction and spaced to engage the rings of said binder at the opposite side of the same.

2. In combination, a ring binder having spaced connected rings and a holder for the same, comprising a casing having hooks along one edge faced in one direction and spaced to engage rings of said binder at one side and a slide operable in said casing having hooks faced in the opposite direction and spaced to engage the rings of said binder at the opposite side of the same and cooperating lock means on said casing and slide for securing the latter in position with the hooks described engaged with opposite sides of the binder rings.

3. In combination, a ring binder having spaced connected rings and a holder for the same, comprising a casing having hooks along one edge faced in one direction and spaced to engage rings of said binder at one side and a slide operable in said casing having hooks faced in the opposite direction, spaced to engage the rings of said binder at the opposite side of the same and lugs on the casing and slide between the hooks thereon for locating the rings of the binder in respect to the hooks for engaging the same.

4. In combination, a ring binder having spaced connected rings and a holder for the same, comprising a member channeled to receive the backs of the rings and provided with hooks along one edge, faced to enter the rings at one side and a slide operable in said channeled member and having similarly spaced hooks at the opposite side of the channel from the first-mentioned hooks and faced in the opposite direction to enter the opposite sides of the binder rings.

5. In combination, a ring binder having spaced connected rings and a holder for the same, comprising a member channeled to receive the backs of the rings and provided with hooks along one edge, faced to enter the rings at one side and a slide operable in said channeled member and having similarly spaced hooks at the opposite side of the channel from the first-mentioned hooks and faced in the opposite direction to enter the opposite sides of the binder rings and hookless lugs on said member and slide between the hooks thereon and arranged with the lugs at one side to coincide with the tips of the hooks at the opposite side in one position of the slide.

6. In combination, a ring binder having spaced connected rings, a channeled support to receive the back portions of the rings of the binder, relatively shiftable oppositely faced hooks at the opposite sides of said channeled support and

spaced to engage in the spaced rings of said binder and means for effecting ring engaging and ring releasing relative motion of said oppositely faced hooks and for releasably retaining said hooks in ring engaging relation.

7. In combination, a ring binder having spaced connected rings, a channeled support to receive the back portions of the rings of the binder, relatively shiftable oppositely faced hooks at the opposite sides of said channeled support and spaced to engage in the spaced rings of said binder, means for effecting ring engaging and ring releasing relative motion of said oppositely faced hooks and for releasably retaining said hooks in ring engaging relation and relatively shiftable ring positioning lugs at the opposite sides of the channeled support between said hooks and arranged in one position to stand with the lugs at one side opposite the tips of the hooks at the opposite side.

8. In combination, a casing in the form of a channel having overstanding flanges along the edges, a similarly shaped slide operating in said channel and having a shoulder at one end to snap over the end of one of said flanges, spring means for thrusting the slide in a direction to snap the shoulder over the end of the flange, a binder having spaced connected rings insertable into said channel-shaped slide and casing and companion hook elements on said casing and slide for engagement with the rings of said binder entered within the channel-shaped slide and casing.

9. In combination, a binder having spaced rings, a holder having a channel to receive the back portions of said rings, ring engaging hooks at the opposite edges of said channel, spaced in accordance with the spacing of the rings and projecting inwardly from the opposite sides of the channel to engage the rings at opposite sides of the center of the back portions of the rings entered within the channel and means for effecting relative ring engaging and ring releasing movements of said hooks and the rings of the binder.

10. In combination, a binder having spaced rings, a holder having a channel to receive the back portions of said rings, ring engaging hooks at the opposite edges of said channel, spaced in accordance with the spacing of the rings and projecting inwardly from the opposite sides of the channel to engage the rings at opposite sides of the center of the back portions of the rings entered within the channel, means for effecting relative ring engaging and ring releasing movements of said hooks and the rings of the binder and means for releasably locking the parts in ring securing relation.

11. In combination, a binder having spaced rings, a holder having a channel to receive the back portions of said rings, ring engaging hooks at the opposite edges of said channel, spaced in accordance with the spacing of the rings and projecting inwardly from the opposite sides of the channel to engage the rings at opposite sides of the center of the back portions of the rings entered within the channel, means for effecting relative ring engaging and ring releasing movements of said hooks and the rings of the binder and means for freeing the rings of the hooks upon said relative disengaging movements of the parts.

12. In combination, a binder having spaced rings, a holder having a channel to receive the back portions of said rings, ring engaging hooks

5 at the opposite edges of said channel, spaced in
accordance with the spacing of the rings and
projecting inwardly from the opposite sides of
the channel to engage the rings at opposite sides
of the center of back portions of the rings en-
10 tered within the channel and means for effect-
ing relative ring engaging and ring releasing
movements of said hooks and the rings of the
binder, the hooks at opposite sides of the chan-
nel being reversely faced to enter the rings from
opposite sides of the same.

15 13. In combination, a binder having spaced
rings, a holder having a channel to receive the
back portions of said rings, ring engaging hooks
at the opposite edges of said channel, spaced in
accordance with the spacing of the rings and
projecting inwardly from the opposite sides of
the channel to engage the rings at opposite sides
of the center of the back portions of the rings
20 entered within the channel, means for effecting
relative ring engaging and ring releasing move-
ments of said hooks and the rings of the binder,
said means including a slide operable in the
channel and having locking shoulders engage-
25 able with portions of the channel and spring
means at the back of the channel for yieldingly

holding said slide in position for effecting en-
gagement of said locking shoulders with the
companion locking portions of the channel.

14. A binder having spaced rings and a holder
5 having a channel to receive the back portions
of said rings, hooks at the opposite edges of said
channel, spaced in accordance with the spacing
of said rings, the hooks at opposite sides of said
channel being oppositely faced to enter the rings
10 from opposite sides of the same and means for
effecting relative shifting movement of said op-
positely faced hooks for engaging and disenga-
ging the rings.

15 15. A binder having spaced rings and a holder
having a channel to receive the back portions of
said rings, hooks at the opposite edges of said
channel, spaced in accordance with the spacing
of said rings, the hooks at opposite sides of said
channel being oppositely faced to enter the rings
20 from opposite sides of the same, means for ef-
fecting relative shifting movement of said op-
positely faced hooks for engaging and disengaging
the rings and hookless lugs at the opposite sides
of the channel spaced at one side to register
25 with the tips of the hooks at the opposite side.

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