United States Patent [19]

Cimini

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[54] **RING BINDER**

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[52] **U.S. Cl.** ..... **281/16,** 281/3 R, 281/29, 402/80 R

[51] **Int. Cl.** **B42d 3/00**

[58] **Field of Search** ..... 281/16, 3 R, 17; 402/80 R

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[57] **ABSTRACT**

A book structure that has two loose-leaf binders with outwardly folding end covers. Inwardly directed covers for the two loose-leaf binders are joined together and overlap in a mutually sliding relation. Sleeves that engage the edges of the overlapping covers, as well as a stop on one of the covers, enables the central portion of the book structure to form a stable, rigid and generally flat surface when fully extended.

2 Claims, 4 Drawing Figures

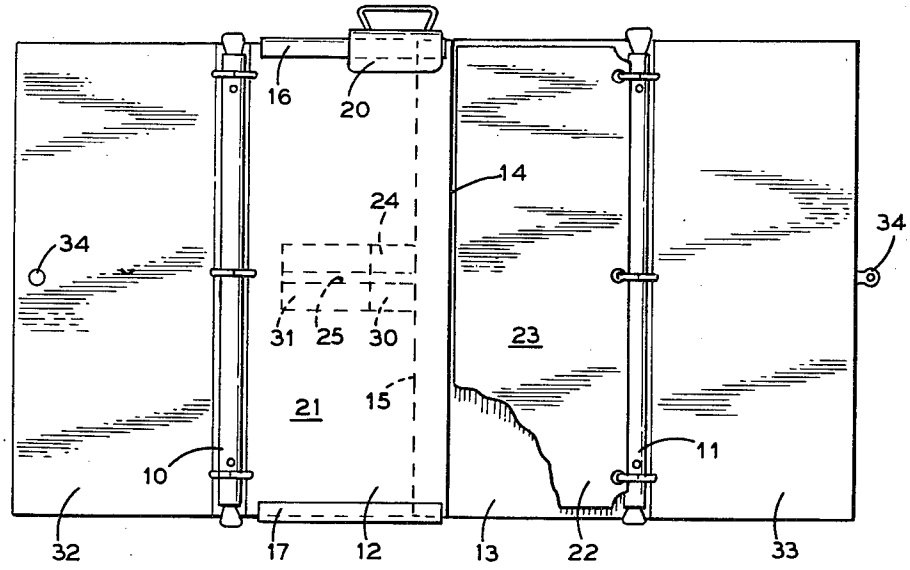


FIG. 1

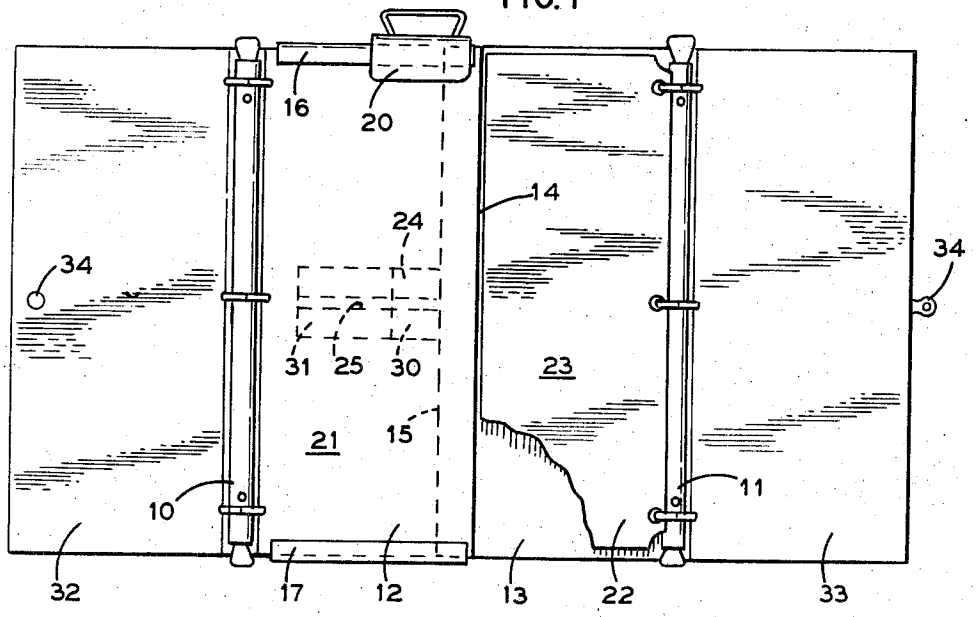

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FIG. 2

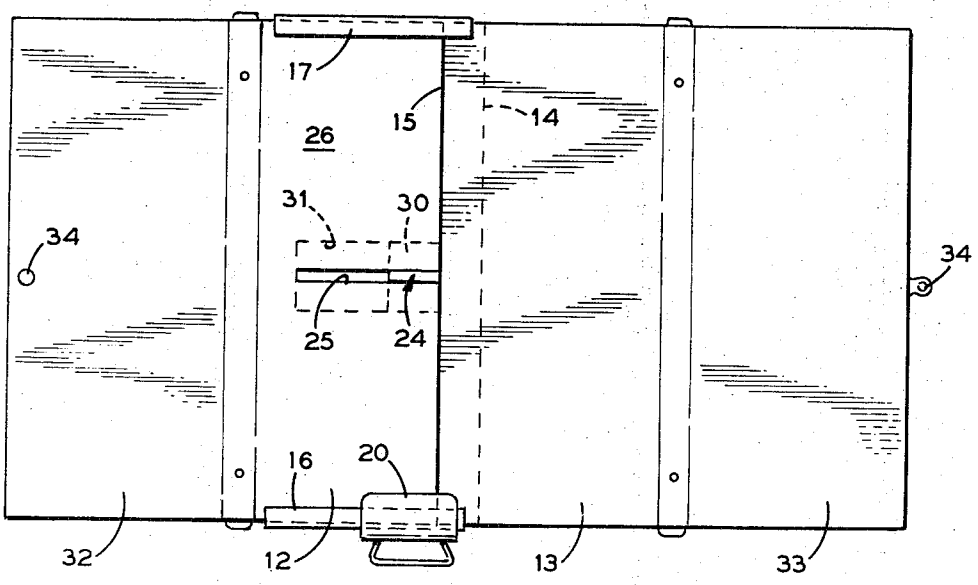

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FIG. 3

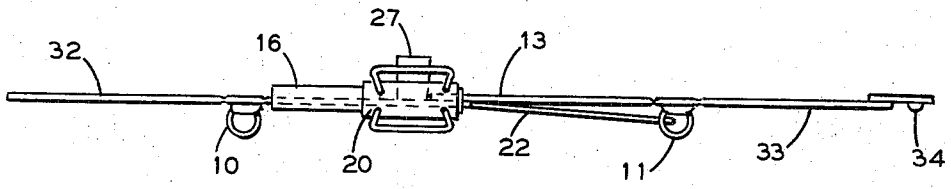
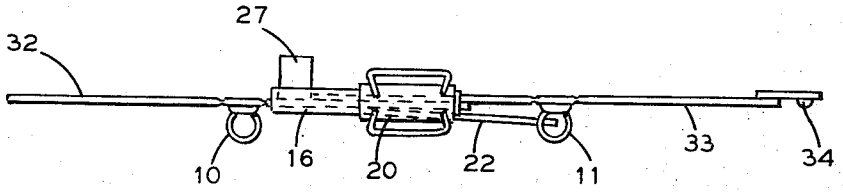


FIG. 4



RING BINDER

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to structures for books and, more particularly, to a pair of loose-leaf binders that have overlapping covers for sliding movement to form an extended, rigid surface, and the like.

2. Prior Art

Books that have several folded covers which can be opened into an extended surface have been developed for a number of purposes. Frequently, these books comprise an array of relatively stiff surfaces. Laces, or the like, at edges that are common to adjacent pairs of these stiff surfaces join the entire structure together. This construction, however, fails to satisfy the need for a rigid, relatively uncollapsible structure that can be borne on the knees of the user and sustain normal pencil pressures without folding up.

For example, scouting sporting events, and the like, requires a book structure that can be conveniently carried in a compact unit. The book structure, however, should open into a relatively rigid surface that displays an array of one or more readily identified pages which will enable game plays and the like to be recorded swiftly. The book structure also should remain open and sustain forces imposed by the normal movement and jostling that usually is encountered in a stadium or in crowded areas. Clearly, the flexibly joined, multiple-cover book structures that characterize the prior art fail to provide this necessary rigidity. Accordingly, there is a need to provide a relatively rigid, albeit selectively collapsible book structure.

SUMMARY

These and other problems that have characterized the prior art are, to a large extent, overcome through the principles of the invention. For example, a typical book structure that embodies principles of the invention has a pair of loose-leaf binders that are parallel to and spaced from each other. Inwardly directed covers extend from respective binders to which they are joined, toward the opposite loose-leaf binder. These inwardly directed covers, moreover, overlap in sliding relation. The mutually sliding edges of these covers are engaged in sleeves. These sleeves act as guides for the selectively sliding covers and also serve to hold the covers in the overlapping relation.

A movable stop has a flat base portion and a stop portion that protrudes perpendicularly from the base. The base portion is buried in the plies of the uppermost of the overlapping covers and the stop portion protrudes through a slot that is cut into the surface of that cover in a direction perpendicular to the parallel ring binders. The stop can be moved back-and-forth in the slot with the application to the protruding stop portion of a moderate amount of finger-pressure. An edge of the stop portion engages the edge of the lowermost of the two inwardly directed covers and thus braces these two covers against each other when the book structure is fully extended.

A further feature of the invention provides for a dummy cover that is attached to the ring binder which is joined to the lowermost cover. This dummy cover matches the thickness of the uppermost of the two inwardly directed covers. Thus, the dummy cover establishes a relatively smooth, flat writing surface across the expanse of both of the inwardly directed covers when the book structure is fully extended.

A clip is also secured to one or both of the sleeves in order to engage the papers on the extended writing surface that is provided by the book structure. These clips present an additional means for establishing a stable writing surface, retaining an extra piece of paper or the like on the extended surface, and for preventing the pages on that surface from being readily torn away from the binder rings because of movement in a crowd, wind or other environment-related conditions.

Thus there is provided in accordance with the invention an improved book structure. For a more detailed understanding of the invention, attention is invited to the accompanying drawing and the following description. It will be apparent that the invention is subject to many modifications. Consequently, the representative embodiments illustrated herein are not be held to limit the appended claims.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a front elevation of a typical book structure in the fully extended condition that embodies principles of the invention;

FIG. **2** is a rear elevation of the book structure that is shown in FIG. **1**;

FIG. **3** is a plan view of the top edge of the book structure that is shown in FIGS. **1** and **2**; and

FIG. **4** is a plan view of the top edge of the book structure in the retracted condition to further illustrate principles of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

For a more complete appreciation of the invention, FIG. **1** shows a typical book structure in accordance with the principles of the invention. Thus a pair of parallel disposed ring binders **10** and **11** are spaced from each other by inwardly disposed covers **12** and **13.**

Preferably, the covers **12** and **13** are formed of stiff, multiple-ply carboard which is encased in vinyl or some other suitable material. The covers **12** and **13** are of about equal width and are arranged in an overlapping relation, the cover **12** being uppermost and the cover **13** being lowermost, as viewed in FIG. **1.**

The covers **12** and **13** each terminate in respective edges **14** and **15** that are parallel to the longitudinal dimensions of the ring binders **10** and **11.** These edges overlap slightly when the book structure is fully extended as shown in FIGS. **2** and **3.**

Sleeves **16** and **17** of spring steel, or some other suitable material, engage the overlapping edges of the covers **12** and **13** that are perpendicular to the longitudinal dimension of the ring binders **10** and **11.** These sleeves **16** and **17** press the edges of the two overlapping covers **12** and **13** together in order to prevent the covers from separating. Further, the sleeves **16** and **17** apply enough pressure to the covers to generate friction forces of sufficient magnitude to prevent these covers from sliding relative to each other. These friction forces, however, will not prevent manual pressures applied to the ring binders **10** and **11** from selectively extending or collapsing the book structure at will.

A spring clip **20** is secured to the sleeve **16** in order to engage extra papers (not shown) against uppermost surface **21** of the cover **12.**

In accordance with a further feature of the invention, a dummy cover **22** is mounted on ring binder **11** and bears against the lowermost inwardly directed cover **13.** The dummy cover **22** has a thickness that is about equal to the thickness of the cover **12.** Accordingly, uppermost surface **23** of the dummy cover **22** is essentially in the same plane as the surface **21,** thereby establishing a generally continuous writing surface that is almost two cover widths in breadth.

Turning now to FIG. **2,** a stop **24** formed of metal or hard plastic, for example, slides in a slot **25** that is cut into lowermost surface **26** of cover **12.** The stop **24** has a protruding stop member **27** (FIGS. **3** and **4**) that abuts the edge of the cover **13** in order to further impede the movement of the cover **13** toward the ring binder **10** when the book structure is in either full or partly extended position. As shown in broken lines in FIG. **2,** the stop **24** has a base portion **30** that is received in a track or path **31** formed within the plies of the cover **12.** The base portions **30,** moreover, is disposed perpendicularly to the stop member **27.** The stop **24** is so received within the plies of the cover **12,** moreover, that it moves, or slides along the length of the slot **25** in response to a moderate amount of thumb-pressure. If a force is applied to move the cover **13** toward the ring binder **10** that is less than the sum of the frictional forces applied to the covers **12** and **13** through the sleeves **16** and **17** and a force that is equal in magnitude to the thumb-pressure force that is required to move the stop **24,** the covers **12** and **13** will not move relative to each other.

The illustrative book structure is completed with two outwardly disposed covers **32** and **33** that are flexibly connected to the respective ring binders **10** and **11,** which also may be selectively braced. A fastener **34** is attached to the edges of the covers **32** and **33** in order to lock the entire book structure into a closed, compact unit when it is being carried or not otherwise in use.

In operation, the stop **24** is pressed against the edge **15** of the cover **13** in order to retain the book structure in an extended position. When fully extended, the dummy cover **22** is placed against the cover **13** in the recess that is formed by the overlapping engagement of the uppermost cover **12** and the lowermost cover **13.** Papers (not shown) are rest on the flat area established by the uppermost surfaces **21** and **23** with the aid of the ring binders **10** and **11** and the spring clip **20.**

When the book structure is to be collapsed, the papers (not shown) on the flat area are removed, enclosed within the book, or folded, and the like. The stop **24** is pressed away from the edge **15** of the cover **13** and is moved toward the ring binder **10.** The book covers **12** and **13** then are pressed into a fully overlapping relation as shown in FIG. **4.** During this relative movement of the covers **12** and **13,** the dummy cover **22** either rides up and over the uppermost surface **21** of the cover **12** or is flipped into engagement with the outwardly directed cover **33.**

The covers **32** and **33** are folded in against the covers **12** and **13** and the fastener **34** is snapped together to lock the book structure into a compact unit.

I claim:

1. A book structure for writing sheets in loose form, said structure comprising first and second generally rectangular rigid covers in horizontally spaced parallel, sliding and overlapping surface relation, said covers each having respective parallel edges, first and second horizontally spaced and parallel ring binders each hinged on one side of the sides thereof to oppositely disposed parallel edges of said first and second covers respectively, said hinged edges being spaced from overlapping portions of said first and second covers, third and fourth rigid covers in spaced relation to each other, each hinged to a respective other one of the sides of said parallel ring binders, a pair of horizontally spaced parallel sleeves disposed transversely relative to said first and second ring binders and in clamping engagement with overlapping edges of said first and second rigid covers to press together said overlapping edges in order to prevent said first and second covers from separating, and to generate friction forces between said overlapping covers that tend to resist sliding movement, one of said first and second rigid covers having a slot formed therein in order to establish a track within said one cover, said slot and track being generally transverse to said first and second ring binders and extending to the adjacent overlapping edge of the other of said first and second covers, a selectively slidable stop having a portion that is received in said track and in frictional engagement therewith and a protruding stop member extending from said slidable portion through said slot to selectively bear against said adjacent overlapping edge of the other of said first and second covers in order to selectively retain first and second covers in a predetermined degree of overlapping relation, and a dummy cover having a thickness that is about equal to the thickness of one of said first and second covers, said dummy cover being mounted on rings of the ring binder which is hinged to the other of said first and second covers and being selectively placed against the other of said first and second cover in order to form an essentially flat surface of almost two covers in breadth.

2. A book structure according to claim **1** further comprising at least one clip secured to one of said sleeves to bear against at least one of said first and second covers.

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