

March 24, 1959

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2,878,815

LOOSE-LEAF RETAINING DEVICE

Filed Nov. 3, 1954

3 Sheets-Sheet 1

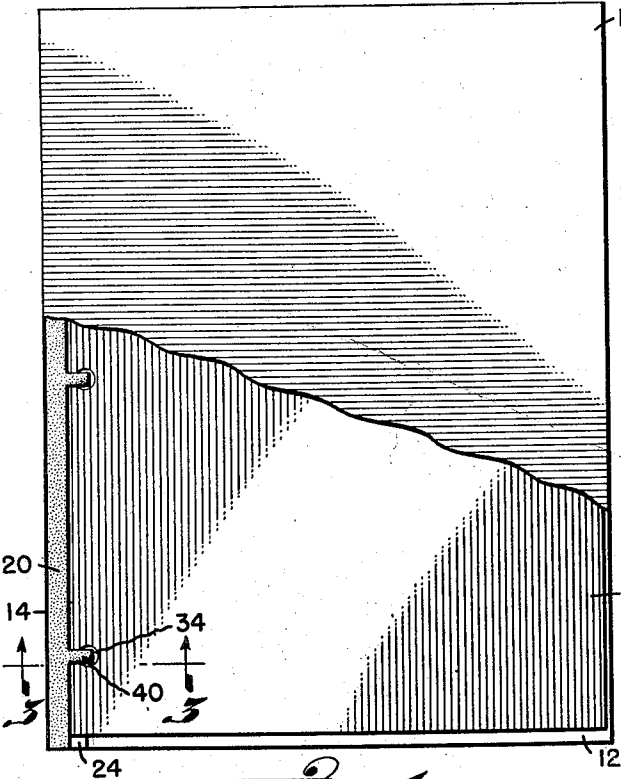


Fig. 1

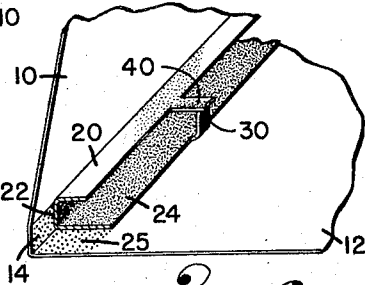


Fig. 2

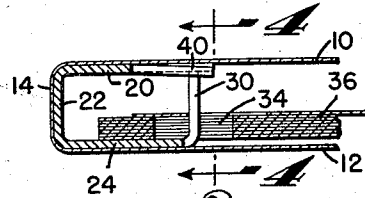


Fig. 3

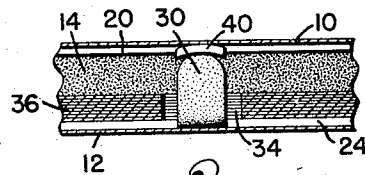


Fig. 4

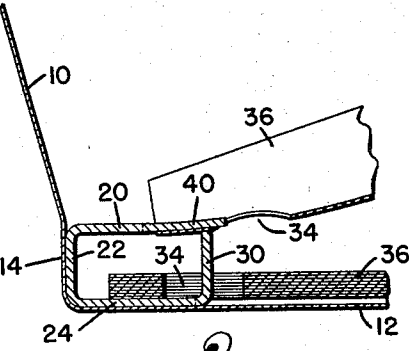


Fig. 5

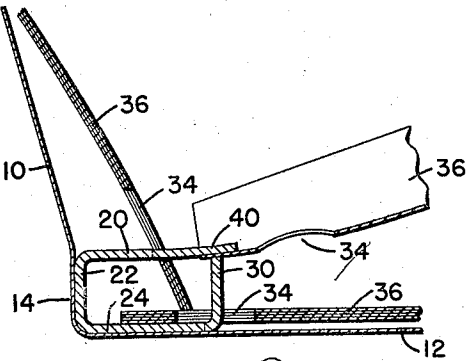


Fig. 6

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3 Sheets-Sheet 2

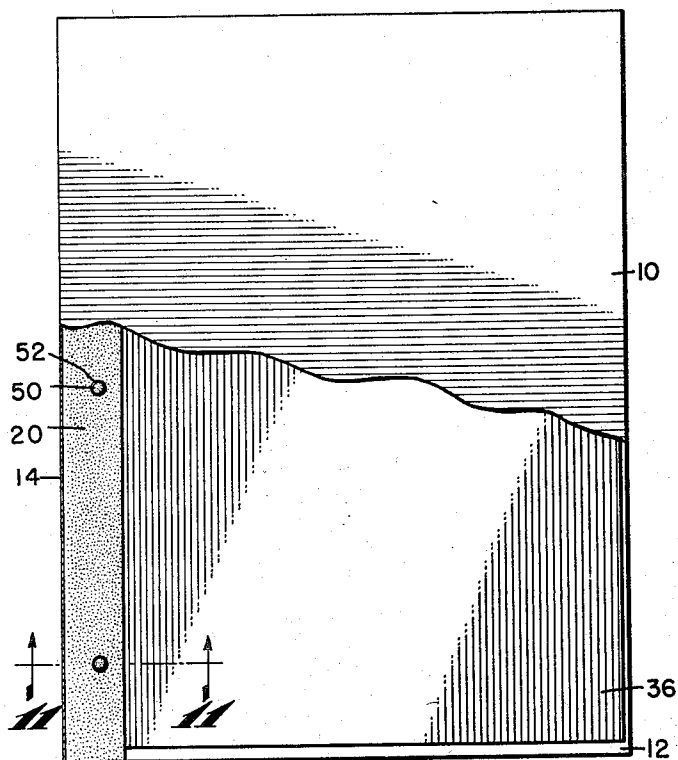


Fig. 7

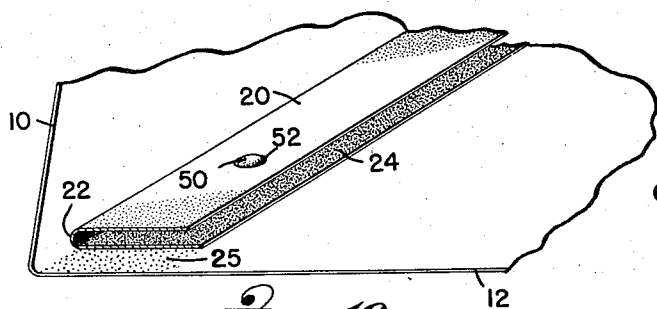


Fig. 10

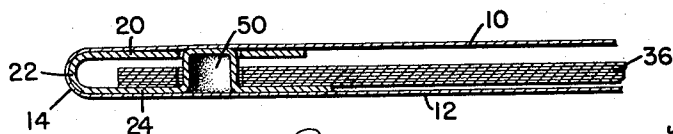


Fig. 11

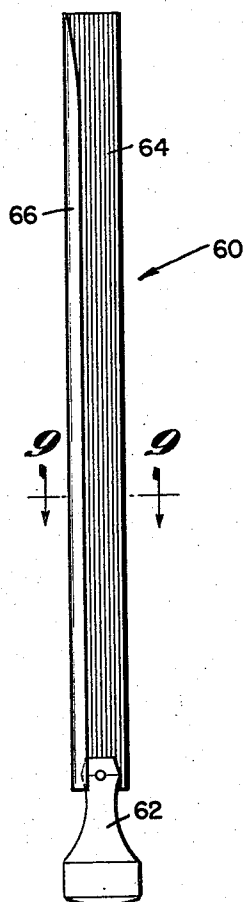


Fig. 8

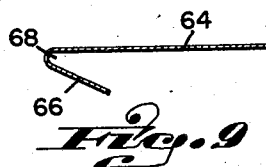


Fig. 9

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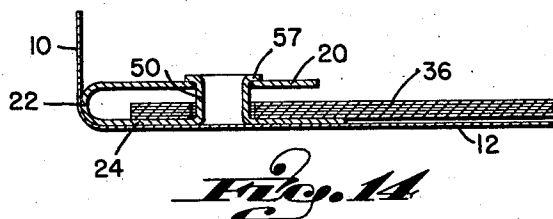
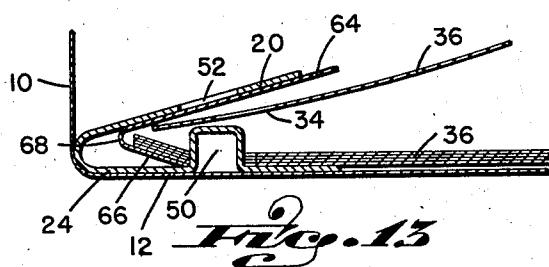
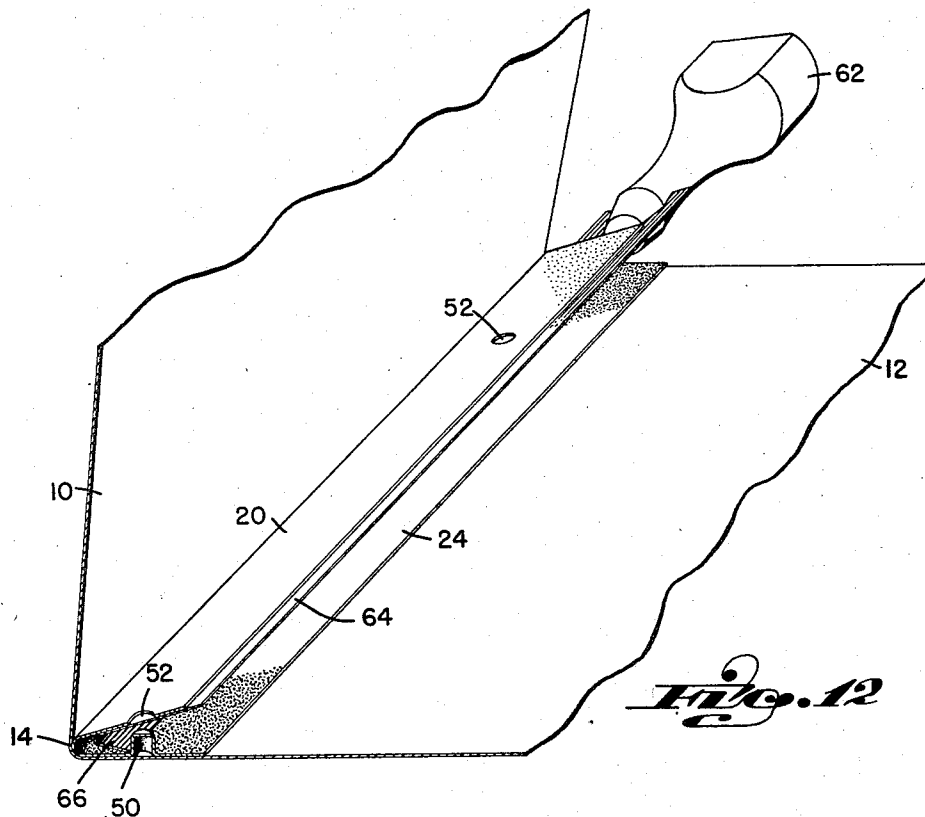
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3 Sheets-Sheet 3



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LOOSE-LEAF RETAINING DEVICE

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1 Claim. (Cl. 129—23)

This invention relates to loose-leaf retaining devices, and more particularly to loose-leaf retaining devices provided with flexible sheet retaining means.

An object of the invention is to provide simple, inexpensive sheet retaining means for association with a cover for providing the highly efficient loose-leaf binder structure.

Another object of the invention is to provide a loose-leaf retaining device which is fabricated from a single piece of sheet material provided with integrally formed sheet receiving members and with flexible means which co-operate with said members to prevent the accidental or unintentional disassociation of a sheet therefrom.

A further object of the invention is to provide a loose-leaf retaining device with integrally formed leaf receiving members upon which loose-leaf sheets are receivable and onto which the sheets may be fixedly and permanently secured against removal except by partial destruction thereof for effectively preventing the unauthorized removal of sheets from the device.

A further object of the invention is to provide a loose-leaf retaining device having the hereinabove described characteristics which may be fabricated from an integral sheet of flexible material to provide an elongated top, rear and bottom wall wherein the bottom and rear walls are adapted to be secured to a cover member by suitable means, such as, by way of example, adhesives, thereby facilitating the fabrication of neat appearing, inexpensive binders.

Still a further object of the invention is to provide a loose-leaf retaining device with means for enabling loose-leaf sheets to be readily associated with and/or removed from the sheet receiving members thereof.

Another object of the invention is to provide a loose-leaf retaining device with leaf receiving means which are so constructed and arranged as to enable the leaves to be opened substantially 180° for making both the front and rear sides of the leaves easily accessible.

Still another object of the invention is to provide a loose-leaf retaining device having the hereinabove described characteristics and which includes means for enabling any of the leaves to be inserted or removed without disturbing the other leaves already retained in the device.

These and other objects are attained by the means described herein and as disclosed in the accompanying drawings in which:

Fig. 1 is a plan view of a loose-leaf binder assembly with a portion of the upper cover cut away to reveal a loose-leaf retaining device embodying the teachings of the present invention.

Fig. 2 is an enlarged perspective view of the lower left portion of the binder of Fig. 1.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1.

Fig. 4 is a view taken on line 4—4 of Fig. 3.

Fig. 5 is a view similar to Fig. 3 illustrating the manner in which a sheet may be removed from the sheet retaining device.

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Fig. 6 is a view similar to Fig. 5 showing the manner in which an intermediate sheet may be removed from a stack or series of sheets retained by the subject device.

Fig. 7 is a view similar to Fig. 1 of a loose-leaf binder assembly provided with a modified form of a leaf retaining device embodying the teachings of the present invention.

Fig. 8 is a plan view of a tool useful in connection with the leaf retaining device of the binder construction illustrated in Fig. 7.

Fig. 9 is a sectional view taken on line 9—9 of Fig. 8.

Fig. 10 is an enlarged perspective view of the lower left portion of the binder assembly of Fig. 7.

Fig. 11 is a sectional view taken on line 11—11 of Fig. 7.

Fig. 12 is a perspective view illustrating the manner in which the tool of Fig. 8 is utilized to facilitate the removal or insertion of sheets in the sheet retaining device of Fig. 7.

Fig. 13 is a view similar to Fig. 11 showing the relationship of the parts with the tool of Fig. 8 operatively associated therewith.

Fig. 14 is a view similar to Fig. 11 showing the manner in which the sheets may be permanently locked onto the sheet retaining member for preventing their unauthorized removal therefrom.

With reference now to the drawings, the numerals 10, 12 and 14 denote generally the top, bottom, and rear walls of a conventional cover member with which a loose-leaf retaining device embodying the teachings of the present invention is adapted to be associated. My loose-leaf retaining device is adapted to be fabricated from an integral sheet of flexible material such as, by way of example, plastic, metal, or fibre, whereby to include an elongated top, rear and bottom walls 20, 22 and 24. The device may be securely fastened to a cover by anchoring bottom wall 24 to the rear edge of bottom wall 12 of the cover and rear wall 22 to rear wall 14 of the cover such as, by way of example, by means of a suitable adhesive denoted generally by the numeral 25, Figs. 2 and 10. The box-like nature of the elongate walls 10, 12 and 14 will impart rigidity to the cover and provide a space of predetermined width for the reception of loose-leaf sheets.

In the device illustrated in Figs. 1 through 6, a leaf receiving member or post 30 is formed integral with and extends upwardly from bottom wall 24 and in substantial parallelism with rear wall 22. As best disclosed in Figs. 3 through 6, it will be noted that the free height of receiving member 30 approximates the spacing between adjacent faces of the top and bottom walls 20 and 24.

Upper wall 20 is provided with a forwardly extending tang 40, and in the preferred embodiment of the invention its forward or free end is curved in a vertical plane, as best illustrated in Figs. 2 and 4, whereby the under side of the tang will normally abut upon and against the free upper end of member 30, and the free end of member 30 will normally be disposed in interfering relationship with portions of top wall 20.

When it is desired to associate loose-leaf sheets with the leaf retaining devices of Figs. 1 through 6, the free outer end of tangs 40 may be lifted upwardly against the inherent counterforce applied thereto by upper wall 20, thereby permitting sheets to be slipped thereunder for disposing the edge-adjacent openings 34 of the sheets 36 onto the leaf-receiving members 30. It will be noted that tangs 40 will automatically return to a lowered, leaf-receiving-member-engaging position to effectively preclude the accidental or unintentional removal of sheets from association with members 30.

As best illustrated in Fig. 6, it will be noted that those portions of tangs 40 between the forward edge of upper

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wall 20 and member 30 are adapted to be engaged by the loose-leaf sheets as the contents of the binder is opened for use, thereby providing easy access to both sides of the sheets.

When it is desired to remove one or more sheets, all an operator need do is to exert an upward and forward jerk, tug or pull on that edge of the sheet remote or opposite from members 30 for flexing the free end of tang 40 upwardly as disclosed in Figs. 5 and 6.

With reference now to Figs. 7 through 14, it will be noted that the loose-leaf receiving member or post 50 is formed integral with and extends upwardly from bottom wall 24 and is formed by drawing, or otherwise deforming, the bottom wall. In this modification an aperture 52 is provided in top wall 20, said aperture being dimensioned to loosely receive the upper end of member 50. As best illustrated in Fig. 11, the free height of member 50 is of a dimension equal to the distance between the upper face of the bottom wall and the upper face of the top wall, so that the upper end of member 50 will normally be disposed in interfering relationship with portions of the top wall 20. It will be noted that the inherent resilient characteristics of the sheet material from which the device is fabricated will normally maintain the upper wall in the relationship illustrated in Figs. 10 and 11.

When it is desired to insert or remove loose-leaf sheets, the tool of Fig. 8 may be utilized for flexing or lifting top wall 20 upwardly for thereby exposing the upper ends of members 50. Tool 60 may be provided with a handle 62 and comprises a wide blade portion 64 and a narrower blade portion 66 disposed at an angle therewith, as clearly noted in Figs. 9, 12 and 13. Blade 64 is dimensioned to be received between the top and bottom walls 20 and 24 of the device with apex 68 disposed adjacent rear or connecting wall 22, the width of said blade being sufficient to extend outwardly beyond the forward edge of upper wall 20, note Figs. 12 and 13. The width of the narrower blade 66 is dimensioned whereby to be freely insertable between upper and lower faces 20 and 24 and between rear wall 22 and the adjacent portions of members 50.

From the foregoing it will be noted that as the blades of tool 60 are inserted endwise along and between the upper and lower faces of the device, the wider blade 64 will automatically flex upper wall 20 upwardly thereby exposing the free upper ends of members 50. It will, of course, be understood that when tool 60 is withdrawn, the upper wall will again assume a lowered position in substantially spaced parallelism with the lower wall as in Fig. 11.

The details of this particular modification of my inven-

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tion are such as to easily enable the user of the device to effect a rigid or permanent mounting of loose-leaf sheets onto a member 50 by peening over or otherwise deforming the upper ends of members 50 as at 57 whereby to overlappingly engage the outer face of the top wall 20, as illustrated in Fig. 14, thereby effectively preventing removal of sheets 36 without destroying them. This feature is of particular importance in those instances wherein reports, such as those made by certified public accountants, are to be housed within a binder.

In those instances in which the loose-leaf retaining device is fabricated from a thermoplastic material the upper end of a leaf receiving member 50 may be conveniently deformed as at 57 by introducing the tip of a heated element, analogous to a soldering iron, into the end of a member; or a suitable solvent may be applied to member 50 for welding it to top wall 20.

From the foregoing, it will be noted that I have thus provided highly efficient loose-leaf retaining means fabricated from sheet material and constructed to securely though releasably house a plurality of leaves, each of which may be quickly and easily associated with or removed from the leaf retaining means.

What is claimed is:

A one-piece loose-leaf retaining device comprising a single elongate strip of thin flexible plastic sheet material folded lengthwise along a substantially medial line thereof to provide spaced substantially parallel upper and lower walls each having an upper face, a plurality of aligned spaced hollow posts formed integral with and pressed in the material of said lower wall and extending upwardly toward said upper wall, said upper wall having a plurality of aligned spaced apertures formed therein in register with said posts for loosely receiving the upper ends of said posts, the free height of said posts above said lower wall being substantially equal to the distance between the upper face of said bottom wall and the upper face of said top wall, each of said posts having a closed top portion, said upper wall being adapted to be flexed away from said lower wall for exposing the top portion of said posts for impalement of binder sheets thereon.

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