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W. E. ELDRIDGE

GRADING PAD FOR LOOSE LEAF BINDERS

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Fig. 1.

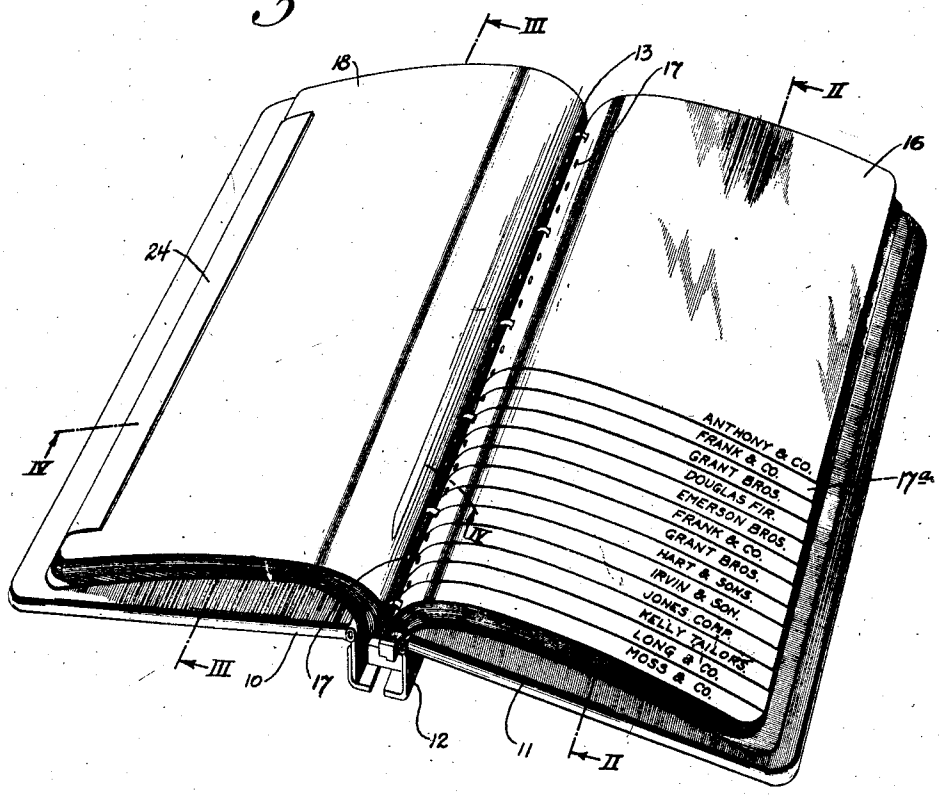


Fig. 2.



Fig. 3.

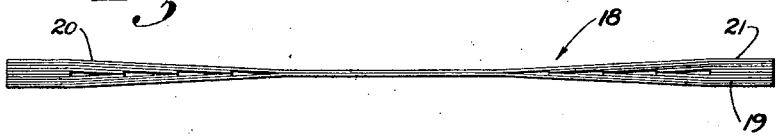
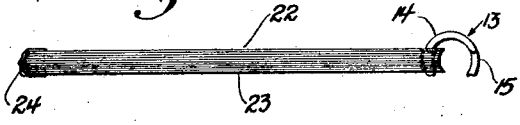


Fig. 4.



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GRADING PAD FOR LOOSE-LEAF BINDERS.

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This invention relates to loose leaf binders and particularly relates to grading pages therefor.

In the use of loose leaf binders in connection with record keeping it has become a common practice to fasten a number of record pages in the binder with their edges "feathered", so that a portion of the edge of each sheet will be disclosed and may carry indicia upon which the various accounts may be indexed and readily located. In thus arranging the sheets in the binder, it will be evident that a large majority of the sheets will overlap in the center of the book, and that towards the top and bottom and from the opposite sides of the transverse center, the number of overlapping pages will decrease, so that a group of sheets will form a thick pack of pages gradually increasing from the top and bottom edges of the binder to the center. Such an arrangement makes the binder awkward to handle and does not permit the sheets to be held in a compact flat position.

It is the principal object of the present invention, therefore, to provide pages which will supplement the sheets and will cause all of the sheets in the book to be maintained substantially flat as though each sheet extended from the top edge of the book to the bottom edge thereof.

The present invention contemplates the use of a filler pad which is thin along its transverse center line and gradually increases in thickness toward the top and bottom thereof, agreeing substantially with the gradual decrease in thickness of the overlapping sheets in the binder.

The invention is illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a view in perspective showing a loose leaf binder of the type described with the sheets mounted therein.

Fig. 2 is a view in transverse section of a group of sheets in the binder as seen on the line 2—2 of Fig. 1.

Fig. 3 is a view in transverse section of a grade pad as seen on the line 3—3 of Fig. 1.

Fig. 4 is a view in transverse section through the grade pad as seen on the line 4—4 of Fig. 1.

Referring more particularly to the drawings, 10 and 11 indicate the backs of a loose leaf binder. These backs are connected by a suitable hinge structure 12 carrying a plurality of binding rings 13. These rings are of any desired construction but usually are formed in two parts as indicated at 14 and 15 in Fig. 4, and are suitably mounted so that they may be swung out of overlapping relation to each other to permit leaves 16 to be mounted on certain of the rings. These leaves are provided along one edge with a series of perforations 17 through which the binding rings may be positioned.

It will be evident that due to the fact that the leaves are formed with a series of perforations, it will be possible to place the leaves in the binder at different points through the length of the binder if the pages are of less length than the length of the binder. This arrangement will permit the pages to be feathered as clearly shown in Fig. 1 of the drawings, so that the lowermost edge of each page will be disclosed as particularly indicated at 17^a in Fig. 1. This will make it possible for indexed indicia to be placed adjacent the lower edge of each page so that the page may be readily selected and removed from the binder in connection with the operations of modern mechanical bookkeeping.

It will be evident, however, that in arranging the pages in feathered relation to each other as previously described, the set of pages overlapping to form a composite page extending throughout the length of the binder, as shown in Figs. 1 and 2, will be quite thick at a point substantially midway the length of the binder page, due to the fact that all of the binder sheets in this particular set will overlap at the center of the length of the binder sheet, and that toward the upper edge of the binder and toward the lower edge of the binder decreasing numbers of sheets will overlap until finally overlapping but a single sheet at the upper end indicated at 16^a, and a single sheet at the bottom edge indicated at 16^b, as clearly shown in Fig. 2 of the drawings.

It will therefore be evident that if the binder contains several sets of pages arranged as shown in Fig. 2, the thickness of the bound pages at a point midway the length of the binder will be excessive while at the upper and lower edges of the binder there will be but one page for each set of pages represented by the group shown in Fig. 2. This result is quite objectionable in that it does not permit the pages to lie flat in their bound positions, and moreover

causes the perforations of the pages to move out of register with the desired binding ring prongs 14 and 15 when the book is closed and it is intended to bind the pages in position.

In order to hold the pages substantially flat and to overcome the objections previously enumerated, grade pads 18 are provided. These pads may be used as desired to supplement the decreased thickness of the ends of the groups with sheets as indicated in Fig. 2 as will be readily seen from an examination of Figs. 2 and 3, where the thickness of the ends of the grade pad increases in substantially inverse ratio to the decrease in thickness of the ends of the assembled groups of sheets.

The grade pads are made by the use of a plurality of sheets of paper 19 which are of lengths supplementing the ends of the various ledger sheets so that the length of a grade sheet 19 will represent approximately the distance which the sheets fall short of the upper and lower edges of the sheets 16^a and 16^b.

By this arrangement the grade pad will be practically formed in the shape of two laminated wedges 20 and 21, the inclined faces of which agree substantially with the inclined planes formed by the feathered edges of the groups of ledger sheets. The wedges 21 and 22 thus made by the grade sheets 19 of graduated lengths are mounted for convenience in binding covers 22 and 23. The dimensions of these covers agree with the length and breadth of the maximum sheet which may be received by the binder or more accurately, they correspond in length to the over-all length and width of a group of sheets.

In practice it has been found that the grade pad 18 cannot be stiff and rigid, but that the grade sheets 19 must be able to slip relative to each other and be capable of arranging themselves along the arcuate length of the binding ring or to otherwise shift when the grade pad is flexed at any point throughout its width. In order to accomplish this while still holding the grade sheets bound between the grade covers 22 and 23, a flexible binding hinge 24 has been provided. This hinge may be in the shape of flexible fabric, the edges of which overlap edges of the cover members 22 and 23 while allowing sufficient material in the span between the cover sheets 22 and 23 to permit the grade sheets 19 to feather, as indicated in Fig. 4. This will also permit the cover sheets 22 and 23 of the grade pad to shift laterally with relation to each other as the pad is flexed, the result being that the grade pad will have the same flexibility as individual sheets bound in the book with the additional convenience of being self-contained so that the pads may be inserted or removed as desired.

It of course will be understood that the various grade sheets 19 forming the wedge portions 20 and 21 of the pad are not fastened to each other, but are merely contained between the covers 22 and 23 and are individually engaged by the binding rings 13 in the same manner as the separate ledger sheets 16. The covers 22 and 23, and the grade sheets 19 are perforated at intervals in the same manner as the sheets so that the grade pad may be readily mounted in a book.

It will thus be evident from comparing Figs. 2 and 3 of the drawing that the groups of sheets 16 and the grade pads 18 will supplement each other in uniformly filling the binder and substantially holding the sheets flat while permitting them to be removed, and while closing the binder to refasten them in position.

While I have shown the preferred form of my invention as now known to me, it is to be understood that various changes may be made in its construction without departing from the spirit of the invention as defined in the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A device of the character described comprising a wedge shaped pad formed of graduated sheets, cover members between which said wedge of material are placed, and a flexible binding member along the longitudinal extending edges of said cover member for hinging the cover members together.

2. A device of the character described comprising a laminated wedge shaped pad formed of separate graduated sheets of flexible material, flexible cover members between which said wedge of material are placed, said cover members and the sheets of the wedge being adapted to be secured in their assembled relation to each other along one edge by a loose leaf book binder, and a flexible binding member extending along the opposite longitudinal edges of said cover members for hinging them together.

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