

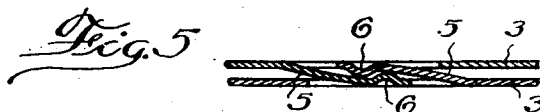
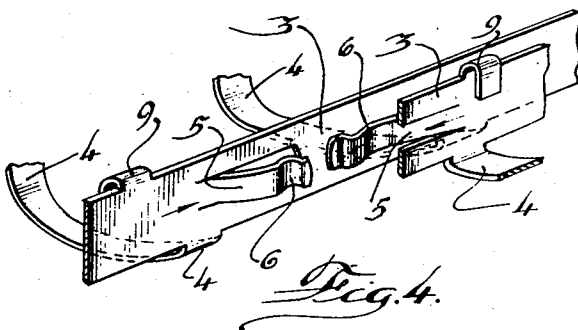
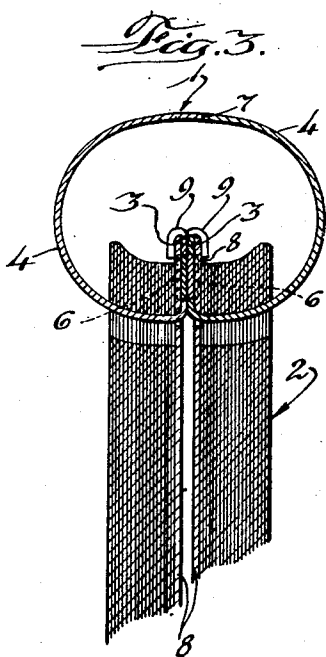
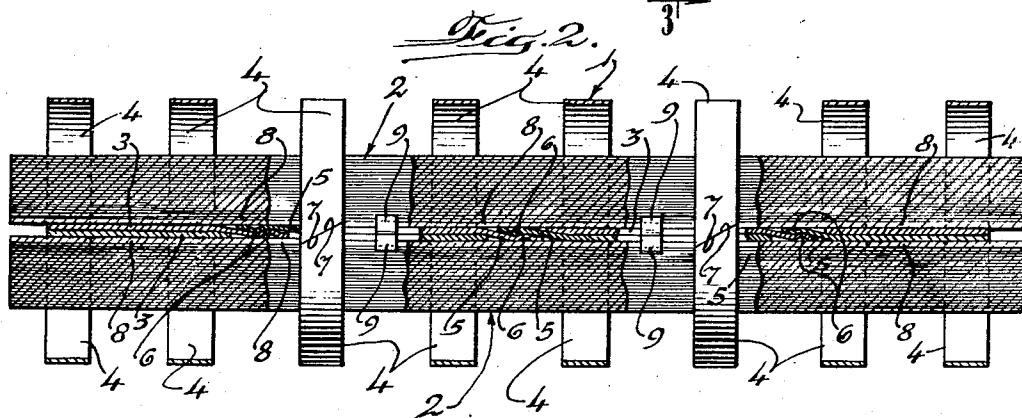
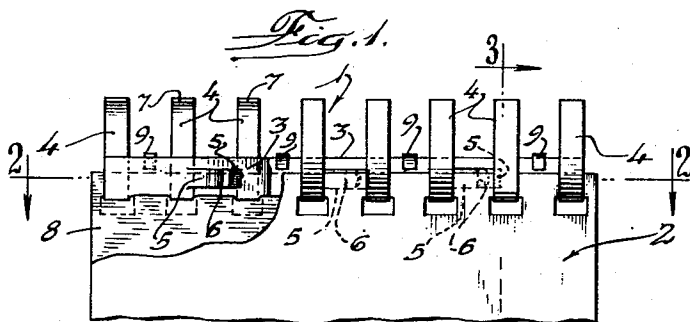
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2,437,360

LOOSE LEAF BINDER

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LOOSE-LEAF BINDER

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7 Claims. (Cl. 129—1)

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The present invention relates to a novel loose leaf binder especially adapted for retaining loose sheets, charts or leaves for a pad, book, manual or similar article, and especially to a novel construction of binder in which the complementary parts are identical in construction and operation. This permits a standardization in manufacture in that the complementary parts forming the binder may be made in continuous strips and cut into the desired length. By thus manufacturing the binder of identical sections or complementary parts formed or cut from a continuous strip of material, manufacture thereof is greatly simplified, the cost of production is considerably reduced and the number of sizes to be manufactured and required to be carried in stock is appreciably reduced.

Another object of the present invention is the provision of a loose leaf binder in which one or more sheets may be quickly and freely inserted or withdrawn from any position or location within the book.

Another distinct object of the present invention is that no backing or cover is required although it is readily adapted to the use of such backing or cover, if desired.

A further object of the present invention is the provision of a novel binder in which the parts thereof do not extend beyond the edges of the sheets or leaves, or beyond the ends or edges of a cover where a cover is employed, and the assembled book, pad or manual may be opened flat to thereby facilitate its use. Furthermore the pages or sheets do not offset when the book or manual is open.

A still further object of the present invention is to provide a binder composed of two identical parts or sections which may be quickly assembled or disassembled by a longitudinal movement. The assembly requires no pivotal connection or any spring mechanism for opening or closing. Furthermore, the parts or sections automatically and securely inter-lock when assembled.

Another advantage of the present binder is that standard paper or sheets are employed and that it has a greater capacity for a given size than prior forms of binders. In addition, no special equipment is required to insert the binder into a book, pad, pamphlet or the like.

Further objects are to provide a construction of maximum simplicity, efficiency, economy and ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

The invention further resides in the construction, combination and arrangement of parts illustrated in the accompanying drawings, and while there is shown therein a preferred embodiment, it is to be understood that the same is

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susceptible of modification and change, and comprehends other details, arrangements of parts, features and constructions without departing from the spirit of the invention.

In the drawings:

Figure 1 is a view in side elevation of the novel loose leaf binder with parts broken away to show its application to a plurality of sheets making up a book, manual, pad or the like.

Figure 2 is a view in horizontal cross-section taken in a plane represented by the line 2—2 of Figure 1, with the exception that two of the loops are shown in plan.

Figure 3 is a view in vertical cross-section through the binder and taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary view in perspective showing the manner of joining the identical complementary sections.

Figure 5 is a fragmentary view in horizontal cross section showing the tongues as they are moved into assembly.

Referring more particularly to the illustrative embodiment shown in the drawings, the novel binder 1 is adapted to receive and retain a plurality of loose sheets, charts, leaves or the like adapted to form a book, manual or pad 2. The binder comprises or consists of two identical sections formed or cut from a continuous strip of metal or the like of suitable thickness or gauge. Each section comprises an inwardly projecting backing strip 3 provided with relatively closely spaced arcuate projections 4 which, when the binder sections are assembled, provide closed loops for receiving a plurality of the sheets, charts, leaves or the like. Each backing strip is provided with similarly spaced and identical tongues 5 suitably spaced apart and preferably stamped therefrom, with each tongue provided with a protuberance or detent 6 for locking the sections in their assembled closed relation.

As each section is identical, they may be made of a continuous length of metal or other suitable material having the desired properties and formed with the arcuate projections 4 and interlocking tongues 5, and then cut into the required or desired lengths with the tongues adapted to interengage and lock the complementary sections together when they are slid or longitudinally moved into assembled relation. Similarly, when it is desired to remove a sheet, leaf or chart from the binder, these sections are moved longitudinally to disengage the interlocking tongues and thereby permit their separation. Thus the invention comprehends a simplified construction that may be quickly assembled or disassembled, and which is cheap to produce. The ends of the arcuate projections which form the loops are preferably tapered at 7 in a complementary man-

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ner so that these tapered or angularly disposed ends abut when the sections are assembled.

No cover or backing is required, but if desired one may be added. In the event a cover or backing 8 is applied, the edge thereof is preferably retained in position by means of projections 9 disposed on the backing strip 3 and adapted to overlie the edge of the backing. It will be readily appreciated that the invention comprehends a most simple and inexpensive loose leaf binder having the multiple advantages of standardization of parts in which the binder is made or stamped in a continuous strip and then cut to the desired length to form two identical sections forming the entire structure of the novel invention.

Having thus described my invention, I claim:

1. A loose leaf binder requiring no backing or cover but adapted to bind a plurality of loose sheets into a composite book or manual in which the sheets may be readily inserted or removed at the will of the user, composed of a pair of identical sections each comprising a backing strip projecting radially inward and provided with complementary arcuate projections adapted to form closed binding rings when placed in abutting relation, and interlocking tongues and detents on each section for automatically retaining these sections assembled when longitudinally moved into abutting, interlocking relation, the sections being so constructed and arranged as to permit their ready detachment for the removal or insertion of one or more of the sheets from any place or position within the binder without disturbing or removing other sheets.

2. A loose leaf binder for a book, manual, pad or the like comprising a pair of backing strips arranged in parallel planes, interlocking projections on a face of each backing strip adapted to be engaged when the strips are longitudinally moved into abutting relation to close the binder and separated when the binder is opened for removal or insertion of one or more sheets, and similarly spaced, complementary arcuate shaped loops projecting from each backing strip to combine and provide a plurality of closed binder rings, said backing strips being disposed radially inward and within the confines of the loops so that the book, manual or pad will open flat in back to back relation.

3. A loose leaf binder for a plurality of sheets forming a book, manual, pad or the like in which one or more sheets may be readily removed from any position therein without disturbing the other sheets, consisting of a pair of sections each providing a backing strip arranged in parallel planes, arcuate projections on each backing strip providing a plurality of closely spaced, complementary, arcuate-shaped loops with the backing strips projecting inwardly and disposed within the confines of the loops, the loops forming a plurality of spaced binder rings when the binder is closed, and interengaging projections integral with each backing strip for automatically and detachably connecting these strips to permit their ready assembly or separation for the insertion or removal of one or more sheets and automatically locking the loops in closed position when manually moved longitudinally into contiguous relation.

4. A loose leaf binder for a book, manual, pad or the like in which one or more sheets may be readily removed from any position therein without

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disturbing the other sheets, consisting of a pair of complementary sections each having a backing strip with the backing strips arranged in parallel planes and formed with interlocking projections for detachably connecting these strips at spaced points along their adjacent sides when moved longitudinally into contiguous position for closing the binder, and similarly arranged and relatively closely spaced, complementary, arcuate-shaped loops secured upon and projecting from each backing strip, which when the strips are in contiguous position, combine and provide a plurality of closed binder rings, the backing strips being disposed radially inward and within the confines of the loops so that the book, manual or pad will open flat in back-to-back relation.

5. A loose leaf binder complete without backing or cover and in which one or more sheets may be readily removed from any position therein without disturbing the other sheets, consisting of a pair of detachable sections each composed of a backing strip provided with arcuate-shaped portions having their complementary ends angularly disposed and when assembled providing closed loops, with the backing strips lying in parallel, abutting relation and projecting radially inward within the loops, and interlocking tongues disposed at spaced points along the strip for locking the sections together when longitudinally moved into abutting relation.

6. A loose leaf binder composed of a pair of sections each comprising a backing strip projecting radially inward and provided with complementary arcuate projections adapted to form closed binding rings when placed in abutting relation, and interlocking tongues and detents on each section for automatically retaining these sections assembled when longitudinally moved into abutting, interlocking relation, the sections being so constructed and arranged as to permit their ready detachment for the removal or insertion of one or more of the sheets from any place or position within the binder without disturbing or removing other sheets.

7. A loose leaf binder for a book, manual, pad or the like comprising a pair of backing strips arranged in parallel planes, interlocking means on said backing strips adapted to be engaged when the strips are longitudinally moved into parallel, abutting relation to close the binder and separated when the binder is opened for removal or insertion of one or more sheets, and spaced, complementary arcuate shaped loops projecting from each backing strip to combine and provide a plurality of closed binder rings, said backing strips being disposed radially inward and within the confines of the loops so that the book, manual or pad will open flat in back-to-back relation.

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