

(No Model.)

A. BLOME.
BOOKBINDING.

No. 496,992.

Patented May 9, 1893.

FIG. 1.

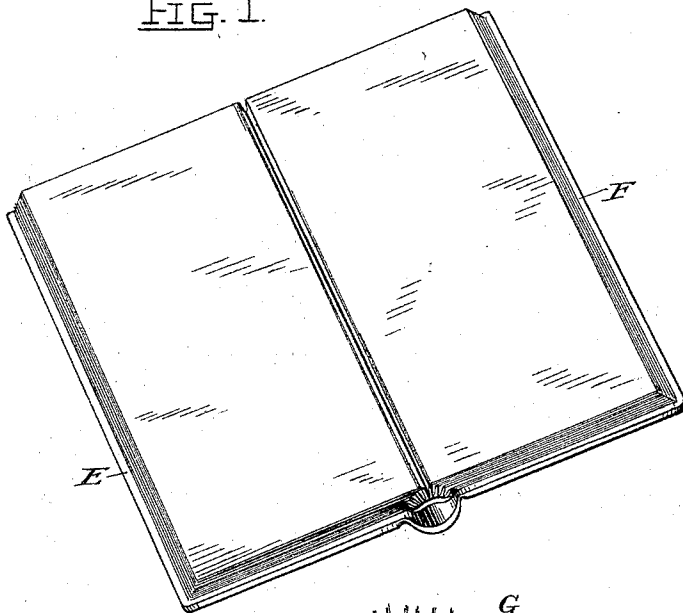


FIG. 2.

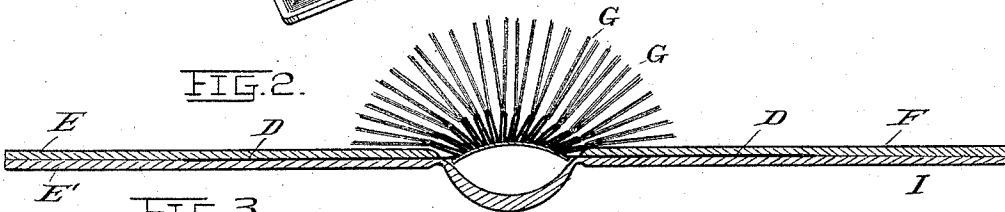


FIG. 3.

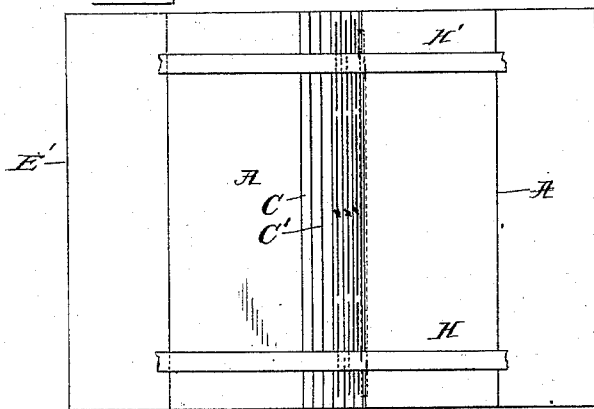
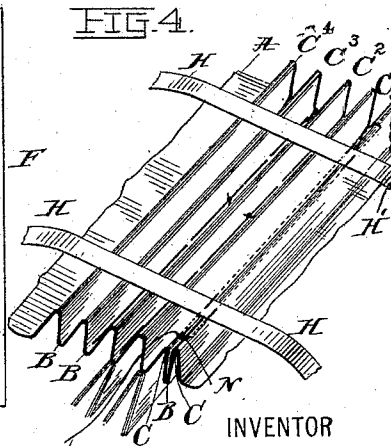


FIG. 4.



WITNESSES:

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BOOKBINDING.

SPECIFICATION forming part of Letters Patent No. 496,992, dated May 9, 1893.

Application filed October 3, 1892. Serial No. 447,587. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH BLOME, a citizen of the United States, residing at the city of Hoboken, Hudson county, in the State of New Jersey, have invented certain new and useful Improvements in Bookbinding, of which the following is a specification.

The object of my invention is to produce a means or method whereby the pages or sections of a book will lie substantially flat, from the outer to the inner edges of the pages or sections, when the book is opened, and in the accompanying drawings, forming a part hereof, I have illustrated a means of book-binding which will effectually accomplish the result above stated at the same time producing a book in which all the sections or signatures are securely and flexibly united together and to the covers.

In the accompanying drawings Figure 1 is a perspective view of an opened book which has been bound according to my invention. Fig. 2 is a sectional view of a book which has been bound according to my invention, showing the folded edges of the sections or signatures firmly secured to the folds on one side or the upper side of a continuous folded strip. Fig. 3 is a view of the underside of this continuous folded strip, showing the manner of uniting the folds together and to the reinforcing strips; and Fig. 4 is a perspective view of the continuous folded strip or piece to which the signatures of the book are attached, showing the manner of uniting together the folds on the under side of the strip.

A is a piece or strip of muslin, linen, paper, leather or other textile, fibrous, or suitable material of any desired width and length, according to the size of the signatures or book to which it is to be bound, and this strip or piece may be made of a single ply or thickness or of a number of thicknesses securely fastened together by glue or other cement or stitching. This strip is folded in reverse folds B and C for a portion of its length as shown in Figs. 2 and 4 and the unfolded ends D and D' are placed between the boards E and E', F and F' comprising a part of the cover of the book and over which boards is securely fastened paper, cotton, leather or other suitable material as usual; and for con-

venience of reference I shall refer to the folds B to which the signatures are united as the "upper folds" and the folds C which are united together as the "lower folds."

G are the separate sections or signatures which may consist of any number of sheets folded together and which sections taken together comprise the book and these sections or signatures are securely united by appropriate stitching to the upper series of folds B as shown in Fig. 2; the manner of uniting the signatures to the folds is shown in Fig. 3 from which it will be seen that the crests of the folds of the signatures are placed against the crests of the upper folds B of the strip A as shown in Figs. 2 and 4 and a thread is passed through the center of a fold B from its under side into and through the section G said thread being knotted on the under side between the folds C, the thread is then run a slight distance on the inside of the section toward the edge, then through the section into the fold B again, then running a slight distance toward the same edge of the strip A or section on the under side of the fold B then through the under side of the fold B into the section G again and then back again in and out of the section and fold of the strip in the same manner as just explained until the section G is securely sewed to the fold B on both sides of the center, the thread ending and being knotted in the place where it was first inserted, as is usual in book-binding, and each of the signatures is similarly united to its separate fold, as will be readily understood. After all the sections of which it is intended the book shall be comprised have been securely sewed to the upper folds B, the under folds C are securely united together by means of stitching and to any desired number of reinforcing strips H which are placed across the folds preferably at right angles thereto and the ends of which are also inserted between the board E E' and F F', and the ends of these reinforcing strips may be fastened onto the ends of the strip A by stitching or paste or other suitable cement and after which securely attached to or fastened between the covers or boards E E' and F F'; or the sewing of the signatures to the "upper" folds B and the sewing of the folds C together and to the re-

inforcing strips may be done alternately, *i. e.* the operator will first sew one section to a fold B and knot the thread as above described and then by separate needle and thread sew together the two contiguous or adjoining "lower" folds C between which the "upper" fold B is situated in the manner to be presently explained, and then again sew another section to a fold B until all the sections are attached to the folds B and all the folds C are securely fastened together.

The manner of uniting the folds C together and to the strips H is shown in Fig. 4 from which it will be seen that the folds are locked together as follows: starting at a point N on the under side of a fold C passing the thread, T through the crest of the fold then along the inside of the fold C, a slight distance, then through it and partly over the strip H, then into and through the strip H and fold C then along the inside of the fold C then through it and partly over the strip H' then into and through the strip H' and fold C then along the inside of the fold C till near the edge then through it and across into the under side of the adjoining fold C' and then back in and out of the fold C' and reinforcing strips H H' in the same manner as just explained with fold C and when the thread passes out of the fold C' at the point N the two ends are knotted together as shown in Fig. 4 or a knot is made in the thread at that point and the free end sewed through the adjoining folds C² C³ C⁴ and reinforcing strips for as many folds and strips as there may be in the manner just described thereby securely uniting all the lower folds together, forming a solid hinged back for the sections of the book to turn on. Thus I obtain two separate sewings, one by which the signatures are united to the "upper" series of folds and the other by means of which the "lower" folds of the series are united together, and by this double sewing, if one section should by any possibility become torn away from its fold, it will not thereby loosen any other section nor will the "lower" folds become loose or spread but the balance of the book will remain intact, just as strong and shapely as before; and by the use of one continuous strip A as shown folded into reverse folds and securely fastening the ends to or between the board or boards of the covers as also the ends of the reinforcing strips the sections are further prevented from becoming separated from each other or from their covers. On opening the book it will open flat as shown in Fig. 1; and if the book be opened between the sections the edges of the sections will be on almost parallel planes and nearly contiguous or in abutment; and if the book is opened anywhere in a section it will be found that the pages lie out flat in almost parallel planes from edge to edge without any curved portions on their bound edges whereby the book is much easier opened and manipulated, and in the case of blank-books, ac-

count-books or books intended to be written upon, the opening of the book so that the pages shall lie flat from edge to edge is a great advantage.

By binding a book according to the above method it is much stronger than any other book of the kind now made, there is little or no strain on the parts and the sections of the book move on the tops or crests of the folds B on which they turn or move like a hinge, and the folds also freely turn or move with the turning of the sections attached to them as will be understood from Fig. 2 thereby giving great flexibility with the least strain in the use of the book. And it is quite impossible to pull the book apart, in the first place because the insides of the folds are securely united and drawn together one to the other and to the reinforcing strips, forming almost a solid body or back and in the second place the end pieces of the reinforcing strips and of the folded strip are securely fastened between the boards of the cover of the book and the sections are securely united to the other folds of the strip from which they cannot be torn without great effort as the thread will not cut through the signatures or sections nor through the folds of the strip in ordinary handling of the book, and besides there is no strain on the united folds in the use of the book since the pages and sections are turned by the turning and moving of the flexible folds to which they are attached.

I use the word "strip" throughout this specification and the claims hereof as covering and as intending to include not only a "strip" which consists of but one piece of suitable material from end to end (not now referring to the number of such continuous strips which may be placed one over the other as hereinbefore-referred to) but as also covering and including a continuous "strip" made by uniting the ends of separate lengths of suitable material whereby a continuous strip will be so constructed, which may be folded as hereinbefore described, to the upper folds of which the signatures will be united and the lower folds drawn together and united in the manner before explained within the spirit and purview of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A book composed of several separate sections or signatures securely united to the crests of the folds of a strip of muslin or other suitable material the opposite folds of said strip securely united together and to one or more reinforcing strips laid across the crests of said folds, the unfolded ends of the folded strip and the ends of the reinforcing strips securely attached to the covers of the book, substantially as set forth.

2. The method of binding a book which consists in placing the crests of the folds of the sections or signatures against the crests of the "upper" series of folds of a strip of mus-

lin or other suitable material and securely uniting them together by sewing through the crests of the folds of the sections and the crests of said "upper" folds of the strip and then drawing and uniting the opposite or "lower" folds of the strip together and to one or more reinforcing strips which are placed over said folds substantially as set forth.

10 3. The method of binding a book which consists in placing the crests of the folds of the sections or signatures against the crests of the "upper" series of folds of a strip of muslin, or other suitable material, and securely
15 uniting them together by sewing through the crests of the folds of the sections and the crests of said "upper" folds of the strip and then drawing and uniting the opposite or "lower" folds together and to one or more re-
20 inforcing strips which are placed over said folds and then securely fastening the ends of said reinforcing strips and the ends of said

folded strip to the covers of the book, substantially as set forth.

4. The method of binding a book which con- 25
sists in placing the crests of the folds of the sections or signatures against the crests of the "upper" series of folds of a continuous strip of muslin or other suitable material and securely uniting them together by sewing 30
each section separately to the crests of said "upper" folds of the strip and then uniting the opposite or "lower" folds together and to one or more reinforcing strips which are placed over said folds by means of a separate 35
sewing than that by which the signatures are secured to the upper folds, substantially as set forth.

This specification signed and witnessed this 27th day of September, A. D. 1892.

ADOLPH BLOME.

In presence of—

GEO. H. SONNEBORN,
GUSTAV A. SCHÜRMANN.