

No. 649,061.

Patented May 8, 1900.

W. C. LEECHMAN.
LEAF FOR BOOKS.

(Application filed July 10, 1899.)

(No Model.)

Fig. 1.

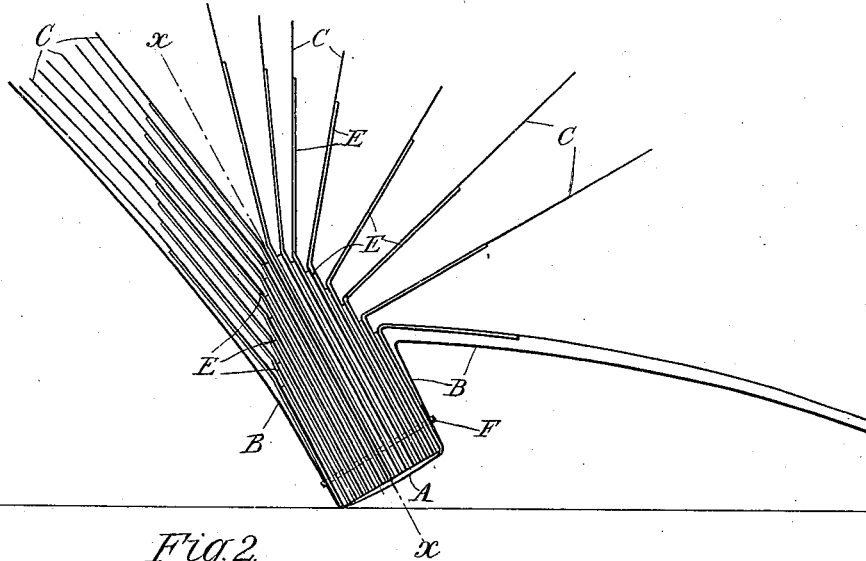


Fig. 2.

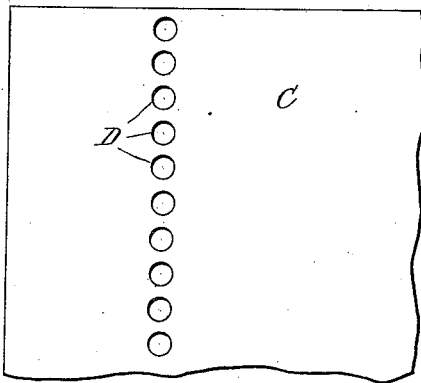


Fig. 3.

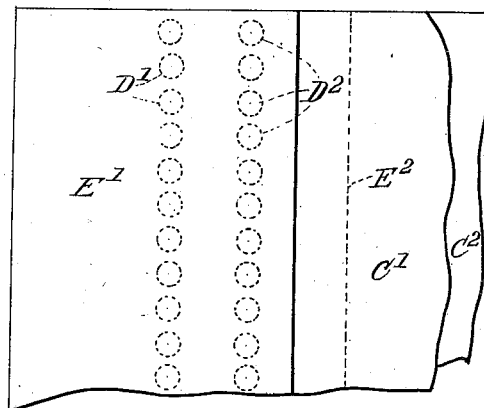


Fig. 6.

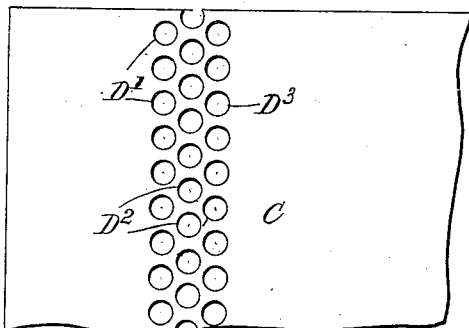


Fig. 4.

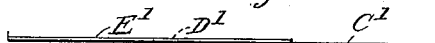
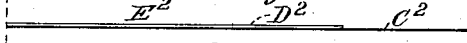


Fig. 5.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM CAREY LEECHMAN, OF LONDON, ENGLAND.

LEAF FOR BOOKS.

SPECIFICATION forming part of Letters Patent No. 649,061, dated May 8, 1900.

Application filed July 10, 1899. Serial No. 723,361. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CAREY LEECHMAN, civil engineer, of London, England, have invented certain new and useful Improvements in Bookbinding, of which the following is a specification.

The object of this invention is to simplify and cheapen the manufacture of bound books, albums, and the like in which what are known as "linen guards" are used for the purpose of enabling the leaves of paper or cardboard to turn over square from the binding and lie flat or nearly flat on the boards or cover of the said book, album, or the like. According to the method hitherto ordinarily adopted of binding with linen guards each linen guard holds together two or more separate pieces of paper or cardboard, one of which is subsequently stitched or attached to the back of the book, while the other constitutes a leaf of the book, and there is a space between the two pieces extending from the upper to the lower edge, which space is bridged over by the linen guard and constitutes the line upon which the leaf bends when the book is being opened or closed. Now according to the present invention only one piece of paper or cardboard is employed for each leaf, this piece constituting not only the leaf proper, but also the part behind the bend which has hitherto been occupied by the piece which is attached to the back. I suitably weaken the leaf, and this I preferably effect by a series of perforations, slits, or cuts along the line or lines on which it is intended that the leaf shall bend when the bound book is opened out, and I apply a guard of linen or other like suitable material to the leaf, said guard extending from at or near the back edge of the leaf to a position beyond the line or lines of perforations. Instead of having perforations the leaf may be scored or grooved.

In the accompanying drawings, Figure 1 is an end view of a partly-opened book embodying this invention. For economy of space only so much of the pages is shown as is necessary to illustrate the invention. Fig. 2 is a face view of a part of a single leaf. Fig. 3 is a face view of part of each of two leaves situated at different distances from the middle plane of the book. Figs. 4 and 5 are views, respectively, of the leaves C' and C² shown in

Fig. 3. Fig. 6 is a face view of part of a single leaf provided with three lines of perforations, as hereinafter described.

In all the figures the parts are shown exaggerated for the sake of clearness in illustrating the invention.

A is the back, and B B are the boards or covers of the bound book.

C C are the leaves of paper or cardboard constituting the book.

According to this invention each leaf C is provided with a row or series of perforations D, as shown in Fig. 2, along the line on which each leaf is intended to bend when the book is opened out. The perforations may be of any desired shape or they may be in the form of cuts or slits, or in lieu of perforations the leaf may be scored or grooved. Each leaf formed with a series of perforations D has then attached to it along the portion which is nearest to the back of the book, by pasting or in any other suitable manner, a strip E of linen or the like. This strip E is of such a width as to extend from at or near the back edge to a suitable distance beyond the line of perforations D.

As in the case of a book of any considerable number of leaves, the natural line of bending of each leaf will occur at a distance from the back edge of each leaf, increasing in inverse ratio to the proximity of the said leaf to the middle plane *xx*, Fig. 1, of the book. The positions of the respective lines of perforations D and the width of the strips E may also vary accordingly, as indicated in Figs. 3, 4, and 5, in which C' is a leaf situated nearer to the cover of the book, and C² is a leaf situated nearer to the middle plane *xx* of the book. D' and D² in Fig. 3 indicate the respective rows of perforations made along the natural lines of bending of the leaves C' and C². E' and E² indicate the strips or guards of correspondingly different widths. The finished book will therefore have in end view the appearance illustrated by Fig. 1.

The leaves are bound together in any suitable manner in order to form a book. In Fig. 1 the binding is indicated as being effected by wires F.

As a modification of the invention instead of providing each leaf with one row of perforations in the natural line of its bending the

leaves may be provided with two, three, or more parallel rows of perforations, as indicated in Fig. 6, where three rows of perforations D' D² D³ are shown by way of example.

- 5 In such a case the leaves will bend at either one or the other of the lines of perforations, according to the proximity of the respective leaves from the middle plane of the book. Thus the outermost leaves will bend on the line of the perforations D' and the innermost leaves will bend on the line of the perforations D³, while the intermediate leaves will bend on the line of the perforations D².

10 The respective strips E of the several leaves may be of uniform width and cover all the perforations.

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

1. The combination of a leaf having a line of perforations parallel to its back edge, and a strip of textile fabric secured to said leaf and extending from approximately the back edge of the leaf to a point beyond the line of perforations, substantially as and for the purpose set forth.

2. A leaf having a multiplicity of lines of perforations parallel to its back edge in combination with a strip of textile fabric secured to said leaf and extending from approximately the back edge of the leaf to a point beyond the lines of perforations, substantially as and for the purpose set forth.

3. In a book or the like a series of leaves

each having a line of perforations parallel to the back edge of the leaf at a distance therefrom varying inversely to the proximity of the leaf to the middle plane of the book, in combination with strips of textile fabric secured respectively to said leaves and extending approximately from their back edge to a point beyond the line of perforations and means for connecting the said leaves together to form a book, substantially as set forth.

4. A series of leaves each having a multiplicity of lines of perforations parallel to the back edge of the leaf in combination with strips of textile fabric each secured respectively to said leaves and extending approximately from their back edge to a point beyond the lines of perforations, and means for connecting the said leaves together to form a book, substantially as set forth.

5. In a book-leaf, a single piece of paper extending from the book-back to the fore edge, said piece being weakened along the line on which it bends when the book is opened and a guard secured to said piece over the weakened line, substantially as and for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM CAREY LEECHMAN.

Witnesses:

JOHN C. MEWBURN,
GEORGE C. BACON.