(No Model.)

O. W. SMITH.

FLAT OPENING BLANK BOOK.

No. 454,076. Patented June 16, 1891.

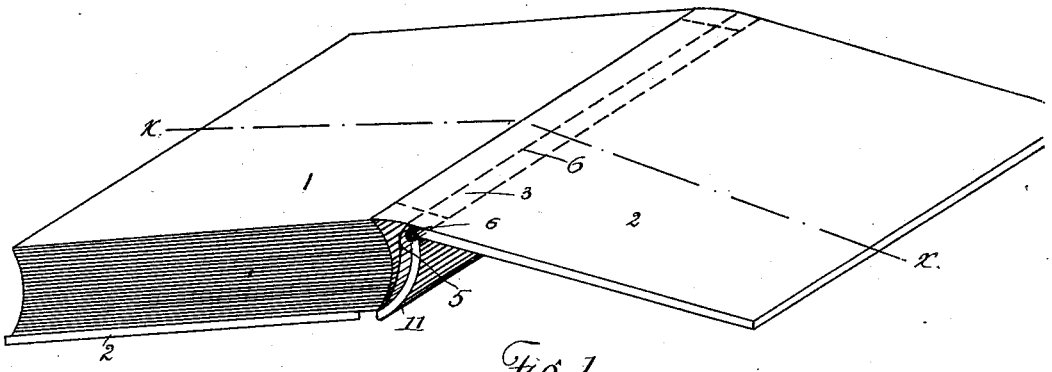


Fig. 1

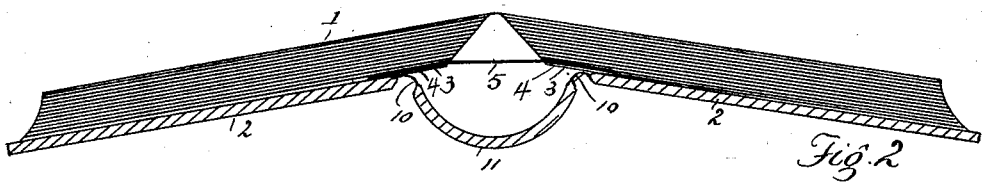
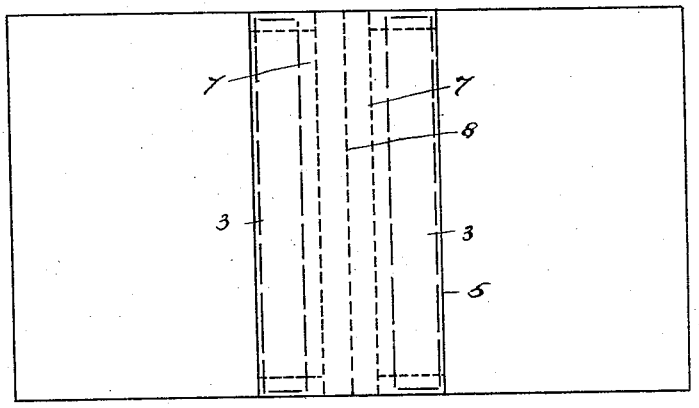


Fig. 2

Fig. 3



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FLAT-OPENING BLANK-BOOK.

SPECIFICATION forming part of Letters Patent No. 454,076, dated June 16, 1891.

Application filed November 21, 1890. Serial No. 372,246. (No model.)

To all whom it may concern:

Be it known that I, OTTO W. SMITH, a citizen of the United States of America, residing at Denver, in the county of Arrapahoe and State of Colorado, have invented certain new and useful Improvements in Steel-Joint Flat-Opening Blank-Books; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in flat-opening blank-books; and its objects are to provide a strong and durable binding for the class of books which includes all public records—as abstract-books, or books wherein the numerous transfers of real estate throughout the country are recorded, also ledgers and account-books kept by merchants and others. All of this class of books, it will be observed, from their object are necessarily much used, and many of them very carelessly handled and thrown about, requiring, even when used with ordinary care and prudence, the utmost degree of strength and durability attainable in book-binding. The present methods, however costly, are satisfactory only to a limited degree, which is but too well known and understood by those accustomed to use these books daily in their business. Hence it seems desirable that some means should be employed to overcome the difficulties encountered in the use of books bound in the ordinary way, and that said means should be economical in cost as well as very efficient in strength and durability. My improved device is believed to answer the case and to effectually overcome these difficulties, both as regards cheapness of manufacture as well as strength and durability, and consists in providing each lid of the cover with a narrow re-enforcing strip or plate of sheet metal secured to the lid and projecting from its rear edge, this projection of the plate being secured to the cover of the book and between said cover and the flexible material connecting the back of the book and the cover of the book, these re-enforcing strips being united by a strong elastic strip of truss-rubber or other suitable elastic or resilient material, so that when the book is open this elastic strip will tend to hold the metal plates firm and so hold the book in the flat open position. The back of the cover is entirely free from the back of the book, and the flexible parts of the cover connecting the back with the lids thereof are free from the re-enforcing plates, so that when the book is open the back of the cover and the flexible parts connecting the back and lids of the cover spring back from the book, so that each side of its face shall be perfectly flat, this being aided by the elastic strip uniting the two re-enforcing plates or strips.

My improvement will be better understood by reference to the accompanying drawings, wherein is illustrated an embodiment of my invention.

In the drawings, Figure 1 is a perspective view of a book bound after the manner of my improvement, one lid of the cover being thrown back, the re-enforcing metal strip being shown in dotted lines, while the elastic plate which unites the re-enforcing-strips is shown at the end of the book, and by the dotted lines extending the full length of the book along the lid of the cover. Fig. 2 is a cross-section of the book on the line x x, Fig. 1, the book being open in the middle; Fig. 3, a back view of the book open, the covers being removed, so as to show my improvement.

Referring now to these views wherein similar reference-characters designate corresponding parts or elements, the reference-numeral 1 designates the book; 2, the lids or covers thereof, each of which is provided with a re-enforcing strip or plate 3, made of sheet metal, and which is secured between the extensions of the leather back 4, and the lid 2 of the cover in any approved manner, as by gluing. This re-enforcing strip or plate is so located on the lid to which it is secured as to project over the rear edge thereof, so that when the book is opened these strips or plates may support the inner portion of the book and so make it perfectly flat-opening, as shown in the drawings, while when the book is closed these metal plates prevent the flexible parts uniting the lids with the back of the cover from breaking down or yielding to the weight of the lid or any pressure to which the lid may be subjected. These strips may be embedded

in canvas in securing them to the lids according to the dictates of mechanical skill. These re-enforcing plates or strips are also covered by the inner lining of each lid 2, as before referred to. Uniting the two re-enforcing plates or strips 3 is an elastic strip 5, said strip being composed of india-rubber or other suitable elastic or resilient material. This stip is made to overlap plates 3, and is secured thereto by means of stitches or in any approved manner; or, if deemed preferable, it may not overlap said strips 3, but may be secured thereto by securing it to the edge thereof. By reference to Fig. 1, this strip 5 will be seen at the end of the book, while the re-enforcing strip or plate 3 is shown in dotted lines, the dotted line 6 designating the line of stitches by means of which the elastic strip or plate 5 is secured to the re-enforcing strip and thus to the book. In Fig. 2 this strip 5 is shown in the position it occupies when the book is open, while in Fig. 3, wherein the cover of the book is removed, this elastic strip 5 is seen in full lines, the re-enforcing plates 3 being shown in dotted lines, the dotted lines 6 designating the lines of stitching by means of which the elastic strip is secured to said re-enforcing strips and to the book, and the dotted lines 7 designating the rear edges of the book, and the dotted line 8 the middle line thereof.

In practicing my improved method of book-binding it is necessary that the flexible parts 10 10, by means of which the lids 2 of the cover are secured to the back 11 of the book-cover, should not adhere to the adjacent metal plates or to their covering, (provided they be covered,) so that when the book is open the flexible parts 10 may turn back from the extensions of the plates beyond the lids of the cover, and thus allow each side of the book when open to be perfectly flat, as shown in Fig. 2, and the metal plates to be drawn together by the elastic strip, giving the necessary support to the book to maintain it in this position and prevent the face from assuming the rounded or convex shape, as seen in books bound in the ordinary manner, said convex face being caused by the back of the book when opened being drawn outward by the cover, which adheres thereto, and being forced out by the weight of the book, which last-named difficulty is avoided by the use of my elastic strip 5.

The advantages of what I term a "flat-opening" book secured by my improved method of binding are obvious, inasmuch as it is easier to write upon a flat or plane surface than upon a rounded or convex surface. I am speaking now of blank-books, for binding which my improved method is peculiarly valuable, since it not only makes the book flat-opening, but gives also great strength and durability to the joint. The elastic strip, drawing the lids toward each other, also adds greatly to the strength and durability of the book by tending to hold it firmly in the flat-opened position, thereby taking the strain from the back and the flexible connections 10. Strip 5, as shown in the drawings, is continuous, and extends from one end of the book to the other, lying between the back of the book and the back of the cover, being concealed and protected in the space lying between these parts. It will also be observed that when the book is closed the elastic strip is engaged on one side by the back of the book and on the opposite side by the back of the cover, but that this strip does not project beyond the ends of the book. Hence there are no exposed parts to give annoyance and hinderance to the handling or use of the book.

Having thus described my invention, what I claim is—

1. In a flat-opening book, the combination, with the cover having a sheet-metal plate secured to the rear portion of each lid and projecting therefrom to the back of the book, of a strip of elastic material connecting said plates, separating the back of the book and the back of the cover, and lying within the space between them when the book is open, but engaged by both, one on each side, when the book is closed, substantially as described.

2. The combination, with the cover of a book, of a sheet-metal plate secured to the rear portion of each lid and extending therefrom to the back of the book, and a strip of resilient material lying between the back of the book and the back of the cover and connecting the metal plates, said strip being entirely concealed in a plan view of the book, substantially as described.

3. The combination, with the cover of a book, of a sheet-metal plate secured to the rear portion of each lid and extending therefrom to the back of the book, of a strip of elastic or resilient material lying wholly between the back of the book and the back of the cover and forming a yielding partition between these parts, said partition extending and continuous from one end of the book to the other, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

OTTO W. SMITH.

Witnesses:
WM. MCCONNELL,
G. J. ROLLANDET.