

(No Model.)

D. M. SMYTH.
Book Sewing.

No. 235,466.

Patented Dec. 14, 1880.

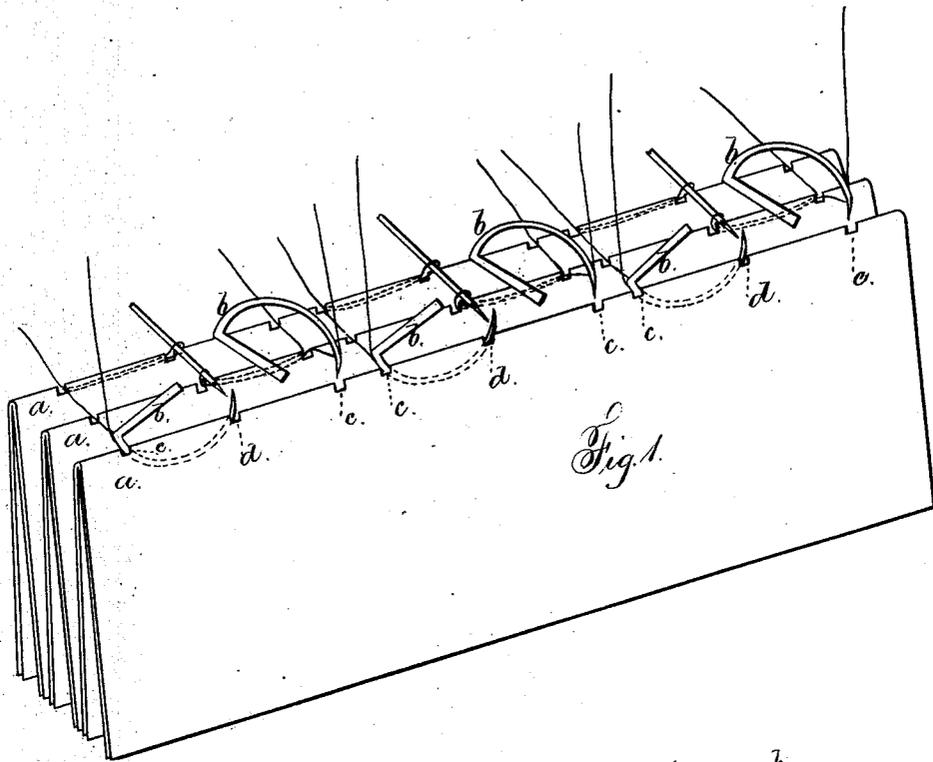


Fig. 1.

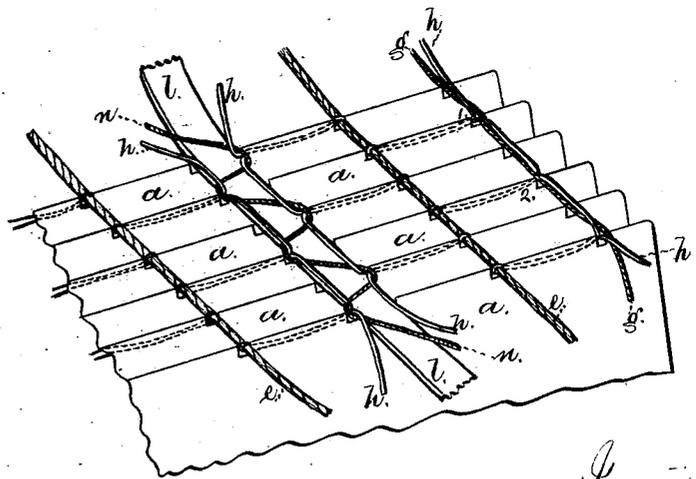


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

DAVID M. SMYTH, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE SMYTH MANUFACTURING COMPANY, OF SAME PLACE.

BOOK-SEWING.

SPECIFICATION forming part of Letters Patent No. 235,466, dated December 14, 1880.

Application filed March 15, 1880. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. SMYTH, of Hartford, in the county of Hartford and State of Connecticut, have invented an Improvement in Book-Sewing, of which the following is a specification.

The object of this invention is to introduce at the back of the book a strip of parchment, leather, tape, or similar material, and to secure the same by an interlaced thread applied in connection with the double threads that are introduced into the sheets by book-sewing machinery, such as that shown in Letters Patent No. 220,312, granted to me October 7, 1879.

I remark that I do not herein lay claim to any particular machinery for sewing the book.

My aforesaid patent illustrates the mechanism that may be employed for carrying the thread into the folds of the paper and securing the same, and special mechanism for introducing the parchment strip and the thread that binds the same will probably form the subject of a separate application for a patent.

In the drawings, Figure 1 is a perspective view illustrating the manner in which the sewing is performed, and Fig. 2 is an enlarged view of the threads as laid together in the folds of the sheets and over the parchment or leather strip.

The sheets, *a*, of paper are grooved or channeled across the back at suitable distances apart, and wherever there are to be strips of parchment the distance between the channels corresponds to the width of the strip. There may be any desired number of these strips of parchment.

In sewing the sheet, the curved needles *b* carry the threads down into the fold of the sheet by passing into the channels *c c*, and they emerge at the channels *d d*, and the loops of thread are caught and passed over a needle, as shown in said patent, and afterward threads or cords *e* are drawn by said needle into the grooves or channels *d*, and passed through such loops of thread.

One peculiar feature of this mode of sewing is, that all the needles do not pass into the same sheet, but the needles acting from left to right go into one folded sheet, those acting from

right to left go into the next folded sheet, and then those acting from left to right go into the third sheet, and so on; hence the book will not come apart if one or more threads break or are cut, because there are as many separate threads as there are needles, and the threads pass from one sheet, not to the next, but to the second sheet, and in that way hold the intermediate sheet between them.

In my present invention I make use of an interlacing thread or cord where the thread passes from one sheet to the second sheet away, and thereby prevent the thread cutting the paper. This is illustrated in Fig. 2, where the thread *g* is shown as laid between the thread *h* and the book. This is done by holding the thread *g* to the right while the needle descends and takes the stitch 1, and then holding the thread to the left while the stitch 2 is taken, so that the needle, as it descends and takes another stitch, passes clear of said thread *g*, and so on, the thread *g* being thus passed between the paper and the thread *h*, and under and over the respective stitches of the same.

The strip of parchment, leather, or other material *l* is laid across the back of the book, and the thread *n* is passed first to the right and then to the left, so that the said threads are interlocked, as indicated in Fig. 2, the loop of thread *n* passing around the threads *h* as they are led from one sheet or signature to the second, and the thread *n* passes across the strip *l*, firmly inclosing the same.

The book sewed in this manner is very strong, and does not come apart when a thread may break, and all the advantages of hand-sewed binding are attained, and also greater strength and durability, in consequence of the number of separate threads employed and the manner of laying them together.

The book having the threads laid up as aforesaid is new, and the method of performing the sewing is also novel.

I claim as my invention—

1. A book having one or more strips of parchment, leather, or similar material across the back, and threads *h* at each side of such strip, passing into the folds of the sheets, and a

thread, *n*, passing across the strip and inter-looped with the threads *h*, to hold such strip *l*, substantially as set forth.

2. In sewing sheets together into books, the
5 method herein specified of securing a strip of parchment or equivalent material to the back, consisting in passing a thread, *n*, across said strip, introducing the threads *h* into the folded sheet, passing the thread *n* around the thread *h*
10 and across the strip in the opposite direction, and introducing the threads *h* at the other

side, passing the thread *n* around the same, and so on, whereby the threads are inter-locked and the strip *l* secured to the back of the book.

Signed by me this 5th day of March, A. D. 1880.

DAVID M. SMYTH.

Witnesses:

CHARLES E. GROSS,
WM. WALDO HYDE.