

No Model.)

D. M. SMYTH.
BINDING BOOKS.

No. 269,336.

Patented Dec. 19, 1882.

Fig. 1.

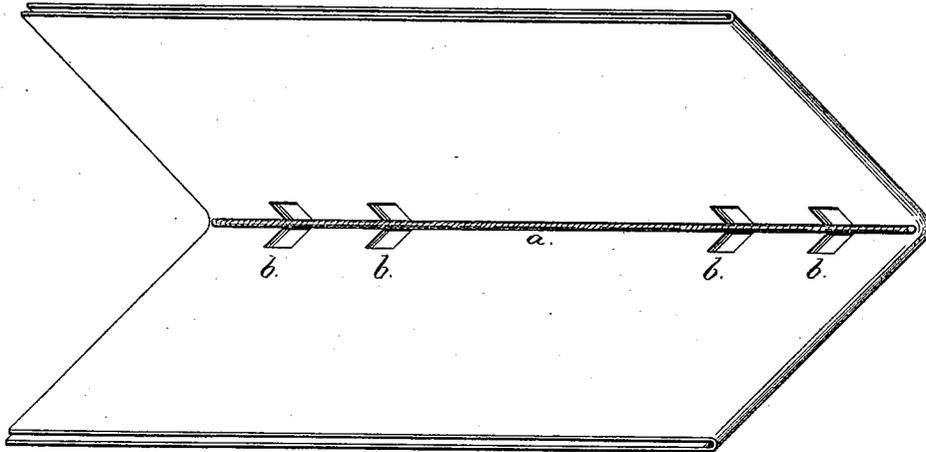


Fig. 2.

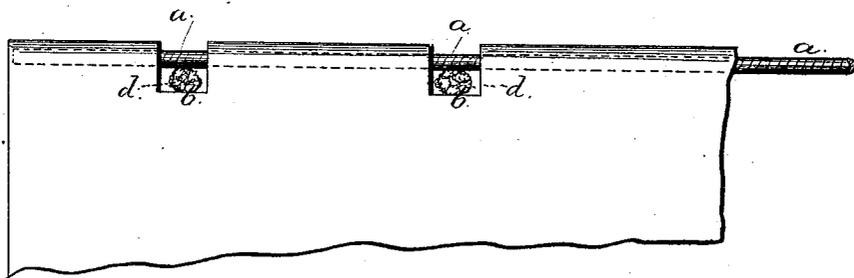
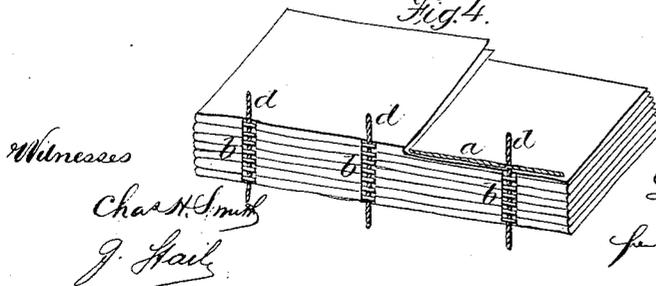


Fig. 3.



Fig. 4.



Witnesses

Chas. H. Smith
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cutty

UNITED STATES PATENT OFFICE.

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

BINDING BOOKS.

SPECIFICATION forming part of Letters Patent No. 269,336, dated December 19, 1882.

Application filed July 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. SMYTH, of Hartford, in the State of Connecticut, have invented an Improvement in Binding Books, of which the following is a specification.

Temporary binders have been made with threads or cords, beneath which the sheets are placed so that these cords come within the folds of the sheets, and in some instances books have been bound by cords laid in the folds of the sheets and drawn through slits or through saw-cuts toward the ends of the folds, and cords or tapes have been passed across through saw-cuts and under the threads. In these modes of binding the threads were more or less loose in the folds of the sheets or signatures, and they were held in place by the ends and by the glue that passed into the saw-cuts from the back when rounding and finishing such back.

My invention relates to a thread or cord pasted or glued into the fold of the signature, so as to occupy its proper position independently of any other part of the binding. If this adhesive thread is laid in the folds of the signatures after the saw-cuts are made in the sheets, then the cords or tapes that cross the backs are drawn in under them, and if otherwise then holes may be made with awls in the proper places for the insertion of such cross-cords. In all instances the longitudinal threads, being caused to adhere in place by glue or similar material, need no connection from one signature to the other, or from the inside of the fold to the outside of the back, but such threads become a complete and strong backing-connection from top to bottom of the back, and a sheet cannot become loose or the binding give way unless each thread breaks at each cross cord or string, because such longitudinal threads are glued to place throughout their length. The consequence is that this binding is of unparalalled strength, and at the same time the ultimate simplicity and cheapness in the binding are attained.

In putting my improvement into use various means may be employed, some of which will form the subject of separate applications for patent. A convenient mode is to cut the folded

50 sheets or signatures across the back with the saw-cut grooves adapted to the strings, tapes, or parchments, and to provide a reel of thread and a glue-pot, pass the thread beneath a guide in the glue and lead it up over a slight projection above the edge of a narrow horizontal bar, place the fold of the sheet upon this bar and move it endwise, carrying the glued thread with it so that such thread is glued and laid into the fold, then cut the thread off and pass another folded sheet over this bar. A convenient mode of applying this glued thread into the fold is for one person to pass along the sheets continuously over the bar, laying in the glued thread, and for another person to cut the thread between one signature and the other, and pack such signatures into volumes. The cross cords, strings, tapes, or parchment-strips *d* are then drawn into the saw-cuts, and the book is ready to be rounded, glued, and finished at the back.

70 In the drawings, Figure 1 is a perspective view of the folded sheet and the thread *a* glued into the fold. Fig. 2 is a view in larger size of the saw-cut *b* in the back of the fold, and the thread *a* in the folded signature ready for the cross-string to be inserted; and Fig. 3 represents a hooked needle that may be inserted across below the thread and used to draw in the string, tape, or strip that connects the signatures together. Fig. 4 is a perspective view of a book bound according to my improvement, with portions of the leaves removed.

85 I am aware that threads have been caused to adhere within the folds of single sheets, and that these sheets have been sewed through the back edges alternately, so as to produce interlacing similar to weaving. This, however, is not adapted to binding, because there are too many threads and the back is made too thick, and the crossing threads, passing behind one sheet and through the next, tend to make the back hollow instead of convex. By my improvement the back of the book is not unduly increased in thickness, as only the ordinary number of threads are used, and the cross-threads pass into the channels cut across the back and tend to keep the back in its round-

ing or convex form. In instances where wires have been introduced within the folds of the signatures in temporary binders they are not and cannot be secured by glue, and, being harsh, they injure the paper, and they are not available for permanent binding, because of the increased thickness of the back and the rigidity of the wires.

I am also aware that threads have been starched and laid upon hooked needles thrust through the fold of the signature, and by such needles drawn through the signatures to form loops into which binders' twine is drawn. In this instance the loop is liable to be misplaced and requires to be held by hand in order to insert the twine-needle. In my improvement the threads, being drawn straight, are always in the proper position for the needle that introduces the cords or strings.

I claim as my invention—

1. The method herein specified of preparing folded sheets or signatures and binding the same, consisting in introducing a straight adhesive thread into the folds of the signatures,

and then passing cords, tapes, or strips across through the back edges of the signatures and beneath the threads, substantially as set forth.

2. The improved binding for books described, in which the straight threads within the folds of the signatures are glued into place and the connecting strings, tapes, or strips pass across beneath all such glued threads, substantially as set forth.

3. The method herein specified of binding books, consisting in forming grooves or saw-cuts across the backs, then introducing straight glued threads into the inside of the folds of the sheets or signatures, then drawing into the saw-cuts and beneath the glued threads cords, strings, or strips of material to connect the sheets or signatures, substantially as set forth.

Signed by me this 27th day of June A. D. 1881.

DAVID M. SMYTH.

Witnesses:

CHARLES E. GROSS,
CHAS. P. WATSON.