

(No Model.)

J. D. BAUER.
BOOK BINDING.

No. 467,076.

Patented Jan. 12, 1892.

Fig. 1.

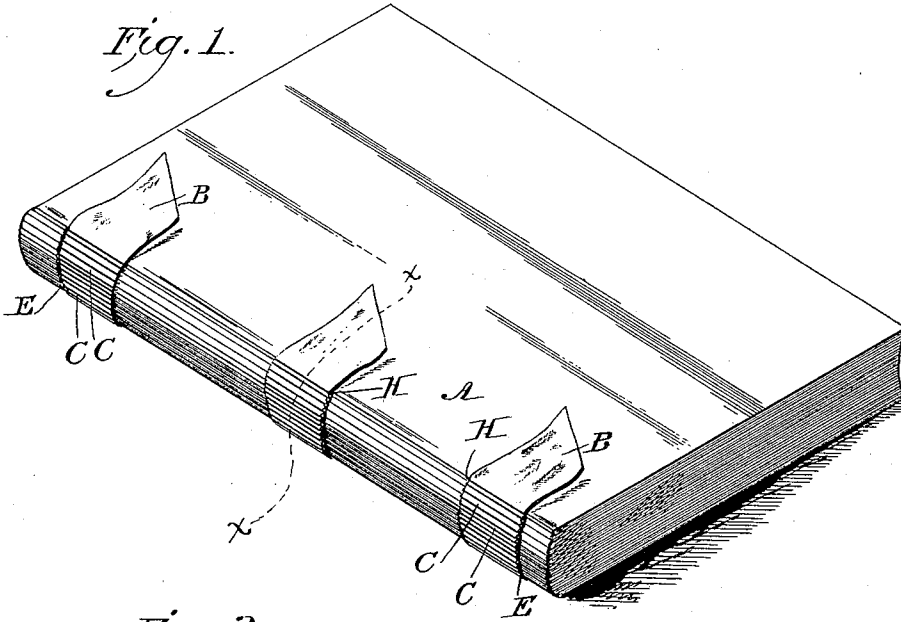


Fig. 2.

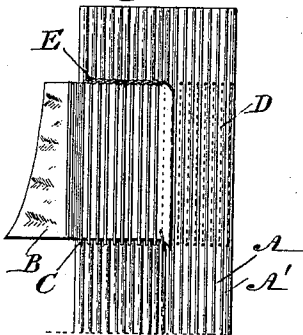


Fig. 3.

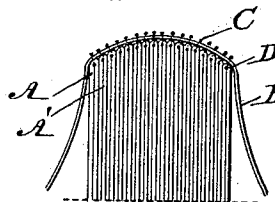
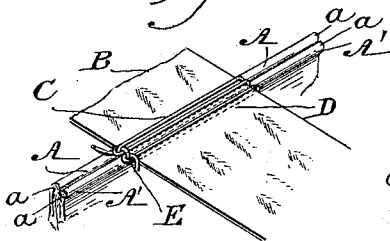


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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BOOK-BINDING.

SPECIFICATION forming part of Letters Patent No. 467,076, dated January 12, 1892.

Application filed March 26, 1891. Serial No. 386,483. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. BAUER, a citizen of the United States, and a resident of the city of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Book-Binding, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to book-binding upon tapes, which are secured to the outer cover or casing of the book, and has for its object the production of a book which will open flat, that will economize the use of thread by dispensing with the usual loops or lengths of thread which lie in the folds of the sections between the tapes, and, finally, in which the tapes are secured to the sections independently of and unconnected with each other, and in which all the sections are connected with each other separately through each tape or band by threads passing first through the sections and through the band in regular order, the result being that the breaking of any one tape or band or any of the stitches which hold it cannot affect the adjoining band or its stitches, and in which the breaking of a thread in any one of the bands will not affect more than the one adjoining thread of the same band; and my invention is particularly adapted to blank books.

In the accompanying drawings, illustrating my invention, Figure 1 is a perspective view of the book bound in accordance with my improvement. Fig. 2 is an elevation from the rear of a pack of sections or signatures, showing on the left-hand side a tape sewed thereto in accordance with my invention, and on the right-hand side showing the tape cut off, and in dotted lines the thread on the inside of the folds of the sections or signatures. Fig. 3 is a section of a book through the line *xx* of Fig. 1. Fig. 4 represents two sections or signatures sewed to the tape according to my improvement, the dotted lines illustrating the thread that lies inside in the fold of the section.

The usual mode of securing together the sections and back of books of the class to which my invention relates is to sew the signatures or sections upon a series of tapes

placed more nearly in the center of the book, and the threads which hold the same pass from end to end of each signature or section and intermediately over each of the tapes, as follows, viz: The thread first enters the outer section or signature from the outside of the fold and lies along the inside thereof, then passes outwardly through the fold of the section and over the first tape, then inwardly again on the other side of this tape and again lies on the inside of the section, then outwardly to the outside of the section and over the second tape, and so on, covering all the tapes, then finally passing outwardly, where the end of the thread appears on the outside of the section, where it is knotted by the well-known kettle-stitch. Thence the thread is continued downward through the next signature or section, then lying for a distance on the inside of that fold or signature, then passing upwardly over the tape on the outside of the signature, thence downwardly, and so on to the end of the signature, where the thread emerges through the fold of the signature to the outside thereof, is then caught into the thread where it began on the first signature, and a knot or kettle-stitch made in it, when the thread is then passed downward through the fold of the third signature and upward to the top over the several tapes, and so on until all the signatures or sections of the book are bound by the several tapes. It will thus be seen that by this, the usual mode of binding books upon tapes, the latter are not independent of each other in the sense that they are held to the sections by separate threads; but, on the contrary, if a thread breaks it affects all the tapes, and in addition thereto the threads which lie on the inside of the several folds or signatures between the points covered by the tapes not only make the book bulky, but prevent it from being opened flat. In order to obviate these several difficulties and to attain the several objects first above stated, I construct my book as follows:

Referring to the drawings, *AA'* in the several figures represent each a section or signature of leaves of paper folded at *a a*, and through which fold the threads pass upward and downward, respectively, as hereinafter mentioned, so as to form loops on the inside as well as the outside of the signature or section,

the outside loop C being over the transverse tapes or bands B and the inside loops D lying within the fold of the section.

The number of tapes B used, whether two or
 5 more, will depend upon the length of the book, and my improved mode of attaching them to a series or pack of sections or signatures and of sewing said sections or signatures together is as follows: The thread first enters the first
 10 section downward from the outside and lies along the inside fold, forming the inside loop D for a distance equaling the width of the tape. It then passes upward through the fold of the signature and over the outside of the
 15 tape, thus forming the outside loop C, and is joined at the place of beginning with the end of the thread by the well-known kettle-stitch. The thread then passes downward through the next section, forming an inside
 20 loop D within the fold of that section, also the width of the tape, then upward over the tape, forming another outside loop C, similar to and lying parallel to the first, and there is joined with the first knot by a similar
 25 kettle-stitch, and so on, the operation proceeding until all the sections are joined together over the first tape. A similar mode of procedure is adopted for each succeeding tape required upon the book. For symmetry of
 30 final manufacture and casing of the book it is preferable that the row of kettle-stitches should be upon that side of the end tapes facing the ends of the book, respectively. It will be apparent to book-binders that the
 35 bands or tapes may be passed through the outside loops after they are formed, instead of doing the sewing over the same while in position upon the pack of unsewed sections. The bands or tapes, which are pervious to
 40 glue, as usual, are then glued in the usual manner to the binding, and the band or bands may be of any desired number and width, or a single band may be used, and in case of a very wide band the thread brought
 45 up through the band itself instead of at a point immediately outside of its selvage.

It will be seen that by my mode of sewing there will be no inside thread lying between the points H H, (see Fig. 1,) hence economy
 in the use of the thread, and enabling the
 50 book to open much flatter than when the inside of the section or fold for its own length is filled with an inside thread or loop, as usual. It will also be seen that by this mode
 55 of binding books each band or each section of band is separately sewed not only to the pack of sections, but to each section, and that the breaking or loosening of the band will not affect the remaining bands; in like manner that the breaking of a thread holding one
 60 band will not affect the threads holding the other band, and, finally, that the breaking of a thread in any one of the bands will not affect more than the one adjoining thread of the same band.
 65

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A book in which the sections or signatures are sewed to each other and connected
 70 by transverse bands, by thread-loops formed on the inside as well as the outside of each separate signature or fold, said loops being connected with each other at one end thereof, and on the outside of the section by kettle-
 75 stitches or knots, substantially as described.

2. The mode herein described of uniting the sections of a book to each other and to transverse tapes or bands by forming one or
 80 more series of inside and outside thread-loops on the fold of the section, the outside loops passing over said band and uniting said loops externally with each other at one end by kettle-stitches or knots, substantially as
 85 set forth.

In testimony whereof I have hereunto affixed my signature this 27th day of December, A. D. 1890.

JOHN D. BAUER.

Witnesses:

H. T. FENTON,
 C. W. BECK.