

(No Model.)

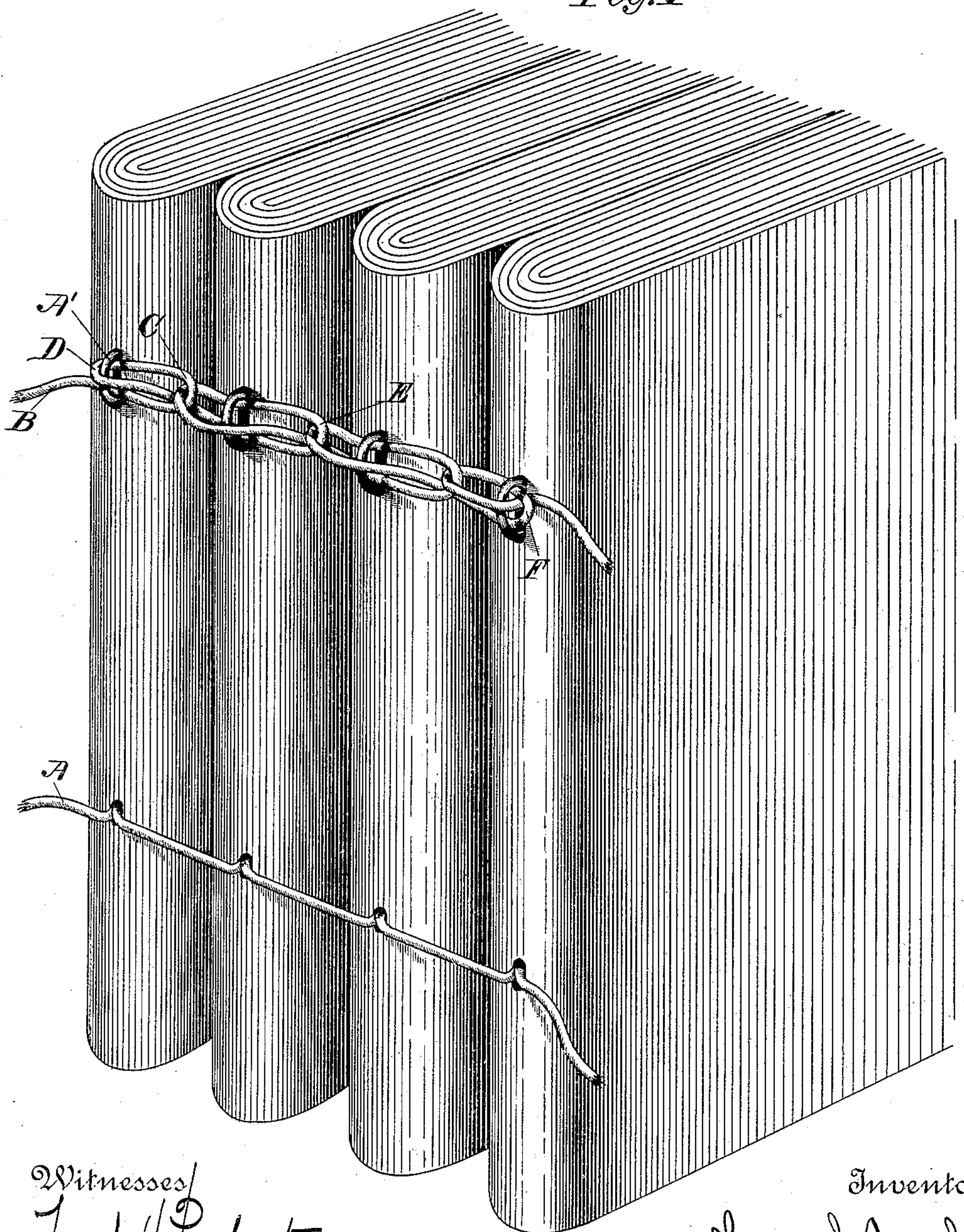
3 Sheets—Sheet 1.

H. L. ARNOLD.
METHOD OF BOOK STITCHING.

No. 401,673.

Patented Apr. 16, 1889.

Fig. 1



Witnesses/
Frank H. Pierpont
Herman A. Pierpont

Inventor
Horace L. Arnold
By his Attorney
Albert H. Walker

(No Model.)

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Fig. 2

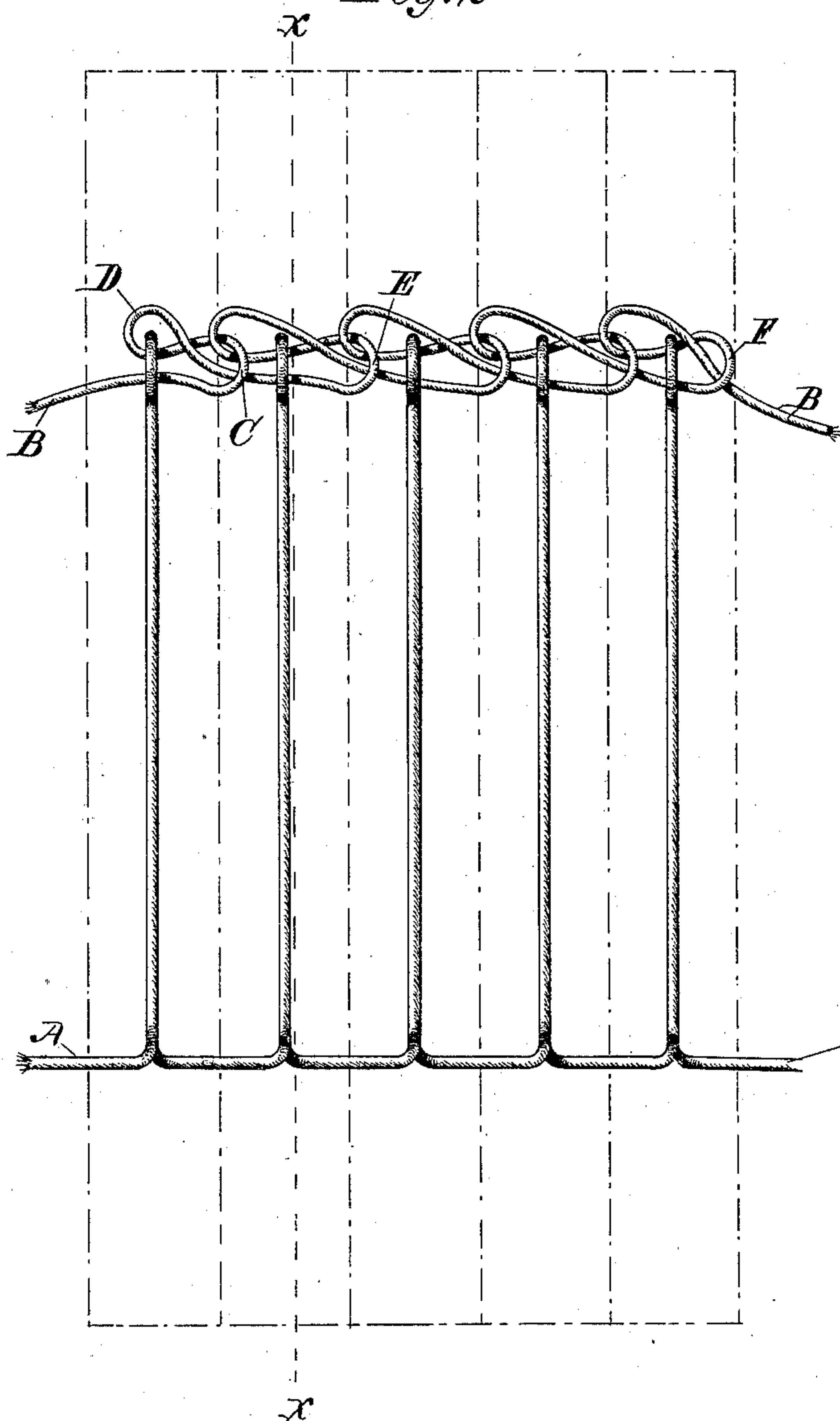
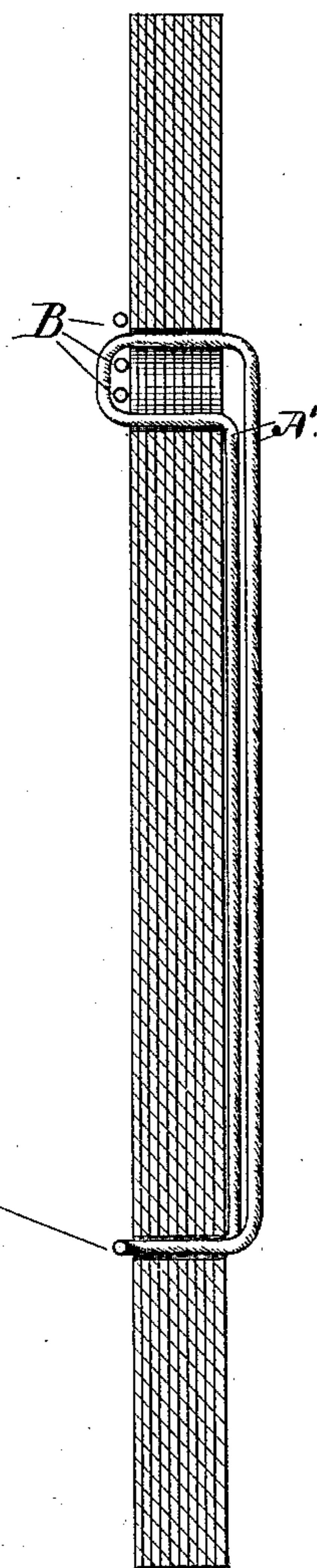


Fig. 3



Witnesses

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Amos A. [Signature]

Inventor

By his Attorney Horace L. Arnold

Albert H. Walker

(No Model.)

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Fig. A

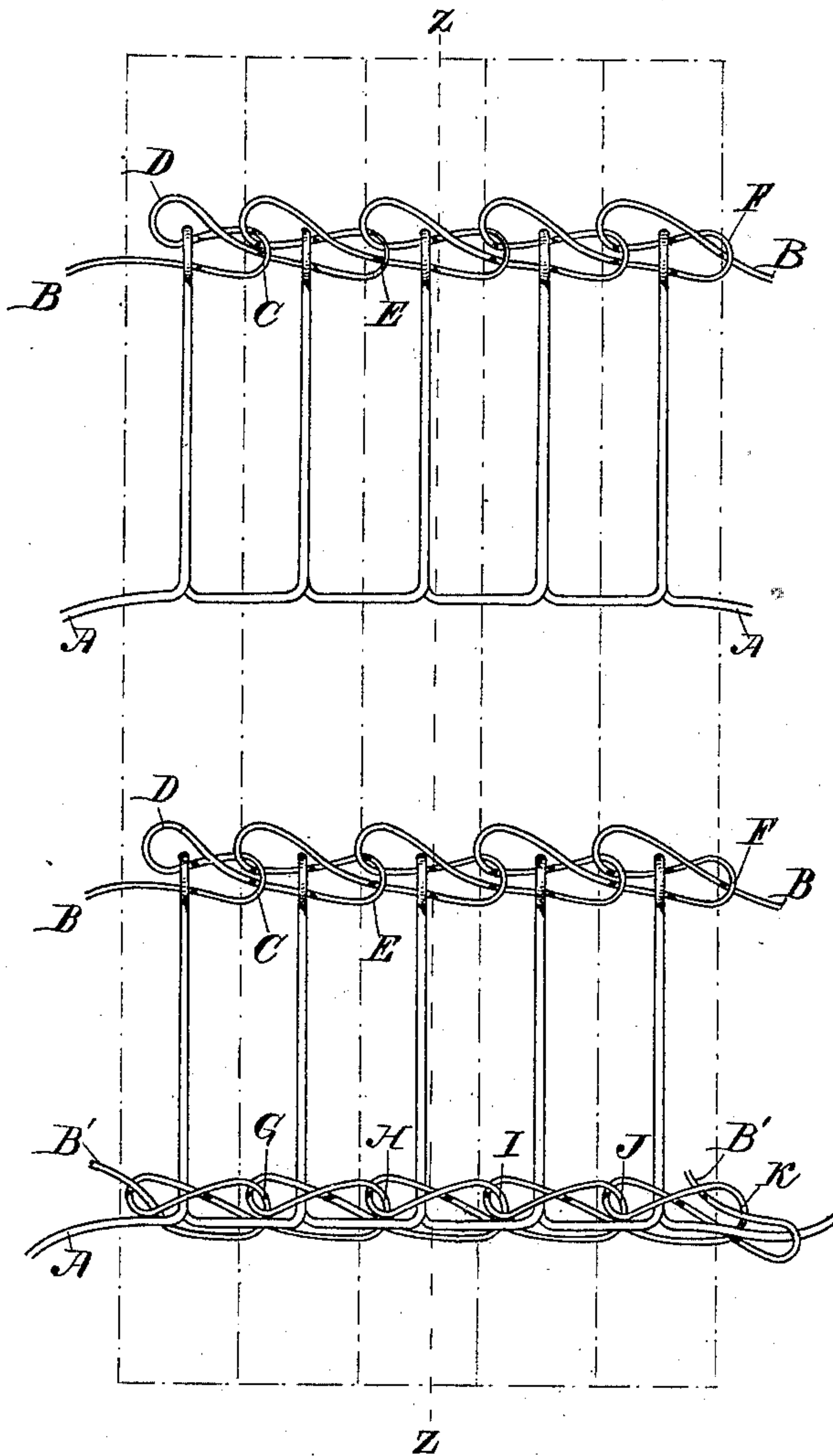
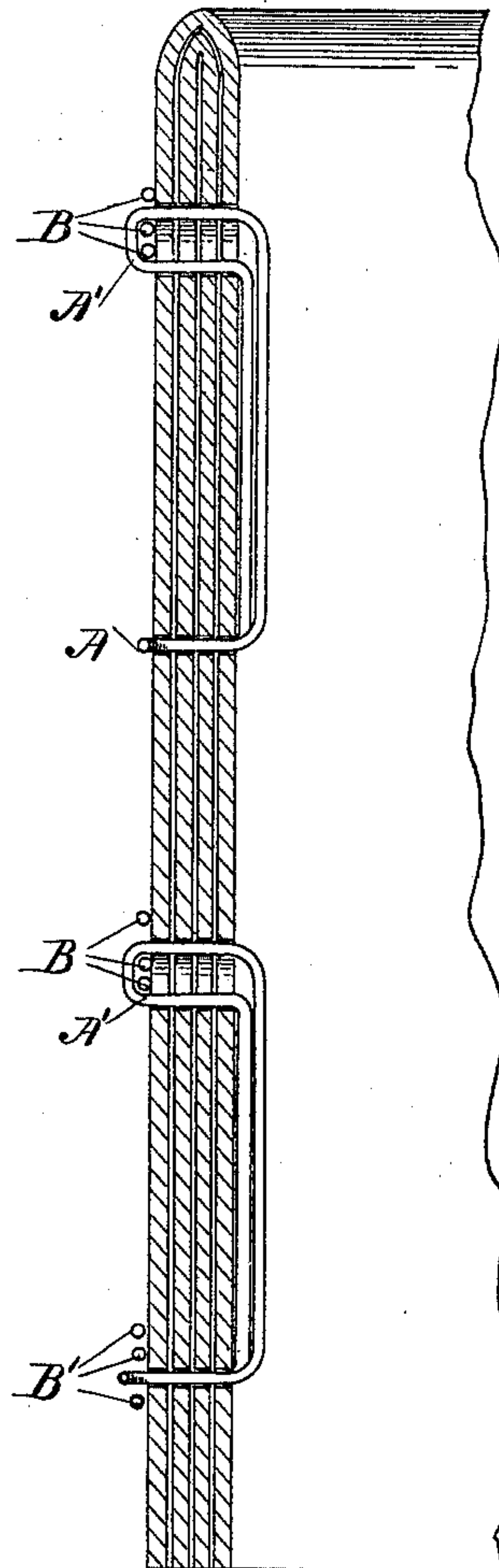


Fig. 5



Witnesses

Frank H. Pierpont
Herman A. Tyler

Inventor

By *Horace L. Arnold*
Attorney
Albert H. Walker

UNITED STATES PATENT OFFICE.

HORACE L. ARNOLD, OF HARTFORD, CONNECTICUT, ASSIGNOR TO ROBERT S. WOODRUFF, TRUSTEE, OF TRENTON, NEW JERSEY.

METHOD OF BOOK-STITCHING.

SPECIFICATION forming part of Letters Patent No. 401,673, dated April 16, 1889.

Application filed June 28, 1886. Serial No. 206,399. (No model.)

To all whom it may concern:

Be it known that I, HORACE L. ARNOLD, of Hartford, Connecticut, have invented an Improvement in the Art of Book-Stitching, of which the following description and claim constitute the specification, and which is illustrated by the accompanying three sheets of drawings.

This invention relates to a new method or process of stitching together the leaves of a book.

Figure 1 is an enlarged perspective view of the upper half of a series of four signatures of book-leaves loosely stitched together according to my invention. Fig. 2 is a view of the threads of Fig. 1, showing one of them in a slightly-different position, while Fig. 3 is a cross-section on the line *xx* of Fig. 2. Fig. 4 is a view the upper half of which is substantially identical with the whole of Fig. 2, and the lower half of which is identical with the upper half, except that in the lower half a third thread is added to the two shown in the upper half. Fig. 5 is a cross-section on the line *zz* of Fig. 4.

A is the inside thread, and B is the cross-thread, combined in producing my new stitch, and in some cases I use, also, the additional cross-thread, B'.

The method of stitching is as follows: Holes being first preferably punched or cut through the backs of the signatures of leaves wherever thread is to be passed through them, the thread A is brought from the left-hand side of Figs. 1 and 2, and is carried through the back of the first signature, from the outside thereof, at the lower hole therein, in such a manner as to form the long loop A'. That loop is then carried upward along the inner crease of the signature till the upper hole is reached, when it is brought through that hole to the back of the signature. In the meantime the thread B is seized and carried to the right of its left-hand end, so as to form the loop C and to carry it through the loop A'. Then the thread A is carried through the lower hole in the back of the second signature, so as to form another loop, A', and that loop is carried along the inner crease of that signature till the upper hole thereof is reached,

when it is brought through that hole to the back of the second signature. In the meantime the thread B is brought from the left, having been turned upon itself at the point D, and is carried through the loop C, and thence through the second loop, A', and thence to the right, so as to form the loop E. Thus the stitching is continued till any desired number of signatures have been stitched together, when the thread B is preferably brought forward and inserted through the loop F. The lower half of the series of signatures may be stitched in the same way, except that the thread B is in that case preferably placed below the thread A, so as to be nearest to the lower end of the book when completed. A modification of this method of stitching is shown in the lower half of Figs. 4 and 5, and is the same as the other, except that the loop A' is carried through the loop G of an additional cross-thread before it is carried through the back of the first signature, and other loops, A', are in like manner carried through the successive loops H, I, J, and K of the thread B, which in the meantime is harmoniously formed into that chain of loops.

In order to plainly indicate the courses of the threads, less tension is indicated in the drawings than is proper in actual practice of the invention, and in actual practice that tension may be regulated to the requirements of particular cases. In some cases it may be desirable to put so much tension on the thread A as to draw the inclosed reaches of the thread B partly or entirely through the leaves of the signatures.

This invention may be performed and made by hand; but I have conceived and hope to perfect some machinery for more rapidly performing the described process and more cheaply producing the described product.

I claim as my invention—

The process of stitching together a series of signatures, which consists in carrying a loop of one thread through the back of one signature from the outside thereof, and then bringing it out through the same back at another place, and then carrying a loop of another thread through the end of the first loop outside

of the signature, and then carrying another
loop of the first thread through the back of an-
other signature from the outside thereof, and
then bringing it out through the same back
5 at another place, and then carrying another
loop of the second thread through the first
loop of that thread and through the end of
the second loop of the first thread, and then

repeating the operation, if necessary, till all
the signatures in the series are stitched to- 10
gether, all substantially as described.

HORACE L. ARNOLD.

Witnesses:

ALBERT H. WALKER,
FRANK E. HYDE.