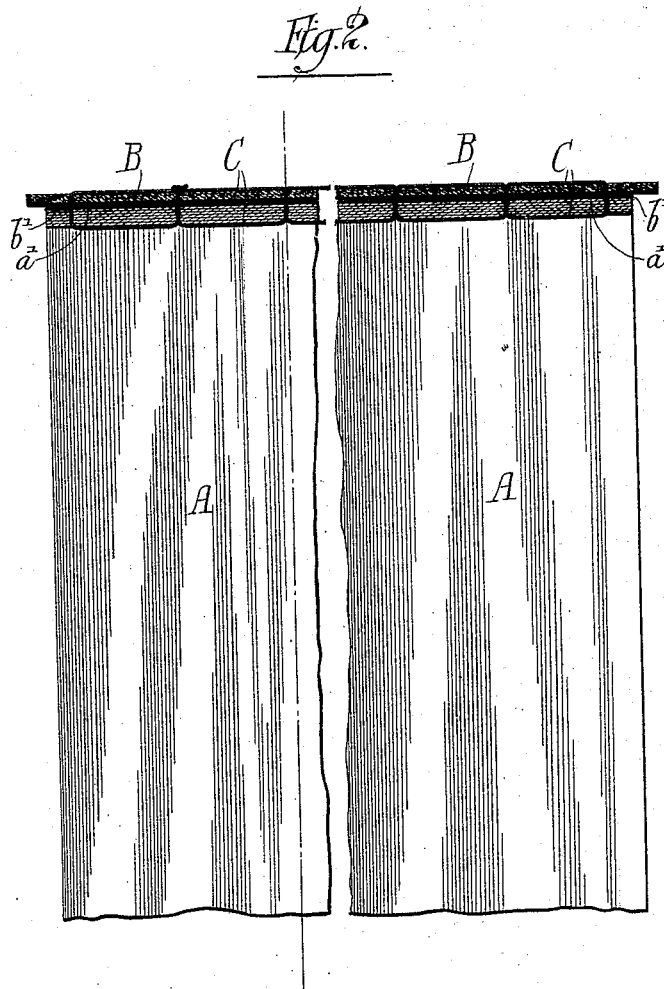
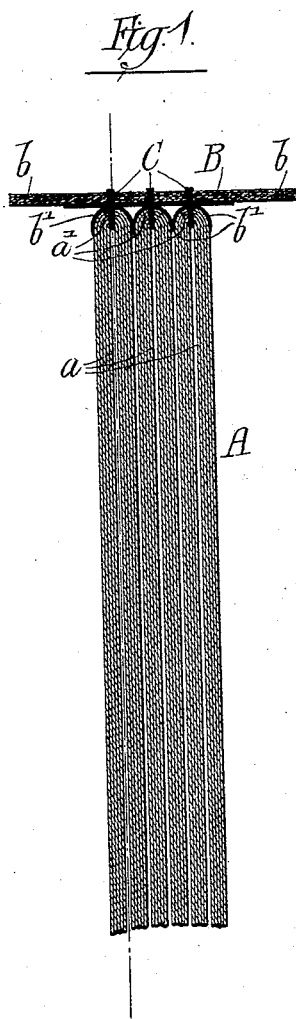


(No Model.)

J. H. WORKMAN.
METHOD OF BINDING BOOKS.

No. 455,894.

Patented July 14, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH H. WORKMAN, OF CHICAGO, ILLINOIS.

METHOD OF BINDING BOOKS.

SPECIFICATION forming part of Letters Patent No. 455,894, dated July 14, 1891.

Application filed March 7, 1891. Serial No. 384,111. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. WORKMAN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Processes of Binding Books; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a new method of binding books so that when bound the books may be opened at any particular place and the pages lie perfectly flat. This object is of special importance in the case of blank books wherein accounts and other memoranda are kept, in that it will permit the person using the book to get at the innermost portions of each page and have a flat surface upon which to write or make the desired memoranda. I am aware that this object has been long sought for and that it has in some measure been accomplished heretofore by various methods of binding, and my invention therefore relates to the particular method herein described, and more particularly pointed out in the appended claims.

To illustrate my method reference is made to the drawings, in which—

Figure 1 illustrates in a vertical sectional view a portion of a book bound by my new method. Fig. 2 is a sectional view of the same.

In the drawings, let A represent the leaves of the book, which are grouped into sections *a* of generally five or six sheets each.

B is a web to which the several sections are secured, the side margins being extended, and thus forming flaps *b* for attachment to the lids of the book.

C is the thread by which the several sections are secured to the web B.

In practicing my invention I first take a number of sections of leaves, place them together so that the rear margins thereof, which are to constitute the back of the book, shall be on a line. I clamp the leaves together and then apply a sizing *b'*, of glue or similar material, to the edges or backs *a'* of the several sections *a*. I permit this sizing to become dry. I then apply a sizing of glue or

other suitable material to the web B and allow the sizing to dry. I then sew each of the sections *a* to the web B by means of the thread C, applying the edges *a'* of each section *a* to the sized surface of the web. When each of the sections has been severally thus secured to the web, I place the pages thus bound together again in a press and hold them tightly together, and then apply water to the outer margin of the web B for the purpose of slightly moistening the material of which the web is composed and the sizing upon its under side and upon the adjacent edge or back of each section *a*. While the web and rear edges of the pages are thus slightly moistened I beat the edges, using preferably the ordinary stereotyper's beating-brush, and continue this beating until the sized edges of the sections and web firmly adhere to each other and the web is securely set in place. After the sizing and the web have become thoroughly dried and the several sections secured to the web by the sizing I remove the now partially-bound book from the press and finish it in the usual manner. I am thus enabled to sew the several sections *a* to the web and then cause the several sections to be united to said web by sizing applied between the web and the edge of the leaf-sections *a*.

In stitching each of the sections to the web I prefer to use a single thread and loop it back and forth through the leaves of one section and the web almost the entire length of the web. However, it will be sufficient to secure the section to the web by stitches applied at several points—say at the top and bottom or the top, bottom, and central portion instead of throughout the entire length of the back. I prefer also to use glue as a sizing; but other adhesive substances—gum-arabic, for example—may be used.

I do not desire to limit myself to any particular material out of which to make the web, as different materials will necessarily be used for the different weights of paper and in accordance with the different uses to which the completed book will be put. Thus in making the lighter books I use light muslin, cheese-cloth, or the like, while in binding heavier books I employ canvas, leather, or the like. In moistening the web after the several sec-

tions have been sewed to it care should be taken not to saturate the web or get it too wet. It will be sufficient to simply dampen or moisten it, as the only purpose of applying moisture is to dampen or moisten the sizing to such an extent as to cause it to readily adhere to the adjacent web or paper sections.

It will be found that the beating on the backbone, as hereinbefore described, will cause the web to fill in nicely the slight depressions caused by the rounded edges of the several sections adjacent to the under side of said web and will also cause the minimum amount of sizing to work into and fill said crevices and also to thoroughly unite the said rear edges of the sections to the said web. It will also be observed that each section is separately secured by sewing to the web, so that the accidental or intentional severing of the thread of any one section will not dismember the entire book, but will only affect the particular section. Even in this case the sizing will hold the section in position during the application of a reasonable amount of strain thereon. It will be found that a book made in the manner herein described may be opened between any of its pages and lie perfectly flat, so that the extreme innermost edge of each page may be utilized to its fullest extent.

I have stated that I apply sizing to the edges of the several sections of leaves and also to that side of the web which is placed in contact with the said edges. This is the preferable manner of applying the sizing; but, obviously, I do not limit myself to this precise method. I may, for example, apply the sizing only to the web or only to the edges of the leaves, or, as stated, to both, the primary object being so to place the sizing before sewing the several sections to the web that when said sections are thus sewed the sizing will be in place between the web and said sections.

I am aware that it is not new to sew the several sections of leaves separately to the web or to several narrow bands or straps. I am also aware that it is not new to apply glue or other sizing to the backs of the leaf-sections after the several bands or straps have been sewed to the leaves; but in such cases no sizing is placed under the band or strap—that is, between the band or strap and the leaf-sections. I am also aware that it is not

new to severally sew the leaf-sections to a web at several points along the web, sever the web between the lines of stitches, lift up the ends, apply glue to the back of the leaf-sections, and replace the severed ends of the web. This is objectionable because expensive, because the several leaf-sections cannot be stitched to the web the entire length of the section, as in severing the web to apply the sizing the cut must be across the line of stitches, and because the book will “draw” if the leaf-sections are secured to the web in one place by stitches and in another place by sizing.

What I claim, and desire to secure by Letters Patent, is—

1. The method of binding books wherein the leaves are secured to a backing or web, which consists in first sizing one side of said web or the rear edges of the leaf-sections, or both, then sewing each section independently to said web, then applying the sizing to unite thereby the said sections to the web, and then finishing the book in the usual manner, substantially as described.

2. The method of binding books, which consists in first sizing the rear edges of the several sections of leaves or pages and also one side or surface of the web, then sewing the several sections separately to said web with the sized edges adjacent to the sized surface of the web, then beating said web and the rear edges of the separate sections to cause the size to adhere to each, and finally shaping the back and otherwise finishing the book in the usual manner, substantially as described.

3. The method of binding a book wherein the leaf-sections are separately sewed to a suitable web, which consists in applying sizing to the web and to the rear edges of the leaf-sections, then sewing the said sections separately to the web throughout the entire length of the section, moistening and applying the size to unite the web and the edges of the sections, and then in finishing the book in the usual manner.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JOSEPH H. WORKMAN.

Witnesses:

TAYLOR E. BROWN,
GEORGE W. HIGGINS, Jr.