

H. R. HEYL.
CONSTRUCTION OF BOOKS.

No. 176,632.

Patented April 25, 1876.

FIG. 1.

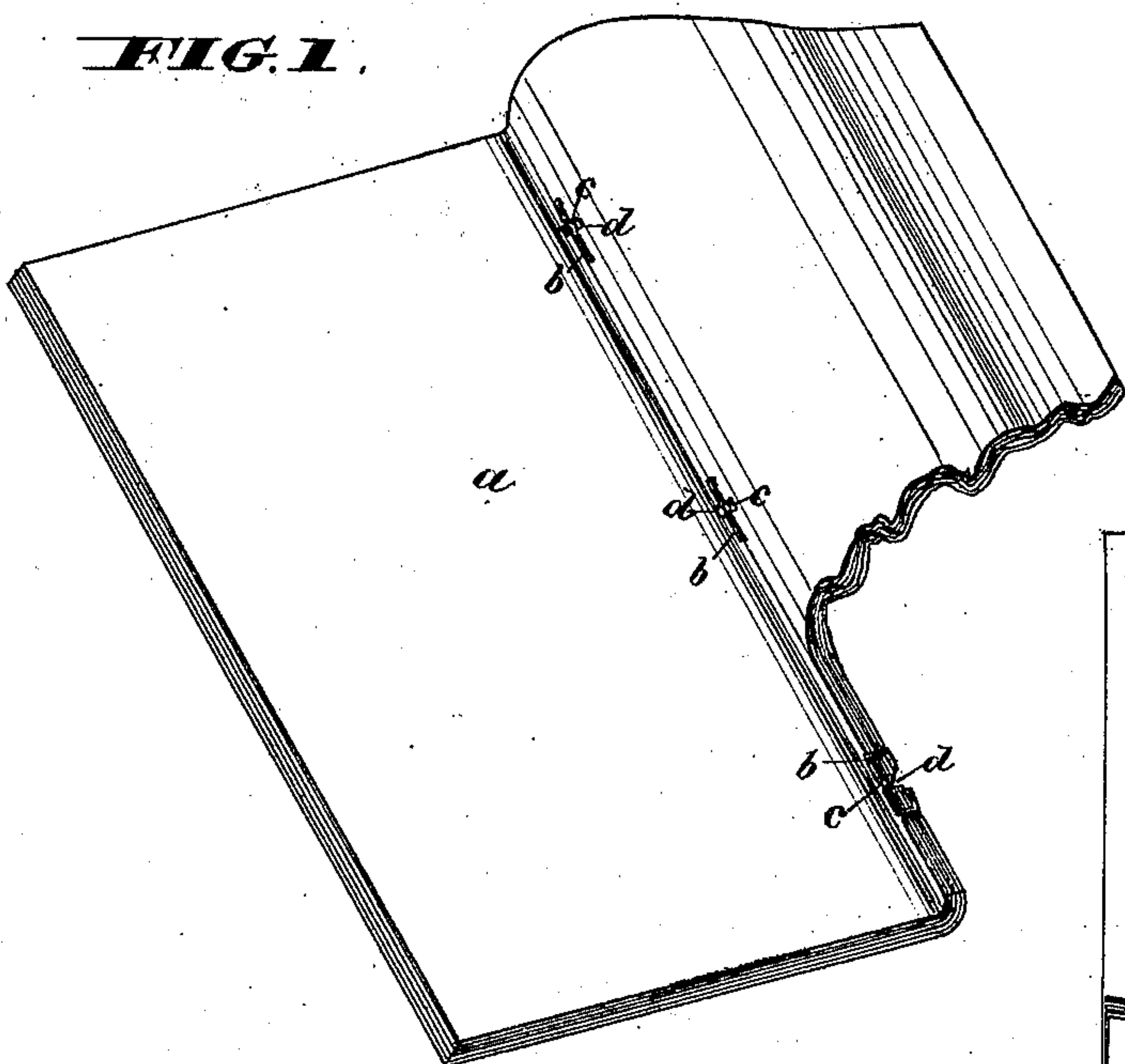


FIG. 2.

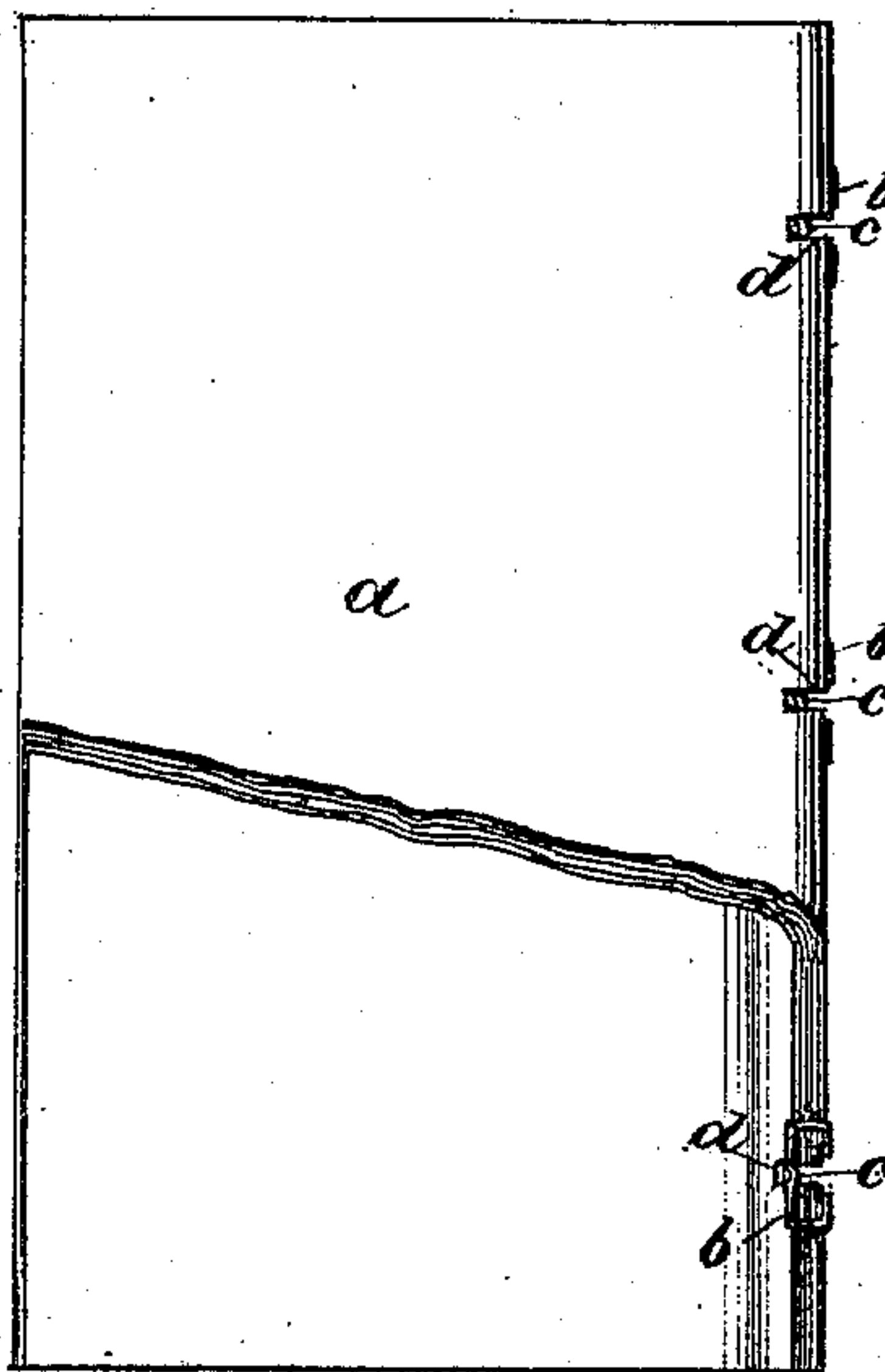


FIG. 3.

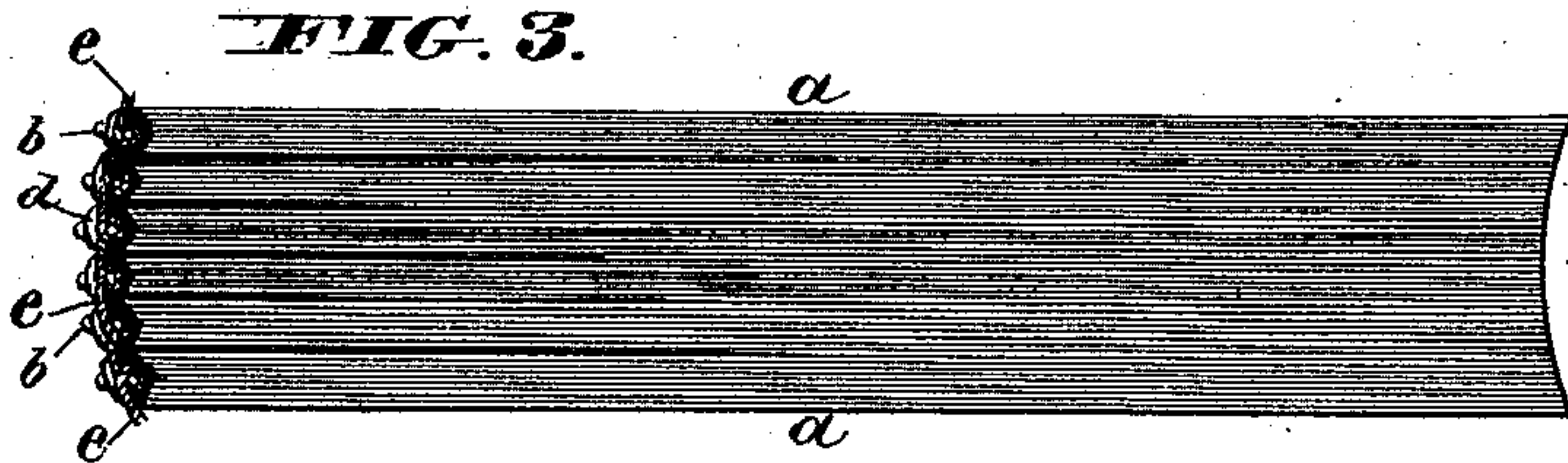
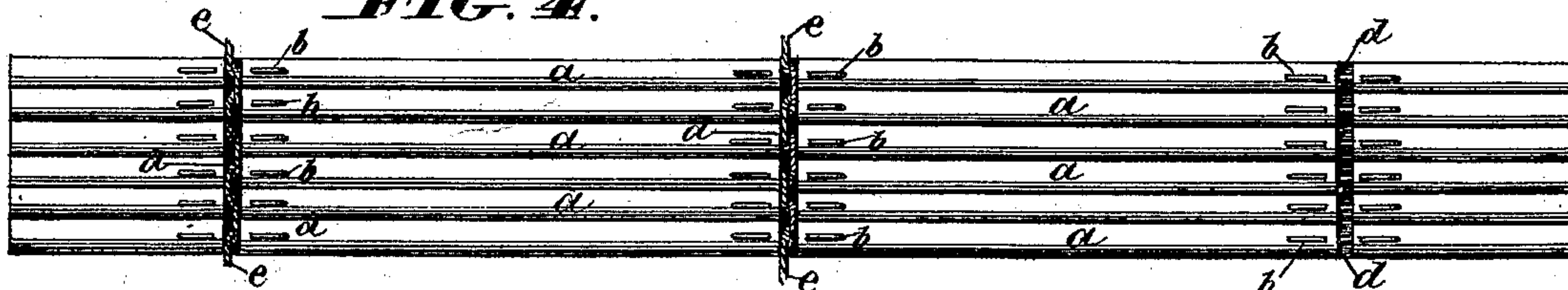


FIG. 4.



WITNESSES
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UNITED STATES PATENT OFFICE.

HENRY R. HEYL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
NOVELTY PAPER BOX COMPANY, OF SAME PLACE.

IMPROVEMENT IN THE CONSTRUCTION OF BOOKS.

Specification forming part of Letters Patent No. **176,632**, dated April 25, 1876; application filed
February 26, 1875.

To all whom it may concern:

Be it known that I, HENRY R. HEYL, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in the Construction of Books and Pamphlets, of which the following is a specification:

My invention consists, first, in securing together the leaves or sheets of a book or pamphlet by means of wire staples, applied substantially as hereinafter set forth, and serving to take the place of the thread-stitching usually employed for this purpose; second, in fastening together the sheets or signatures of a bound book, or a book to be bound, by means of twine or thread taking or engaging around wire staples, by which the leaves of the sheets or signatures are fastened together.

In the accompanying drawing, Figure 1 is a perspective view, partly in section, of a pamphlet or single signature secured together in open position, as hereinafter described. Fig. 2 is a side view of the same, partly in section, showing the signature in closed position. Fig. 3 is a transverse section of a book sewed in readiness for binding. Fig. 4 is a back view of the same.

a represents a signature consisting of any number of leaves connected together by means of two, three, or more wire staples, *b*, which, in practice, are inserted and clinched by a process and mechanism which constitute the subject-matter of a separate application for Letters Patent. As shown in Fig. 1, the staples *b* are inserted at the center of the sheet or signature while it is in open position. The signature then being closed, as illustrated in Fig. 2, the staples lie compactly within the

fold. The staples are to be inserted by machinery which is adapted to cut the proper lengths from the wire, bend the lengths into the required shape for the staple, drive the staple through the paper, and clinch its ends. This machinery and the mode of operation are not claimed in the present application, because they constitute the subject of another application for Letters Patent.

The staples, being inserted from the inside or the outside, (but preferably from the inside to the outside,) have, in the act of clinching, a bend or depression, *c*, formed in the center of each, which, in connection with the saved notches *d*, form eyes, through which the binding twine or thread *e* is rove, as shown particularly in Figs. 3 and 4, the twine being passed over and around each staple, forming a series of loops, as shown. This mode of reeving affords greater elasticity to the binding-twine, prevents its offering any obstruction to the opening of the book, relieves it from violent strains, and removes all possibility of injury from the wire, thus obviating what has hitherto been found a serious objection to wire-stitching in book-binding.

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

A book prepared for binding, having wire staples *b* connecting the leaves of each signature *a*, and twine *e* rove around the said staples in a succession of loops to connect the signatures, all substantially as herein set forth.

HENRY R. HEYL.

Witnesses:

OCTAVIUS KNIGHT,
JAS. L. EWING.