

(No Model.)

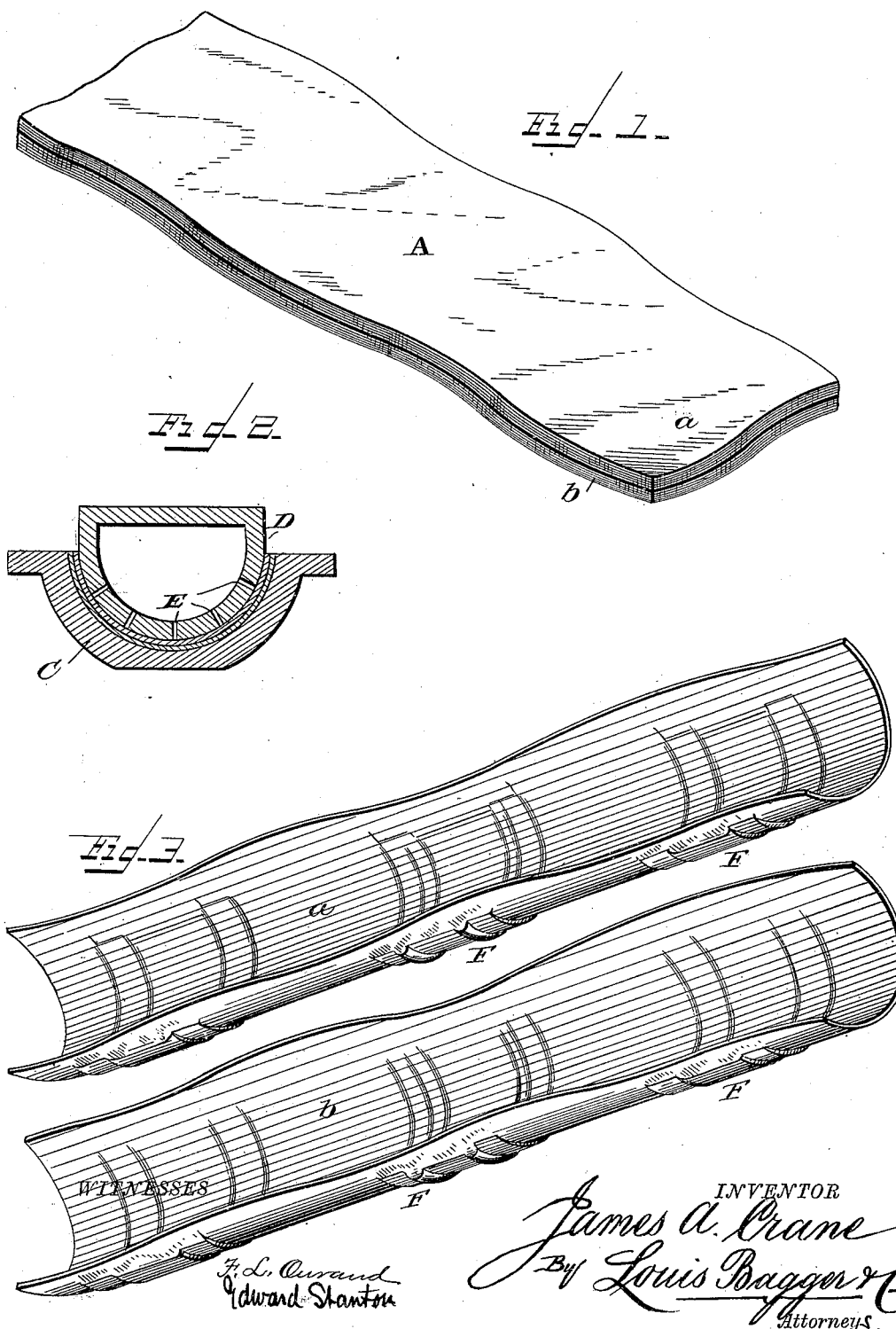
2 Sheets—Sheet 1.

J. A. CRANE.

PAPER BACK FOR BOOK COVERS.

No. 343,439.

Patented June 8, 1886.



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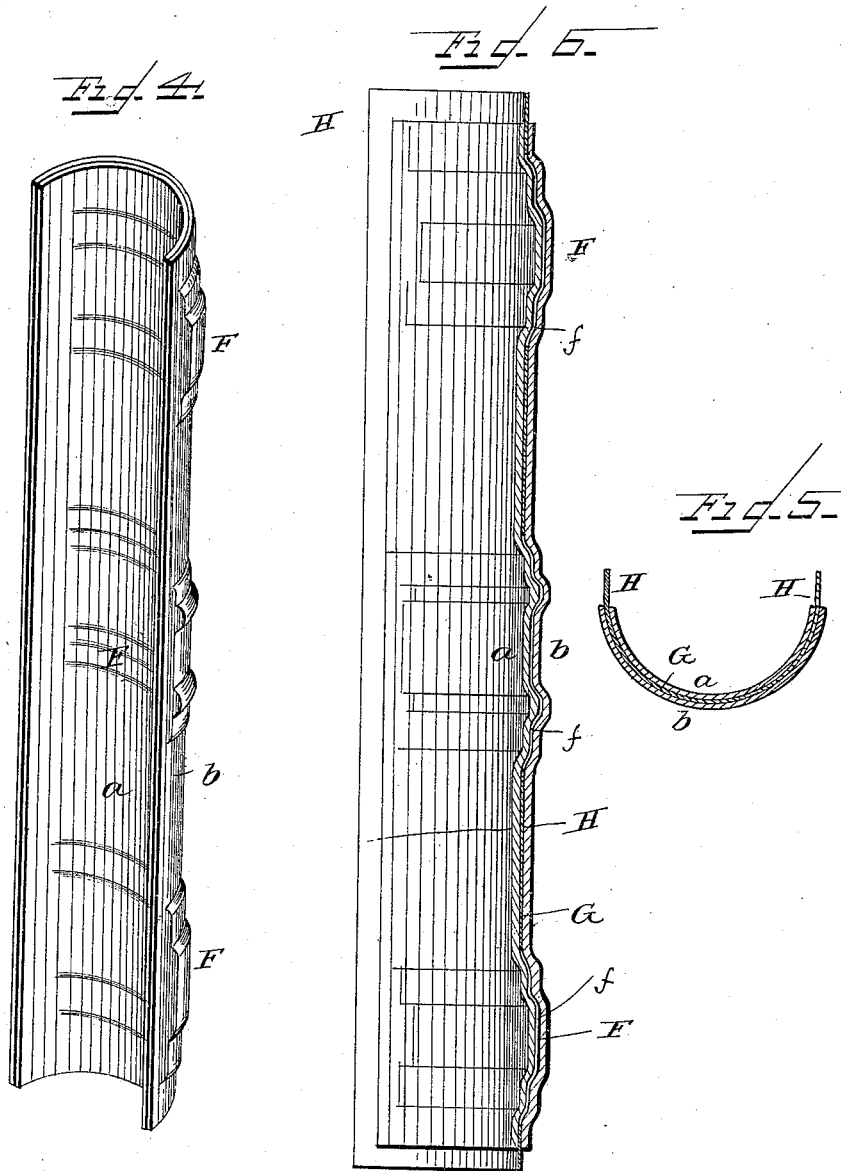
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# UNITED STATES PATENT OFFICE.

JAMES A. CRANE, OF WESTFIELD, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ROBERT B. CRANE, OF SAME PLACE.

## PAPER BACK FOR BOOK-COVERS.

SPECIFICATION forming part of Letters Patent No. 343,439, dated June 8, 1886.

Application filed February 1, 1886. Serial No. 190,510. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES A. CRANE, a citizen of the United States, residing at Westfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Paper Backs for Book-Covers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying two sheets of drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of the moist paper blank formed of continuous layers of thin paper, from which my improved paper back for book-covers is made. Fig. 2 shows the blank after it has been split into two separate parts and placed in the mold or form. Fig. 3 is a perspective view of the two-part back in the rough, as it appears after leaving the mold or form. Fig. 4 is a similar view of the back after trimming and finishing. Fig. 5 is a cross-section of the two-part back, showing a flexible band inserted between the two parts with projecting sides for the attachment of the covers; and Fig. 6 is a longitudinal sectional view through the middle of the finished back.

Similar letters of reference indicate corresponding parts in all the figures.

In the Letters Patent of the United States No. 299,913 and No. 299,914, both granted to me on the 3d day of June, 1884, I have shown, described, and claimed certain improvements in the manufacture of book-covers and paper backs for book-covers; and my present improvement, which forms the subject of this application, has relation to the same art, and consists in certain improvements in the manufacture of paper backs for book-covers, adapted for all kinds of blank and record books, printed books, albums, and analogous articles, as will be hereinafter more fully described and claimed.

In carrying out my invention, I first make a flat blank of moist paper. (Shown at A.) This blank is formed by a large number of thin sheets of paper placed together, and its length, width, and thickness will depend upon the size and style of the book for which the back,

when finished, is intended to be used. This blank is separated into two parts, *a* and *b*, which are placed together in the die or form shown in Fig. 2. This form consists of two parts—viz., a lower part or intaglio mold, C, and an upper part or follower, D, fitting into the former. The part D has raised bands or projections corresponding to depressions or recesses in the part C, for the purpose of forming the usual transverse bands and panels customary on the back of ledgers and other blank books. In order to prevent the two parts *a* and *b* from adhering to each other and becoming united after the blank A has been placed into the mold, and during the process of subjecting it to heavy pressure, finely-powdered talc or some other suitable substance should be sprinkled between the two surfaces prior to placing the blank in the die or mold. After the moist blank has been pressed in a hydraulic or other suitable press, it is, with the mold containing it, deposited in a kiln and there dried gradually. In order to allow the moisture in the blank to escape, I construct the upper or male part of the die hollow and provide it with a number of small apertures, as shown at E, through which the moisture will readily escape, thus causing the blank to dry much more rapidly than if the upper part of the die were made solid. After the blank has become dry and hard the form is removed from the kiln, and the entire blank, consisting of the two parts or sections *a* and *b*, the one fitting or nesting into the other, so as to form the raised bands or sections F F, is trimmed by cutting off the rough and uneven ends and edges, giving it straight and smooth sides and heads, as shown in Figs. 4, 5, and 6, on Sheet 2 of the drawings. A band of leather or other suitable flexible material is then placed between the two parts, *a* and *b*, with overlapping ends and sides, as shown at H, to form the hinges and head bands or end bands in binding the book. In order to prevent this flexible band G from drawing and crimping or wrinkling at the depressed sections F F, I cut out portions of the band, as shown at *f f* in Figs. 5 and 6, registering with the transverse bands F, so that the flexible band G will lie perfectly straight and smooth between the two parts or sections *a* and *b*. The several

parts *a*, *G*, and *b*, are then firmly united by gluing, cementing, or riveting them together, after which the back is ready for the finisher. Before the flexible band *G* is inserted and fast-  
5 ened between the two parts *a* and *b*, however, the blank *A*, formed by said two parts or sections, is water-proofed by immersing it into a waterproofing-bath and then baking it in a dry-kiln; or, if desired, this waterproofing and  
10 baking process may take place after the band *G* has been inserted, provided, of course, that the said band is made of material which will not be injured by the waterproofing and baking process. The back is finished by trimming the  
15 projecting edges of the flexible hinge-band, painting or varnishing the body of the back, embossing and tooling the raised bands and panels, and affixing suitable labels, if desired, after which the back is ready for the market  
20 as an article of manufacture.

These backs are made in various styles and sizes to suit the demands of the trade—viz., for cap, crown, demy, medium, royal and other standard sizes of blank-books—and can, of  
25 course, be supplied to the trade either with or without the inserted piece *G*.

It is obvious that instead of forming the two parts *a* and *b* of the back by splitting the moist paper blank *A* into two separate  
30 parts, the same result may be accomplished by using two separate parts, *a* and *b*, to start with, which said parts may be either of the same or of different thickness, as desired. Both parts should, of course, be in a moist  
35 state when placed in the mold, precisely as when said two parts are formed by splitting one thick blank horizontally into two separate parts.

Having thus described my invention, I claim  
40 and desire to secure by Letters Patent of the United States—

1. The hereinbefore-described art or process of manufacturing paper backs for book-covers, which consists in preparing a moist paper blank of the requisite size and thick- 45 ness, dividing the said blank horizontally into two separate parts or sections, providing means, substantially as described, for preventing the surfaces of said parts from adhering together when they are placed in the 50 mold and subjected to heavy pressure, shaping and drying this moist two-part blank in a suitable die or form, trimming the sides and ends of the dried blank, waterproofing, and baking it in a dry-kiln, interposing a piece of 55 flexible material with overlapping sides and ends between the two parts or sections of the blank, uniting these three parts by suitable means, and finally completing the back by trimming the overlapping flexible edges and 60 suitably varnishing, embossing, and finishing the body of the back, substantially in the manner and for the purpose set forth.

2. As an improved article of manufacture, a water-proofed and baked paper back for 65 book-covers, consisting of two parts or sections fitting or nesting together, and provided with a flexible band, with overlapping sides and ends, interposed permanently between the two parts or sections of which the body of the 70 back is composed, the two parts of the back and the said inserted piece all being firmly and permanently united by suitable means, substantially as set forth.

In testimony that I claim the foregoing as my 75 own I have hereunto affixed my signature in presence of two witnesses.

JAMES A. CRANE.

Witnesses:

LOUIS BAGGER,  
HOMER B. STEVENS.