(No Model.) 2 Sheets—Sheet 1.

# J. A. CRANE.

## PAPER BACK FOR BOOK COVERS.

No. 343,438. Patented June 8, 1886.

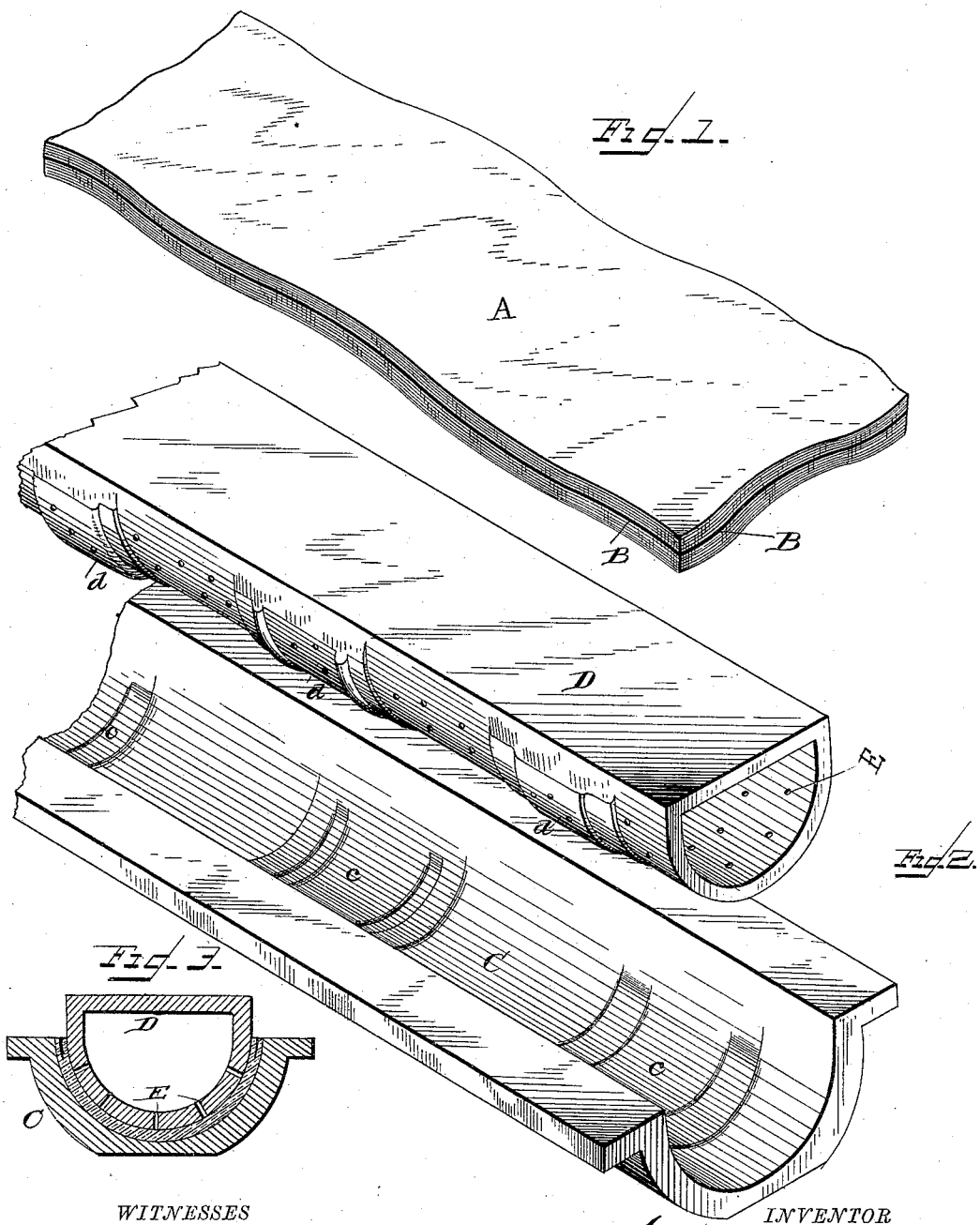


Fig. 1.

Fig. 2.

Fig. 3.




WITNESSES

F. L. Ourand.

Edward Stanton

INVENTOR

James A. Crane

By Louis Bagger & Co.

Attorneys

(No Model.) 2 Sheets—Sheet 2.

# J. A. CRANE.

## PAPER BACK FOR BOOK COVERS.

No. 343,438. Patented June 8, 1886.

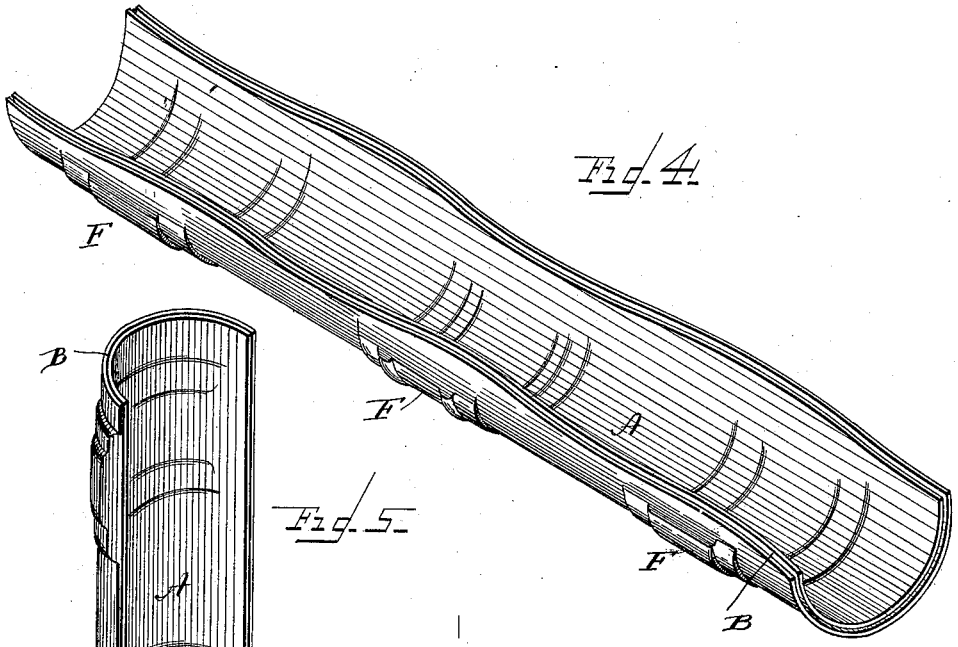


Fig. 4.

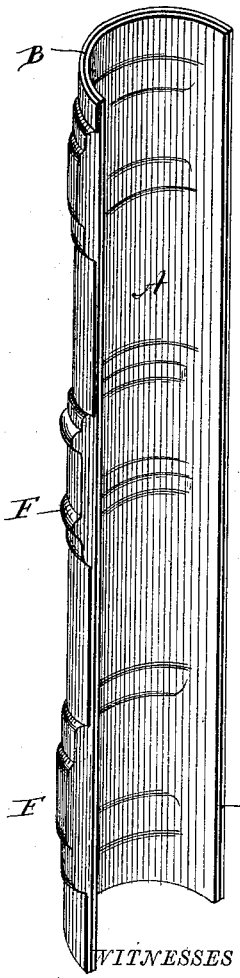


Fig. 5.

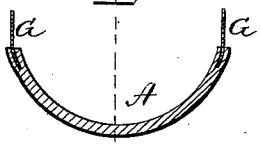


Fig. 6.

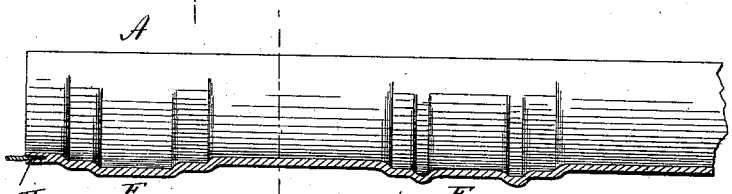


Fig. 7.

WITNESSES
F. L. Ourand
Edward Stanton

James A. Crane,
INVENTOR
By Louis Bagger & Co.,
Attorney

# 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. 343,438, dated June 8, 1886.

Application filed February 1, 1886. Serial No. 190,509. (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 of the invention, 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, after the sides and ends have been split, and before placing the blank in the die or mold. Fig. 2 is a perspective view of the die which I use in making my improved paper back. Fig. 3 is a cross-section of the die or mold, showing the moist paper-blank in position, ready for the press. Fig. 4 is a perspective view of the back in the rough, as it appears after it has been removed from the mold or form. Fig. 5 is a similar view of the finished back. Fig. 6 is a cross-section of a finished back, showing the flexible hinges inserted into the side slits, and Fig. 7 is a longitudinal sectional view of the back, showing the end bands inserted into the slits at opposite ends of the back.

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

In the Letters Patent of the United States, Nos. 299,913 and 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, Fig. 1, on Sheet 1 of the drawings.) 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 split by suitable means along both sides and ends, as shown at B, and in order to prevent the split parts from coming together again and adhering to each other when the blank is subjected to pressure in the mold or form, a little finely-powdered talc, or other suitable substance, is sprinkled into the splits at both sides and ends of the moist blank. This is then placed in the die or form, which is preferably made of any suitable metal, and consists of two parts—viz., a lower part or intaglio die, C, and an upper part or follower, D, fitting into the former. The part D has raised bands or projections *d d*, corresponding to depressions or recesses *c c* in the part C, for the purpose of forming the usual transverse bands and panels, customary on the backs of ledgers and other blank books. After the moist and split paper-blank has been placed in the mold, as described, and pressed it is placed in a kiln and there gradually dried.

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 in Figs. 2 and 3, 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 blank, after removing it from the form or mold, will be found to be of the shape represented in Fig. 4, in which the letters F F denote the decorative bands or panels hereinbefore mentioned. Next the ends and edges are trimmed and smoothed off by any suitable means, after which the backs are waterproofed by dipping them in a waterproofing-bath in the well-known manner, and then baking them in a dry kiln. After this baking process the backs are ready for the finisher, who paints or varnishes the outside in any desired manner, tools and embosses the raised parts or panels, and

affixes the labels, if any are desired, so that the back, as such, will be a complete and finished article, ready for the binder.

If desired, flexible hinges, of leather, metal, or other suitable material, may be glued or cemented into the side splits, as shown at G in Fig. 6 on Sheet 2 of the drawings, and the head bands or end bands may be permanently inserted in like manner into the end slits, as shown at H in Fig. 7. The back will then be found ready for the binder's hands without any further preparation.

I manufacture these backs in various sizes, adapted to suit blank books of the standard sizes, as cap, crown, demy, medium, royal, &c., and place them upon the market, ready for the trade, as articles of manufacture. They are supplied to binders and blank-book manufacturers, and designed to take the place of the ordinary leather backs.

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

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 thickness, splitting the sides and ends of the same, providing means, substantially as described, for preventing the surfaces of the split parts from adhering, shaping and drying the moist blank in a suitable die or form, trimming the sides and ends of the dried blank, waterproofing and baking it in a dry kiln, and finally completing the backs by varnishing, embossing, and finishing, substantially in the manner and for the purpose set forth.

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

JAMES A. CRANE.

Witnesses:
LOUIS BAGGER,
HOMER B. STEVENS.