

(No Model.)

M. C. RUTHENBURG.

Paper Bag.

No. 236,459.

Patented Jan. 11, 1881.

Fig. 8.

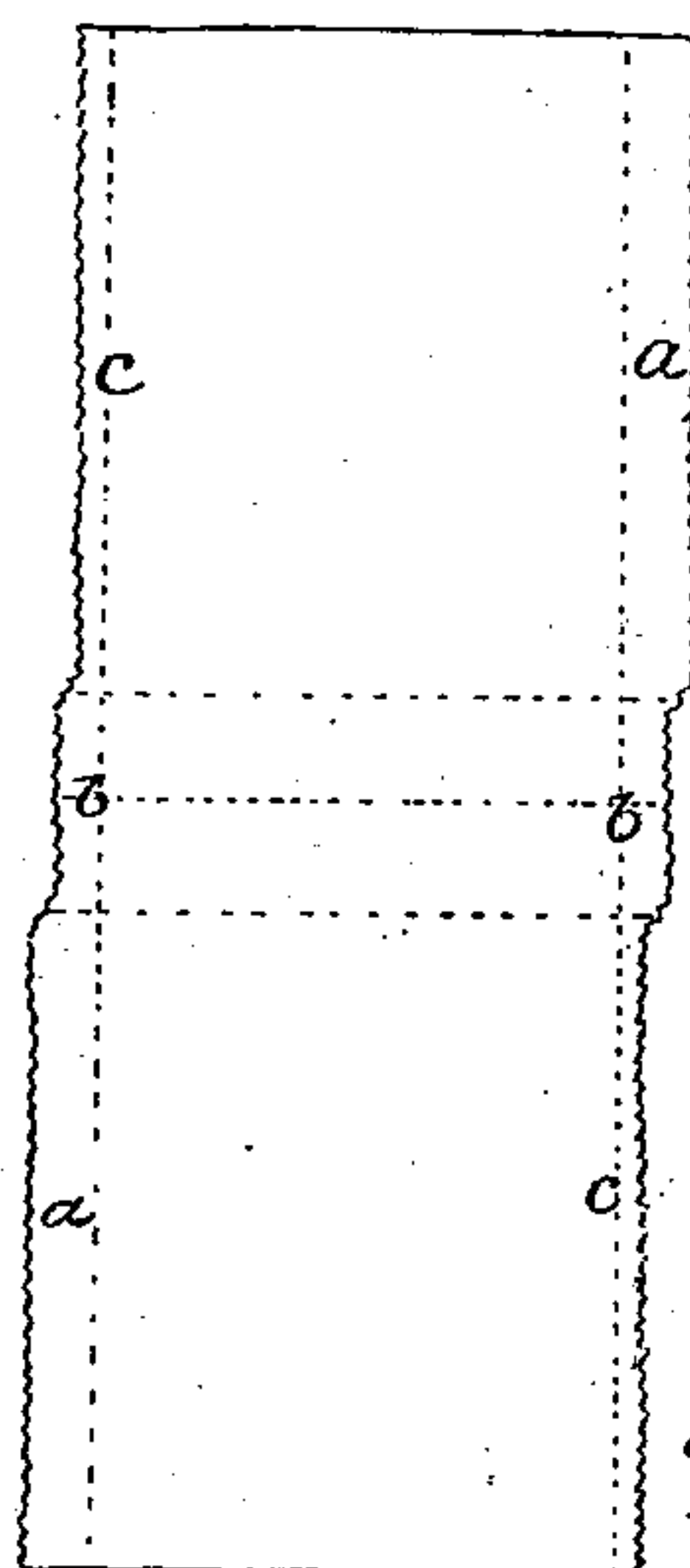


Fig. 1.

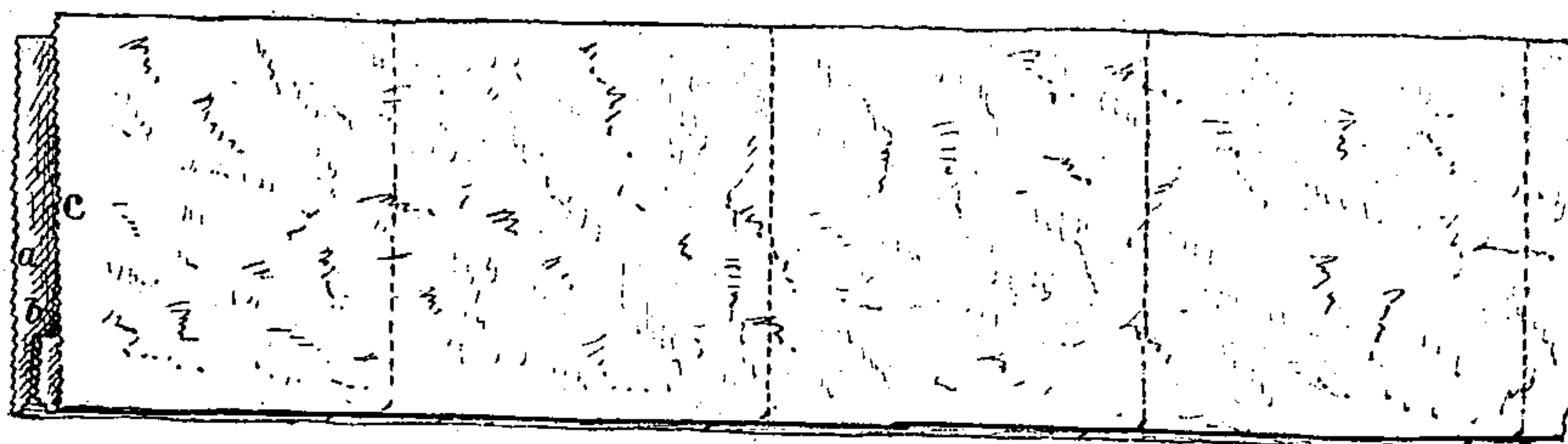


Fig. 9.

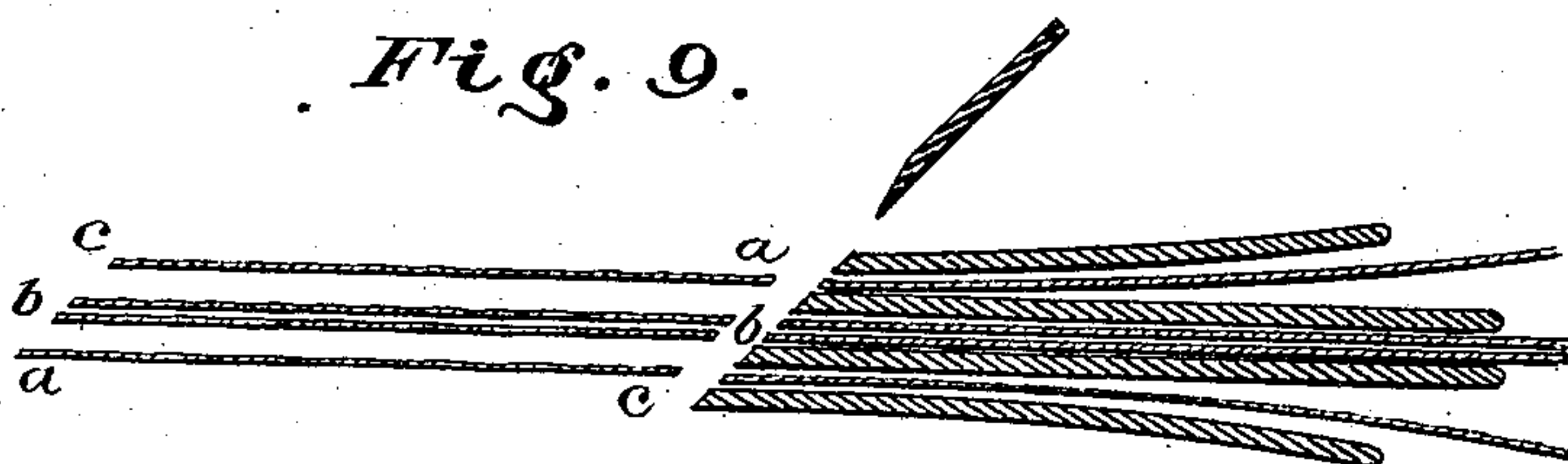


Fig. 2.

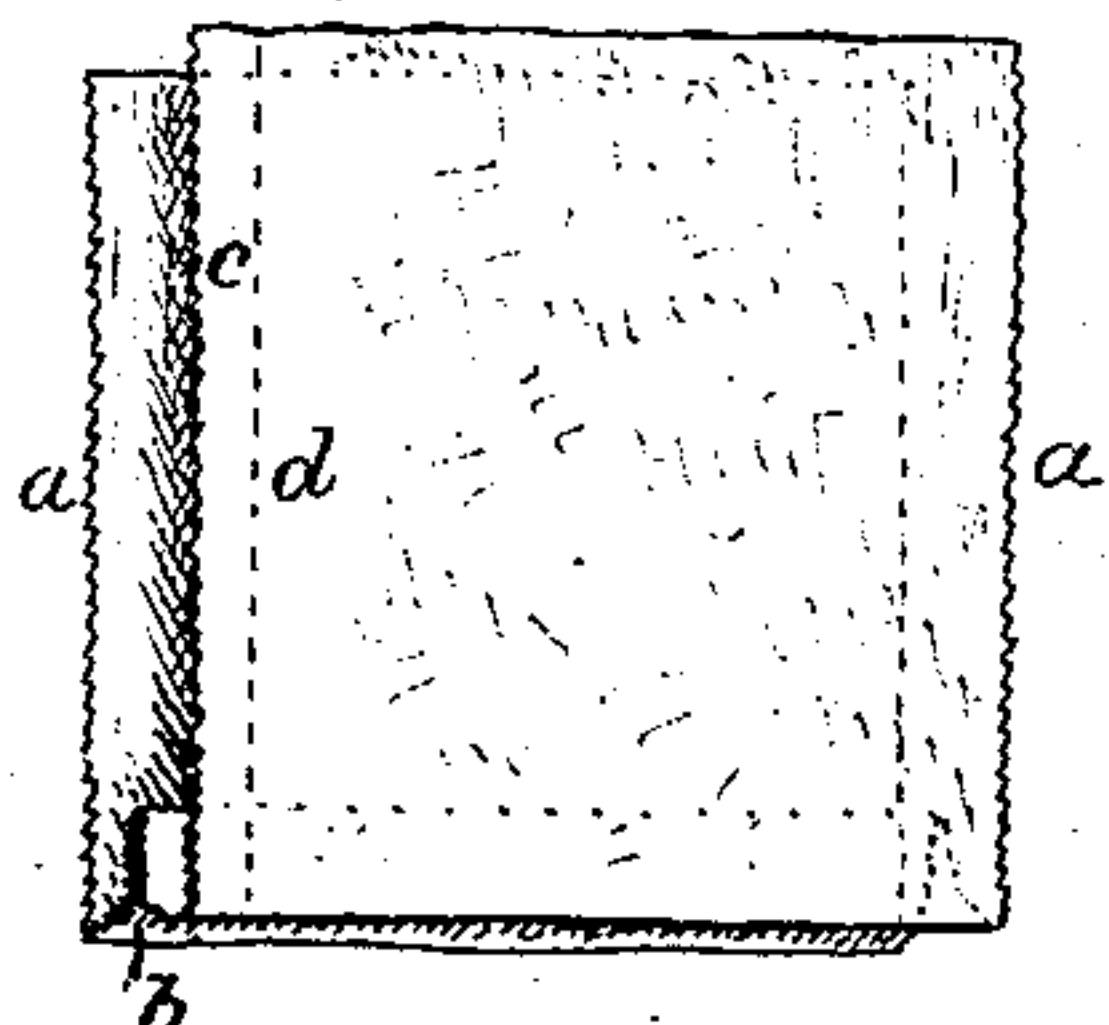


Fig. 3.

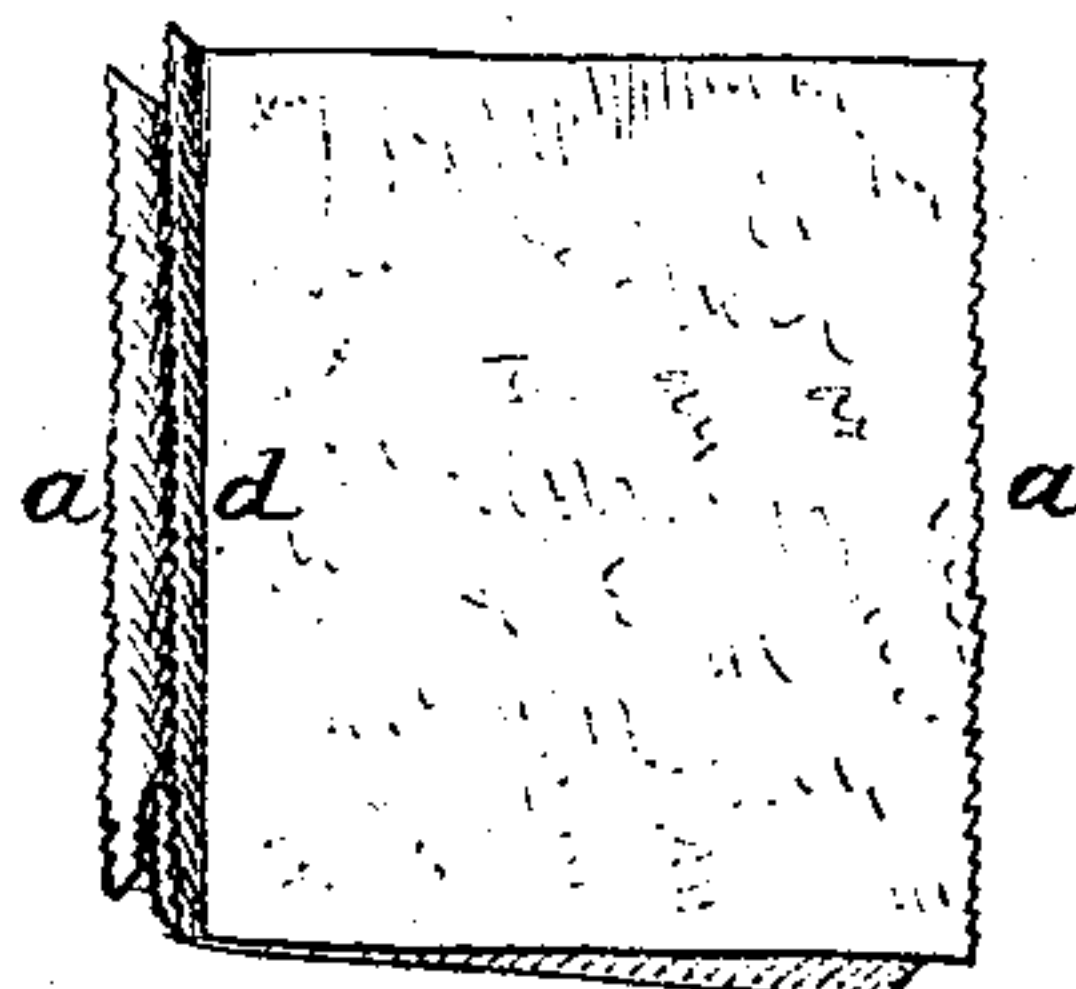


Fig. 4.

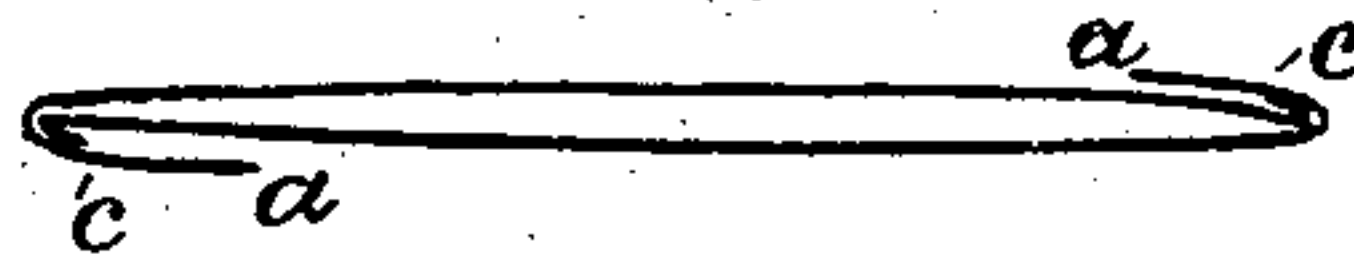


Fig. 5.

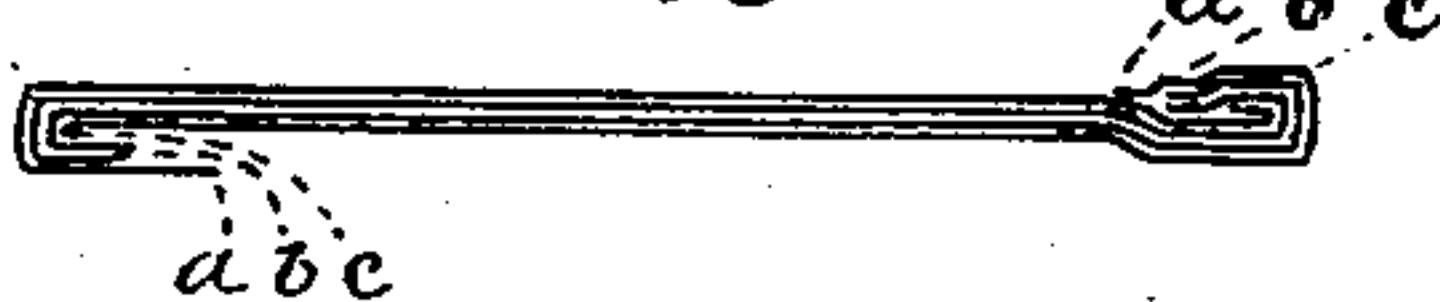


Fig. 6.

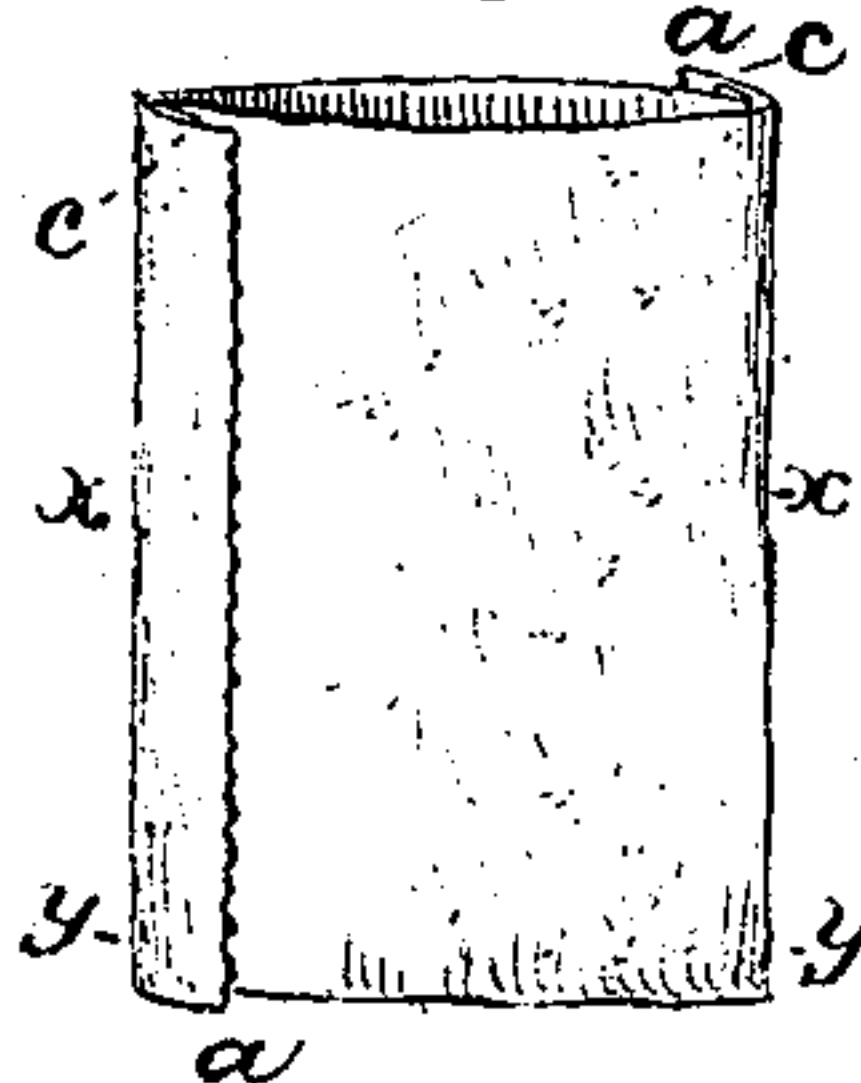
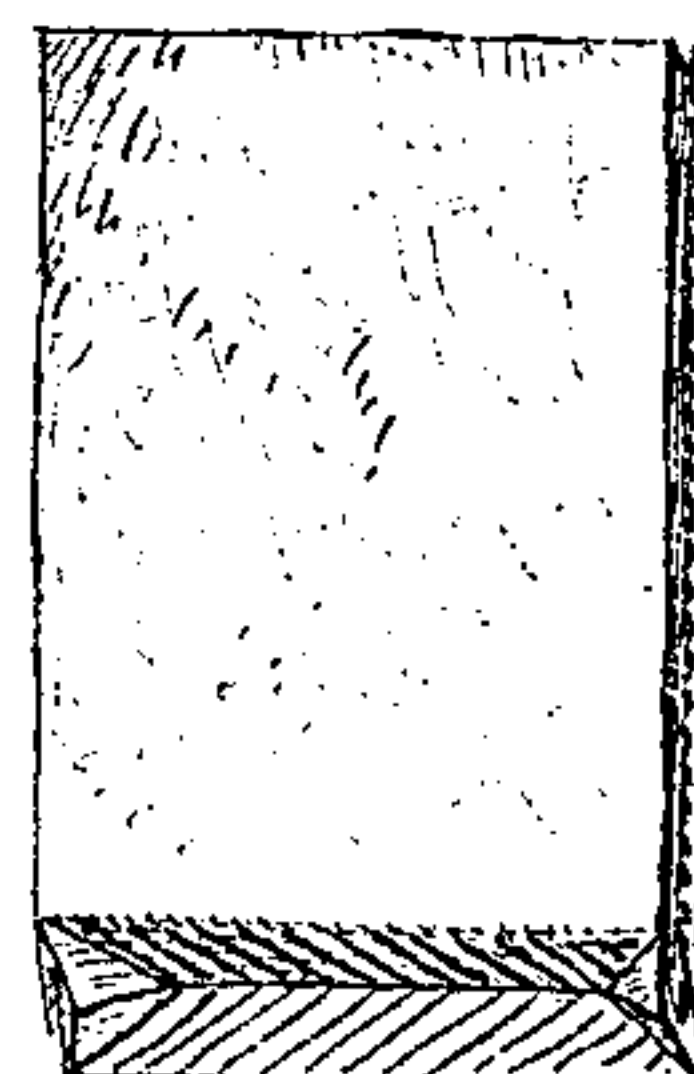


Fig. 7.



Attest
D. Knight
Harren Higley.

Marcus B. Ruthenburg
by Knight Bros.
Attys.

UNITED STATES PATENT OFFICE.

MARCUS C. RUTHENBURG, OF CINCINNATI, OHIO.

PAPER BAG.

SPECIFICATION forming part of Letters Patent No. 236,459, dated January 11, 1881.

Application filed May 3, 1880. (No model.)

To all whom it may concern:

Be it known that I, MARCUS C. RUTHENBURG, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in the Manufacture of Paper Bags, of which the following is a specification.

My invention relates to an improvement in the manufacture of paper bags of the kind which have a seamless bottom and two side seams.

My bag-widths not being cut out of the "flat" in the usual way, no blank is, in the ordinary acceptance of the word, formed or used, and the term "blank" in this specification refers exclusively to a fragment, such as shown in Figure 2 thereof, produced from a triply-crimped web, such as shown in Fig. 1. In other words, the web of paper, as it comes from the roll, is first subjected to a longitudinal bellows-fold, in the manner shown in Fig. 1, and the bag-widths are cut from the thus-folded web, and retain such fold during the entire subsequent stages.

In the accompanying drawings, Fig. 1 represents a continuous web of paper having a longitudinal bellows-fold, on which the dotted lines indicate the places of separation into such bag-widths as shown in Fig. 2. Fig. 3 represents a bag slip or width with one of its sides partially folded, the fold or longitudinal crease being seen to be somewhat within the shorter edge, so as to catch and fold a portion of both bag-faces, the outermost folded edge projecting considerably more than the other and hiding it when pasted down. Figs. 4 and 5 are transverse sections of the bag at the lines *xx* and *yy*, respectively, of Fig. 6. Fig. 6 shows a finished bag. Fig. 7 shows one of such bags distended. Fig. 8 illustrates the form the crimped blank shown in Fig. 2 would assume if opened out. Fig. 9 illustrates the mode of severing one of my crimped blanks.

In the manufacture of my bags I employ a continuous web whose width equals twice the height of the desired bag plus the width of its bottom portion. To such web, as it is drawn from the roll, I impart a longitudinal

bellows-fold, or, in other words, a triple or **W** formed crimp, such as shown in Fig. 1, and, by means of any suitable instrumentality—such, for example, as that indicated in Fig. 9—I separate the front and rear faces or plies, *a* and *c*, from the middle crimp, *b*, and I sever the thus crimped and separated web by an oblique stroke of a suitable cutter, so as to produce a crimped blank or bag-width, such as shown at Fig. 2, said bag-width having such a form as, if opened out, would present the shape of the figure shown in Fig. 8. Each of such bag-widths has, on opposite faces and sides, two larger or protruding edges, (lips,) *a*, two shorter edges, *c*, and midway between each of said edges, on each side, a crimp, *b*, whose projection is a mean between those of edges *a* and *c*. It being found impracticable to fold only the projecting lip *a*, I crease the slip or bag-width at *d*, so as to catch or bring part of the shorter edge *c* into the seam-fold, and to produce a seam of three pasted plies or thicknesses at all parts above the bottom crimp, (see Fig. 4,) and of five pasted thicknesses at said crimp. (See Fig. 5.) The portion of bag-surface between the lines *a* and *d* in Fig. 2 being treated with paste, the folding down of said portion, the commencement of which action is indicated in Fig. 3, sticks the parts permanently together. The act of bringing a portion of the shorter edge into the fold insures its being caught and permanently retained within the seam, while the overlapping of the outer fold enables both edges to be pasted equally and independently to the bag-face and with the exposure of only one edge at each seam. The edges on one side being folded in direction of the shorter edge on one face of the bag, those on the other side are folded in like manner against the other bag-face, as shown in the drawings.

I claim as new and of my invention—

1. The paper bag having the seamless bellows-fold bottom and the two side seams, each of which has three thicknesses of the material, the inner two being composed of the folded edge of one side of the bag, and the outer thickness being composed of the edge of the other side of

the bag and overlapping the middle thickness, so as to be pasted to the body of the bag, substantially as described.

2. The method or process of constructing a
5 seamless-bottom bag by first forming a longitudinal bellows fold on the web as it comes from the roll, then severing the same, while distended, into bag-widths by an oblique cut, and finally folding both the edges at each side

at a line within the inner edge and pasting to them both to the body of the bag.

In testimony of which invention I hereunto set my hand.

MARCUS C. RUTHENBURG.

Attest:

GEO. H. KNIGHT,
J. L. LOGAN.