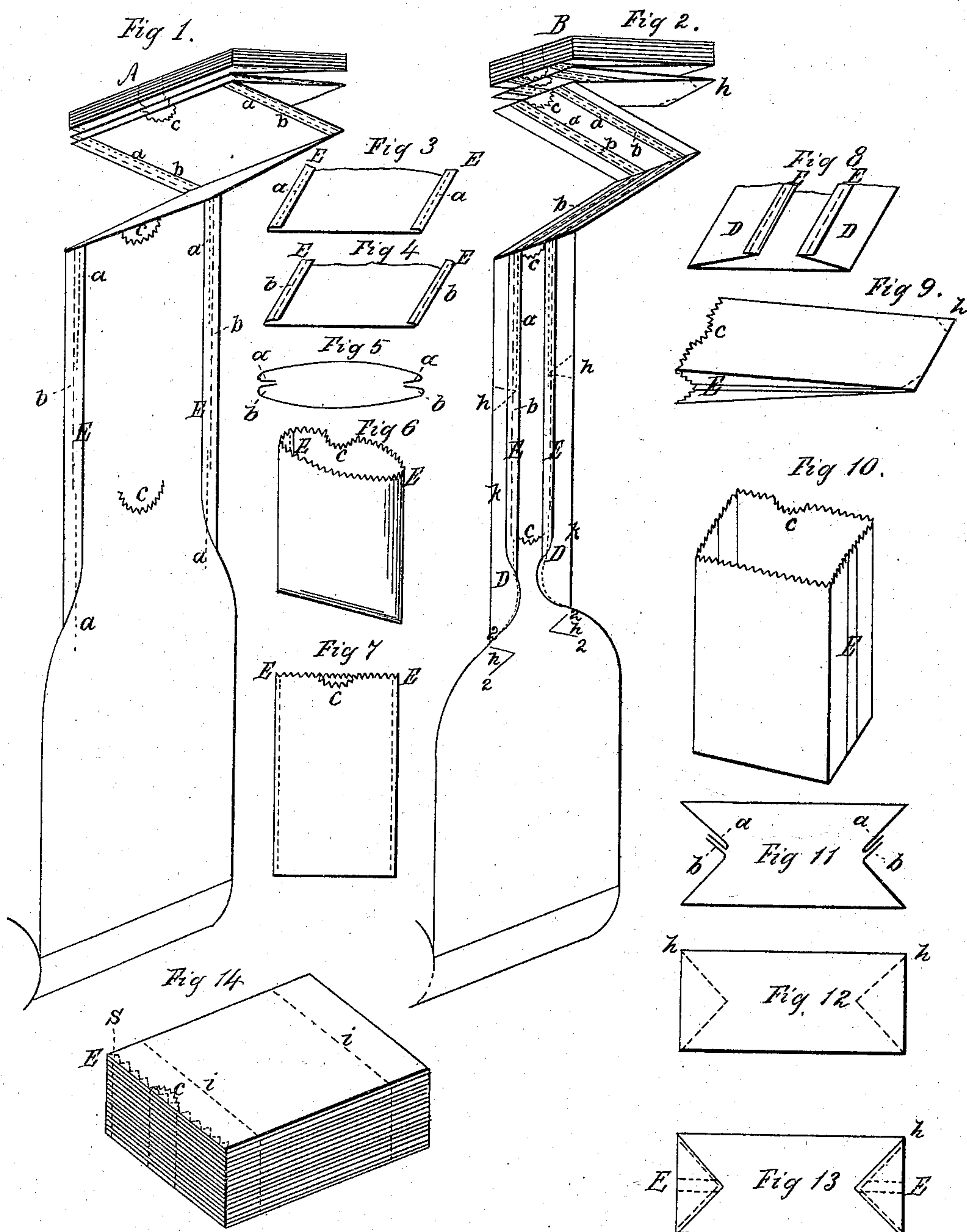


L. C. CROWELL.

Method of Constructing Paper Bags.

No. 137,533.

Patented April 8, 1873.



Witnesses.
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LUTHER C. CROWELL, OF BOSTON, ASSIGNOR TO JOHN SMITH, OF SAME PLACE, AND LUTHER CRANE, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN METHODS OF CONSTRUCTING PAPER BAGS.

Specification forming part of Letters Patent No. 137,533, dated April 8, 1873; application filed August 16, 1872.

To all whom it may concern:

Be it known that I, LUTHER C. CROWELL, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Method of Constructing Paper Bags; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawing forming a part of this specification, in which similar letters of reference indicate corresponding parts.

To enable others skilled in the art to use and practice my invention, I will proceed to describe the same with reference to the drawing.

The end of a roll of paper, of suitable width to correspond with the width of the bag to be made, is led through machinery which applies an intermittent line of paste to each side of the band of paper, as represented by Figures 1 and 2, letters *a a* representing the intermittent line of paste, which should correspond in length with that of the bag. The edges are then lapped over, as represented by letters *E E*, Fig. 1. If it is desired to make paper bags that will assume a quadrangular shape when filled, a compound lap is made upon each side, as represented in Fig. 2, letters *D D*, and the edges of the sides of the laps are thrown back and pasted, as above described. A semicircular incision, *C*, is made in the center of the band of paper, being on a line at right angles with the end of paste-lines *a a*. A V-shaped line of paste, *h*, is laid upon the band of paper in such a position as will bring the points 2 2 in a line with the folding-line *k k* at the sides of the folded band of paper, as shown in Fig. 2. The incisions *C* are made in the band of paper at such a distance from each other as shall be equal to twice the length of the bag to be made, and the V-shaped paste-lines *h h* should be laid upon the paper between the incisions *C C*, and at such distance from either the cut *C* preceding and the incision *C C* following as will be equal to the length of the bag. A continuous line of paste, shown by broken lines *b b*, is now laid upon the lapped edge *E E*. The band of paper thus lapped, pasted, and having the incisions *C* is now folded backward and forward upon itself, one folding-line crossing the incision *C*, and at one

end of paste-lines *a a*, which may be called the upward fold, the line of the following or downward fold crossing the V-shaped paste-lines *h h*, and at the opposite end of the paste-lines *a a*, as shown at *A* and *B*.

By folding the band of paper as thus prepared the pasted surface of the lapped edges *E E* are brought together continuously, each folded length being of the same size as that of the bag desired.

When a sufficient quantity of the folded paper has accumulated, or when the entire roll of paper has been lapped, pasted, and folded, as described, and it is desired to put them in the market, a sufficient number of the folded paper is inclosed by strings, as represented by Fig. 14, and a clean cut, *S*, is made across that end of the folded package where the incisions *C* and the lapped edges *E E* appear, when the result will be a package of paper bags complete, packed, and ready for the market.

By this process paper bags can be made without the use of the customary drying machinery, as the mode of applying the paste at those points necessary to complete the bag—being laid in a line parallel with the direction in which the paper moves—enables it to be laid with great precision, and entirely avoids any liability of the bags being cemented one to the other, as is the case with other methods of making paper bags, when made separately, which necessitate the use of drying mechanism to dry the bags before they are packed.

By this method of making paper bags the labor of packing is dispensed with entirely, as that result is obtained without additional time, labor, or machinery being brought into use, being a simultaneous result of one part of the process of completing the bag.

The cut *S*, Fig. 14, being made, each of the folds constitutes a paper bag. The cut *S* crossing the incision *C*, that lap or portion of the paper is severed from the bags, as shown in Figs. 7 and 10. Figs. 3 and 4 represent a perspective view of sections of the paper band, lapped and pasted, for making bags of the common form. Fig. 5 is an edge view, showing the position of the lapped and pasted edges

when brought together for making bags of this class. Fig. 8 shows the compound lap formaking bags that will assume a quadrangular shape when filled. Fig. 9 is a perspective view of the bag, showing the relations of the different parts to each other. Fig. 11 is an end view representing the same. Fig. 12 is a view of the outside of the bottom of the bag when filled. Fig. 13 is an inside view of the same.

I am aware that paper bags have been made by cutting out portions of the sides of a band of paper equal in length with that of the bag to be made, and lapping and cementing the uncut edges of the same length, cutting off the blank and bringing the sides together, so that the line of the fold forms the bottom of the bag; and of other modes of making paper bags by folding blanks forming the bottom by the bight of the fold.

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

The method of making paper bags, consisting in lapping and cementing the sides or edges of a band of paper so that the intermittent line of paste *a a* shall be between the lapped edges *E* for a distance equal to the length of the bag to be made, applying a continuous line of paste, *b b*, to the outer surface of said continuous lapped edges, folding said lapped and pasted band of paper in a continuous series of folds, as shown at *A B*, Figs. 1 and 2, completing the construction of said bags by making the cut *S* across the end of the folds, as shown at Fig. 14, for the purposes herein shown and described.

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Witnesses:

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