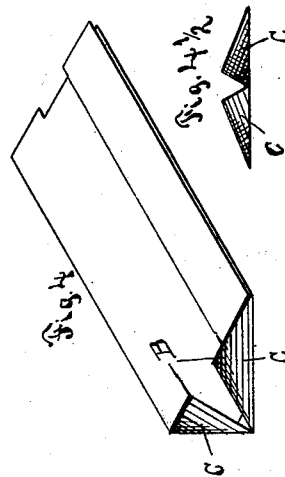
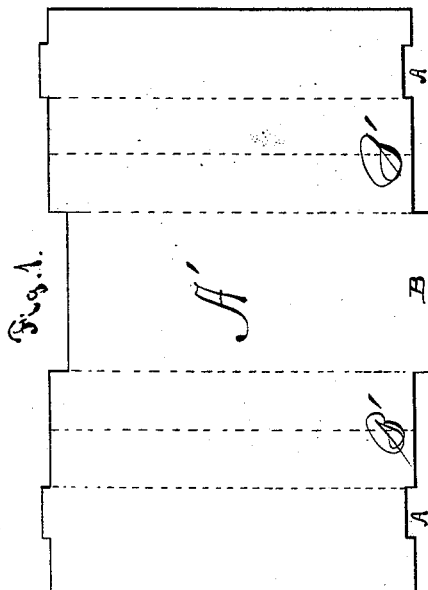
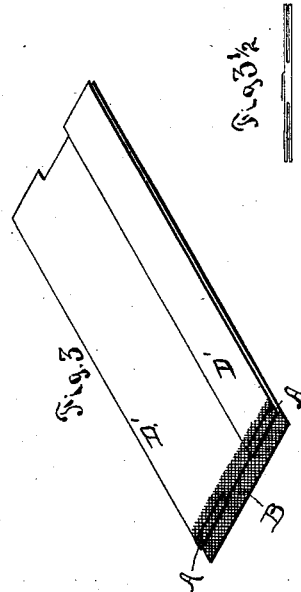
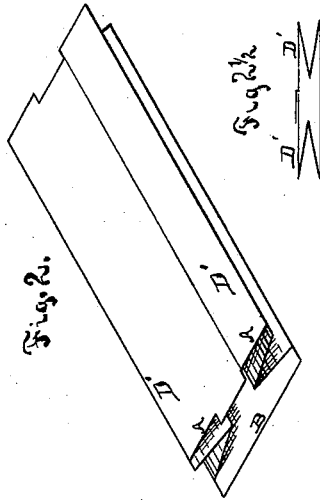


D. APPEL.
Paper-Bag.

No. 221,144.

Patented Nov. 4, 1879.



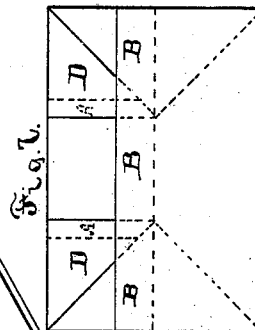
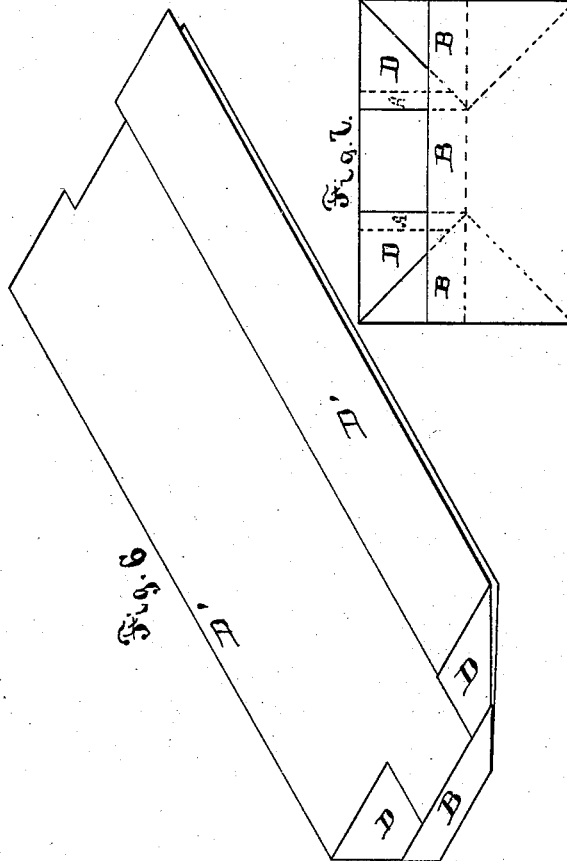
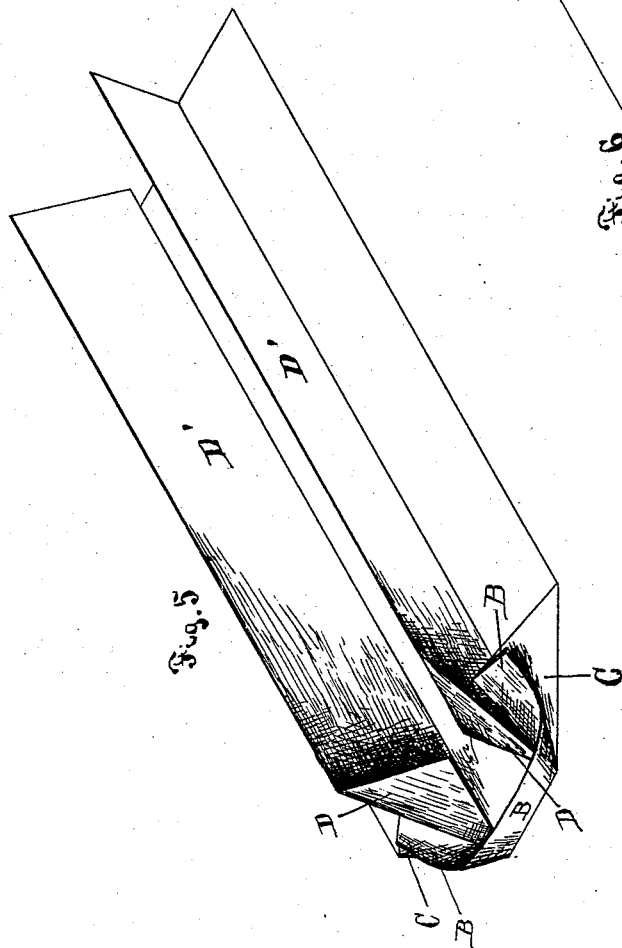
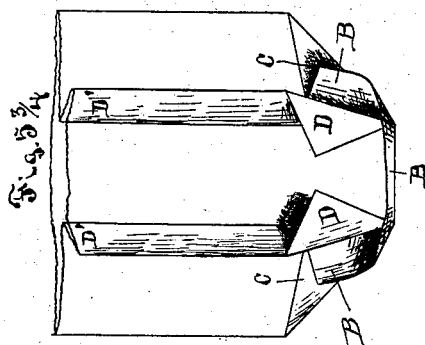
Witnesses.
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W. C. Donnelly

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Frank M. Haber.
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UNITED STATES PATENT OFFICE.

DANIEL APPEL, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF OF HIS
RIGHT TO NEWTON W. TAYLOR, OF SAME PLACE.

IMPROVEMENT IN PAPER BAGS.

Specification forming part of Letters Patent No. **221,144**, dated November 4, 1879; application filed
August 5, 1879.

To all whom it may concern:

Be it known that I, DANIEL APPEL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Paper Bags; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to paper bags; and it consists, first, in the bag-pattern, and, second, in the manner of folding said pattern, as hereinafter specified and claimed.

In the drawings, Figure 1 is a developed plan view of a pattern of my bag, the dotted lines showing its longitudinal folds. Fig. 1 $\frac{1}{2}$ is an end view of said pattern, showing the direction of its longitudinal folds. Fig. 2 shows the tube as folded prior to receiving its paste. Fig. 2 $\frac{1}{2}$ shows an end view of said tube and the style of its lateral folds or plications. Fig. 3 shows the manner of applying the paste to the tube, the paste being shown in cross-lines. Fig. 3 $\frac{1}{2}$ is an end view in cross-section of the tube. Fig. 4 shows the first fold in forming the bag-bottom. Fig. 4 $\frac{1}{2}$ is an end view of the tube as shown in Fig. 4. Fig. 5 illustrates the second fold; Fig. 5 $\frac{1}{2}$, an end view of the tube as folded in Fig. 5; Fig. 5 $\frac{3}{4}$, a plan view of said fold; Fig. 6, a view of the completed bag as folded for packing; Fig. 7, a bottom view of the bag as opened and in use.

To form the bag shown in the drawings, the paper is preferably received in the form of a flat sheet from a continuous roll, and it is bent and folded into the form of a tube with plicated sides, such as shown in Figs. 2 and 2 $\frac{1}{2}$ of the drawings. This tube is to be cut off into suitable lengths, as illustrated in Fig. 2, and when thus cut it is to be pasted and folded in the manner that I will shortly proceed to specify.

It will be observed that the end of the pattern A' (shown in Fig. 1) has its central portion provided with a rectangular projection, B, and its two side portions provided with

rectangular recesses A, said sheet end having plane portions, B', formed, respectively, between said projection and recesses.

When the pattern is folded into the plicated tubular form, as shown in Figs. 2 and 3, this formation of the pattern presents the surfaces A B for the reception of paste, which is applied in the manner indicated by the cross-lines in Fig. 3.

After the paste has been applied the first fold, as shown in Fig. 4, is made, and this fold consists in turning the lower corners of the body upon the face of the bag, as indicated.

The second step consists in opening or partially unfolding the side plications, substantially in the manner shown in Figs. 5, 5 $\frac{1}{2}$, and 5 $\frac{3}{4}$, and in wiping the folds C C between the side plications, in the manner illustrated by the figures of drawings just above named.

The folds, it will be noticed, include a portion of each end of the lip B. This will leave exposed upon the seam-face of the bag the turned corners D D of the upper plications, D' D'.

After the folds and arrangement of folds as shown in Figs. 5, 5 $\frac{1}{2}$, and 5 $\frac{3}{4}$ have been made, the bag is completed by simple pressure between rolls or otherwise, and this pressure results in the product shown in Fig. 6 of the drawings.

A bag thus made will not only be thoroughly pasted and perfectly tight, but when opened it presents a square bottom, as shown in Fig. 7.

What I claim is—

1. The pattern-sheet A', whose end has its central portion provided with the projection B, and its two side portions provided with the rectangular recesses A, said sheet end having plane portions B', formed, respectively, between the projection and the recesses, substantially as set forth.

2. The process of making a paper bag, consisting of the following steps: first, forming a tubular blank with an internal fold along each edge; second, folding the two triangular corners of one of said folds over onto the tubular body; third, opening out the two in-

ternal edge folds; fourth, tucking in the triangular folds of the other internal fold and forming the end lap; fifth, flattening the folds thus formed, and completing the bag by subjecting the blank to pressure, substantially as set forth.

In testimony whereof I have signed my name

to this specification in the presence of two subscribing witnesses.

DANIEL APPEL.

Witnesses:

JNO. CROWELL, JR.,
WILLARD FRACKER.