2 Sheets—Sheet 1.

D. APPEL.

Satchel-Bottomed Paper-Bags.

No. 219,376. Patented Sept. 9, 1879.

Fig. 1.

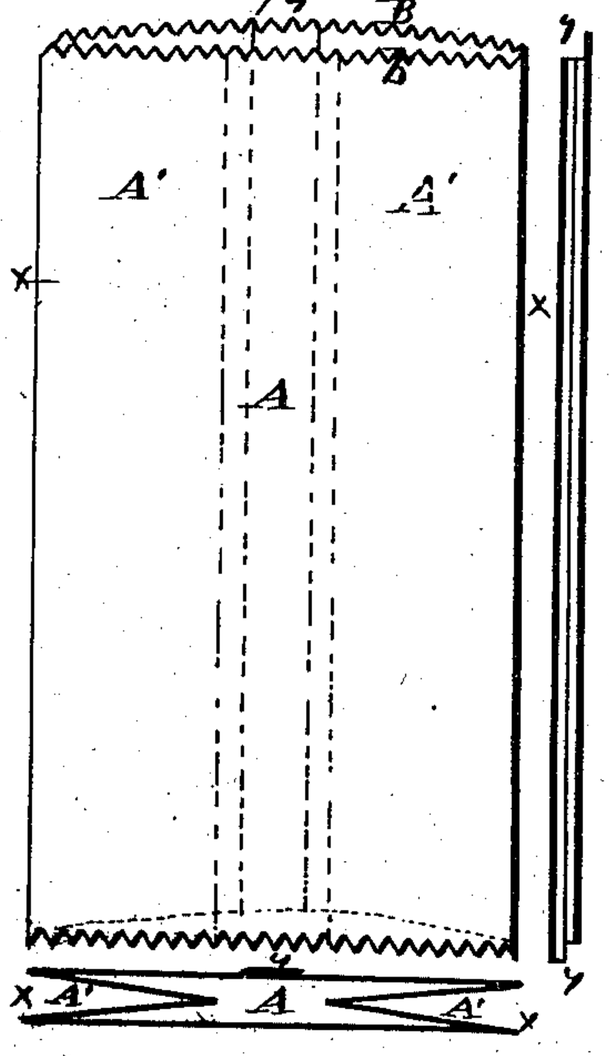


Fig. 2.

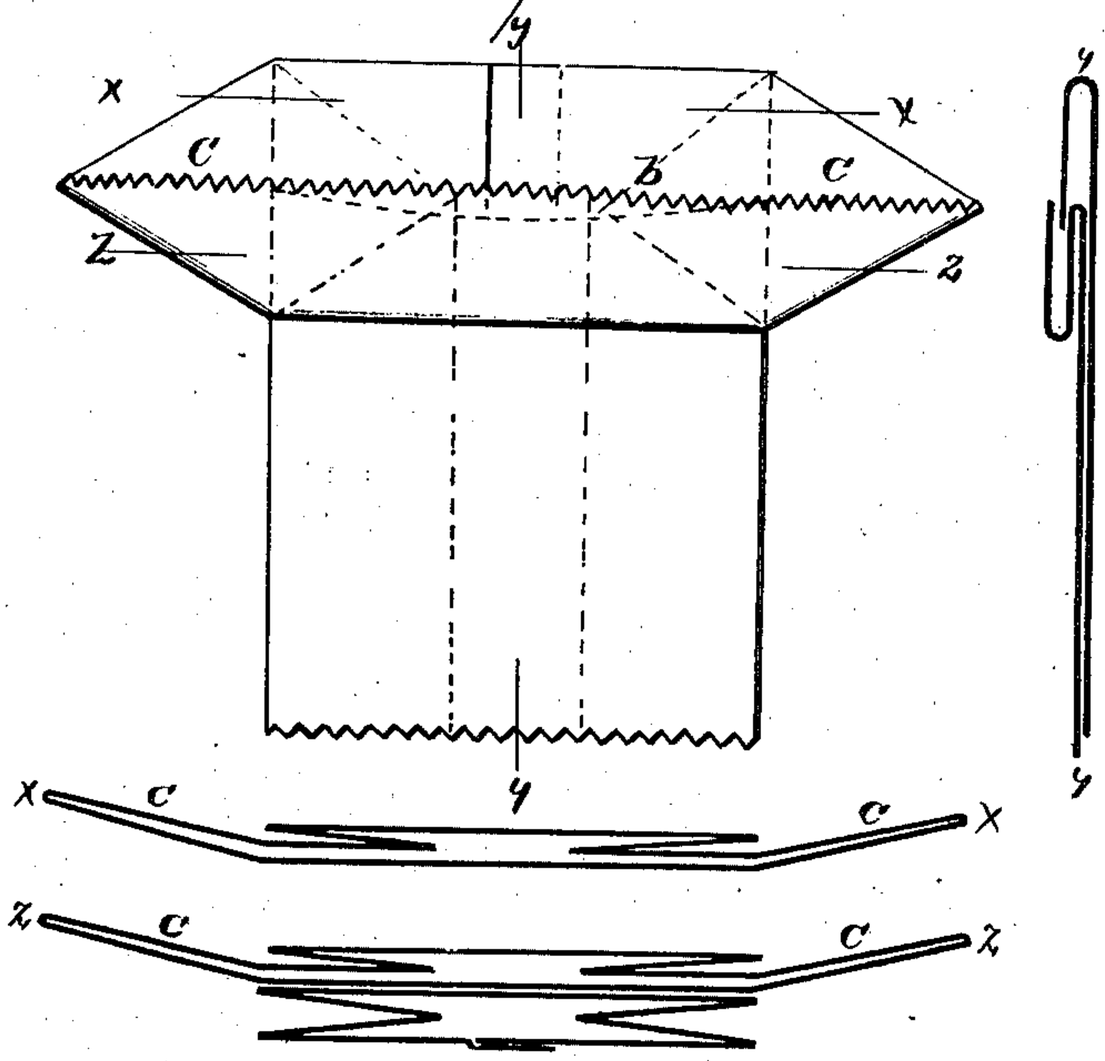


Fig. 3.

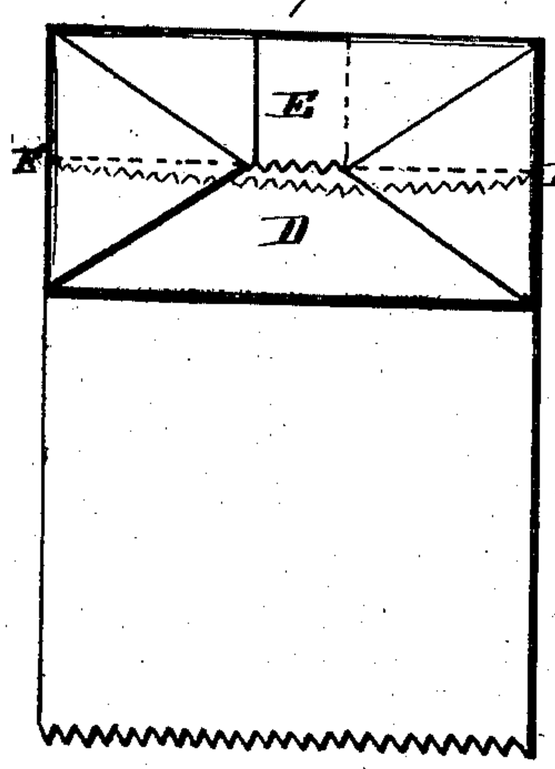


Fig. 4.

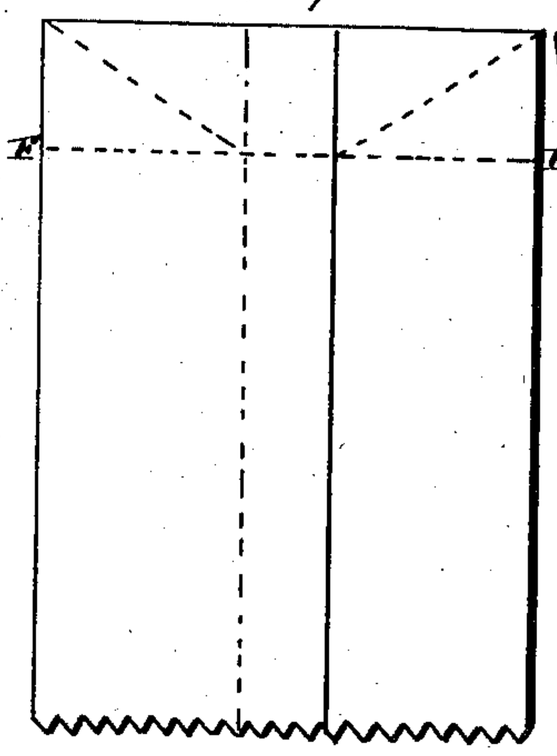
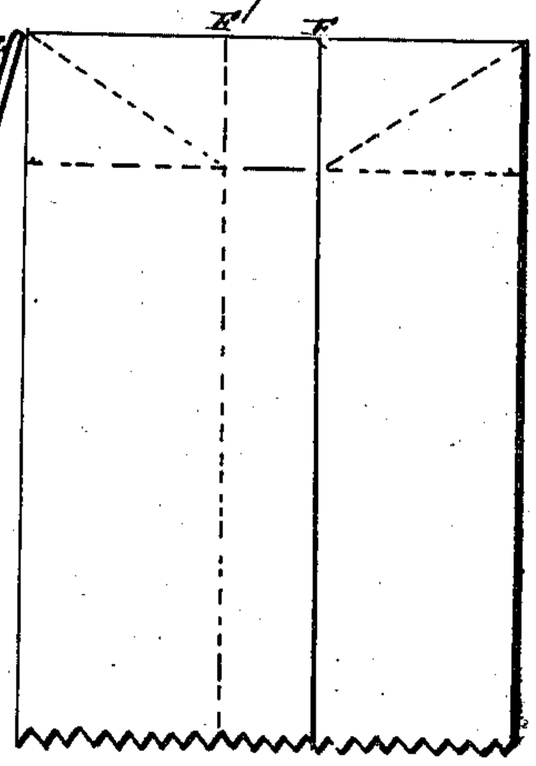


Fig. 5.



WITNESSES

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2 Sheets—Sheet 2.

D. APPEL.

Satchel-Bottomed Paper-Bags.

No. 219,376. Patented Sept. 9, 1879.

Fig. 6.

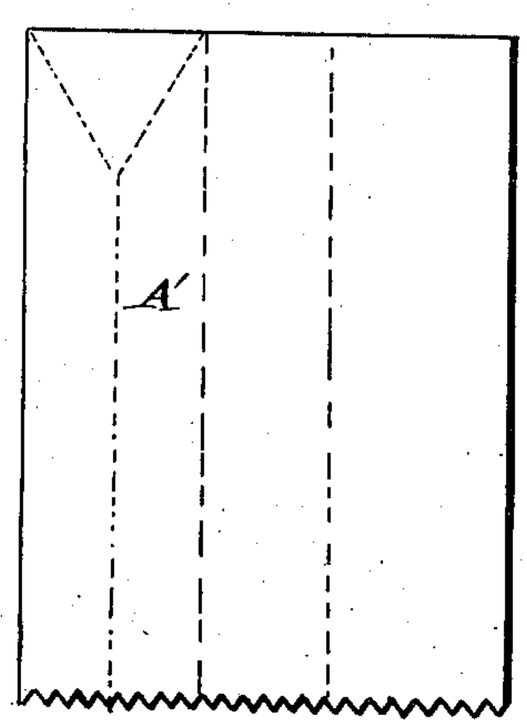


Fig. 7.

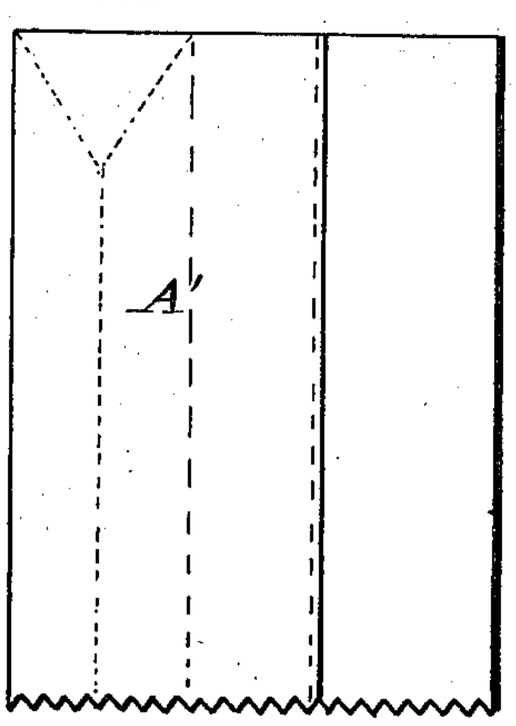
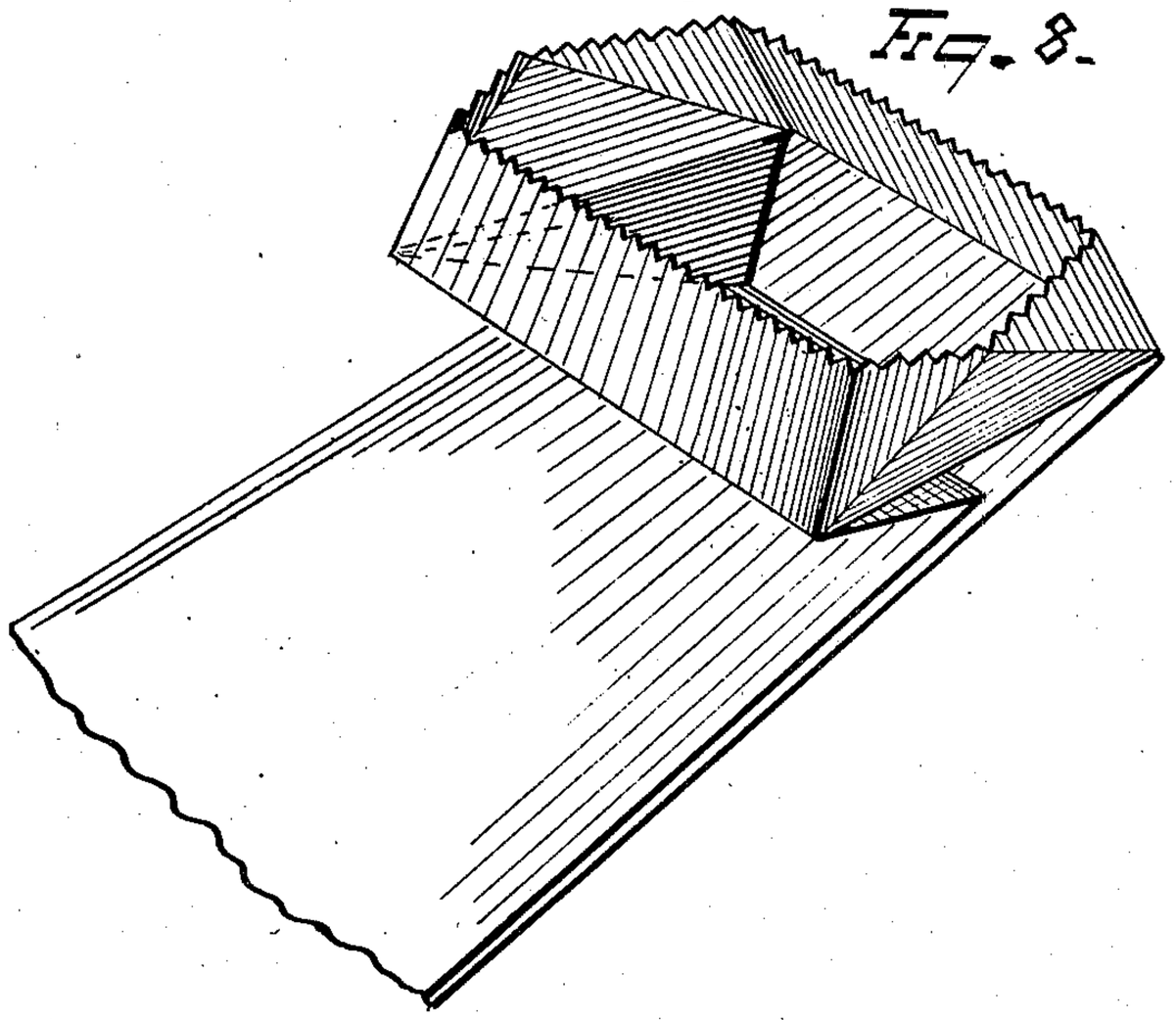


Fig. 8.



WITNESSES

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UNITED STATES PATENT OFFICE

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

IMPROVEMENT IN SATCHEL-BOTTOMED PAPER BAGS.

Specification forming part of Letters Patent No. **219,376,** dated September 9, 1879; application filed May 20, 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 Satchel-Bottom 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 satchel-bottom paper bags; and consists in the process hereinafter described and claimed for forming the same.

In the drawings, Figure 1 presents a view of the tubular blank as it appears when cut from a tube, having one inward side fold at each edge. Fig. 2 shows the bag in the second stage of the formation of its bottom, the opposite edges being united by paste and the projecting corners outstanding, the tube having an inward or bellows fold at its sides. Fig. 3 shows the same bag as it would appear when completed with the bottom opened out against the side of the bag or exposed; Fig. 4, the same bag as it would appear completed, with the two halves of the bottom folded against each other, so as to leave the bag with an inward fold at the lower end, the middle points of the sides of the bottom resting in the same line with the sides of the bag; Fig. 5, the same bag folded as in Fig. 4, except that the middle points of the sides of the bottom are turned inward, so as to rest at the end and near the center of the bag-bottom; Fig. 6, the same bag shown in Fig. 4 with one of the plicated sides folded out upon the surface of the tube; Fig. 7, the same bag with both plicated sides opened out upon the surface of the bag. Fig. 8 shows how the bag shown in Fig. 2 would appear if the folds were opened up.

A is a paper tube, which we will suppose to be a paper tube with a single inward fold upon each edge, such as are employed in the manufacture of satchel-bottom paper bags, A′ being the inward folds. This tube I sever in such a manner as to leave a projecting lip at the end for the usual purpose of facilitating the opening of the bag and the closing of the bottom. This lip I propose to form by cutting off in advance of the other side the paper that is to constitute one of the sides of the bag, but severing that portion which forms the inward folds and the opposite side of the bag by a straight cut, as represented in Fig. 1. The object in view in so severing the short side and folded edges by a straight cut will appear further on. The paper thus cut is, by any suitable means, folded into the form shown in Fig. 2, and the edge *b* is pasted upon the projecting lip B.

After the paper has been folded into the shape shown in Fig. 2, then by any suitable means the projecting points C are folded in from the sides and pasted down, which completes the bag, as shown in Fig. 3.

This bag, it is apparent, will open out into rectangular form, thus forming a satchel-bottom bag in which the paper composing the bottom is disposed in proper form to effect the greatest utility. Thus along the short sides of the bottom, where the strain is the greatest, there is a double thickness of the paper to serve as a support for the outer ply, while upon those portions of the bottom that are least strained there is but the single thickness of paper. Moreover, the finished bag when ready for shipment is in rectangular form, which is the best form for packing. The bag may be left ready for shipment or use in any of the various forms shown in the drawings. Thus, as shown in Fig. 3, the whole bottom may be presented outward from one of the sides of the bag, or, as shown in Fig. 4, the part D of Fig. 3 may be folded over upon the part E, thus leaving both sides of the bag smooth, the bottom being in the nature of an inward plication or fold, and when so folded the extra thickness caused by the bottom folds may be disposed at the two edges—that is, so the middle points, F, of Fig. 3 shall rest in a line with the edges of the bag, as shown in Fig. 4, or that extra material may be disposed more at the end and center by folding the paper in, so that the points F shall rest centrally of the lower end of the bag, as shown at Fig. 5. So, also, when folded as shown in Fig. 4, one of the side plications A may be opened out so as to rest upon the face of the bag, as shown in Fig. 6,

or both of the side plications may be opened out in opposite directions, so that one will lie upon one face of the bag and one upon the other face, as shown in Fig. 7.

In Fig. 8 I have represented the creased-tube bag as opened out.

I do not limit myself to any particular machinery or process for making the bag, for many devices may be employed for that purpose.

It will be seen that, having made the severing-cut straight across the end of the projecting lip B, that straight edge lies right across the center of the bottom after pasting, so that it forms a guide for the central fold across the bottom in case the bag is completed as shown in either Figs. 4 or 5.

In bags that open out to an exactly square form the side points would, when folded down and pasted, just come together at the center.

It is apparent that I may form a fold substantially the equivalent of the fold shown by first folding down the edge *b*, then bringing in the two side portions, leaving a point, B, at the end of the bag, then folding that point down upon the others; or the point B may be folded down first and the part *b* last.

I disclaim in this application the invention shown and described in my application for patent on paper bag filed May 23, 1879.

What I claim is—

The method of making satchel-bottom paper bags from bellows-sided tubular blanks, consisting in, first, separating the upper and lower plies of the tubular blank at the bottom about a line a distance back from the end equal to the end of the bottom; second, folding the sides of the tubular blank back toward each other until they meet opposite said line, where the projecting lip from one side is pasted upon the other; third, forming the bellows sides at the ends of the bottom-forming portion into inwardly-projecting triangular points; fourth, folding down and pasting the triangular sidewise-projecting points, so as to form a complete rectangle, 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:
WELLS W. LEGGETT,
W. E. DONNELLY.