

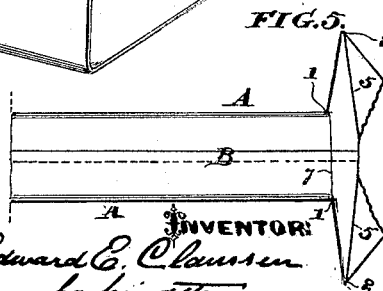
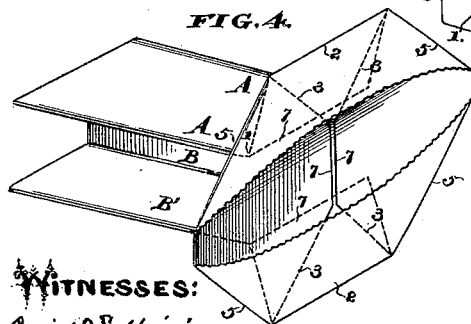
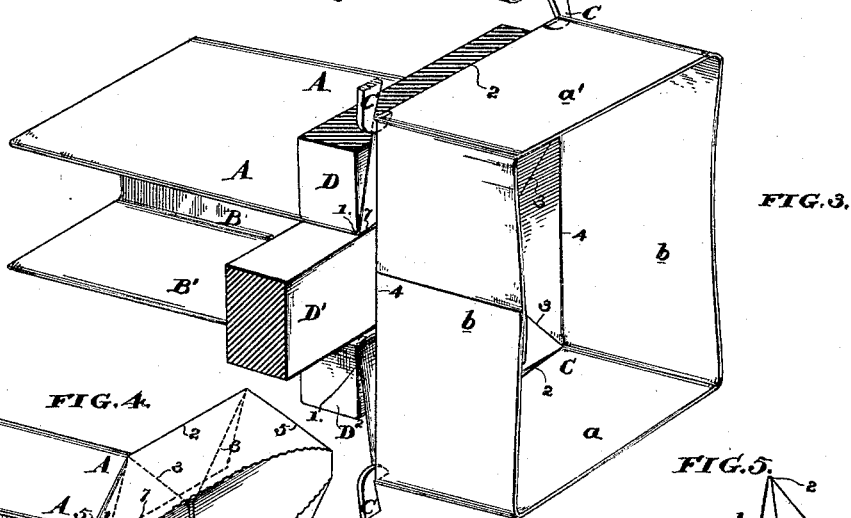
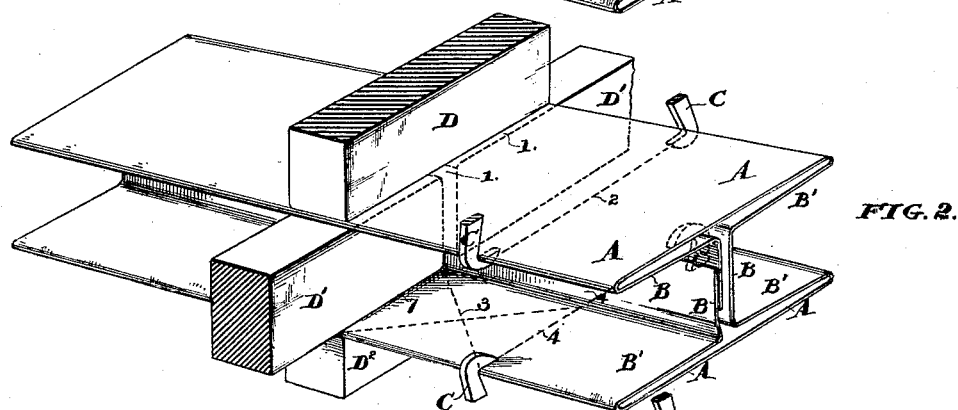
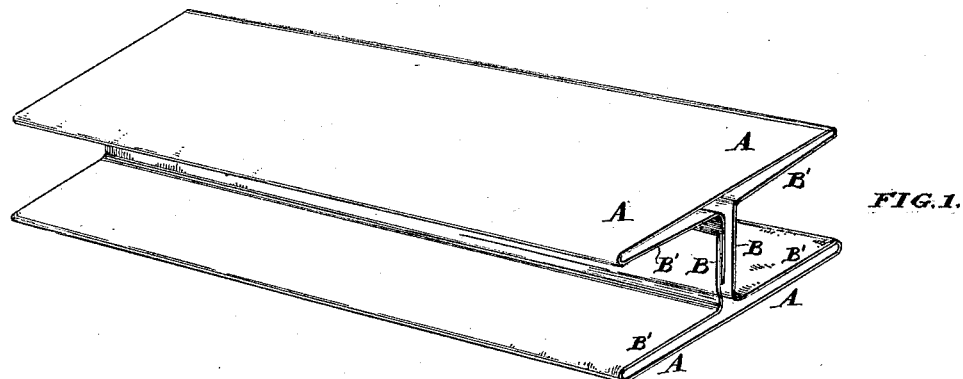
(No Model.)

2 Sheets—Sheet 1.

E. E. CLAUSSEN.  
METHOD OF MAKING PAPER BAGS.

No. 417,905.

Patented Dec. 24, 1889.



WITNESSES:  
David S. Williams  
Henry D. Dwyer

INVENTOR:  
Edward E. Claussen  
by his attorney  
Francis T. Chambers

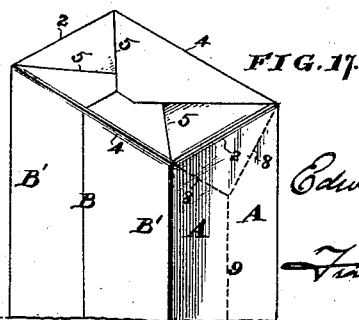
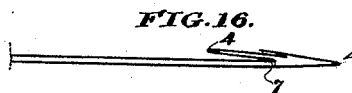
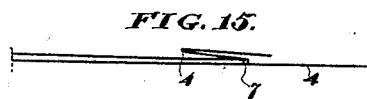
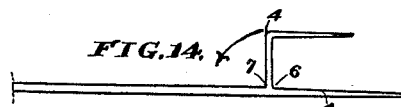
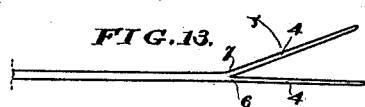
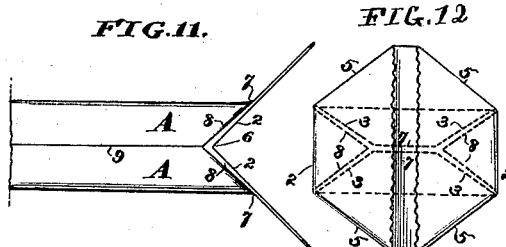
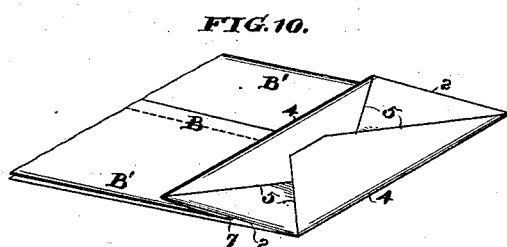
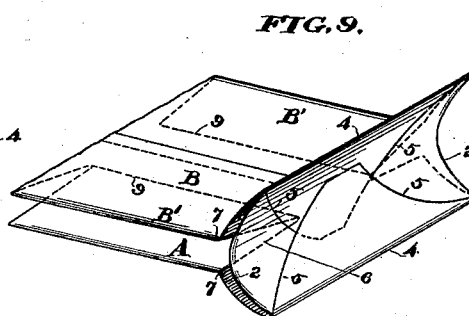
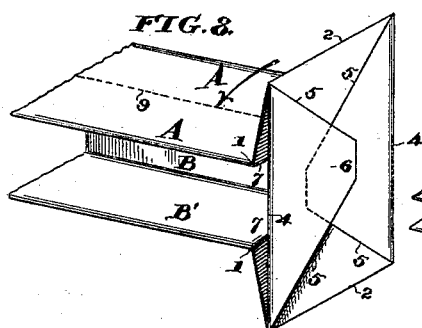
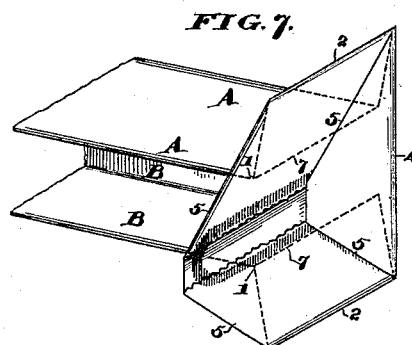
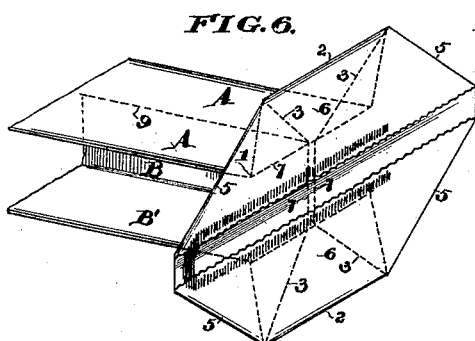
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2 Sheets—Sheet 2.

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METHOD OF MAKING PAPER BAGS.

No. 417,905.

Patented Dec. 24, 1889.



WITNESSES:  
David S. Williams  
Henry D. Dwyer

INVENTOR:  
Edward E. Claussen  
by his attorney  
Francis T. Chambers

# UNITED STATES PATENT OFFICE.

EDWARD E. CLAUSSEN, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE UNION PAPER BAG MACHINE COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

## METHOD OF MAKING PAPER BAGS.

SPECIFICATION forming part of Letters Patent No. 417,905, dated December 24, 1889.

Application filed October 11, 1889. Serial No. 326,662. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD E. CLAUSSEN, of the city and county of Hartford, State of Connecticut, have invented a new and useful  
5 Improved Method of Making Paper Bags, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

10 My invention relates to the construction of paper bags similar in general character to that shown and described in the Reissued Patent No. 10,083, granted to the Union Paper Bag Machine Company as assignees of Mark  
15 L. Deering; and it consists of a new method of folding such bags, which method will best be understood as described in connection with the drawings, in which it is illustrated, and in which—

20 Figure 1 represents a piece of paper folded in the form of an H-shaped tube, this folding forming a characteristic feature of my invention. Fig. 2 shows the H-shaped tube in connection with presser-plates which define and  
25 limit the lines on which the tube is to be opened out to form the bag-bottom, and in connection with hooks which are adapted to perform the opening out of said end of the tube. Fig. 3 shows the first folding operation in the process of forming the bag-bottom. Fig. 4 shows the second folding, by which what is known as the "diamond fold" is formed. Fig. 5 is a side view of the blank folded as in Fig. 4. Fig. 6 shows the blank  
30 as in Fig. 4, save that the folds are pressed down tight and lines of paste applied. Fig. 7 shows one end of the diamond fold folded down. Fig. 8 shows the bag-bottom completed by the folding down of both ends of the diamond. Fig. 9 shows the method by which the completed bottom is folded to enable the H-shaped body of the bag to be folded into the ordinary bellows-folded form. Fig. 10 shows the bag completed and ready  
35 for market. Figs. 11 to 16 show a modified way of completing the bag and giving it the desired form for market, and Fig. 17 shows the completed bag opened up.

The first step of my process is to form a  
50 piece of paper into the H-shaped tube shown in Fig. 1, the sides of the tube which are to be

"bellows-folded" in the finished bag being marked A A, and the sides of the tube which form the back and front of the bag being folded twice at right angles, so as to form  
55 the sides marked B B' B'. The portion of the tube from which the bottom is formed is then defined in any convenient way, as by the plates D D' D' D<sup>2</sup>, and the end of the tube opened out into the box-like form shown  
60 in Fig. 3, the sides A A being bent on the lines 1 and 2 and extending beyond fold 2 as flap a, and the sides B B' B' being bent first at 7, the portions B' B' on the oblique lines 3 3, and then  
65 the united sides being bent at 4 and extending beyond said fold 4 as flaps b b. This completes the first folding of the bottom, and the hooks C are shown as convenient devices for so spreading open the bottom of the tube, the movement of the upper and lower pairs  
70 away from each other and toward the plates D D' D' D<sup>2</sup> effecting all the described folds.

The next step is to spread out the box a a b b into the well-known diamond fold, the most usual form of which is shown in Figs.  
75 4, 5, and 6, though, instead of folding the diamond so that its points will lie in the flaps b, it may be folded in the opposite direction, so that its points will lie in the flaps a. This, however, is obvious and well understood in  
80 the art.

The folding of the diamond as shown necessitates the formation of the folds 5. Two operations now remain to be done in order to complete the bag for the market. The ends  
85 of the diamond must be folded down upon each other to complete the bottom, and the H-shaped body of the blank must be folded to the bellows form. It is immaterial to my process which of these operations is first per-  
90 formed.

In Figs. 6 to 10 I have shown the operation of first completing the bottom and then folding the bag for the market, while in Figs. 11 to 17 the blank is shown as being brought  
95 first to the desired form and the bottom then completed.

In Fig. 6 the diamond is shown as having paste applied for securing the bottom. Then one end of the diamond is folded down on  
100 the line 4, as in Fig. 7, then the other folded down on it, as in Fig. 8, thus completing the

bottom. The bottom is then folded together on the line 6, (see Figs. 8 and 9,) and the sides A A simultaneously folded on themselves along the lines 9, thus bringing them to the ordinary bellows form, and the folded bottom may then be opened out, as shown in Fig. 10. On the other hand, the diamond-folded blank, as shown in Fig. 6, may be first folded on the line 6 and the sides A A folded on line 9, so as to bring the blank into the form indicated in Figs. 11 and 12 as in progress and Fig. 13 as completed, and the diamond may be spread out and the bottom finished in any convenient way. As shown, one half of the folded-in diamond is turned backward and in upon itself, (see Figs. 14 and 15,) and the end of the lower half then folded up, as shown in Fig. 16, to complete the bottom.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The described method of folding paper bags, consisting in forming an H-shaped tube, spreading open one end of said tube into a box form, folding and flattening said box into a diamond, and completing the bag by folding the flat side of the H-shaped tube together and lapping over the pointed ends of the diamond.

EDWARD E. CLAUSSEN.

Witnesses:

WM. J. McCONVILLE,  
H. S. BARBOUR.