

(Model.)

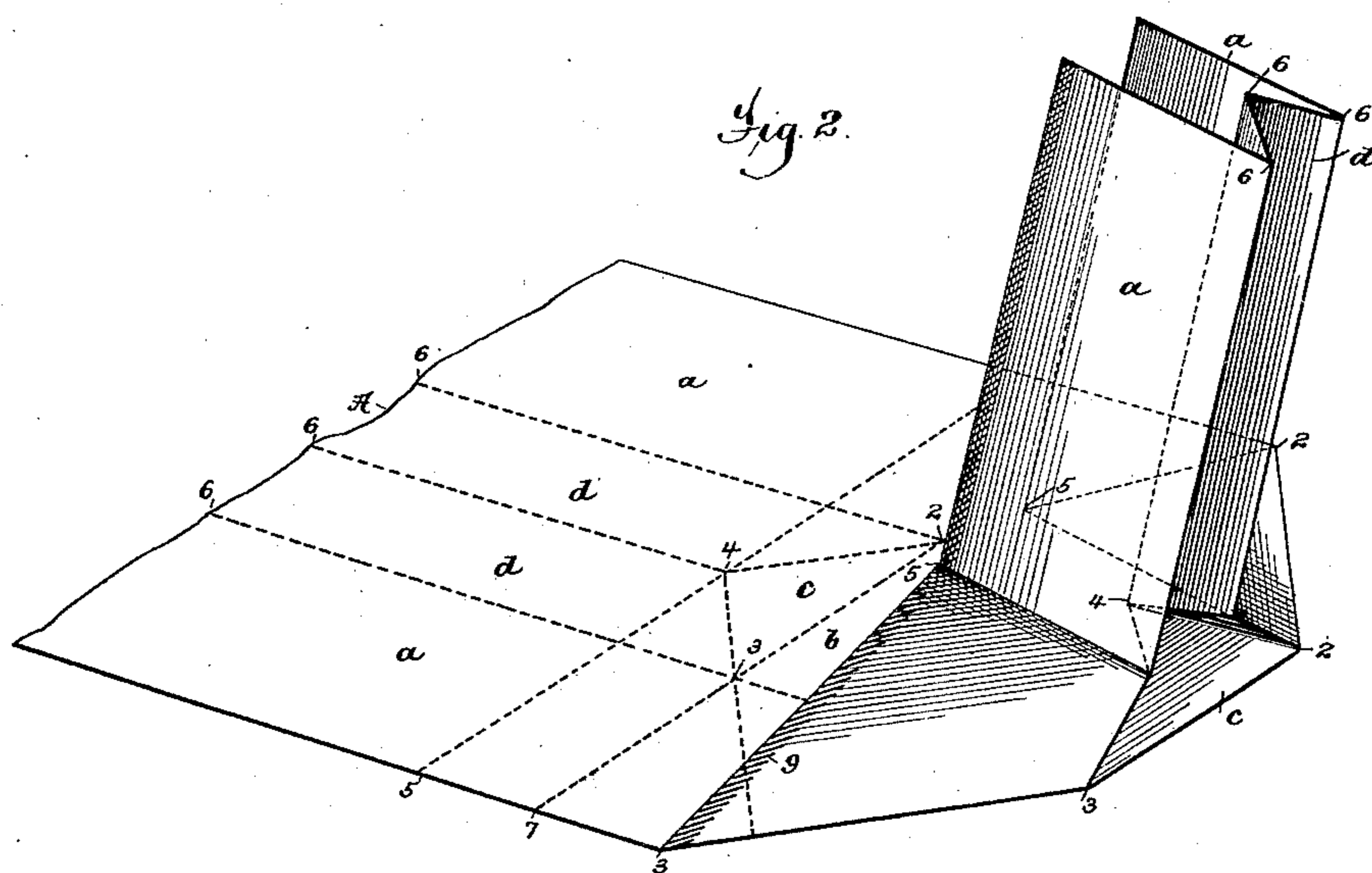
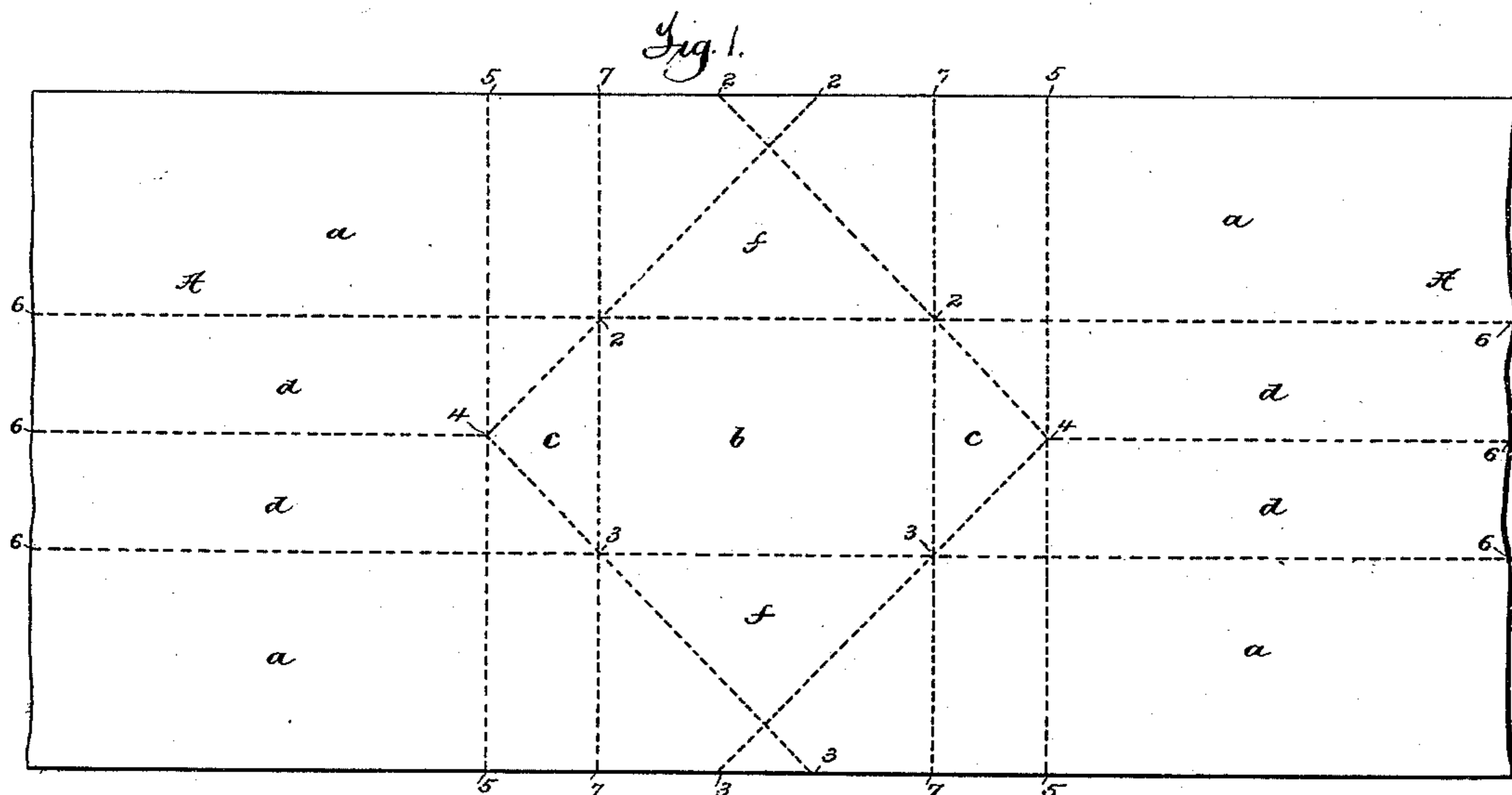
2 Sheets—Sheet 1.

D. APPEL.

PAPER BAG.

No. 378,487.

Patented Feb. 28, 1888.



Attest:

Geo. H. Potts,

J. A. Harvey.

Inventor:

Daniel Appel.

by Munroe & Philipp

Atty's:

(Model.)

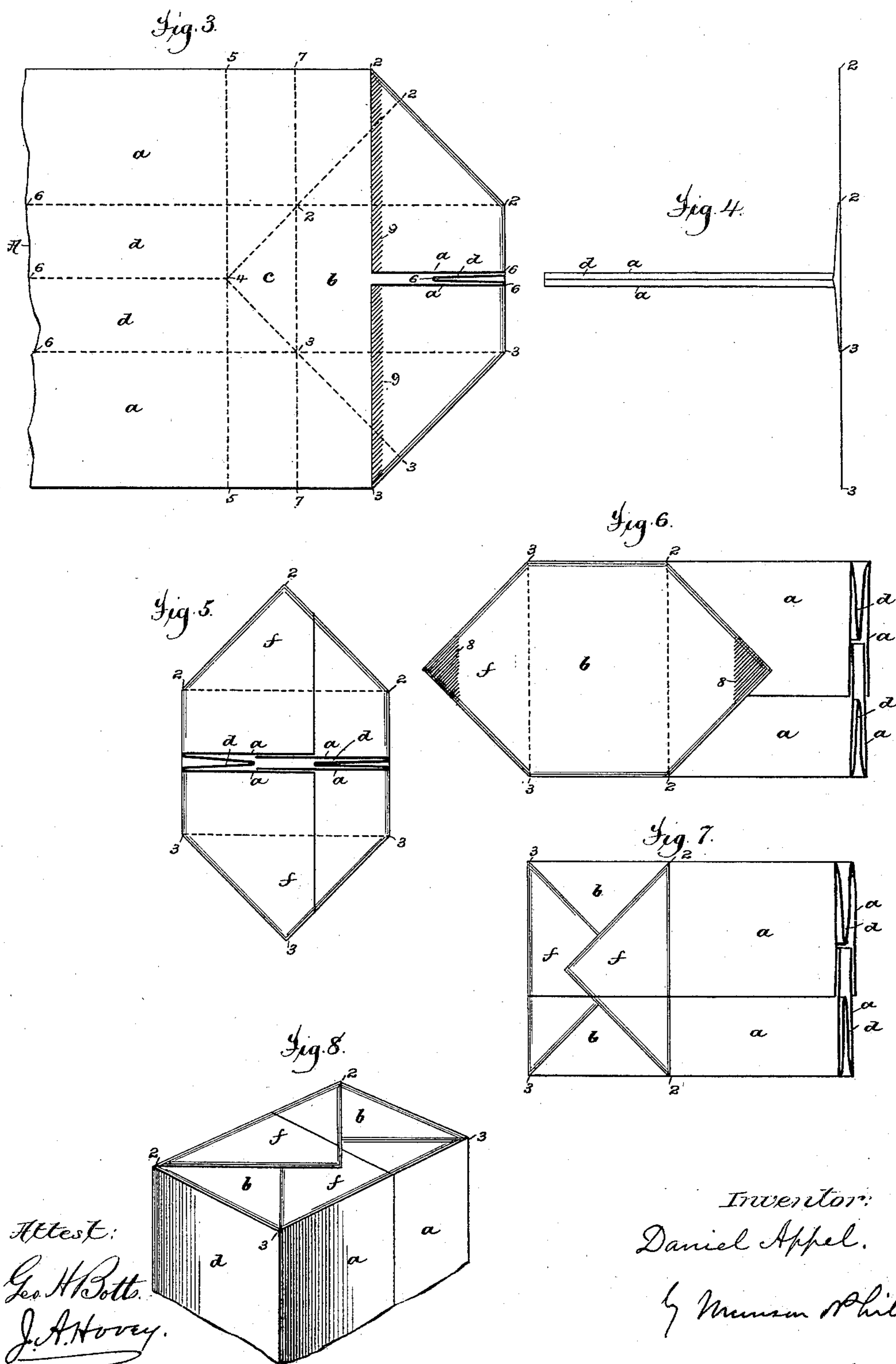
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE

DANIEL APPEL, OF CLEVELAND, OHIO, ASSIGNOR TO THE UNION PAPER BAG MACHINE COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

PAPER BAG.

SPECIFICATION forming part of Letters Patent No. 378,487, dated February 28, 1888.

Application filed December 15, 1886. Serial No. 221,629. (Model.)

To all whom it may concern:

Be it known that I, DANIEL APPEL, a citizen of the United States, residing at Cleveland, county of Cuyahoga, and State of Ohio, have
5 invented certain new and useful Improvements in Paper Bags, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to that general class
10 of paper bags which are made from a single piece of material, which is doubled transversely upon itself and united at its edges, thereby forming a bag having two side seams and a seamless bottom.

The invention relates more particularly,
15 however, to a bag of this class having inwardly-folded or bellows sides and a satchel bottom. The bags embodying the present invention can be made either from a continuous
20 web or from detached sheets or blanks, the same as most of the common forms of paper bags. In the practical manufacture of bags according to the present invention, however, it will usually be most desirable to use detached
25 blanks previously cut to the proper form. The operation of making the bag from such a blank is therefore illustrated in the present case.

As a full understanding of the construction
30 of the bag can be best given by describing the manner in which it may be made, such description will be given, reference being had to the accompanying drawings, in which—

Figure 1 is a view of a portion of a blank
35 of suitable form for making the bag, the dotted lines indicating the lines upon which the material is folded in the formation of the bag. Figs. 2 to 6, inclusive, are views illustrating the various steps in the formation of the bag,
40 Fig. 3 being a plan view of Fig. 2, (showing the plies of the material folded more closely together, however,) and Fig. 4 an end view of Fig. 3, looking from the right of the figure. Fig. 7 is a view of the bottom end of the completed bag; and Fig. 8 is a perspective view
45 of the bottom of the bag, showing the same distended and ready to receive its contents.

Referring to said drawings, it is to be understood that the sheet or blank, a part of
50 which is shown in Fig. 1, is of rectangular form and of suitable width and length to make

a bag of the proper dimensions. This blank may, and preferably will, be first creased upon the dotted lines indicated, to aid in making the several folds necessary in the formation of the
55 bag. The blank, either with or without the creasing, is first folded on the diagonal lines 2 2 and 3 3 and on the transverse line 2 3, so as to carry the triangular portions *c*, bounded by the lines 2 3, 2 4, and 3 4, over onto the
60 bottom-forming portion *b* and cause the portions *a* of the body-forming portion *A* to stand up vertically at right angles to the remainder of the blank. In this operation the blank will also be folded on the transverse line 5 5 and
65 on the longitudinal lines 2 6, 3 6, and 4 6, and also on the diagonal lines 2 4 and 3 4, thereby causing the portions *d* of the body portion *A* to be folded inward between the portions *a*, thereby forming the bellows fold at one side
70 of the bag, as shown in Figs. 2, 3, and 4. One side of the bag having been formed in this manner, the other side will be formed by folding the material on corresponding lines and in the same manner, thereby bringing the blank
75 to the condition shown in Fig. 5. Previous to this last operation suitable lines of paste, 9, will be applied to the edges of the portions *a*, as indicated in Figs. 2 and 3, so that the edges of the blank thus brought together will be
80 united. It will be observed that in this operation the lines 2 7 and 3 7 have been carried inward, so that when the blank is in the condition shown in Fig. 5 these lines coincide with the lines 2 2 and 3 3, which, together
85 with the lines 2 3, define the four edges of the bottom-forming portion *b*. All that is necessary, therefore, to complete the bag is to fold inward the projecting points *f* upon the lines 2 2 and 3 3 and secure them to the bottom-
90 forming portion *b*, as indicated in Fig. 7. Previous to turning in the points *f* they will of course be supplied with suitable lines of paste, as indicated at 8, so that after being folded inward they will be retained in that position.

It will be seen that the bag thus produced
95 is provided with a perfect satchel bottom, and that it is also provided with inwardly-folded or bellows sides, thus making the bag exceedingly small in compass for the purpose of pack-
100 ing or shipping, and at the same time having the four edges of the bottom perfectly defined

in the operation of making the bag, so that when opened or distended to receive its contents it will assume the rectangular form shown in Fig. 8 without the necessity of previous
5 hand manipulation for that purpose.

It is to be remarked that in some cases the points *f*, instead of being folded toward each other and secured to the bottom-forming portion *b*, may be folded in opposite directions and
10 secured to the side-forming portions *a*; but that will not be as desirable as to fold these points inward, as shown.

What I claim is—

The herein-described paper bag, having bel-

lows sides and a seamless satchel bottom, and
15 having the material folded on the lines 2 3 to define two sides of said bottom, and having the points *f* folded over on the lines 2 2 and 3 3 and secured to the outside of the bag to define the remaining two sides of the bottom,
20 substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

DANIEL APPEL.

Witnesses:

E. H. BOHM,

M. GALLAGHER.