

(No Model.)

2 Sheets—Sheet 1.

S. E. BAKER.
PAPER BOX.

No. 362,481.

Patented May 10, 1887.

Fig. 1.

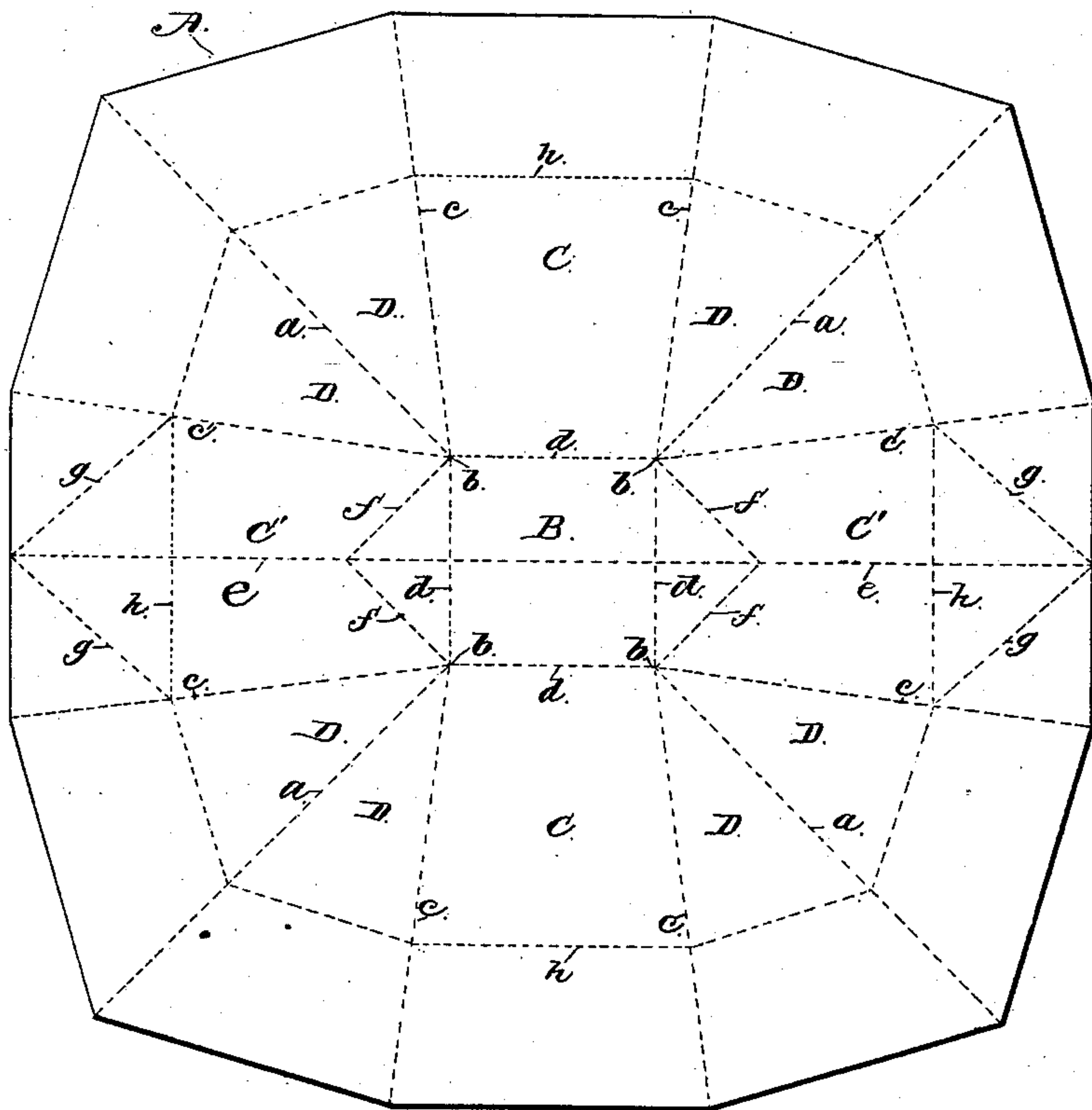
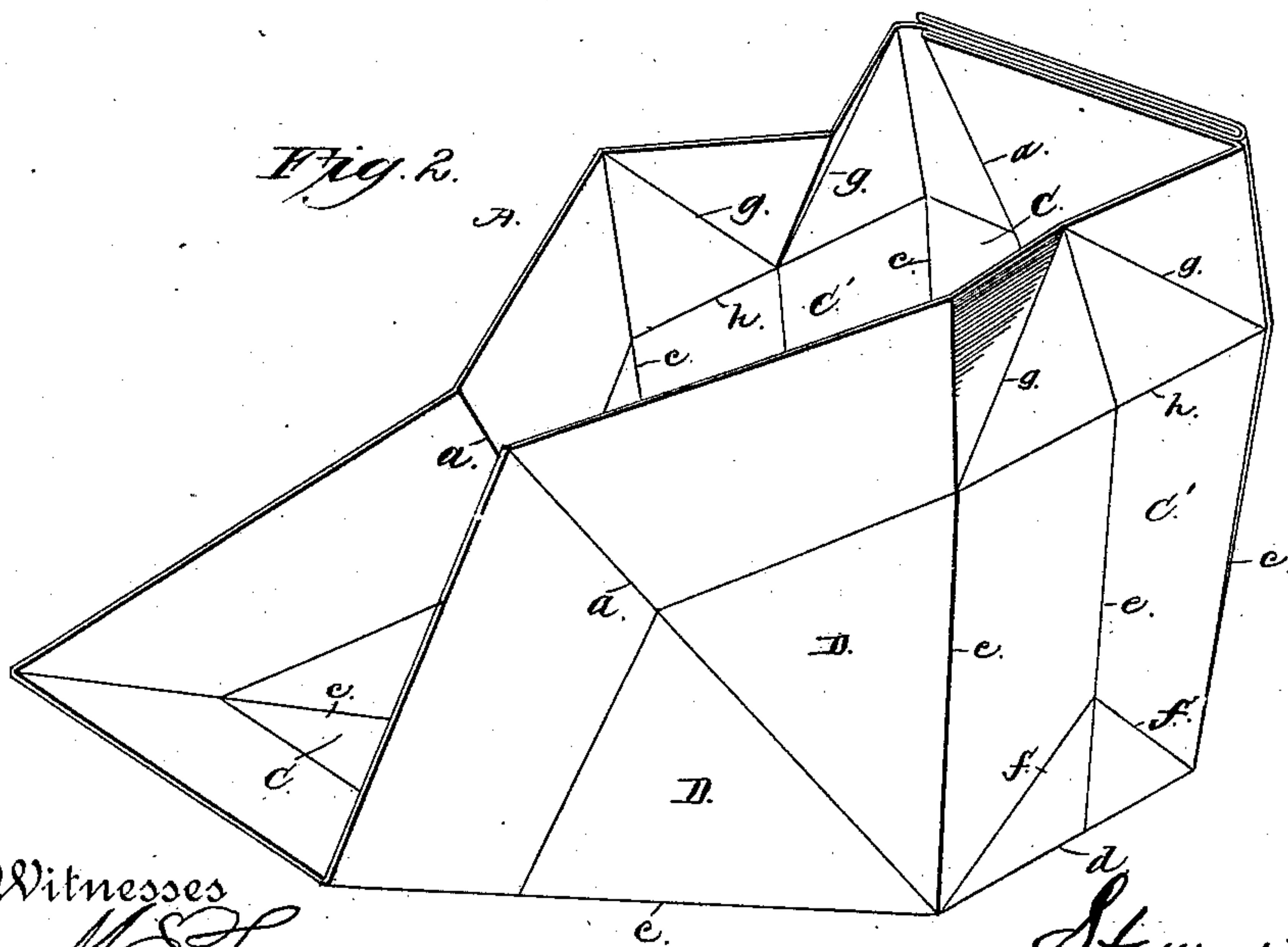


Fig. 2.



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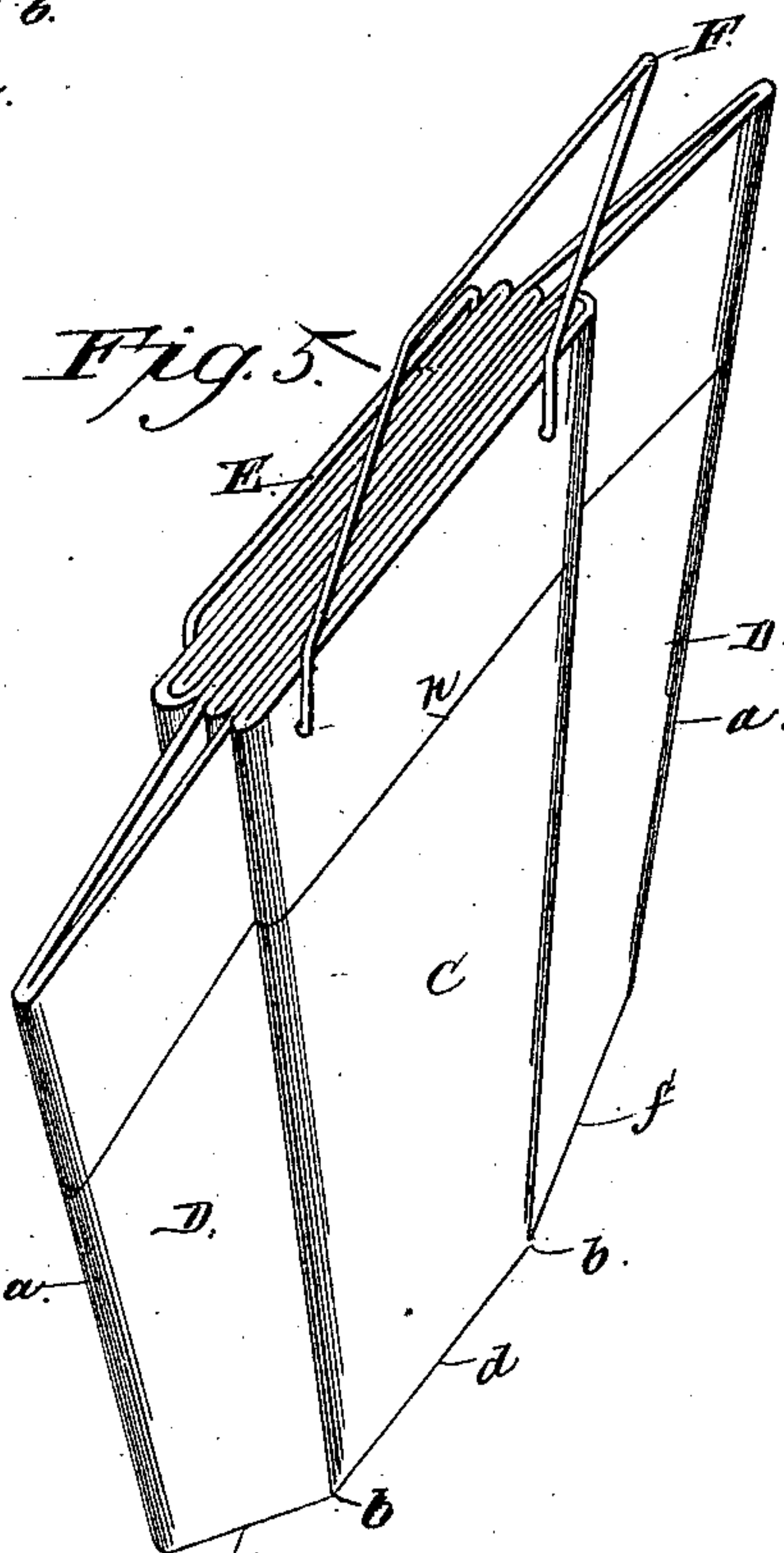
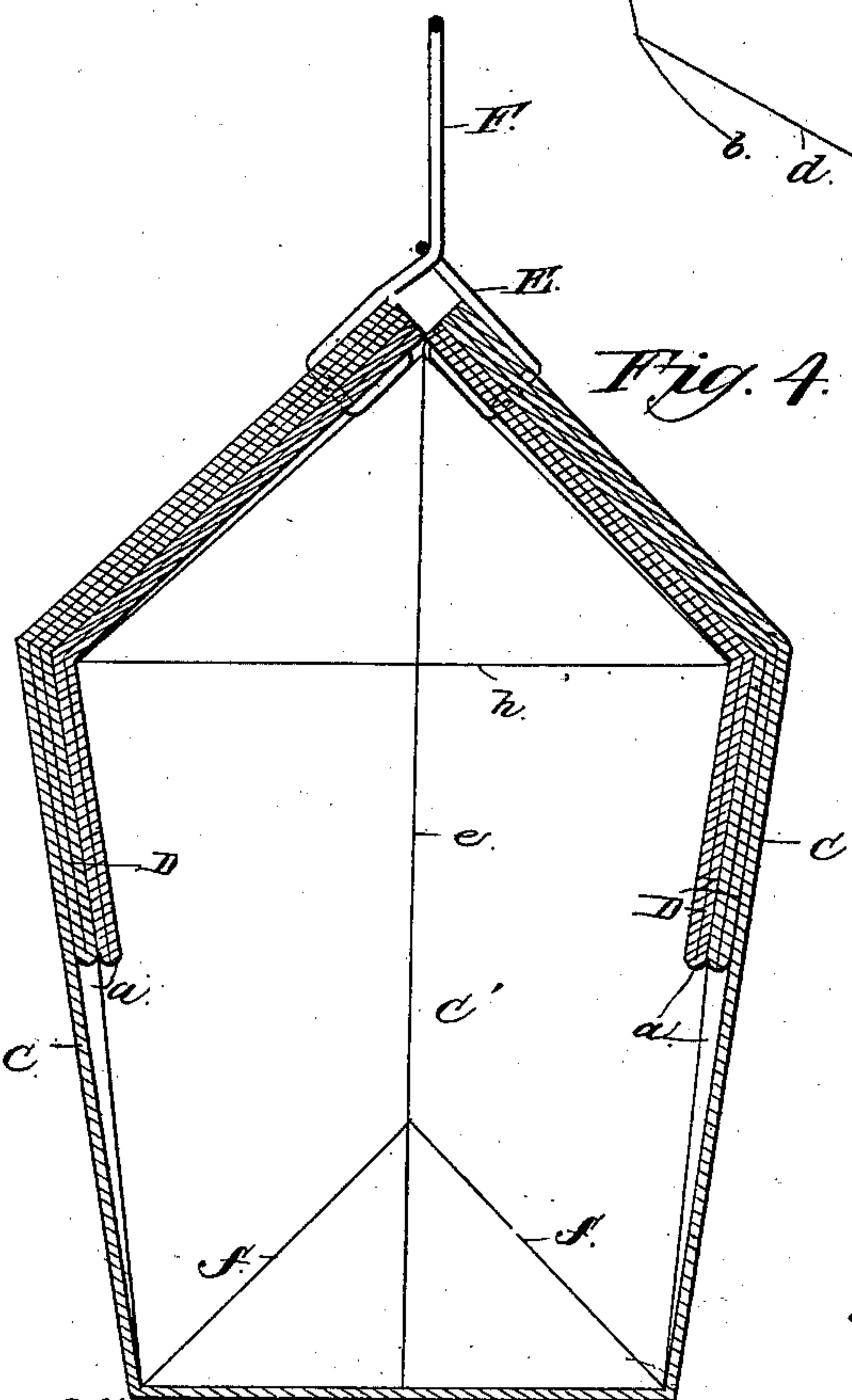
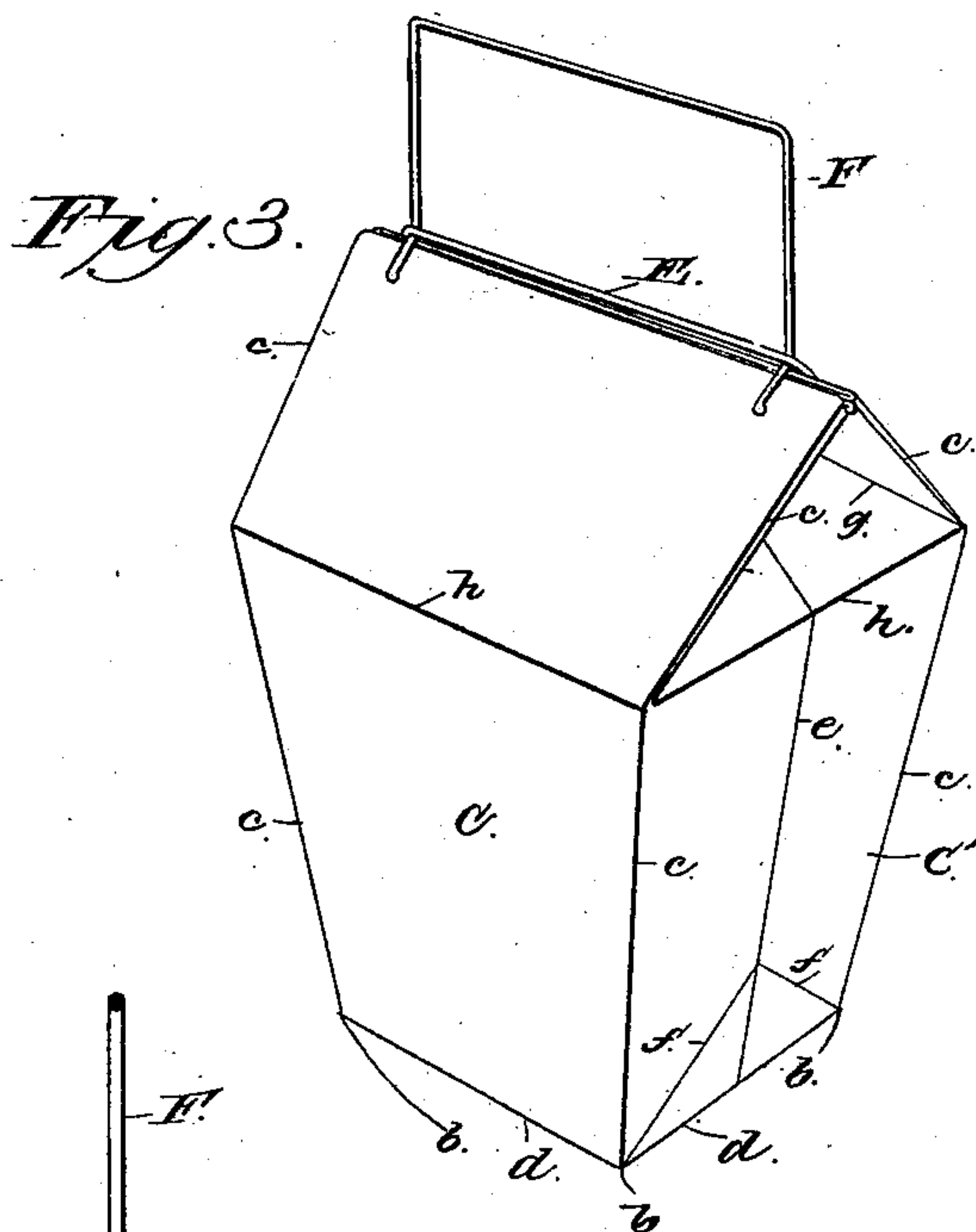
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

STEWART E. BAKER, OF BINGHAMTON, NEW YORK.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 362,481, dated May 10, 1887.

Application filed February 12, 1887. Serial No. 227,417. (No model.)

To all whom it may concern:

Be it known that I, STEWART E. BAKER, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented a new and useful Improvement in Paper Boxes or Pails, of which the following is a specification.

My invention relates to an improvement in paper boxes; and it consists in the peculiar construction and arrangement of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view of a blank adapted to be folded to form my improved paper box. Fig. 2 is a perspective view of the same, illustrating the manner of folding it to form a box. Fig. 3 is a perspective view of the box completed. Fig. 4 is a vertical sectional view of the same. Fig. 5 is a perspective view showing the box collapsed.

A represents a paper blank, which is made in the form of a dodecagon. This blank is first creased on four radial lines, *a*, which are drawn from the center of the blank and are arranged at equal distances from each other. The said radial lines do not extend entirely to the center of the blank, but stop at a suitable distance therefrom, at points *b*. The blank is then creased on lines *c*, which radiate from the points *b*, one of the said lines *c* being on each side of one of the lines *a*, and at an angle of thirty-seven and one-half degrees thereto. Creased lines *d* are then formed connecting the points *b*, the said lines inclosing a square, B, which forms the bottom of the box.

The opposing parts C and C' between the lines *c*, outside of the lines *d*, form the sides of the box, and the triangular parts D between the lines *a* and *c* form re-enforce flaps to fold against the inner faces of the sides at the corners of the box.

A creased line, *e*, extends through the center of the blank and divides the same in halves, and extends centrally through the parts C'. Creased lines *f* extend from the points *b* to points on the line *e*, the distance of which points from the lines *d*, bisected by the line *e*, is equal to the distance from the said lines *d* to the center of the square B. The said lines *f* form the sides of right-angled triangles, the hypotenuses of which are formed by the said lines *d*. Right-angle creased lines *g* extend

tend from the ends of the line *e* to the lines *c* on opposite sides thereof, and a dodecagonal creased line *h* is made in the blank concentrically with the perimeter thereof, the said line *h* intersecting the lines *c* at the points where the lines *g* touch the said lines *c*. This completes the blank. The method of folding the same to form a box is as follows:

The triangular parts D are first folded outwardly on the lines *a* and *c* until they come back to back. This folds the sides C and C' inwardly toward the center and bends them on the lines *d*, which separate the sides from the bottom. The triangular doubled parts D are then folded against the sides C which are opposite each other, thus completing the formation of a box having the general form of a truncated inverted pyramid. It will be observed that the two sides C which are not bisected longitudinally by the line *e* have five thicknesses each when the re-enforce triangular flaps D are folded against them.

In order to close the upper side of the box, the upper portions of the sides C', through which the line *e* extends, are folded inwardly on the lines *g* and *h* toward each other, and the upper portions of the intermediate sides C are also folded inwardly on the line *h* and on the line *c*, as shown at Fig. 4.

In order to securely fasten the cover of the box, and to provide a convenient means for carrying the same, I employ the devices hereinafter described.

E represents a wire bent substantially in the form of the letter U. The arms of the wires are passed through openings in one of the re-enforce sides and through the flaps D, which bear against the same, and are clinched on the inner side, thereby forming a loop, which is arranged above the upper edge of the side, and also serving to securely fasten the flaps D to the side. A second wire, F, is similarly bent to form a bail or yoke having longer arms. The said arms connect the opposite side C and its re-enforce flaps together, as in the previous instance.

After the box has been filled the bail is passed through the loop E, thus securely closing and locking the top of the box, and serving as a convenient handle whereby the box may be readily carried about.

When the boxes are to be transported and

are empty, or when the boxes are to be stored, it becomes important to fold them into as small a space as possible. This may be readily done by bending the bottom of the box inwardly on the lines *d* and doubling the same on the line *e*, and bending the sides *C'* outwardly on the lines *c* and doubling them together on the line *e*. This causes the triangular lower portions of the sides *C'*, inclosed by the lines *f* and *d*, to be doubled inwardly with the bottom. When thus arranged, the box is collapsed, as shown in Fig. 5, and a number of them may be readily packed in a small space.

A paper box thus constructed is extremely cheap and simple, is strong and durable, and is very readily manufactured.

Having thus described my invention, I claim—

1. The paper box having opposing sides adapted to bend toward each other to cover the box, one of the said sides having a wire loop, *E*, at its free edge, and the opposing side having a bail, *F*, at its free edge adapted to pass through the loop *E* and project beyond the same to form a handle for the box, substantially as described.

2. The paper box having the sides and the corner flaps connecting the sides, and the bail and loop made of wire, and having the arms passed through and clinched upon the sides

and the flaps folded against the same, and thereby securing the flaps to the sides, the said bail and loop serving to connect the upper edges of the sides together over the box, substantially as described.

3. The herein-described blank for paper boxes and pails, forming a dodecagon, and having the corner lines *a* radiating from the center and terminating at points equidistant from the center, as at *b*, the lines *d* extending from the points *b* and inclosing a square about the center, the lines *c* on each side of the radial corner lines *a* and radiating from the angles formed by the intersection of the lines *d* *a*, the line *h* concentric with the perimeter of the blank and intersecting the lines *a* and *c*, the creased central line, *e*, the converging lines *f* on opposite sides of the square formed in the center of the blank by the lines *d*, and extending from the intersections of the lines *d* and *c* to the line *e*, and the converging lines *g* parallel with the lines *f*, and extending from the intersections of the lines *h* and *d* to the perimeter of the blank, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

STEWART E. BAKER.

Witnesses:

W. G. PHELPS,

ROBT. W. MANIER.