

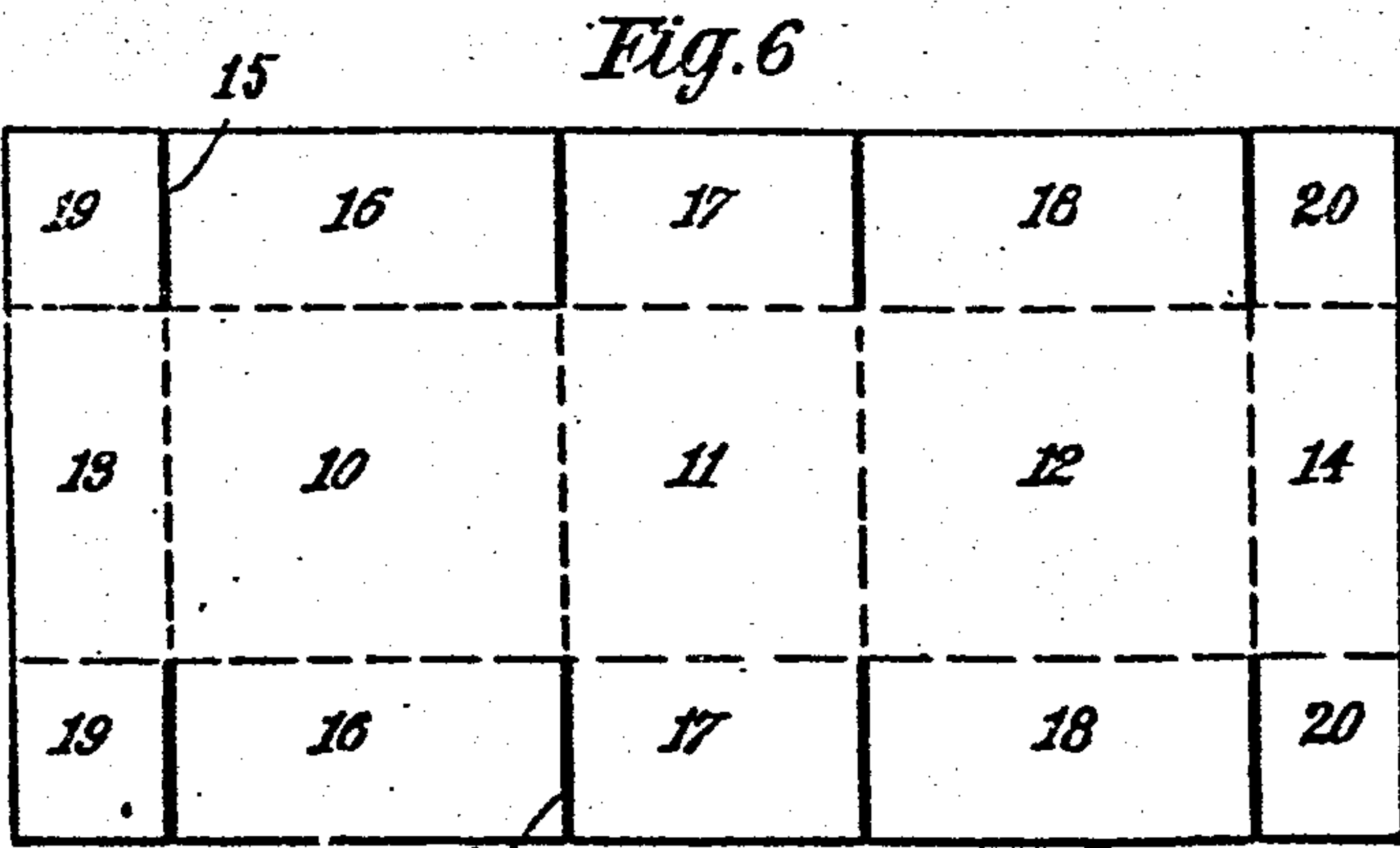
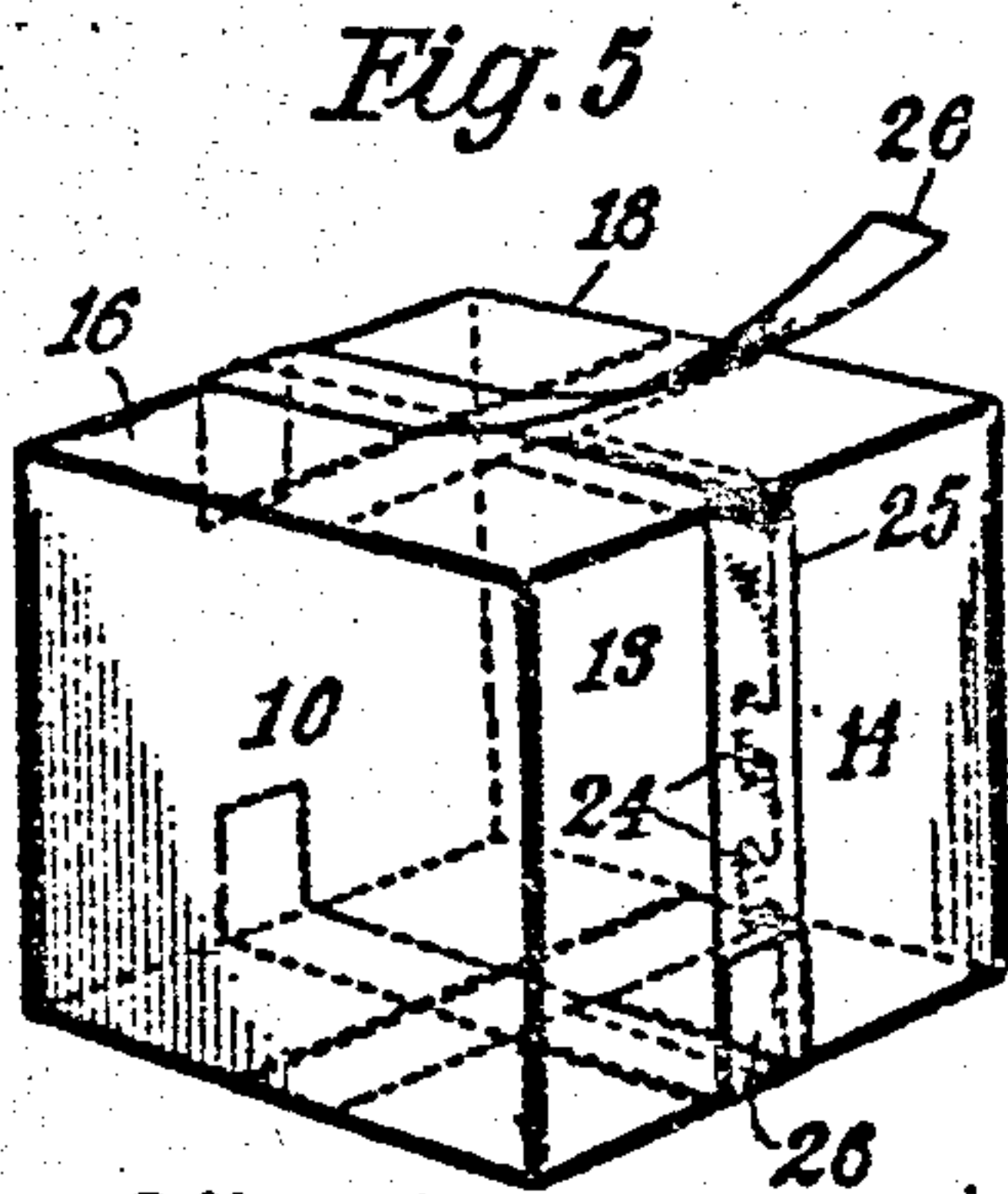
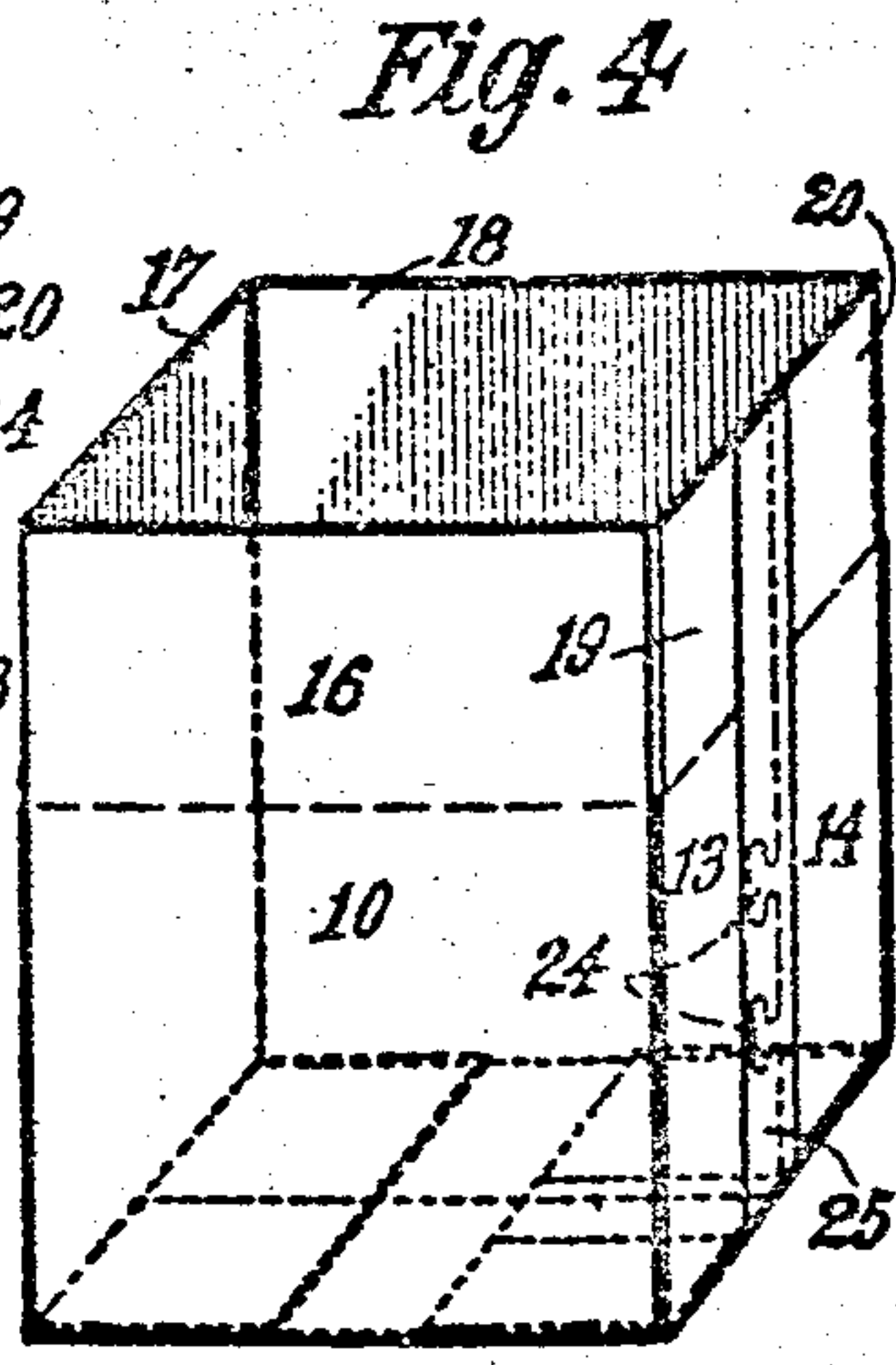
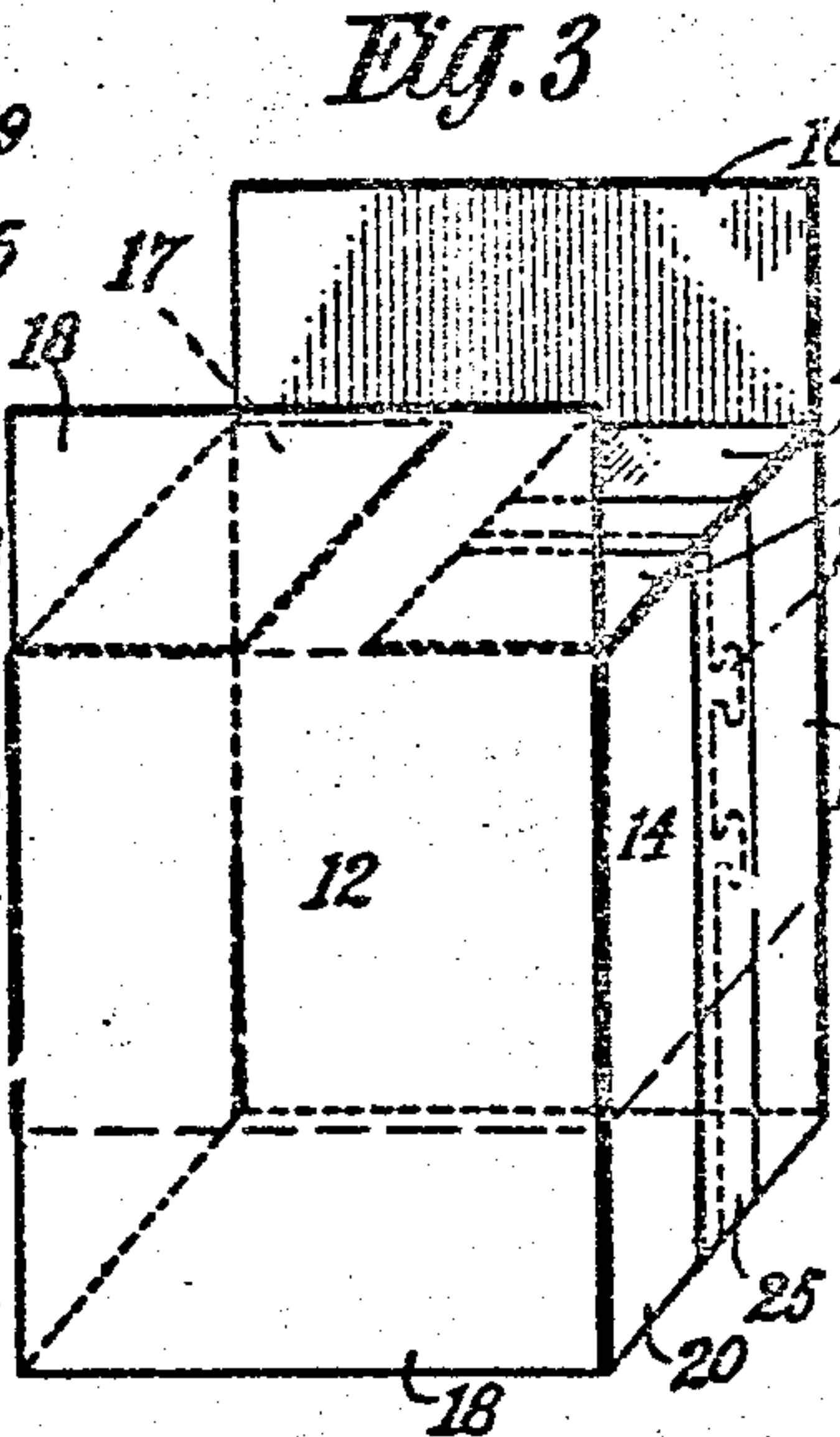
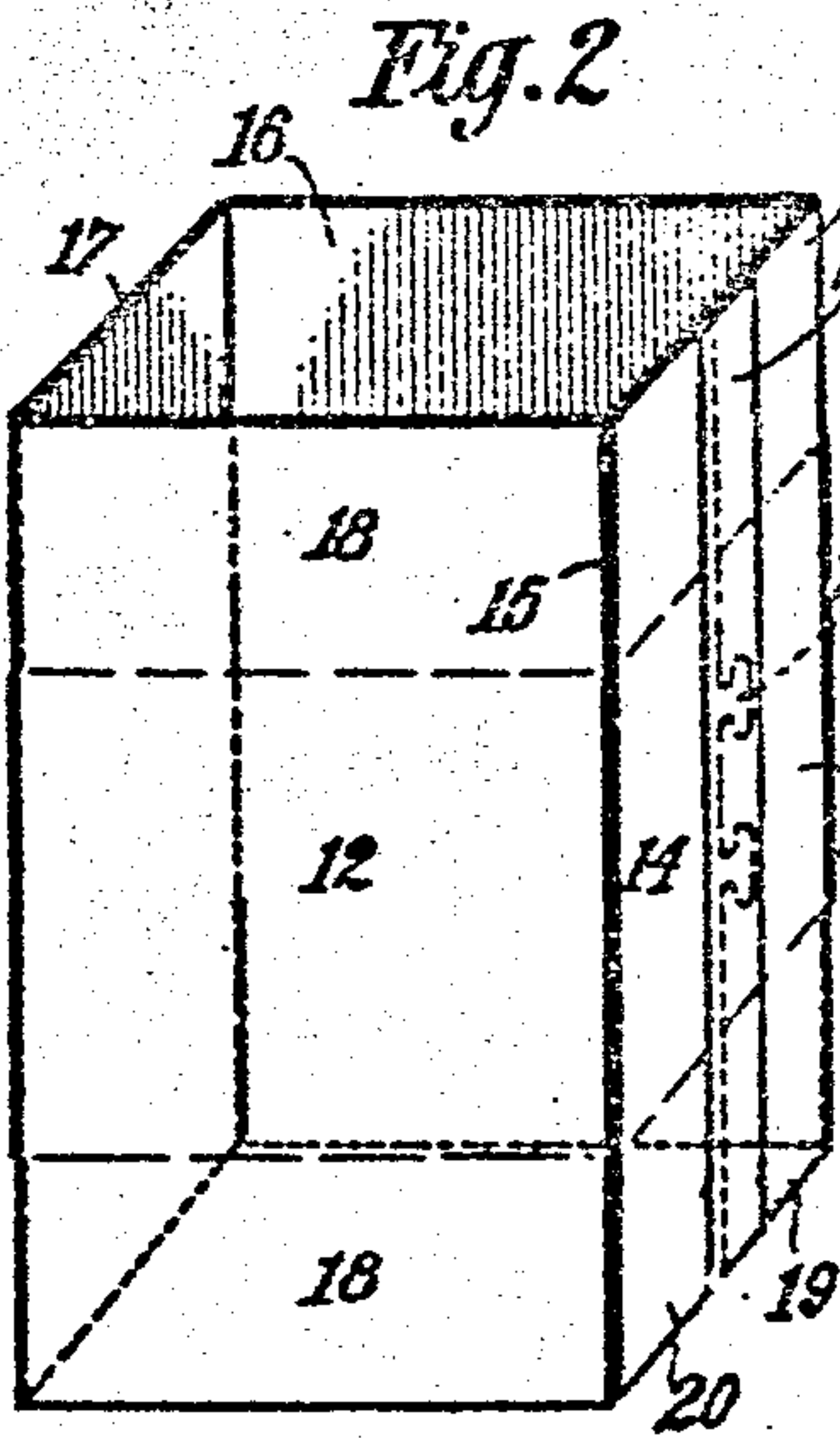
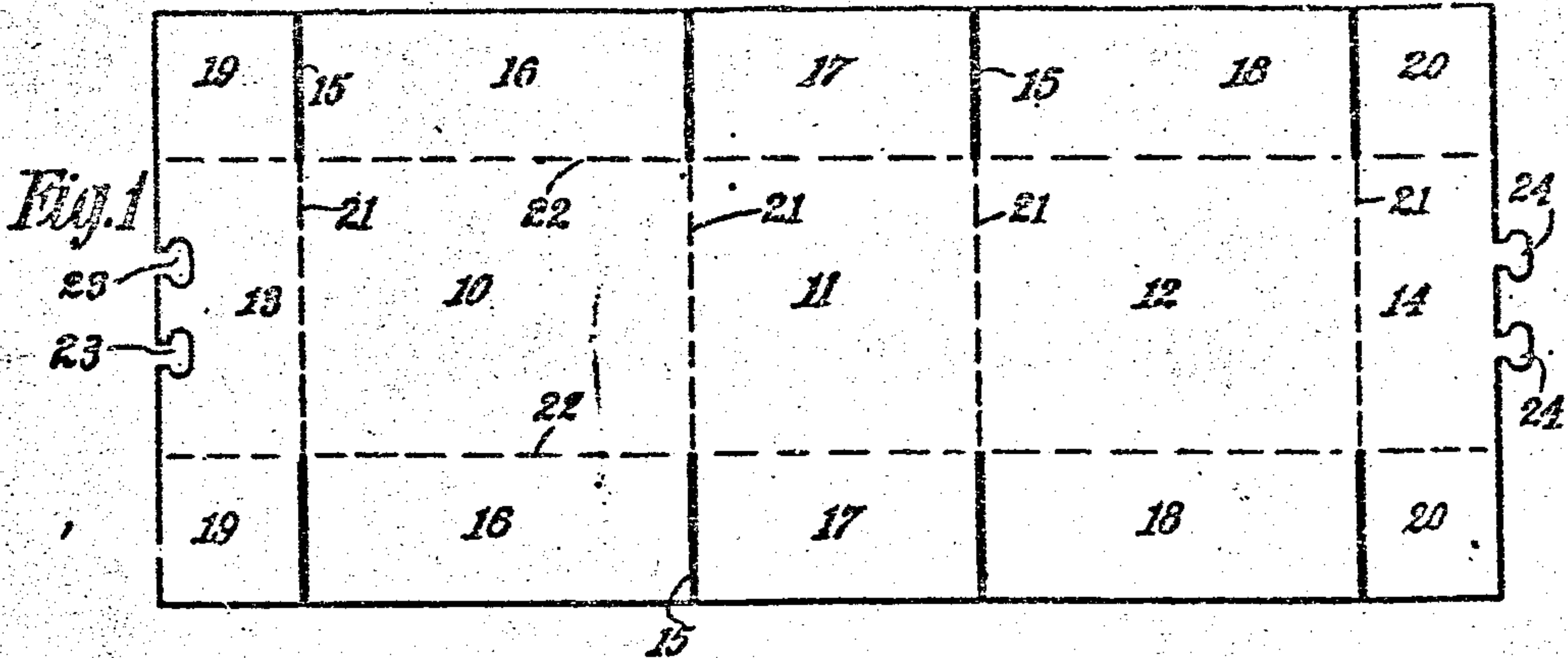
G. W. GAIR, F. BRODERICK & J. G. BEATTIE.

FOLDING PAPER BOX.

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981,993.

Patented Jan. 17, 1911.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## FOLDING PAPER BOX.

981,993.

Specification of Letters Patent.

Patented Jan. 17, 1911.

Application filed May 5, 1910. Serial No. 559,582.

*To all whom it may concern:*

Be it known that we, GEORGE W. GAIR, FRANK BRODERICK, and JAMES G. BEATTIE, all citizens of the United States, residing in the borough of Brooklyn, New York city, in the county of Kings and State of New York, have invented certain new and useful Improvements in Folding Paper Boxes, of which the following is a specification.

10 This invention relates to folding paper boxes made out of a blank having a middle plain zone creased into panels to form the four sides of the box, and two parallel flank-  
15 ing or marginal zones slit transversely into flaps to be folded over and form the top and bottom—the part through which the box is to be filled, and which is closed last, being regarded as the top. Ordinarily the joint be-  
20 tween the ends of a blank of this kind is made at one of the corners, between two of the panels, and secured by a strip of adhesive tape, or by a pasted flap forming an extension of one of the end panels, or by  
25 some equivalent method; but this makes a weak joint in a vulnerable place, and our invention has for its object to do away with such a joint. We accomplish this by pro-  
30 viding a box which has its joint at an intermediate line in one of the side panels and the adjacent flaps, and we also provide an improved form of joint for this location.

Of the accompanying drawings, Figure 1 represents a plan view of the blank for a box constructed according to our invention. Fig.  
35 2 represents a perspective view of said blank with its ends united to form a tube. Fig. 3 represents a similar view showing two of the flaps folded down to start the bottom closure. Fig. 4 represents a similar view of the  
40 box with closed bottom and open top. Fig. 5 represents a similar view showing the box completely closed. Fig. 6 represents a plan view of a modified form of blank.

45 The blank shown in Fig. 1 may be formed by any suitable method out of material such as straw-board, corrugated board, etc., in a single piece comprising a middle zone which consists of a line of intermediate full panels  
50 10, 11, 12 and end part-panels 13, 14 to form the sides of the box, together with two parallel marginal zones transversely slitted at 15, 15 to form full flaps 16, 17, 18 and  
55 part-flaps 19, 20 contiguous to the respective panels, for the top and bottom closures of the box. The panels are marked off from

each other and from the flaps by crease-lines 21, 22 in the usual manner to facilitate the bending of the blank. The height of the panels 16 and 18 is preferably half the width of the panels 11 and 13, 14. We also prefer  
60 to form the edge of one of the part-panels, as 13, with recesses 23 and the edge of the other, 14, with complementary projections 24 constituting a dove-tail or interlocking joint when the blank ends are brought together. 65

In constructing the box from the blank the latter is first formed into a flat tube by bringing its ends together and interlocking the dove-tails and then pasting a suitable strip or tape, such as a cloth tape 25 over the  
70 meeting edges to form a secure joint or union. Fig. 2 shows this tube opened out into rectangular form. Since the joint of this box occurs intermediate of one of the side panels and traverses both this panel and  
75 the adjacent flaps it can be made much more secure and is less vulnerable than the old form of joint which it was customary to make at one of the corners between adjacent  
80 side panels. With this old corner joint the sealing tape or the extension flap which united the panels could not be extended beyond the upper and lower edges of these  
85 panels, and its ends were easily started, so that the joint was much inferior to our improved form and location of joint. It is to be noted also that we retain the ad-  
90 vantage of the old construction which enables the blank to be formed into a tube by joining its ends, and shipped flat in this doubled shape from the maker to the user, which  
95 causes it to occupy less room than a fully extended blank. While a box-blank could be shipped doubled without having its ends joined, our joined blank or box-tube is more  
100 marketable than either an unjoined blank or a corner-joined one in that it saves to the customer the time and labor of joining the ends, besides affording a more secure and  
105 extensive joint and one whose extremities are protected in the complete box, as hereinafter pointed out.

The dove-tails or interlocking recesses and projections 23, 24, while not indispensable to our invention, serve to strengthen the joint  
110 against pulling apart, and since they are located in a flat panel under the adhesive tape 25, we prevent any springing of the interlocking members which would tend to un-  
lock them or loosen the tape, as in certain



instances where dove-tails have been formed at a corner joint with a differently-arranged blank. These dove-tails also resist strain in the plane of the panel 13, 14 better than corner dove-tails, by reason of their lying entirely within said plane.

It is of course not essential that the joint shall come exactly in the middle of the panel 13, 14.

When the flat tube reaches the user and is to be formed into a box, it is opened out into a rectangular tube and one of the ends closed by bending over the flaps to form the bottom wall of the box. Either end may be closed first and Fig. 3 represents the method preferably pursued, which is to first turn in the jointed flap 19, 20 and the opposite flap 17 to bring them on the inside and protect the flap portion of the tape 25. The outer sides of these flaps may be coated with adhesive material before turning over the flaps 16, 18. After the bottom is closed the box is reversed as shown in Fig. 4 and is then ready to receive its contents through the open top end, the weight of said contents, if they are of a heavy character, serving to hold the adherent bottom flaps under pressure, and after the box has been filled the top flaps may be closed in the same manner as the bottom flaps, that is by first bending in the jointed flap 19, 20 carrying the end of tape 25, and its opposite flap 17, applying adhesive material if desired, and then bending in the other flaps 16, 18. This completes the closure of the box, and the top and bottom joints may if desired be perfected by covering them with pasted strips 26 of paper or cloth.

Fig. 6 shows a blank of the same form as in Fig. 1, without the dove-tail interlocking members, and this blank may be made up into a tube and then into a box in the manner above-described.

We do not claim novelty for the blank shown in Fig. 6 as it has been proposed to use a blank of this general form, but folded in a different manner, so that the top

wall is formed by the part-panels and the part-flaps, which are left open or unjoined until the box is filled. This of course renders impracticable the use of our improved form of joint and the method of making it. Our invention possesses the advantages, among others, that the blank can be partially closed to form a tube as described, the joint of which may be taped to make a strong union before being sent out by the manufacturer, and our box furthermore does not require any jig or form in setting it up to be filled.

We claim,—

1. A collapsed tubular paper box, made from a blank scored to form side panels and slit to form top and bottom flaps, the joint of said tube being on a line intermediate one of the side panels and the adjacent flaps, the flaps of said blank being adapted to be bent over to form the top and bottom walls, and a pasted strip covering the joint-line across the jointed panel and flaps and leaving the flaps free to be folded or unfolded.

2. A collapsed tubular paper box, made from a blank scored to form side panels and slit to form top and bottom flaps, the joint of said tube being on a line intermediate one of the side panels and the adjacent flaps, the meeting edges of the said joint being provided with interlocking dovetailed members, the flaps of said blank being adapted to be bent over to form the top and bottom walls, and a pasted strip covering the joint line across the jointed panel and flaps and leaving the flaps free to be folded or unfolded.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses, this second day of May 1910.

GEORGE W. GAIR.  
FRANK BRODERICK.  
JAMES G. BEATTIE.

Witnesses:

T. BEATTIE, Jr..  
WM. KENNON.