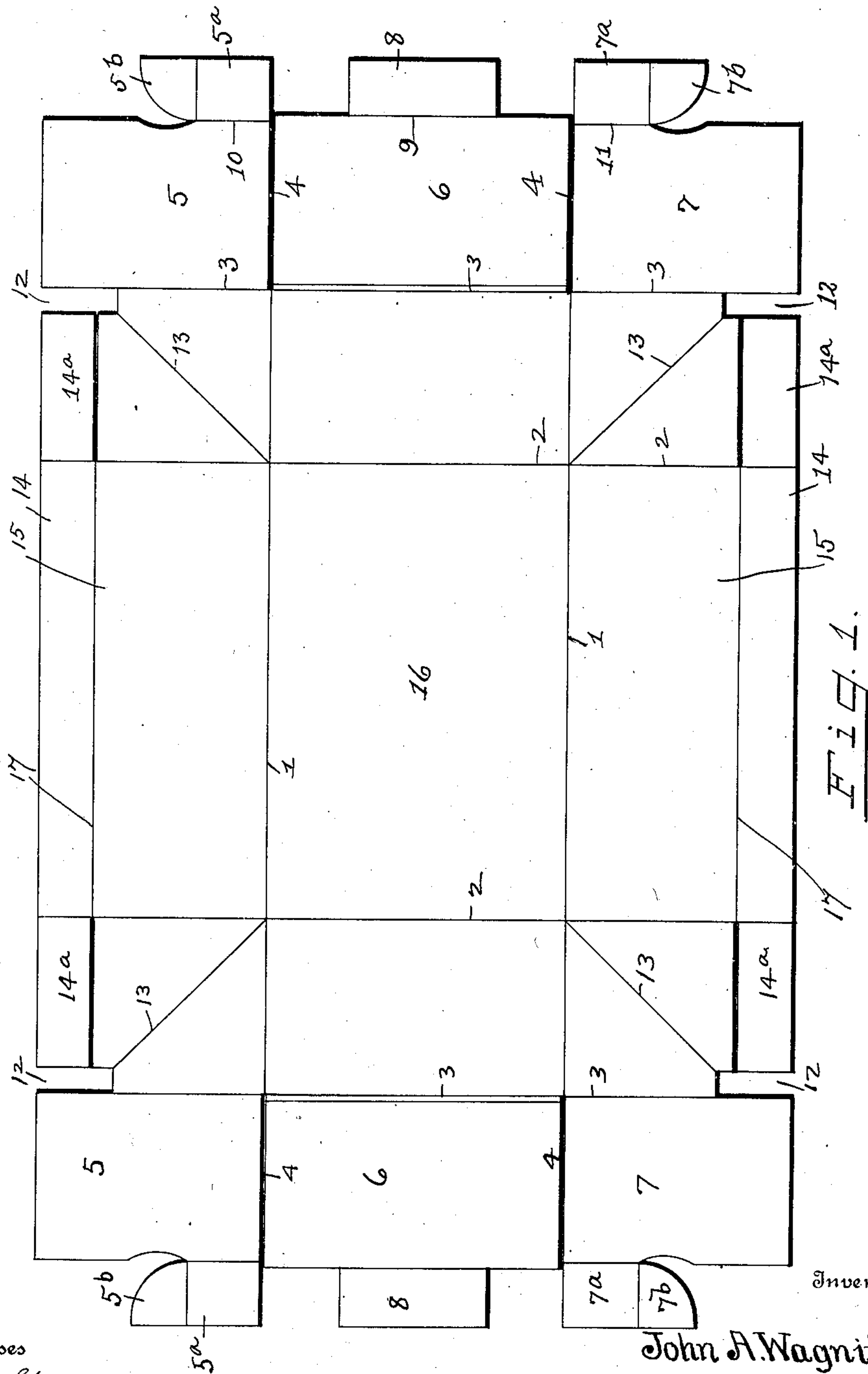


J. A. WAGNITZ.
FOLDING BOX.
APPLICATION FILED JUNE 7, 1909.

956,236.

Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

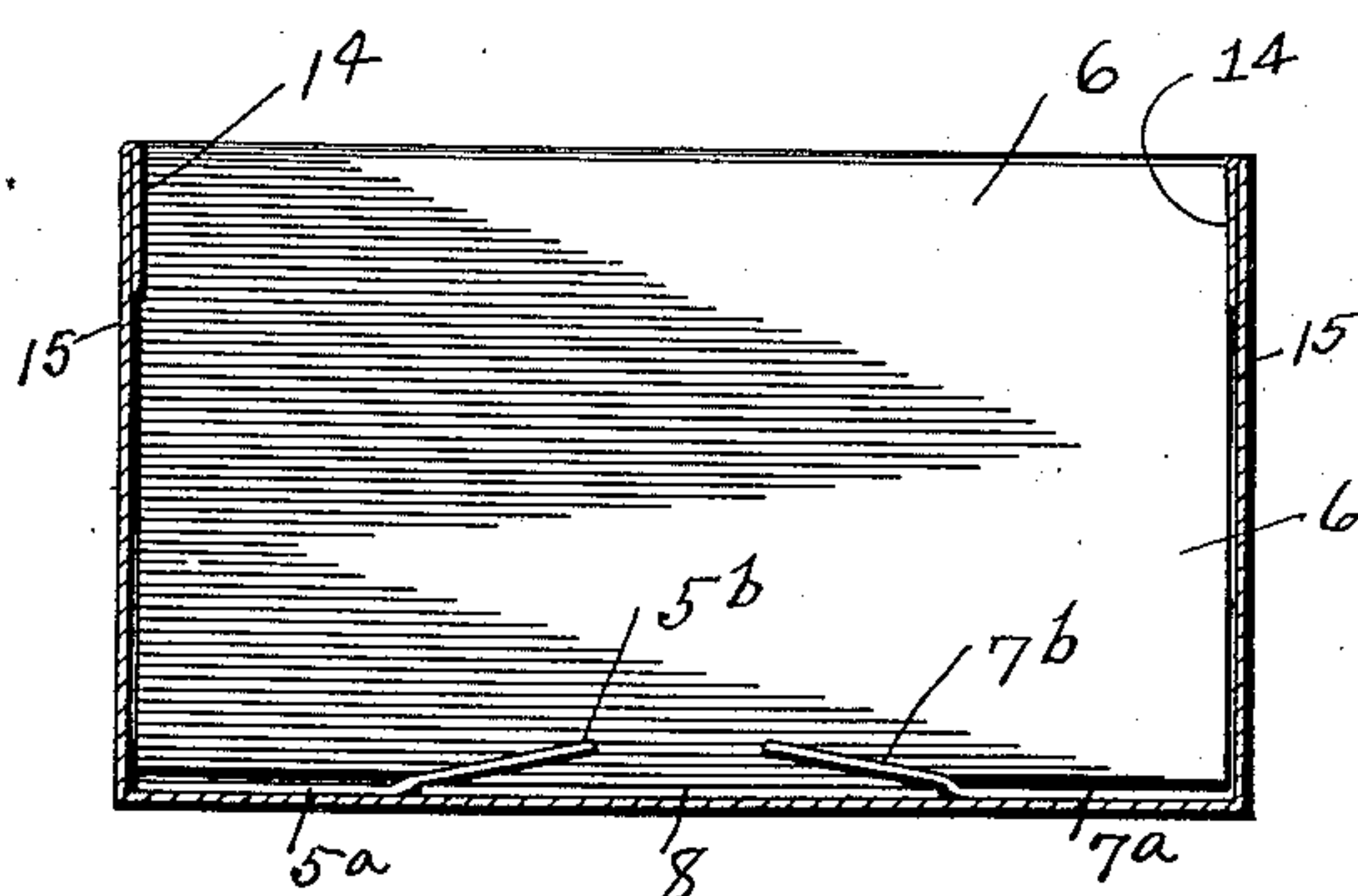
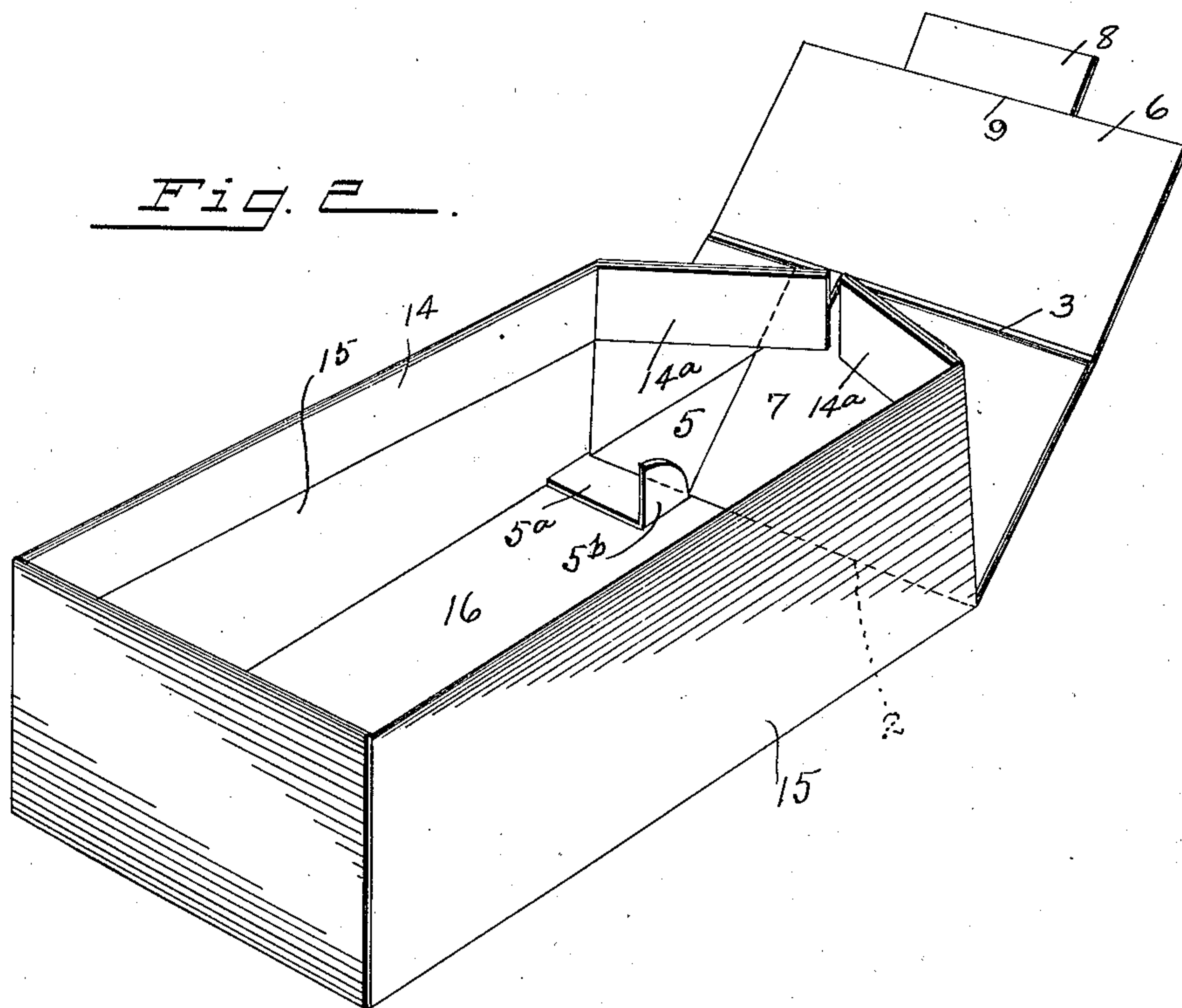


Fig. 3.

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UNITED STATES PATENT OFFICE.

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FOLDING BOX.

956,236.

Specification of Letters Patent.

Patented Apr. 26, 1910.

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To all whom it may concern:

Be it known that I, JOHN A. WAGNITZ, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Folding Boxes, of which the following is a specification.

My invention relates to the improvement of folding boxes, and the objects of my invention are to construct from a box blank of paper, pasteboard, cardboard or similar material, a strong, durable, well braced box or box-lid body which will present a neat and attractive appearance when completed; to provide improved means for locking the box ends in position; to provide improved reinforcements for the upper marginal portion of the box body and to produce other improvements which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which:

Figure 1 is a plan view of the box blank or sheet from which the box is to be formed in the manner hereinafter described, Fig. 2 is a view in perspective of the box showing one of its ends completed and its remaining end partially folded together, and, Fig. 3 is a transverse section of the box when completed.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention, I employ a box blank of suitable material, which blank as shown in Fig. 1 of the drawing, is of a general oblong form. In preparing to convert the blank into a folded box, I have provided certain scored bending lines, which I have indicated by straight light lines in the drawing, while the cuts or lines on which cuts are made to separate certain portions of the blank, are indicated by heavy black lines.

On opposite sides of the center of the width of the blank, are parallel score lines 1, which form the inner side boundaries of the box. These score lines are intersected at right angles by score lines 2, which form the inner end boundaries of the box. Each of the outer ends of the blank beyond the score line 2, has formed therein a second or outer transverse score line 3, which is parallel with the line 2 and which eventually forms the top line or boundary of the box end wall. Beyond or on the outer side of the score line 3, straight parallel cuts 4

are formed on extensions of the lines 1, thus separating the end portion of the blank into members or wings 5, 6 and 7. The central member 6 thus constructed, is formed at its outer end or edge, with a tongue extension 8 between which and the member 6, is provided a score line 9. The inner portion of each of the members 5 and 7, is also provided with an extension, which extensions are indicated at 5^a and 7^a, these extensions being separated from the members 5 and 7 by score lines 10 and 11 and each of said extensions is formed with an outward extension or catch member, which members are indicated at 5^b and 7^b.

Inside of each of the score lines 3, on each side of the blank there is cut in said blank an oblong recess 12 and from the end of the inner edge of said recesses, a score line 13 extends diagonally to the junction of the corresponding score lines 2 and 1. Between the recesses 12 on each side of the blank, a reinforcing strip 14 is provided which is formed by bending inward on the score line 17 the outer marginal portion of the blank. That portion of each of said strips which is between the score lines 2, is rigidly secured to the inner surface of the blank, while the portions beyond the lines 2, which lines pass through said reinforcing strips are severed along the extensions of the line 17 and are bent or hinged on said lines 2 and form independent reinforcing tongues 14^a.

That portion of each side of the blank, which is on the outer side of the score line 1 and between the lines 2 and which is indicated at 15, is adapted in the manner hereinafter described, to form the vertical box side, while the space which is bounded by the score lines 1 and 2 and which is indicated at 16, is designed to form the box bottom.

It will be understood that the description which is given hereafter, of the manner of folding one end of the box into connection with the sides thereof, will apply to the opposite end as well, the ends of the blank being alike.

In producing the box from the blank, it will be understood that the sides 15 are folded upward on the lines 1 to positions at right angles with the bottom member 16. The members or wings 7 and 5 are then swung inward against the extensions of the sides 15, or those portions which are on the outer sides of the line 2. The members 5

and 7 which are thus bent inward against the inner walls of the side extensions, are now bent downward toward each other, said side end extensions at the same time being bent on the lines 13, thus doubling the triangular portions on opposite sides of said diagonal score lines, one against the other. As the members 5 and 7 are thus bent toward each other, one of said members, which in the drawing we have indicated at 7, has its outer end portion or tongue formed by the provision of the recess 12, inserted between the inner face of the member 5 and the outer half of the side extension, which is bent on the score line 13. In this position the lateral extension or tongue of the member 5, formed by the production of the recess 12 on the corresponding side of the blank, lies between the inner or rear face of the member 7 and the inner face of the upturned end portion of the blank, which is bent on the score line 2 and which lies between the lines 1.

The reinforcing strips 14 are bent inward on the line 17 and the tongue extensions 14^a of the side reinforcements 14 will lie against the inner faces of the partially formed upright end wall members, in the manner indicated in Fig. 2 of the drawing. In completing the box end, the end member 6 is folded inward and downward over the heretofore folded members, the outer surface of the blank member 6 thus forming the vertical inner face or wall of the box end. When said member 6 is in this upturned position, its tongue 8 is bent at right angles therewith on the line 9, in which position said tongue is adapted to have the upper side of its end portions, engaged by the tongue projections 5^b and 7^b of the member extensions 5^a and 7^a, the latter having first been bent inward to lie upon the upper side of the bottom of the box in the manner indicated in Figs. 2 and 3 of the drawing. The end tongues 8 being thus locked in connection with the bottom of the box at each end thereof, it will be understood that substantially integral box ends will be formed which cannot readily be separated.

It will be observed that by the folding process described, at the ends of the box, said box will have imparted thereto a plurality of thicknesses, which will insure a desired rigidity of the box end, the strength of which is increased by the provision of

the reinforcement extensions 14^a. It will also be observed that the folded intermediate members at the end of the box, are completely covered from view by the end member 6, thus imparting to the interior of the box end, a smooth vertical wall appearance, which does not disclose to the eye the folded end construction.

It will be observed that my improved box is formed as described, without the aid of glue, paste or other fastening material.

From the foregoing description, it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise construction set forth, but includes within its purview such changes as may be made within the scope of the appended claim.

What I claim, is:

In a box construction, a blank comprising a single sheet of foldable material having transverse parallel end score lines extending across the blank, the material on the outer side of the outer score line being separated into three members, the outer members having outward extensions provided with bendable tongues as described and the intermediate or central member having a projecting tongue extension separated from the body of the member by a score line, said outer members adapted to be folded inward against extensions of the box side walls which are formed by bending the sides of the blank upward on parallel side score lines, said side wall extensions having diagonal score lines on which said extensions are doubled when said outer end members are turned inward to overlap each other, the central end member being adapted to be bent inward and downward over the inwardly folded outer end members, and the tongue projection of said central end member being adapted to be engaged by the tongue terminations of the extensions of the outer end members.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. WAGNITZ.

Witnesses:

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A. L. PHELPS.