

F. A. REBENTISCH.

BOX.

APPLICATION FILED JULY 17, 1909.

953,290.

Patented Mar. 29, 1910.

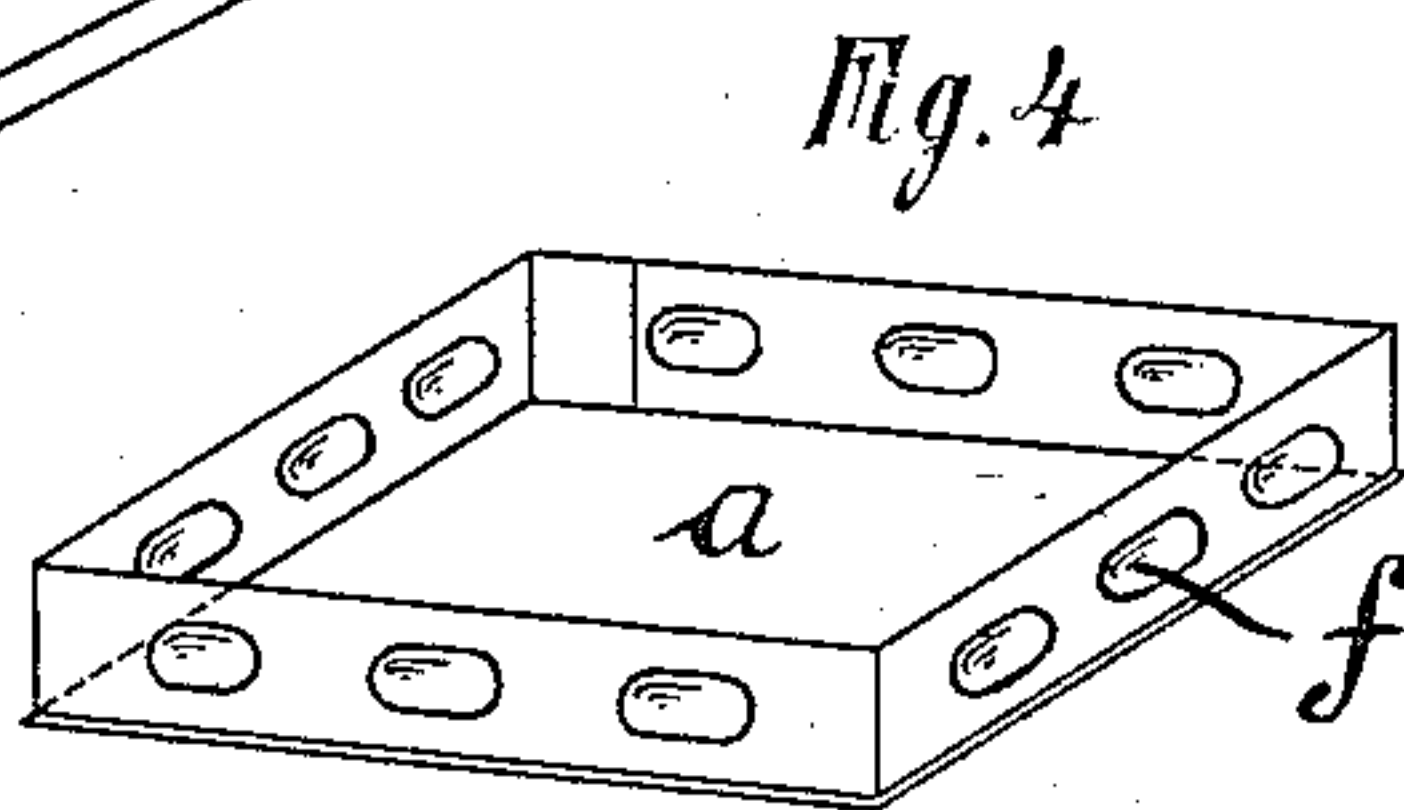
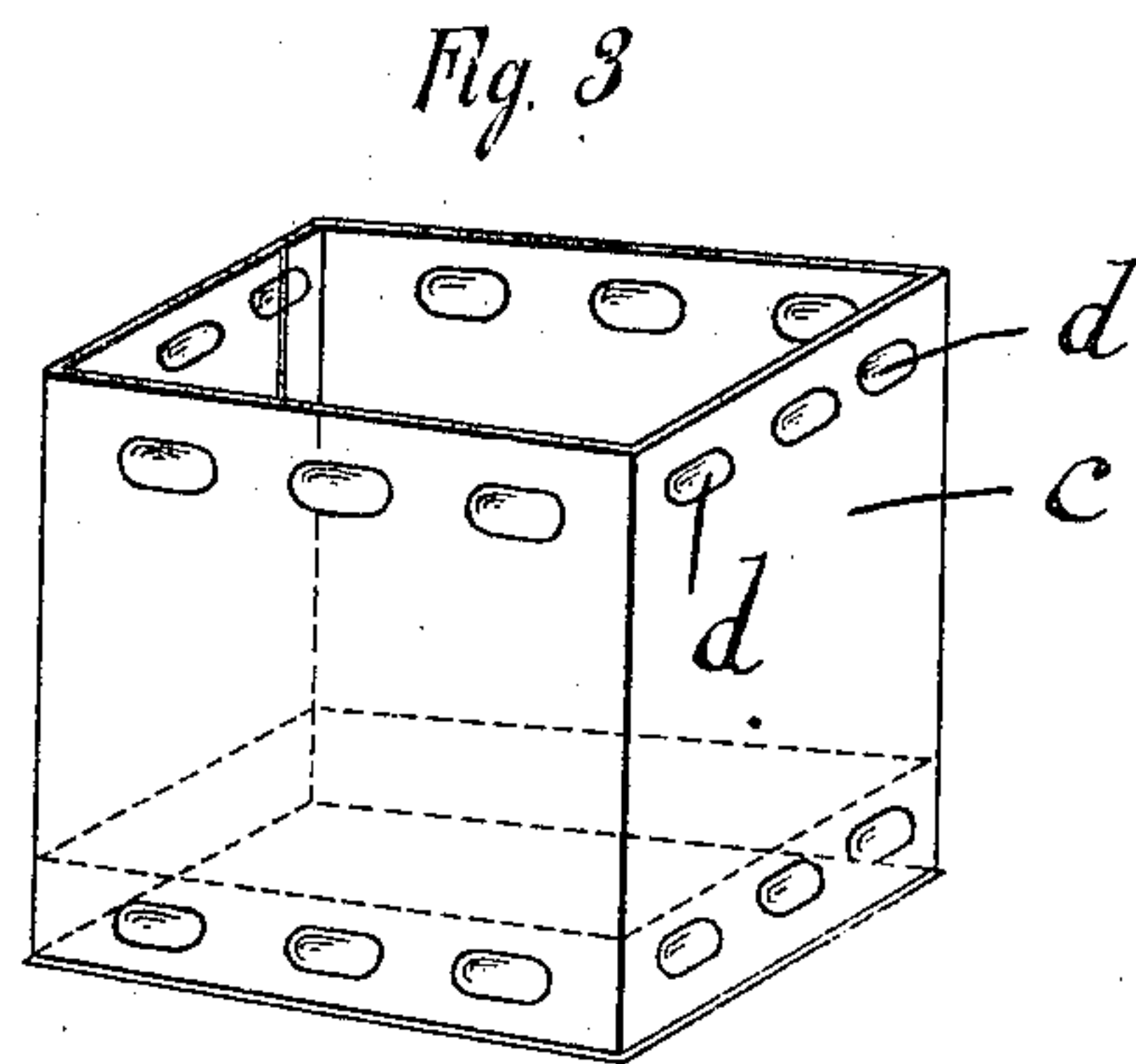
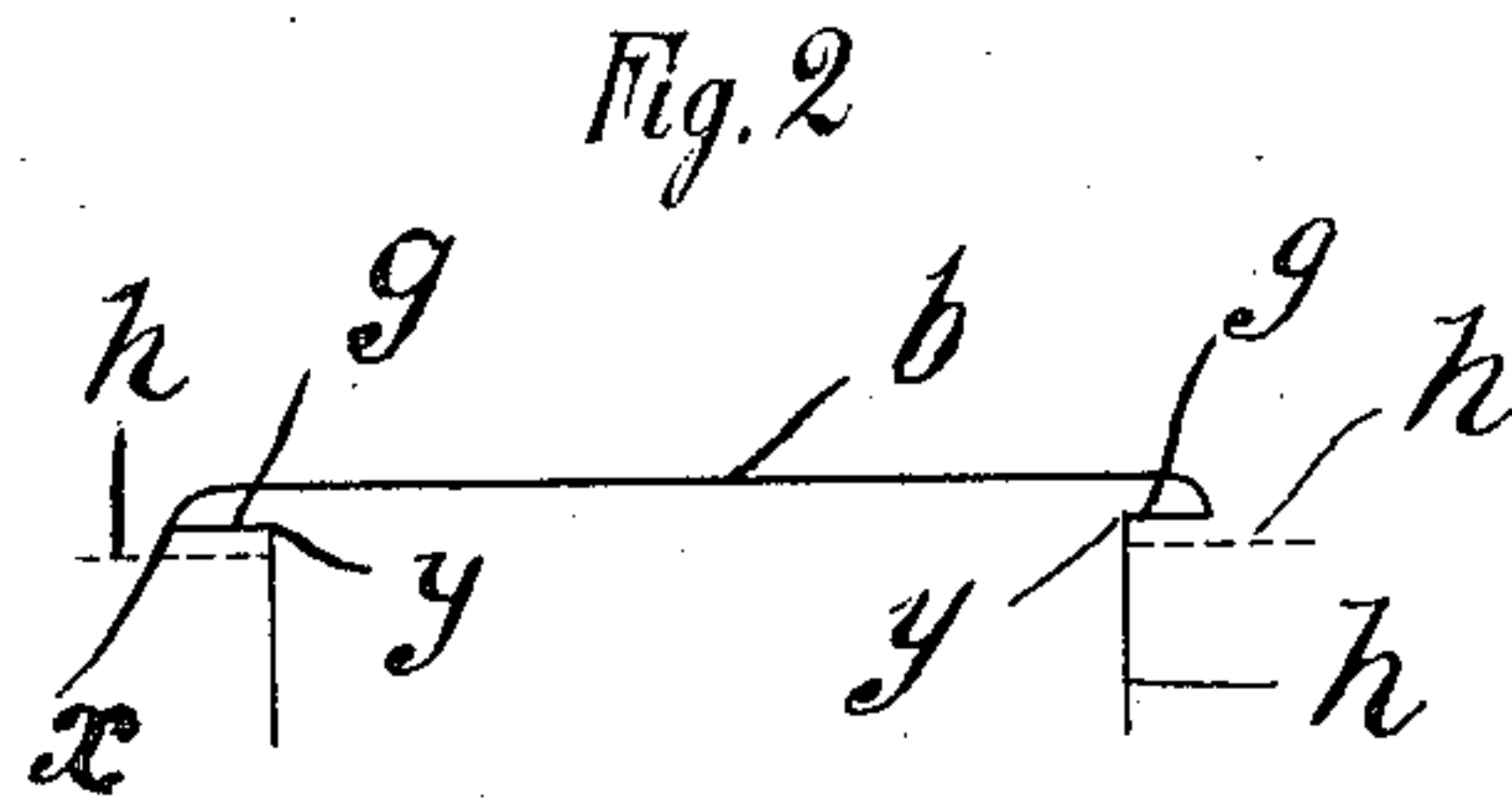
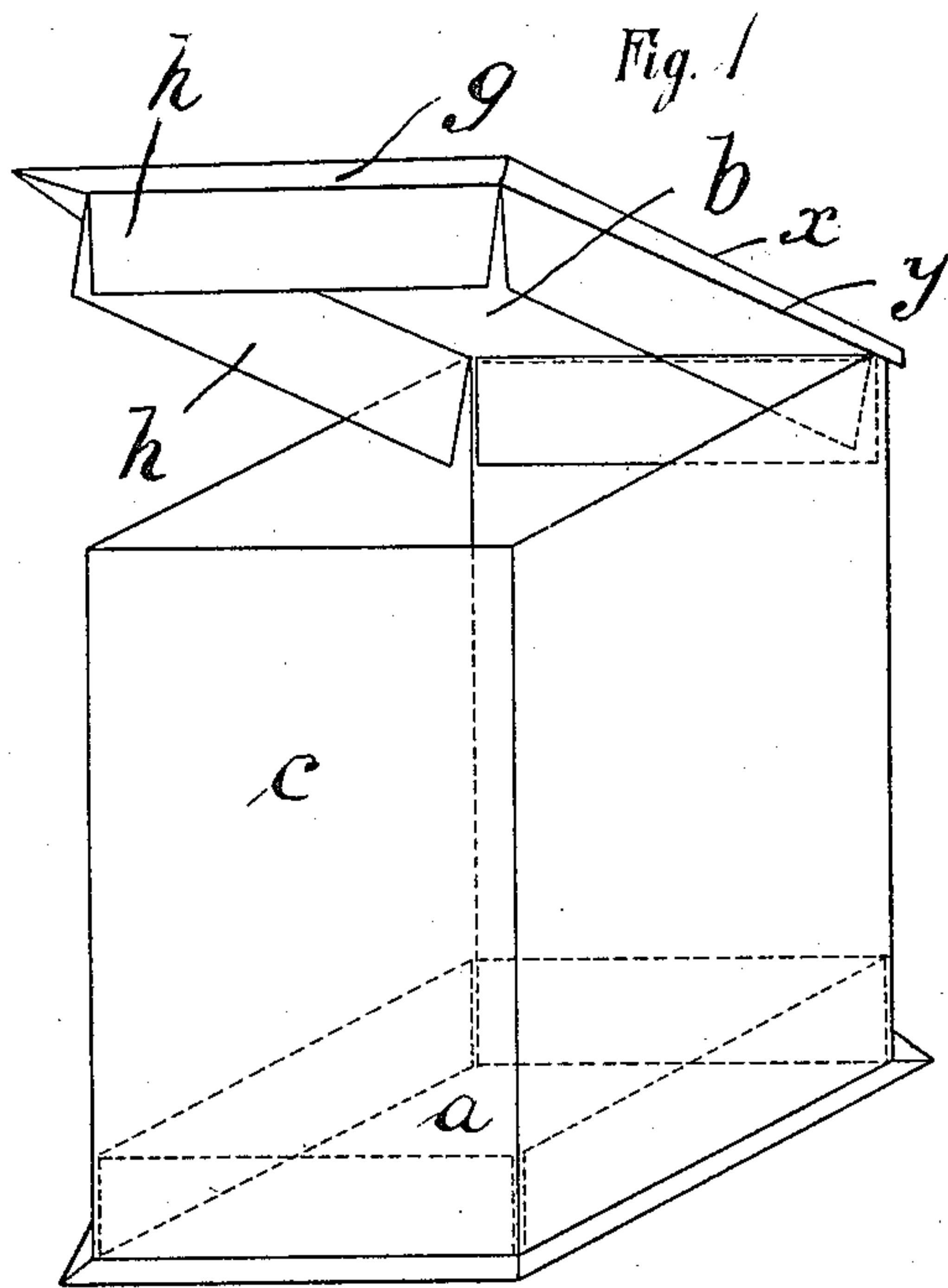


Fig. 5

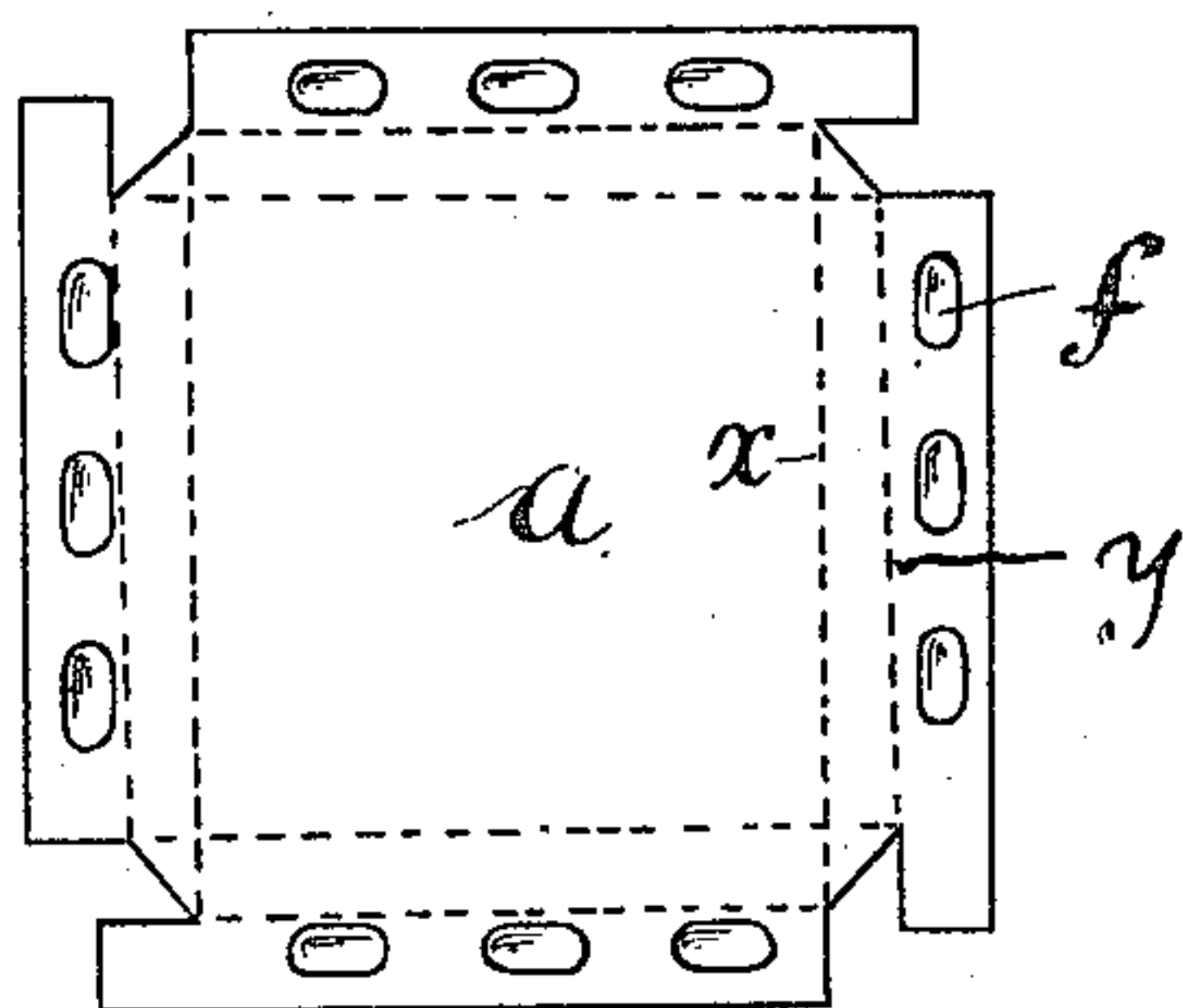


Fig. 6

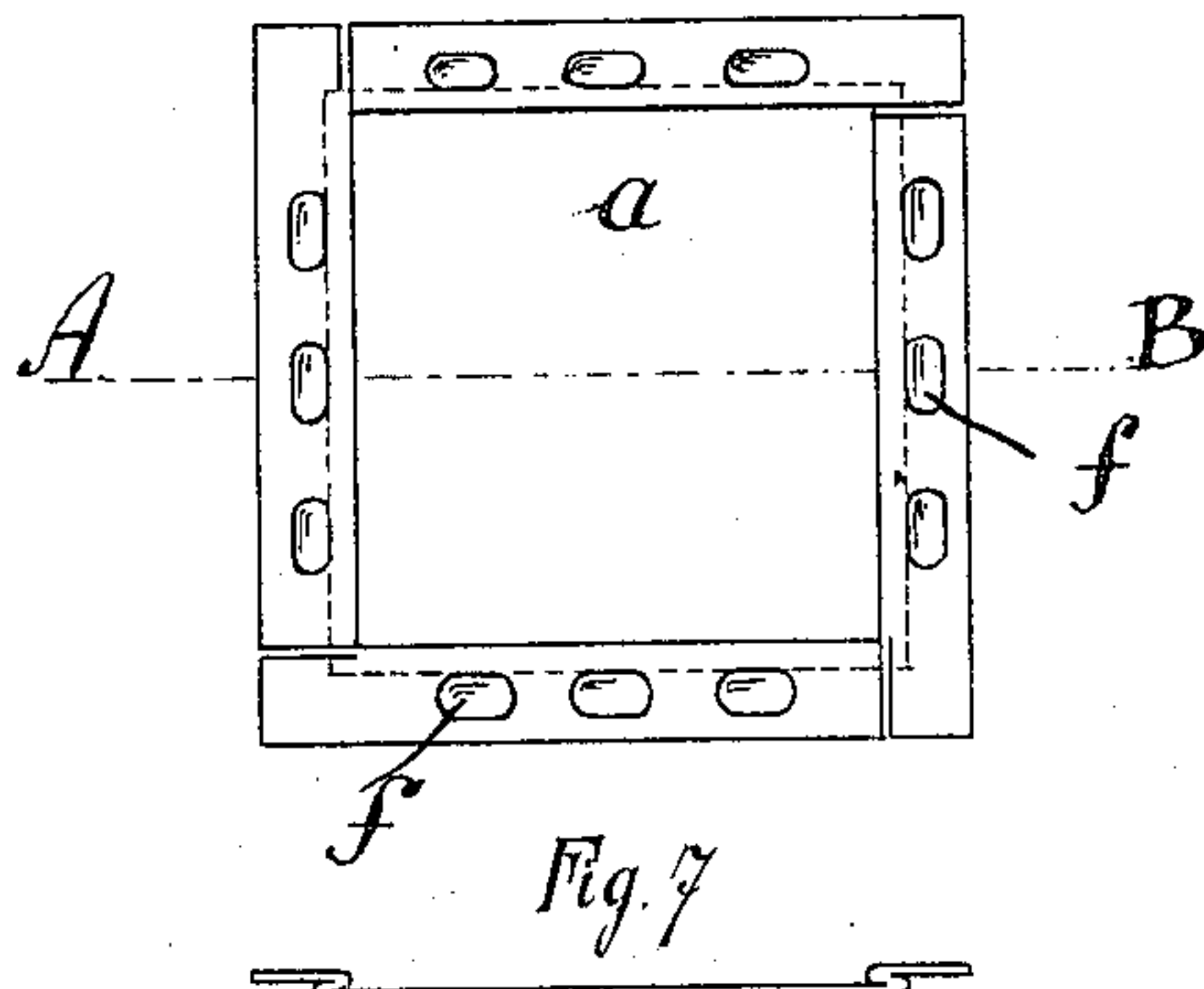


Fig. 7

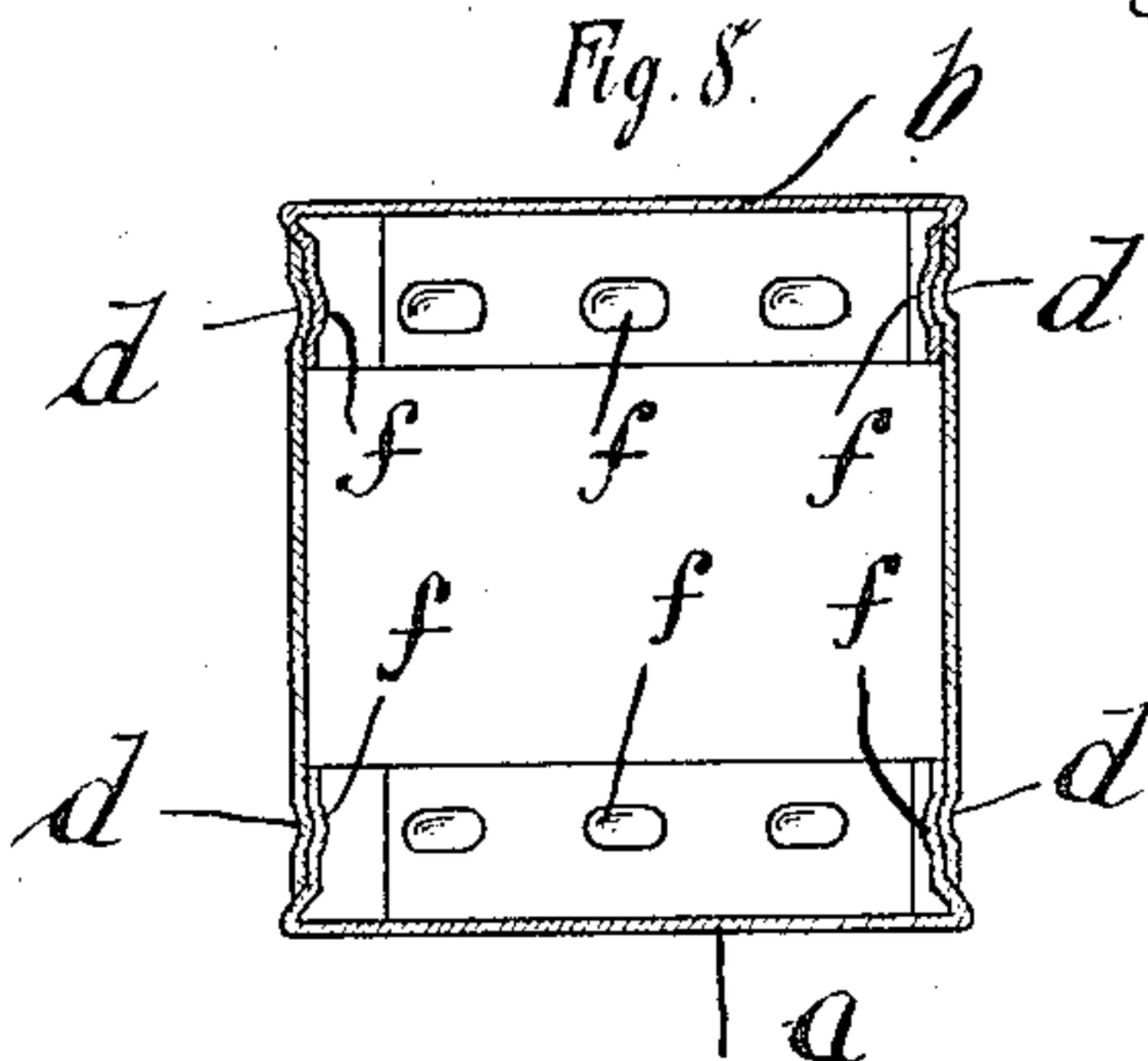


Fig. 8

Witnesses

Amorill
A. E. Hathaway

INVENTOR

F. A. Rebentisch

by *Phadon*
Attorney

UNITED STATES PATENT OFFICE.

FRIEDRICH ADOLF REBENTISCH, OF IMMIGRATH, GERMANY, ASSIGNOR TO ALBERT STAHN, OF HANOVER, GERMANY.

BOX.

953,290.

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To all whom it may concern:

Be it known that I, FRIEDRICH ADOLF REBENTISCH, a subject of the Emperor of Germany, residing at Immigrath, Rheinland, Germany, have invented certain new and useful Improvements in Boxes, of which the following is a specification.

This invention relates to the manufacture of boxes and its object is to provide box-lids and box-bottoms, each made in one piece which can be folded flat when detached from the body of the box, and adapted to make tight joints with the walls of the box by virtue of natural elasticity or springiness of the material.

The invention consists in part in the manner of folding the blanks from which the lids and bottoms are made, and in part in the provision of means for the engagement of the said lids and bottoms with the walls of the box.

Constructions embodying these improvements are shown in the accompanying drawing.

Figure 1 is a perspective elevation of a box, with the lid partly raised. Fig. 2 shows the manner in which the lid and bottom of the box are folded. Fig. 3 is a perspective elevation of a box without lid, and Fig. 4 an elevation of a part adapted to serve either as the bottom or as the lid of the said box. Fig. 5 is a plan-view of the blank from which the lid or bottom is made, and Fig. 6 a plan-view of the same, folded. Fig. 7 is a section on the line A—B of Fig. 6, and Fig. 8 a vertical section of a box with the lid closed down.

In Fig. 1, a represents the bottom, and b the lid, of the box c . In making the lid b from a flat blank, cut to suitable shape, the material is folded along lines $x-x$ parallel with the edges of the blank. Parts h h of the inwardly folded portions are then again folded outward along lines $y-y$ upon the parts g g , into horizontal positions as indicated by dotted lines h^1 . The tendency of the material is to retain approximately the shape imparted to it by the folding. If, therefore, the flange-parts h are bent downward into the vertical positions indicated by solid lines in Fig. 2, they have a natural tendency to spring outward again. This tendency is utilized for producing a tight joint between the lid and walls of the box c , the flanges h being inserted into the box,

against the walls of which they are elastically pressed. The flange h^2 at one edge of the lid may be fixed to the box by means of adhesive, or other means; in this case the function of the fixed flange h^2 is analogous to that of the strap of a hinge.

The bottom a is made in exactly the same manner as the lid b , but in most cases it is, of course, preferable to permanently fasten all the flanges of the bottom to the walls of the box.

Instead of being rectangular the box may be triangular, pentangular, or of any other polygonal shape.

The walls of the box and the flanges of the lid and bottom may have projections on one part adapted to enter apertures in the other part. These may take the form of concavo-convex indentations, marked d and f respectively, (Figs. 3 to 8) for the purpose of engaging each other. Fig. 5 shows the indentations f made near the edges of a blank from which the lid or bottom is to be made. Figs. 6 and 7 show the same blank after being folded, the flanges being still in horizontal position. The indentations d and f are so positioned that when the lid and bottom are placed in position on the box each indentation f engages an indentation d . This engagement, combined with the springy action of the flanges, makes a very firm connection, capable of resisting considerable strain without reinforcement by means of adhesive, clamps or the like.

Any convenient number of engaging parts may be used; in some cases it may be sufficient to have only two places of engagement, at opposite sides of the box. In general, of course, the number required is inversely proportional to the convexity of the protuberances. The material used for manufacture of the box may be cardboard, sheet-metal or any other material adapted for the purpose.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

The herein described box comprising in combination with a body of polygonal shape constructed of card-board and having adjacent its upper edge concavo-convex recesses, a box head of polygonal shape formed from a single sheet of card-board and having its edge parts bent inwardly along lines parallel with and at a distance from its

straight edges, and thereafter bent outwardly along lines nearer to said edges to form resilient flanges around the several sides of the head, said flanges being dis-
5 connected at their ends to permit them to have independent movement, and being formed at intervals with concavo-convex projections stamped in them coincident with the recesses in the box body, whereby the

springy action of said flanges, together with 10 the engaged projections and recesses will retain the head upon the body.

In witness whereof I have signed this specification in the presence of two witnesses.

FRIEDRICH ADOLF REBENTISCH.

Witnesses:

L. VANDER LAUN,
M. BEHNE.