

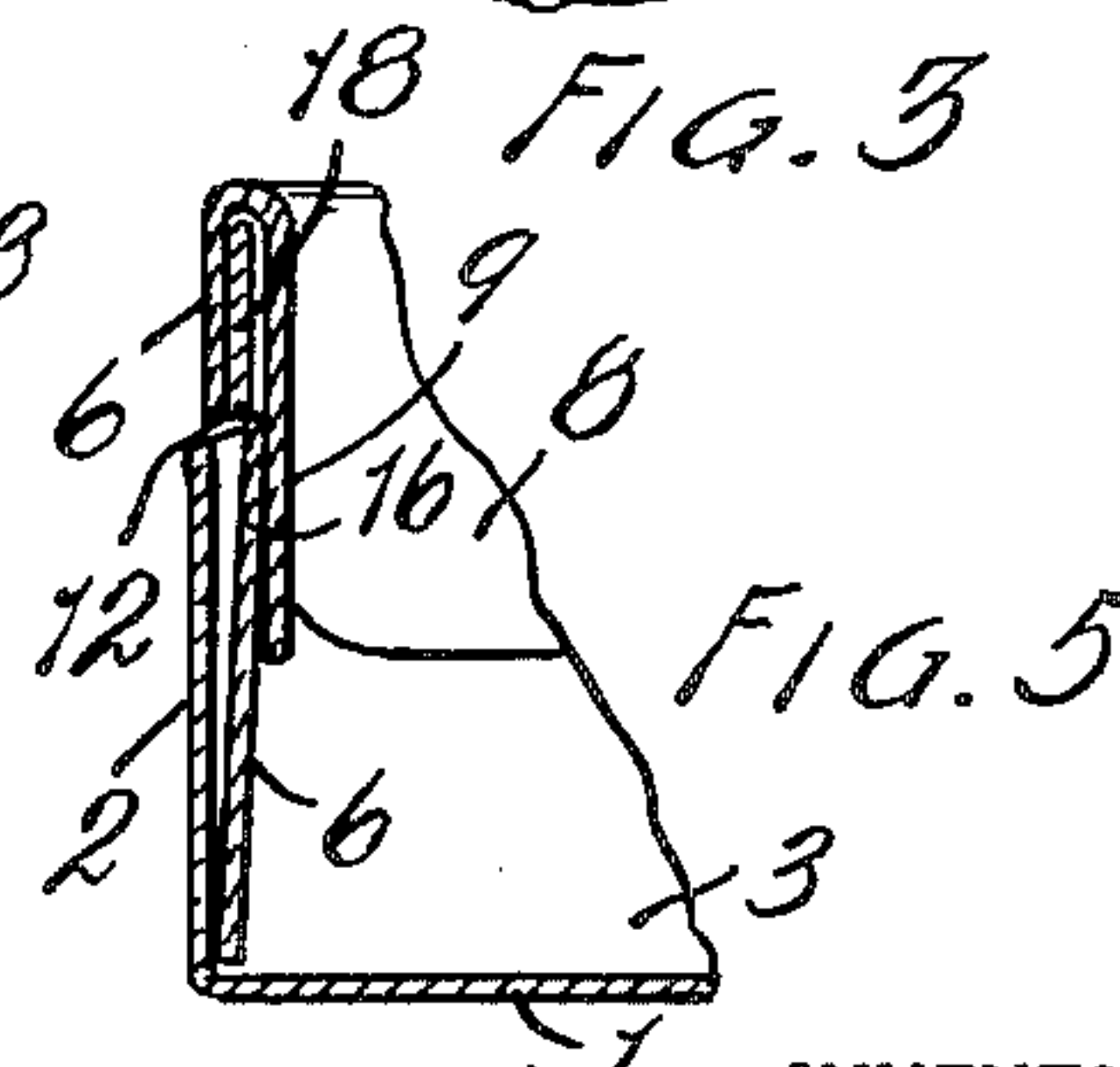
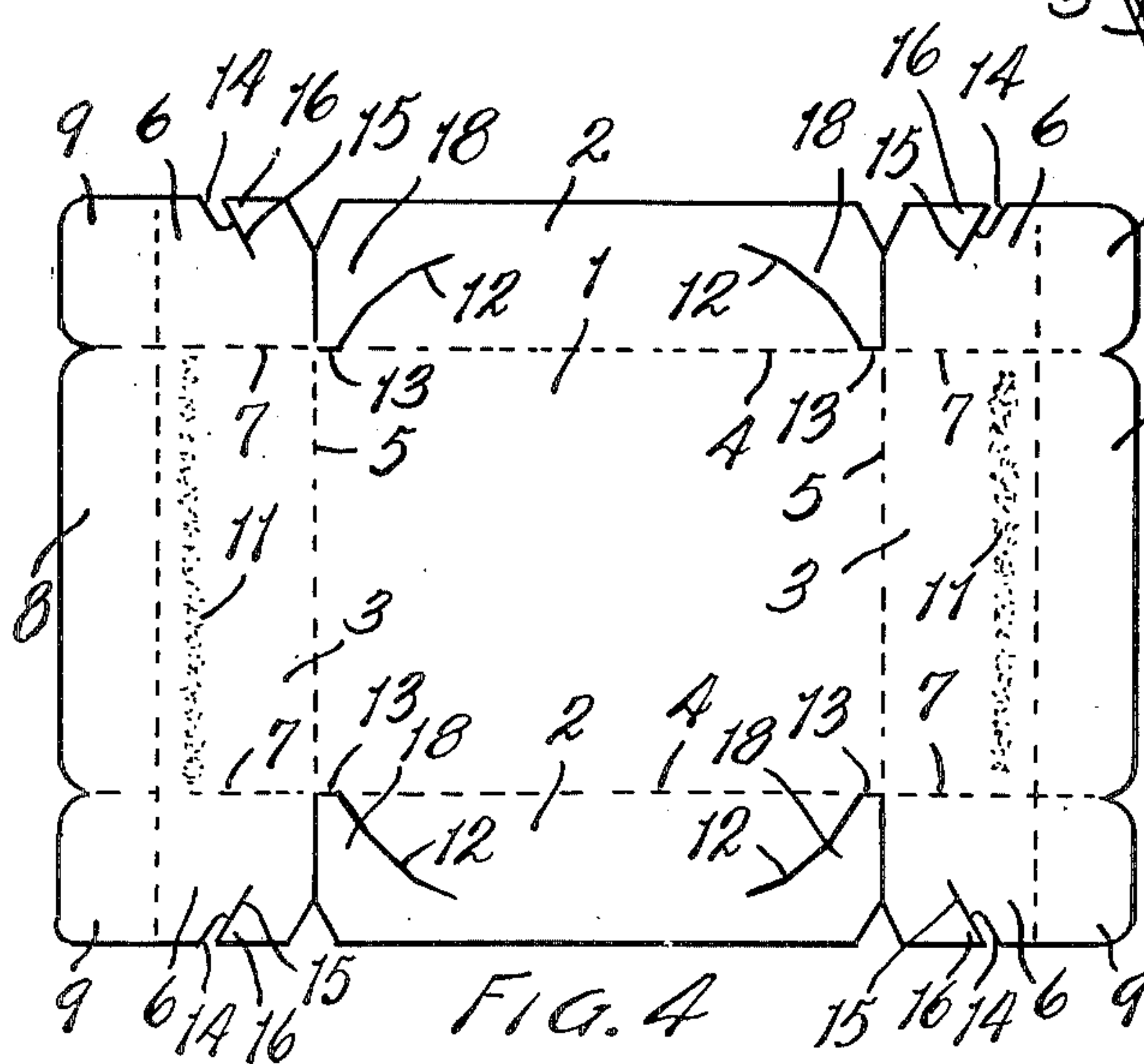
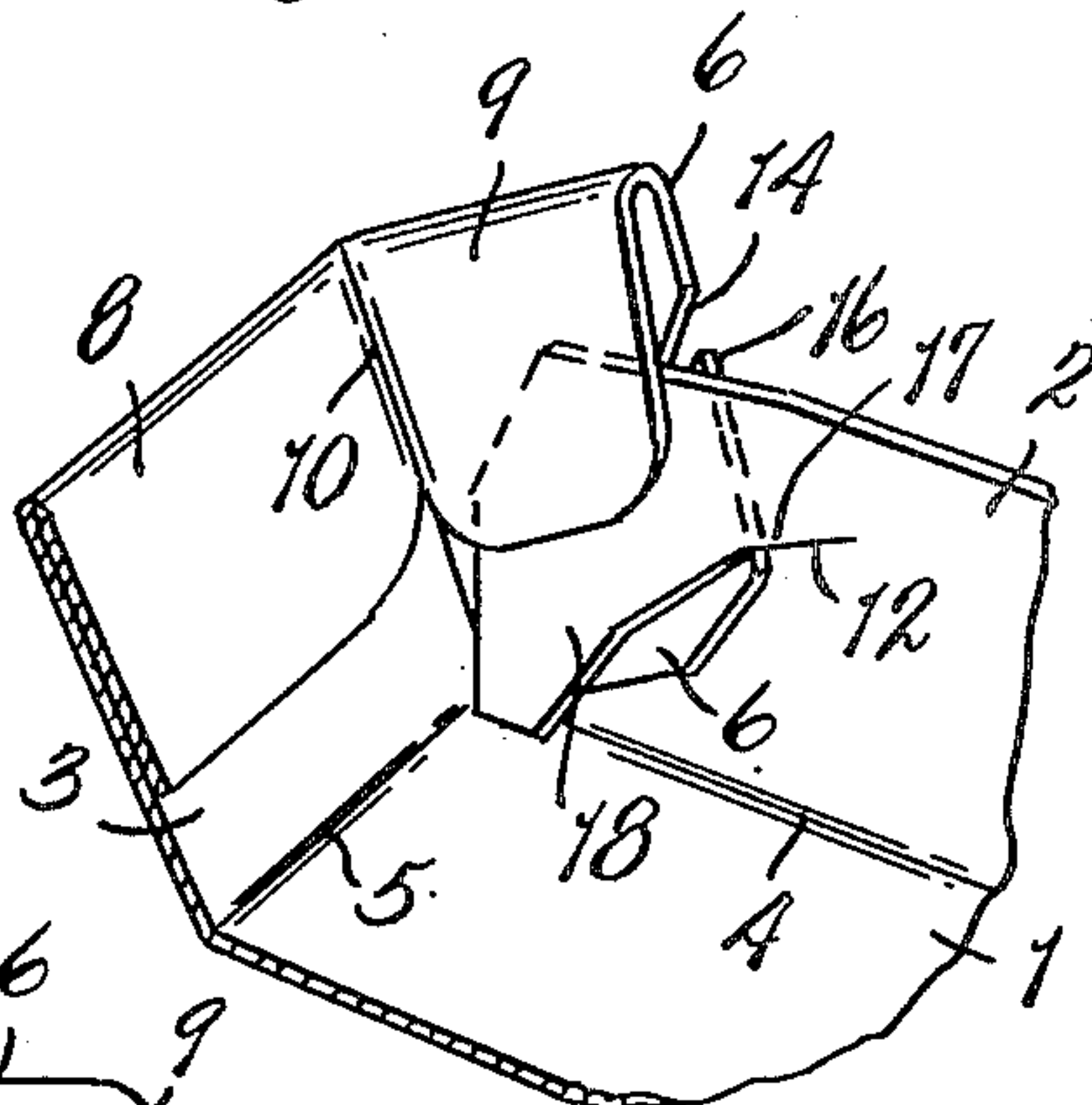
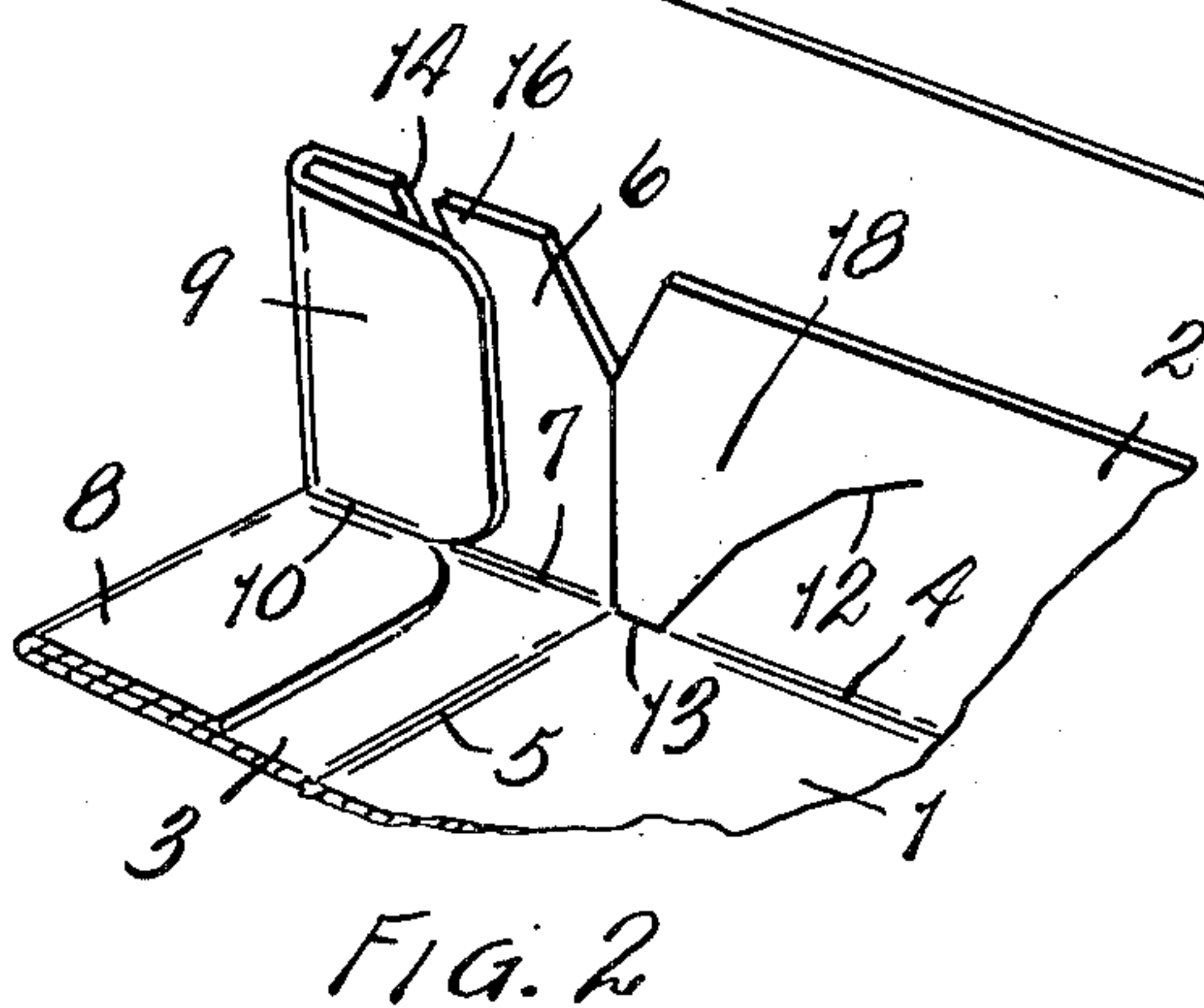
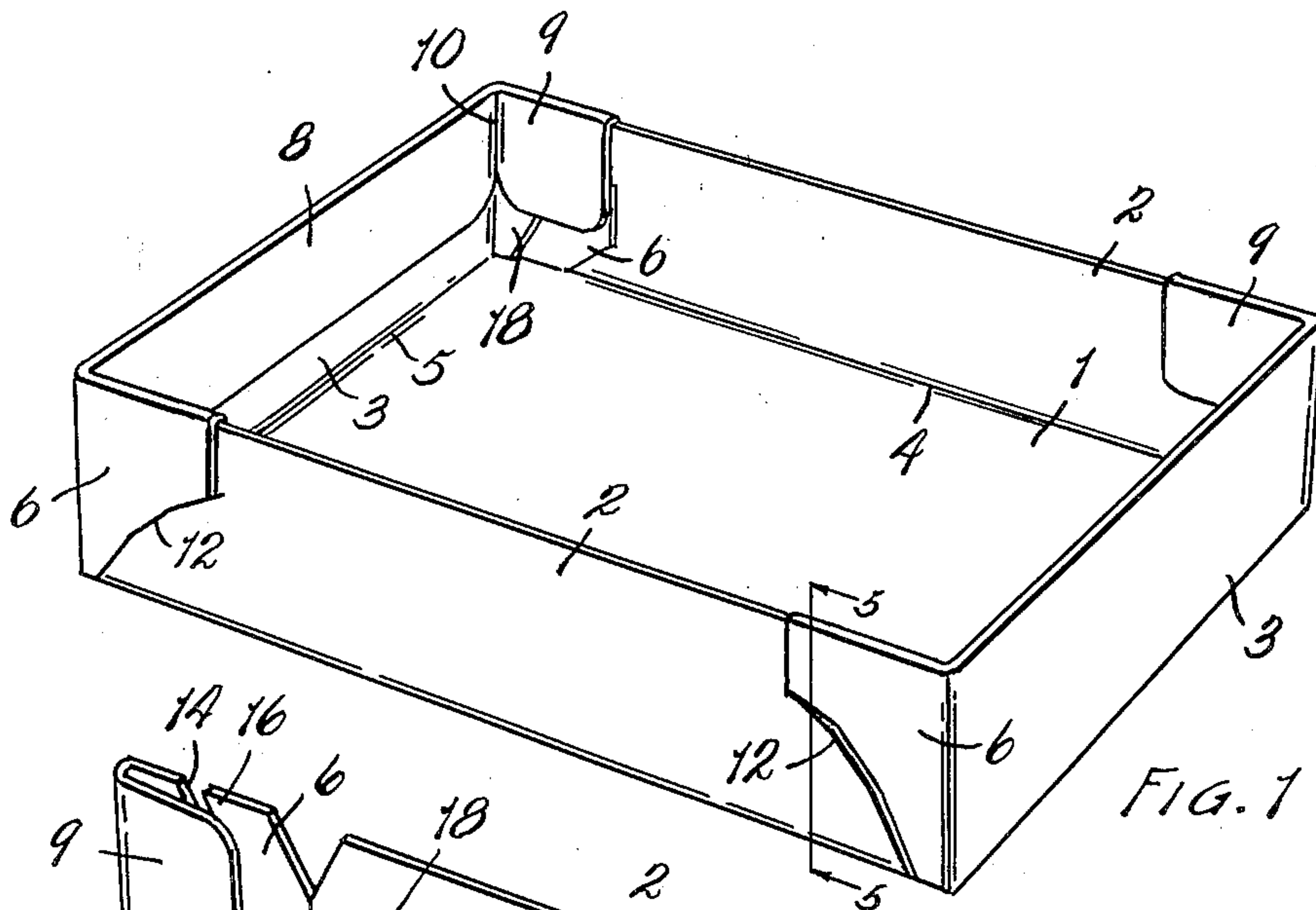
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2,629,535

TRAY OR CARTON

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## UNITED STATES PATENT OFFICE

2,629,535

## TRAY OR CARTON

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2 Claims. (Cl. 229—34)

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This invention relates to improvements in trays or cartons of the type having tongue and slot interlocking parts which may be quickly erected and in which the parts are effectively reinforced and retained in erected position.

The main objects of this invention are:

First, to provide a tray or carton formed of an integral blank which may be easily and quickly erected and one in which the walls, when erected, are very effectively secured in erected position.

Second, to provide a tray or carton formed of an integral blank which may be shipped in the flat blank form or knockdown form and quickly set up for use.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a tray or carton embodying my invention fully erected.

Fig. 2 is a fragmentary perspective view illustrating certain of the structural details with the parts in partially erected position or illustrating certain steps in the erecting.

Fig. 3 is a fragmentary perspective view illustrating a succeeding step in the erecting of the structure.

Fig. 4 is an inside plan view with the blank in fully extended position.

Fig. 5 is a fragmentary section on line 5—5 of Fig. 1.

My improved tray or box or carton is formed of an integral blank and comprises a bottom 1, side walls 2, 2 and end walls 3, 3. The side walls are hingedly secured to the bottom by the score lines 4, and the end walls are hingedly secured to the bottom by the score lines 5. Corner flaps 6 are hingedly secured to the ends of the end walls by the scores 7. These hinge lines are conventionally illustrated by dotted lines in Fig. 4.

The end walls are provided with flap extensions 8, while the corner flaps are provided with flap extensions 9. The flap extensions 8 and 9 are hingedly connected as by the score lines 10. The flap extensions 8 are adapted to be folded on the inner sides of the end wall 3 and may desirably be secured thereto as by the adhesive indicated at 11 in Fig. 4. The side walls have diagonally disposed slits 12 therein extending diagonally outward and opening to the end edges of the side walls through the slits 13.

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The inner ends of the corner flaps and the ends of the side walls are substantially in alignment with the fold lines 5. The corner flaps are provided with notches 14 and diagonal slits 15 forming outwardly projecting tongues 16 on the outer side edges of the corner flaps adapted to interlockingly engage the upper edges 17 of the slits 12 when the parts are fully erected, in which position the lower portions of the corner flaps are disposed within the side walls and their upper portions on the outer sides of the side walls as shown in Fig. 5.

The slits 12 result in deflectable tongue-like portions 18 which may be deflected inwardly relative to the plane of the side walls to facilitate the entrance of the corner flaps through the slits and the engagement of the tongues 16 with the slits. The flap extensions of the end walls, as stated, are folded upon the inner sides of the end walls while the flap extension 9 of the corner flap are folded over or embrace the upper edges of the side walls and overlie the inner sides of the deflectable portions 18 of the side walls and supportingly engaging as shown in Fig. 5, and preventing such deflection thereof as would permit disengagement of the tongues with the slits.

The flap extensions 9 are braced and held in their erected position by the end wall flap extensions 8. The flap extensions 9 are disposed in angular relation to the extensions 8 and extensions 9 and can only be moved inwardly by substantial bending stresses and they are not likely to be subject to such stresses after the box has been erected.

The adhesive 11 is desirably applied when the tray or carton is erected. The adhesive may be of the pressure sealing type. The carton may be erected by hand or by machinery. The completed tray or carton is very securely retained in erected position even when formed of relatively light material.

The applicant has employed the terms "side" and "end" walls in the specification and claims for convenience in identifying the parts in their relation to each other and without regard to the dimensions of the structure. It is evident that the applicant's invention is capable of embodiment in boxes varying in proportion, square or otherwise, and also that the corner flaps may be either on the long dimension or on the short dimension walls of a tray or carton. In elongated trays or cartons, it is a matter of some convenience in erecting to have the corner flaps on the end walls or shorter walls.



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I have illustrated and described my invention in one practical embodiment thereof. I have not attempted to illustrate or describe other embodiments or adaptations which I contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A tray or box formed of an integral blank comprising a bottom, and side and end walls hingedly connected thereto, and corner flaps hingedly connected to the ends of the end walls, the end walls and corner flaps having flap extensions hingedly connected to their outer edges, the adjacent flap extensions of the corner flaps being hingedly connected to the ends of the flap extensions of the end walls, the side walls having slits opening at their end edges, said corner flaps having tongues on their side edges engageable with the portions of the side walls above the slits when the parts are erected, portions of the side walls above the slits constituting tongue-like members deflectable inwardly to facilitate insertion of the corner flaps and the tongues thereof through the slits and to facilitate the locking engagement of the tongues with the side walls with the bottom portions of the corner flaps on the inner sides of the side walls and upper portions thereof on the outer sides of the said deflectable portions of the side walls in supporting relation thereto, the said flap extensions of the end walls and corner flaps being folded inwardly with the corner flap extensions in supporting engagement with the inner sides of the said deflectable portions of the side walls, the end wall extension flaps being secured upon the inner sides of the end wall and disposed angularly relative to the corner flap extensions and acting to support the corner flap extensions against the inner sides of said deflectable portions.

2. A tray or box formed of an integral blank

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comprising a bottom, and side and end walls hingedly connected thereto, and corner flaps hingedly connected to the ends of the end walls, the end walls and corner flaps having flap extensions hingedly connected to their outer edges, the adjacent flap extensions of the corner flaps being hingedly connected to the ends of the flap extensions of the end walls, the side walls having slits opening at their end edges, said corner flaps having tongues on their side edges engageable with the portions of the side walls above the slits when the parts are erected, portions of the side walls above the slits constituting tongue-like members deflectable inwardly to facilitate insertion of the corner flaps and the tongues thereof through the slits and to facilitate the locking engagement of the tongues with the side walls with the bottom portions of the corner flaps on the inner sides of the side walls and upper portions thereof on the outer sides of the said deflectable portions of the side walls in supporting relation thereto, the said flap extensions on the end walls and corner flaps being folded inwardly with the corner flap extensions in supporting engagement with the inner sides of the said deflectable portions of the side walls, the end wall extension flaps being disposed angularly relative to the corner flap extensions and acting to support the corner flap extensions against the inner sides of said deflectable portions.

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