

J. L. CLARK.
FOLDING BOX.
APPLICATION FILED MAR. 10, 1910.

999,207.

Patented Aug. 1, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

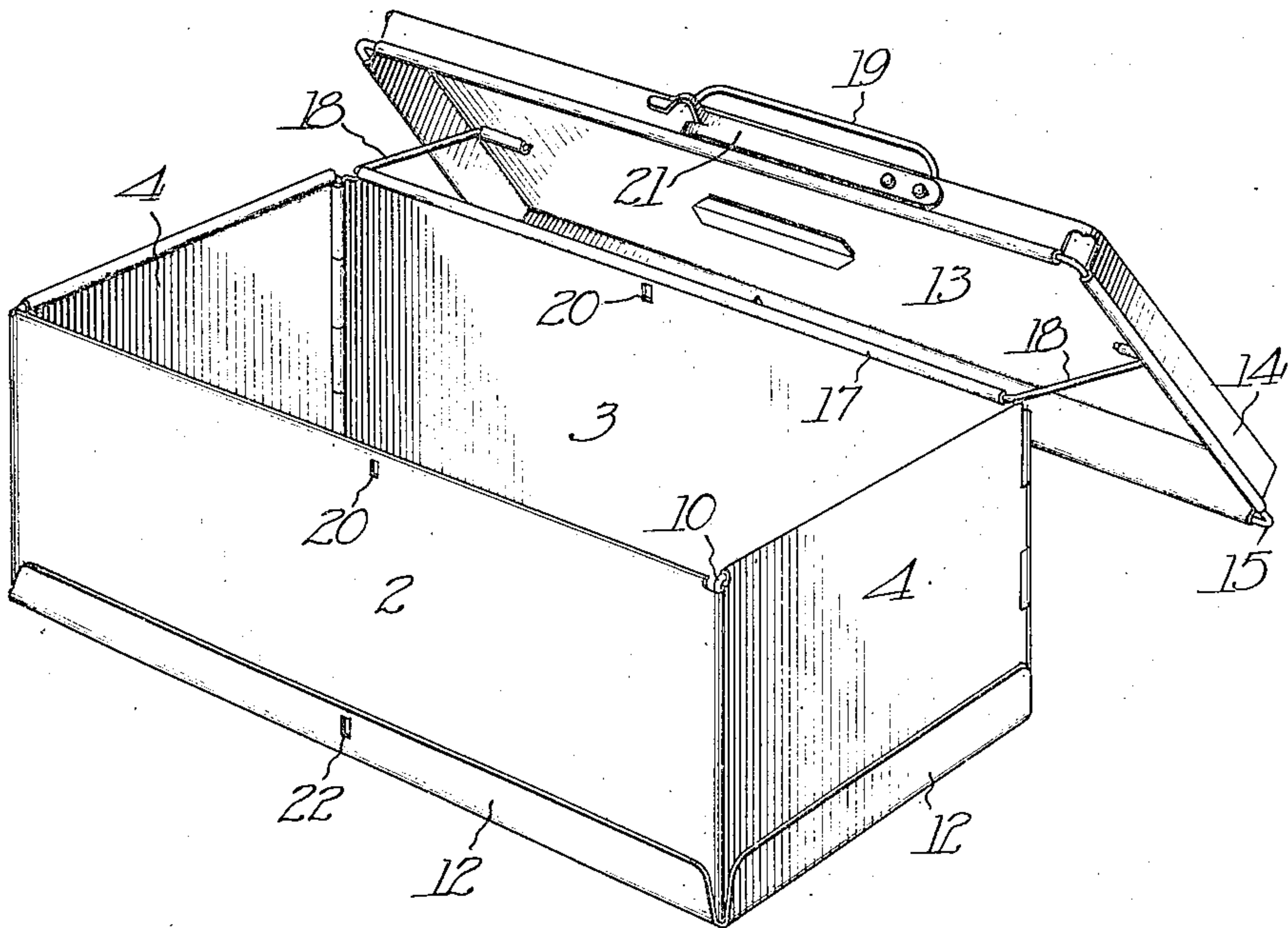
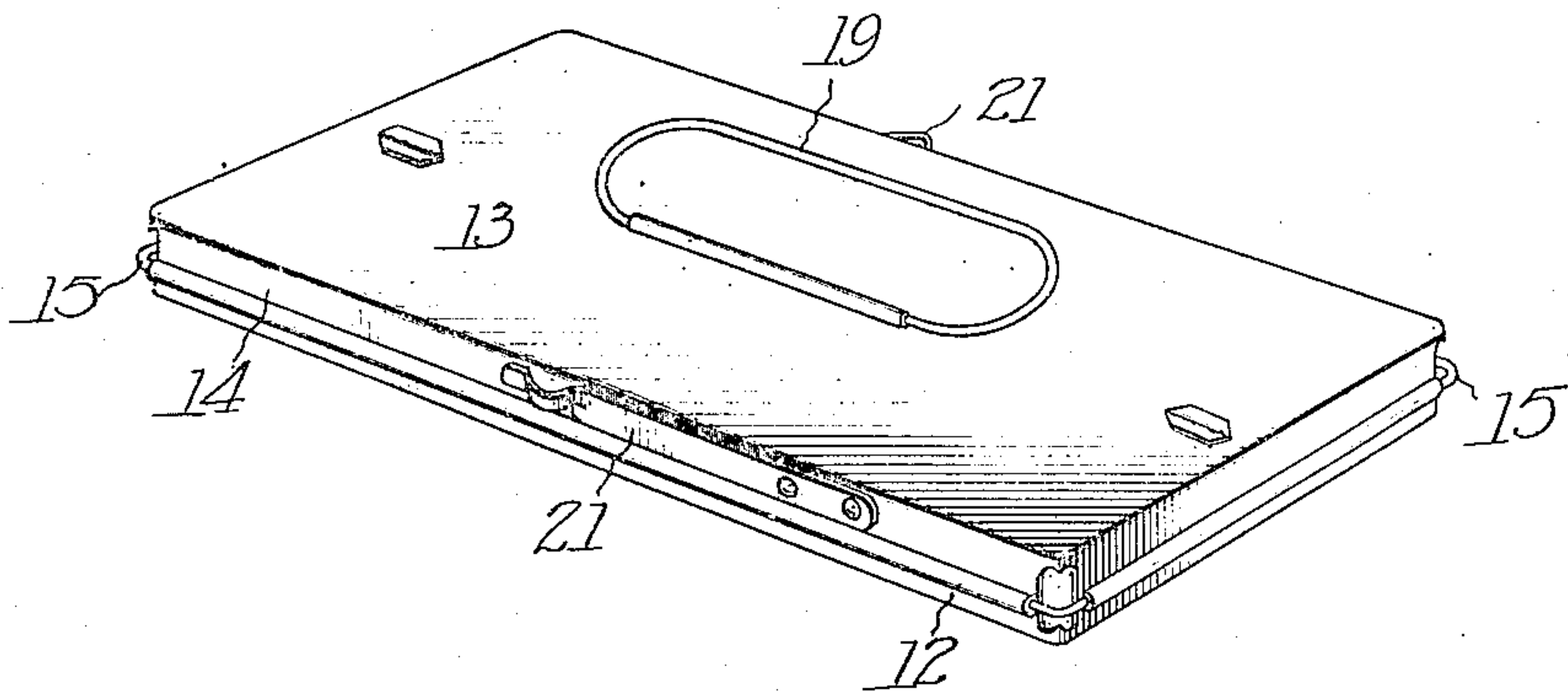


Fig. 2.



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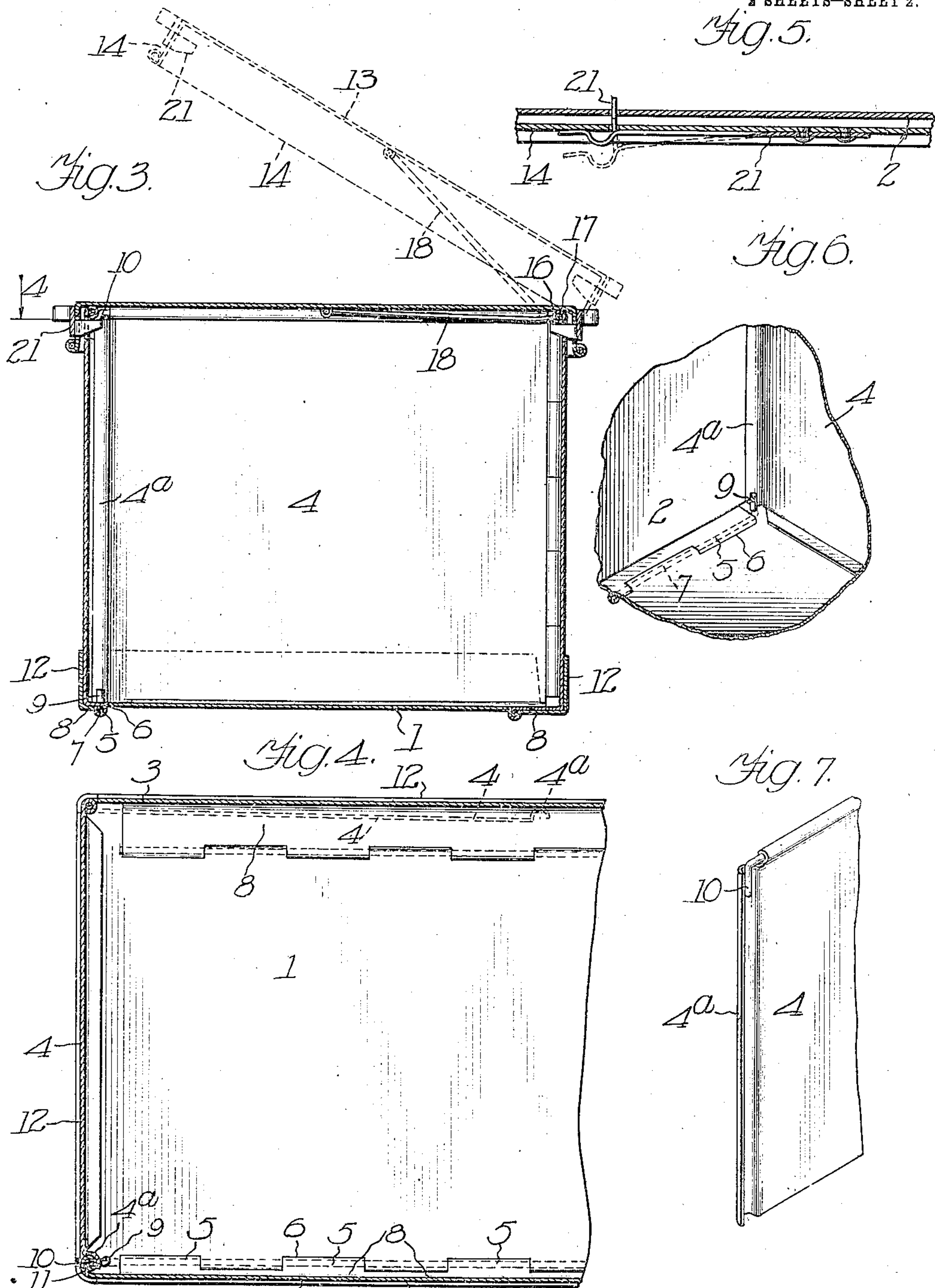
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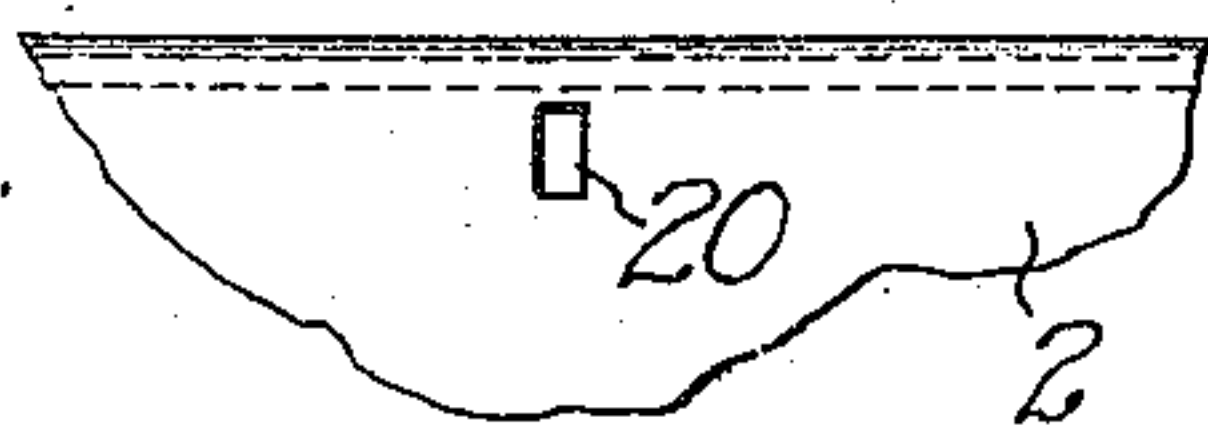
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN L. CLARK, OF ROCKFORD, ILLINOIS.

FOLDING BOX.

999,207.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed March 10, 1910. Serial No. 548,353.

To all whom it may concern:

Be it known that I, JOHN L. CLARK, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Folding Boxes, of which the following is a specification.

One of the objects of this invention is to produce a collapsible box, for example, a lunch box, which shall be rigid throughout when set up and not liable to accidental collapse.

Another object of the invention is to provide a box which may be folded into a very compact and neat package.

Another object of the invention is to provide improved means for securing together parts of the box when collapsed so that the box cannot accidentally unfold.

Other objects and advantages will become apparent as the invention is better understood from the following detailed description.

In the accompanying drawings, Figure 1 is a perspective view showing a collapsible lunch box embodying the features of my invention, said box being set up ready for use. Fig. 2 is a perspective view of the box collapsed. Fig. 3 is a transverse vertical central section through the box. Fig. 4 is a horizontal fragmentary section on line 4 of Fig. 3. Fig. 5 is a sectional view illustrating a certain locking means. Fig. 6 is a fragmental perspective view showing the means for holding the lower edge of the end wall in place. Fig. 7 is a fragmental perspective view of a forward end of one of the end walls showing the means for engaging the upper edge of said end wall with the front wall. Fig. 8 is a fragmentary view of one of the side walls, showing a locking opening therein.

The present embodiment of my invention comprises a bottom wall 1, two side walls, which, for convenience, are herein termed a front wall 2 and a rear wall 3, and two end walls 4 hinged, in this instance, to the rear wall 3. The lower edge of the front wall 2 is hinged to the bottom wall 1 in any preferred way, as by forming barrels 5 upon the lower edge of said front wall, said barrels extending through openings 6 formed in the bottom wall between the side edges thereof. The barrels 5 are adapted to receive a suitable pintle 7 lying beneath said bottom wall. The rear wall 3 is hinged to

the bottom wall in a manner similar to the front wall 2, each of said front and rear walls being bent adjacent its hinged edge to provide flanges 8 arranged to rest upon the bottom wall and thus limit the outward movement of the side walls.

The end walls 4 are hinged at one end to the rear wall 3 in any suitable manner and are adapted to fold against said rear wall when the box is collapsed. Means is provided for securing the outer end of the end walls 4 in operative position, said means in this instance comprising upstanding pins 9 in the bottom wall behind which the lower edge of the end walls are adapted to lie. The pins 9 are preferably formed by bending upwardly the ends of the pintle 7, said ends projecting through the bottom wall 1. The upper forward corners of said end walls are held in place by means of hooks 10 thereon adapted to engage the upper ends of barrels 11 forming intumed flanges upon the ends of the front wall 2. In the present instance, the hooks 10 are continuations of the pintles of the hinges for the end walls, the wire forming said pintles being bent to extend along the upper edge of the end walls 4 and the upper edges of said end walls being bent to inclose the wire, as shown in Fig. 7. Curved flanges 4^a on the end walls are arranged to fit about the barrels 11 and assist in preventing further outward movement of said end walls. Upturned flanges 12 at each edge of the bottom wall 1 also serve to limit the outward unfolding movement of the walls 2, 3 and 4.

The cover 13 has downwardly extending flanges 14 at each edge and said flanges may be stiffened if desired by means of a wire 15, the edges of said flanges being curled to inclose said wire. The connection between the cover and the box comprises a rod 16 rotatably mounted in a bearing 17 in this instance on the upper edge of the rear wall 3, said rod having arms 18 at its ends which are pivotally secured to the cover near its middle portion. The length of the arms 18 is substantially one-half the width of the box, so that when said arms are swung downwardly over the box, the lid will be in position to cover said box. A suitable handle 19 may be secured to the lid in any preferred manner.

In the present instance means is provided for locking the cover 13 to the front and rear walls 2 and 3 when the box is set up,

locking openings 20 in said front and rear walls being adapted to receive the inturned ends of spring latches 21 fixed to opposite flanges 14 upon the cover. Openings 22 are
 5 provided in the flanges 12 at the sides of the bottom wall, said openings being adapted to receive the spring latches 21 when the box is completely folded, as shown in Fig. 2, thereby locking the cover and bottom wall
 10 together.

Assuming the box to be in the position shown in Fig. 1, and it is desired to collapse the box, the end walls 4 are raised slightly away from the bottom wall so as to bring
 15 their lower edges above the upstanding pins 9 and withdraw the hooks 10 from the barrels 11. The end walls may now be swung inwardly to lie against the rear wall 3. The front wall 2 is then swung downwardly
 20 against the bottom wall, and the rear wall together with the end walls secured thereto is folded over on top of the front wall 2. It will be understood that the flange 8 upon the rear wall is of sufficient width to permit
 25 said rear wall to lie flat over the folded end walls and front wall. All of said walls are thus folded together into a very compact bundle. The cover 13 may now be fitted over the upturned flanges 12 on the bottom
 30 wall to inclose the side and end walls, and the spring latches 21 will engage in the openings 22 in the upturned flanges of the bottom wall. The box is now securely locked in its collapsed position and will not acci-
 35 dentally unfold. In adjusting the cover 13 to fit over the parts of the box in their collapsed position, the pivot arms 18 are swung in the opposite direction from the position shown in Fig. 3, said arms lying adjacent
 40 the outer side of the rear wall 3 when the box is completely collapsed.

As will be seen from an inspection of Fig. 2, the folded box in addition to being compact is neat in appearance, the flanges 12
 45 and 14 upon the bottom wall and the cover overlapping to hide the folded side walls from view.

The invention is not limited to the exact details herein shown and described, for va-
 50 rious modifications will occur to those skilled in the art.

I claim as my invention:

1. In a folding box, in combination, a bot-
 55 tom wall having upturned flanges thereon, side walls and end walls hinged to fold downwardly against said bottom wall, a cover having flanges arranged to telescope with the flanges on said bottom wall when the box is collapsed, said cover flanges
 60 and bottom wall flanges having openings therein adapted to register, and said side walls having openings near their upper edges adapted to register with the openings in the cover flanges, and spring latches se-
 65 cured to the outer sides of said cover flanges,

said latches being adapted to extend through the registering openings in said cover flanges and said side walls for locking the cover to the box when unfolded, said latches being adapted to extend through the registering
 70 openings in the cover flanges and the flanges on said bottom wall for locking the cover to the bottom wall when the box is folded.

2. In a folding box in combination, a bot-
 75 tom wall, side walls hinged thereto, end walls each hinged at one edge to one of said side walls, the other of said side walls having a reinforcing barrel at each end thereof, a reinforcing wire at the upper edge of each
 80 of said end walls, said wires terminating in downwardly projecting hooks adapted to engage in the upper ends of said barrels for locking the upper edges of said end walls and side walls together, and means for pre-
 85 venting movement of the lower edges of said end walls.

3. In a folding box, in combination, a bot-
 90 tom wall; side walls hinged thereto; end walls each hinged at one edge to one of said side walls, the other of said side walls having a barrel at each end thereof; a hook upon the free edge of each of said end walls adapted to enter one of said barrels; curved
 95 flanges upon the free edges of said end walls adapted to fit about said barrels and prevent outward movement of said end walls; and pins in said bottom wall arranged to engage the lower edges of said end walls and pre-
 100 vent inward movement of said end walls.

4. In a folding box, in combination, a bot-
 100 tom wall having a series of openings therein; a front wall having a series of hinge barrels at its lower edge extending through said openings, a pintle running through said
 105 barrels beneath said bottom wall, the ends of said pintle being bent upwardly and projecting through said bottom wall to form stop pins, inturned flanges at the side edges of said front wall, a rear wall hinged to said
 110 bottom wall, end walls hinged to said rear wall, the free edges of said end walls engaging said front wall flanges for preventing outward movement of said end walls, and interlocking means at the upper edges of
 115 said end walls and front wall, the lower edges of said end walls lying between said front wall flanges and said stop pins.

5. In a folding box, in combination, a bot-
 120 tom wall; a front wall hinged thereto and adapted to fold downwardly against said bottom wall; a rear wall hinged to said bottom wall; end walls hinged to said rear wall and arranged to fold laterally against said
 125 rear wall, said rear wall and end walls being arranged to fold downwardly over the front wall, said rear wall being bent to provide a flange adjacent its hinged edge, so as to permit said rear wall to lie flat upon the other walls; and a cover for the box.

6. In a folding lunch box, in combination, 130

a bottom wall having upturned flanges at its edges; a front wall and a rear wall hinged to said bottom wall on lines between the sides of said bottom wall, said front and
5 rear walls being bent adjacent their hinged edges to provide flanges adapted to engage the bottom wall and limit the outward movement of the front and rear walls; end
10 walls hinged to said rear wall and arranged to fold laterally against said rear wall, interengaging means on said end walls and said front wall, the upturned flanges on said
bottom wall serving to limit outward movement of said side and end walls, said rear
15 wall and end walls being arranged to fold downwardly over said front wall; a cover hinged to the upper edge of said rear wall;

downturned flanges on said cover adapted to telescope with said bottom wall flanges when the box is collapsed; and means for securing
20 said flanges together.

7. A folding box comprising a bottom, side members and end members, certain of said side members being hinged to said bottom at points between the edges of said bottom, and being bent near their lower edges
25 to provide flanges adapted to engage the bottom and limit the outward movement of said members, and a cover for the box.

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Witnesses:

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