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COMBINED FOLDING BOX AND ARTICLE SUPPORT

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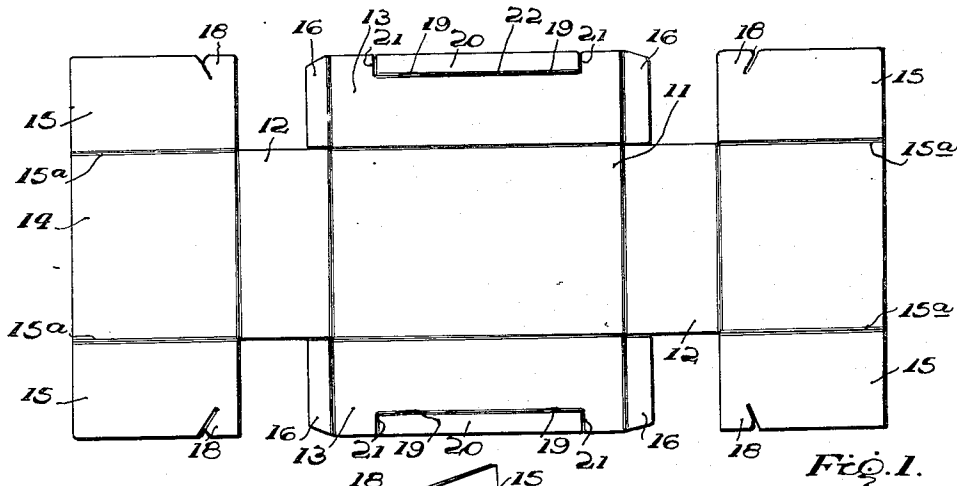


FIG. 1.

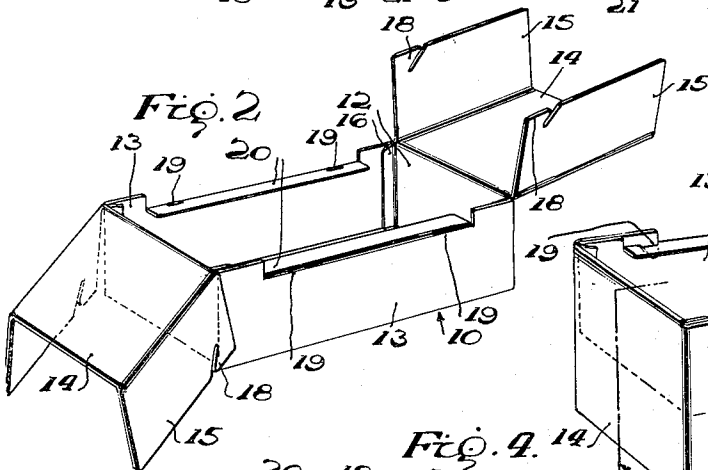


FIG. 2.

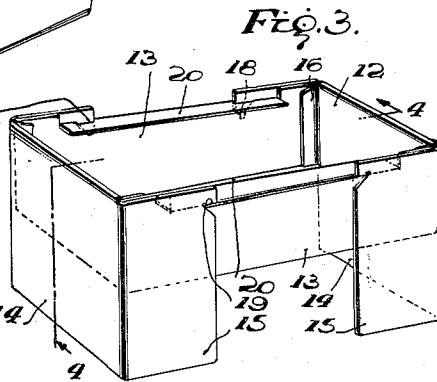


FIG. 3.

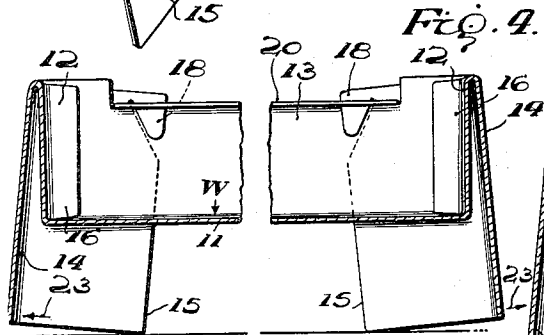


FIG. 4.

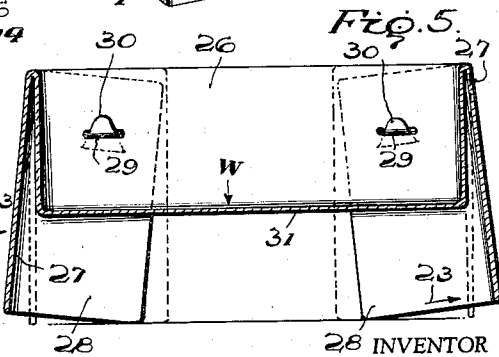


FIG. 5.

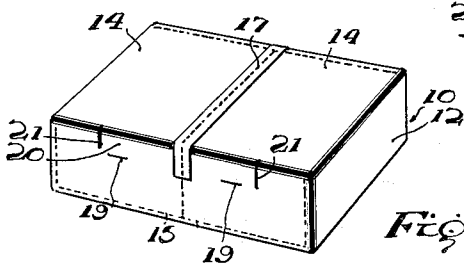


FIG. 6 BY

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COMBINED FOLDING BOX AND ARTICLE SUPPORT

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The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

The invention relates to folding boxes and more particularly to such boxes as are used by the military services or campers to hold a single ration or article of food. When properly made of moisture proof and heat resistant material, such boxes may be filled with water after the ration is removed and then supported over a suitable source of heat, as a burning heat tablet or the like, to boil the water to heat the ration—the ration being supported in or above the boiling water.

With the foregoing in view, it is an object of the invention to provide an improved folding box of the class described.

A further object is to provide a novel box which includes novel means for supporting the water-filled box in upwardly spaced relation to a source of heat, together with novel means for securing the box in such a position.

Other objects and advantages reside in the particular structure of the invention, the structure and arrangement of the several parts thereof, combinations and sub-combinations of such parts with each other and/or with a ration, all of which will be readily apparent to those skilled in the art upon reference to the attached drawing illustrating one embodiment of the invention and to the following specification wherein the invention is described and claimed.

In the drawing:

FIGURE 1 is a plan view of a blank for forming a preferred embodiment of the invention;

FIGURE 2 is a perspective view of the box in a partially erected position;

FIGURE 3 is a like view showing the box in the support providing position;

FIGURE 4 is a longitudinal, vertical sectional view taken substantially on the plane of the line 4—4 of FIGURE 3 showing the same under a load;

FIGURE 5 is a view like FIGURE 4 but showing a prior art box under a like load; and

FIGURE 6 is a perspective view on a reduced scale and showing the box in its usual ration containing condition.

Referring specifically to the drawing wherein like reference characters designate like parts in all views, 10 designates generally a folding box formed of any suitable sheet material such as water and heat resistant paper or a foil-paper lamination. As best seen in FIGURE 1, the box 10 is formed from a blank which comprises a central bottom section 11 and opposed pairs of end-providing flaps 12 as well as side providing flaps 13. The outer ends of the end flaps 12 are formed with continuations in the form of cover-providing flaps 14, each having length equal substantially to one half the length of the bottom section 11. Opposite sides of the cover flaps 14 are formed with side wall lining or reinforcing flaps 15. The opposite ends of the side wall forming flaps 13 are formed with extensions comprising glue flaps 16.

When the blank of FIGURE 1 is erected to the box providing position, the glue flaps 16 are glued or otherwise hermetically sealed to the side walls 13 in a conventional and well known manner to provide a tray.

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To close the tray, the cover flaps 14 are swung into overlying relation to the bottom 11 with the side reinforcing flaps 15 lining the side walls 13. The parts may be temporarily sealed in this position by any suitable means such as the tape strip 17, FIGURE 6, to secure the contents, not shown, inside.

After the contents of the box 10 have been removed and if it is desired to heat them, the parts are moved to the support providing position of FIGURE 3. To accomplish this, the cover forming flaps 14 are swung outwardly and downwardly until they are vertically disposed and in abutting relation with the end walls 12. As the cover flaps 14 are longer than the height of the end walls 12, the free ends of the former extend below the latter and provide legs for supporting the tray portion of the box in vertically spaced relation to the ground or other floor or base. To secure the cover flaps 14 in this supporting position, the free edges of the side reinforcing flaps 15 are formed with tabs 18 which are downwardly directed when the flaps 15 are reversely folded on their fold lines 15a so as to overlie the opposite ends of the side walls 13. Such side walls 13 include suitable means providing keepers for tabs 18. In the embodiment illustrated, the side walls 13 are formed with substantially horizontal slits 19. Such slits 19 are disposed to receive the tabs 18 as the latter are forced past and just above the slits and are then forced downwardly therethrough.

Thus, the tabs 18 comprise bolt means overlying the side walls 13 when the parts are in the supporting positions. Such bolts engage behind the keeper means 19 from above. Here the near ends of the slits 19 comprise the keeper means behind which the bolt means is applied. Obviously the invention contemplates bolt and keeper means other than the specific tabs 18 and slits 19.

A further and optional feature of the invention is the provision of article supporting flaps 20 on the side walls 13. These are formed by longitudinally spaced slits 21 which extend downwardly from the free upper edges of side walls 13 and which are connected by suitable fold or score lines 22. Such flaps 20 are intended to be inwardly folded toward each other until horizontal or better to provide a reinforced upper edge for supporting the ration. Also, this arrangement causes the slits 19, which are on the score or fold lines 22, to open upwardly, whereby the entrance of the tabs 18 therein is facilitated.

With the parts thus locked in the support providing positions, the tray of the box may be partially filled with water and the latter may be heated by any suitable source of heat such as a heat tab, not shown, placed below the tray and ignited. The ration is placed across the supports 20 until it has been heated by the steam from the heated water. Of course, if the nature of the ration permits, it may be placed directly in the water until it is sufficiently heated or cooked.

A particularly novel feature of the invention is the provision of downwardly directed tabs 18 entering the slits 19 from above. As best seen in FIGURE 4, when the tray is filled with water and is supporting the ration the force or weight indicated by the arrow W is in a downward direction on the floor 11 of the tray. Such weight or force tends to spread the leg-providing walls or flaps 14 apart in the directions of the arrows 23. At the same time such force forces the tabs 18 downwardly further into the slits 19 whereby to prevent any substantially spreading of the leg-providing walls 14 and the resultant collapse of the support. As clearly seen in the prior art device of FIGURE 5, if the tray is supported by legs 27 having tabs 30 extending conventionally upwardly through slits 29 in the side wall 26, the weight of the contents on floor 31 of the tray will tend to spread

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the legs apart which will pull the tabs 30 downwardly out of the slits 29 whereby to permit collapse of the support.

It follows from the foregoing, that the arrangement provides a combined disposable ration container and self supporting kettle for heating the ration. Also, the arrangement is one which can be readily erected and used by unskilled personnel without the use of tools or of separate fasteners.

Moreover, while there has been shown and described what is now thought to be a preferred embodiment of the invention, it should be understood that the same is susceptible of still other forms and expressions. Consequently, the invention is not considered as being limited to the precise structure shown and described hereinabove but only as hereinafter claimed.

I claim:

1. In a folding paper box, comprising a blank having a bottom section having pairs of opposed end-providing and side providing flaps hinged thereto and adapted to be swung to erected positions relative to said bottom section, said end-providing flaps having cover-providing flaps hinged thereto and adapted to be swung to positions overlying said bottom section when said other flaps are in said erected positions, said cover-providing flaps each having two laterally oppositely disposed side-reinforcing flaps adapted to line said side providing flaps with the latter in the erected positions, and said cover-providing and side-reinforcing flaps being swingable to vertical support-providing positions overlying said end-providing and side-providing flaps and supporting said box in upwardly spaced relation to a base; the improvement comprising means for readily releasably securing said cover-providing and side reinforcing flaps in said vertical positions, said means comprising tabs on said side-reinforcing flaps, said tabs extending downwardly when said side-reinforcing flaps are in said vertical positions, said side-providing flaps being formed with longitudinally spaced slits therethrough, said slits and tabs being so located that said tabs extend downwardly through said slits to releasably secure said cover-providing and side-reinforcing flaps in said vertical positions, said side-providing flaps including free upper edges, longitudinally spaced parallel slits formed through such flaps from said free edge and defining an article supporting flap on each side-providing flap, horizontal score lines connecting each pair of parallel slits to provide hinge means on which said article-supporting flaps are foldable into substantially horizontal coplanar article supporting positions, and said first named longitudinally spaced slits being formed through said score lines to provide vertically disposed slits.

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2. A folding paper box according to claim 1, wherein said side-reinforcing flaps include free outer edges, and said tabs being formed in said free outer edges.

3. In a folding paper box, comprising a tray including bottom, side and end walls, a cover flap hinged to each end wall, said cover flaps being identical and having lengths greater than the height of said end walls, said cover flaps being swingable outwardly and downwardly alongside and below said end walls to supporting positions wherein they provide legs for said tray; the improvement comprising substantially rigid bolt means carried by said cover flaps and extending downwardly alongside said side walls when said cover flaps are in said supporting positions, said side walls having free upper edges, two spaced slits formed in each upper edge to define therebetween an article supporting flap, fold lines connecting said slits and providing hinge means for folding said article supporting flaps into substantially coplanar article supporting positions, two longitudinally spaced keeper slots formed in each fold line, said slots having upwardly opening mouths with said article supporting flaps in said coplanar positions, and said bolt means being inserted into said slots from above to extend downwardly thereinto, whereby to secure said cover flaps in said supporting positions.

4. In a folding paper box, comprising a tray including bottom, side and end walls, a cover flap hinged to each end wall, said cover flaps being identical and having lengths greater than the height of said end walls, said cover flaps being swingable outwardly and downwardly alongside and below said end walls to supporting positions wherein they provide legs for said tray; the improvement comprising substantially rigid bolt means carried by said cover flaps and extending downwardly alongside said side walls when said cover flaps are in said supporting positions, means carried by said side walls being formed with horizontally positionable article supporting means, said article supporting means being formed with upwardly facing openings therethrough and providing keepers for said bolt means, and said bolt means engaging in said keepers from above to provide means securing said cover flaps in said supporting positions.

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