Oct. 23, 1962 J. LAERUM 3,059,633

FOOD RATION KITS FOR SPORTS AND MILITARY USE

Filed Nov. 21, 1960 3 Sheets-Sheet 1

FIG. 1

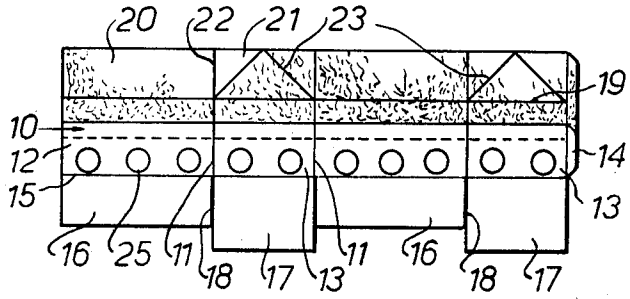


FIG. 2

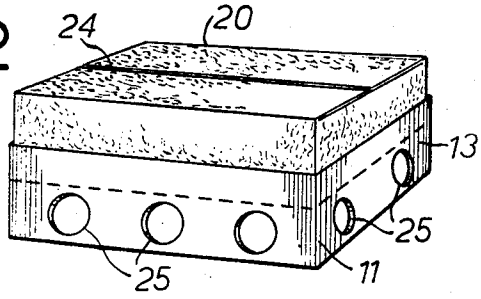
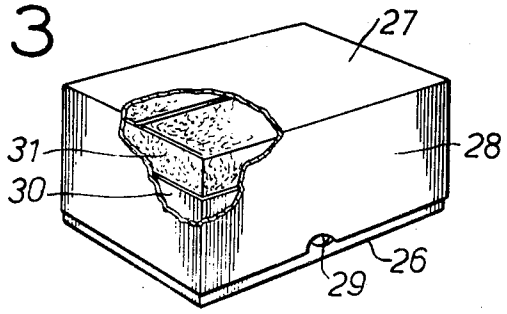


FIG. 3



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FOOD RATION KITS FOR SPORTS AND MILITARY USE

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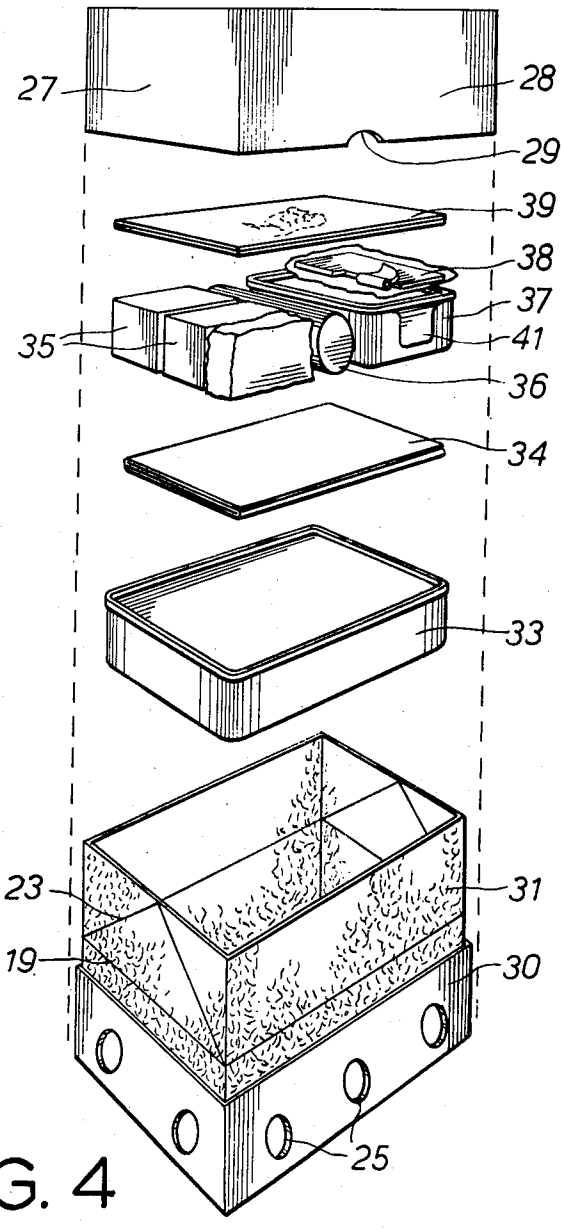

FIG. 4

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FIG. 5

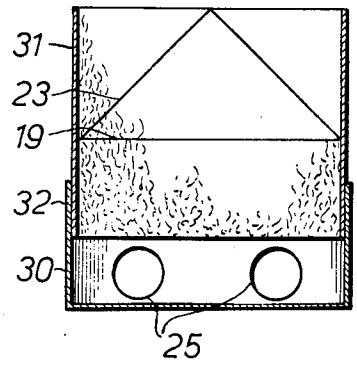


FIG. 6

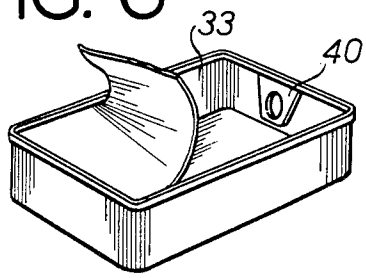
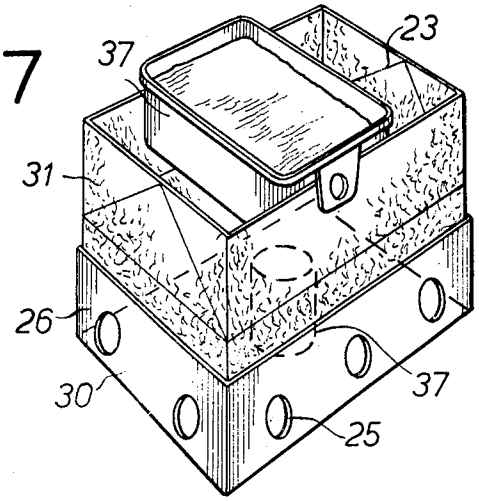


FIG. 7



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United States Patent Office 3,059,633 Patented Oct. 23, 1962

3,059,633
FOOD RATION KITS FOR SPORTS AND MILITARY USE

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6 Claims. (Cl. 126—262)

The present invention relates to food ration kits for sports and military use, and kits containing emergency rations to be stored for distribution in case of a general emergency. It has been proposed in the prior art to manufacture such emergency kits in such manner as will enable the enclosure or a part thereof to be used as a stove or heating stand.

The present invention has for its main object in part to improve the existing ration kits, whereby the kits may be manufactured at a lower price while being even better suited for its intended use. A further object of the invention is to enable the kit to be manufactured in a wide variety of dimensions, without being limited, as in present existing kits, to dimensions corresponding to specific cooking vessels.

According to the present invention a food ration kit for sports and military use and for use in an emergency comprises a box-shaped carton having a closed bottom and cover flap portions, the cover flap portions being integral with associated wall portions of the main body of said box-shaped carton and being connected together along score lines enabling the cover flap portions to be erected from folded cover forming positions to upright positions in which the cover-flap portions together with the associated wall portions form a tubular heating stand open at the top, in combination with the feature of said carton forming an enclosure for foodstuff components comprising at least one box shaped metal can having one pair of side walls of a length corresponding to the inner dimension in one direction of the carton, the other pair of side walls of said metal can being provided with tongue members forming suspension means for suspending said metal can on the top edges of said carton when in use as a heating stand.

The invention will now be described further, by way of example only, with reference to the accompanying drawings illustrating one particular embodiment thereof and in which:

FIG. 1 is a plan view of a blank for a kit carton according to the present invention in an unfolded condition;

FIG. 2 is a perspective view of the kit carton when closed;

FIG. 3 is a perspective view of the kit carton according to the invention, shown in a condition ready for storage and shipping, an edge of the carton being broken away to show interior parts;

FIG. 4 is an exploded perspective view of the parts of the ration kit and the contents thereof, illustrating the different parts of the content and their relative positions within the carton;

FIG. 5 is a vertical sectional view of the carton of the ration kit;

FIG. 6 is a perspective view of a metal can or container incorporated in the kit, partially opened; and

FIG. 7 is a perspective view of the kit carton when in use as a stove or heating stand.

The kit carton according to the invention is manufactured from a blank **10** made, at least in part, of a flame resistant sheet material, such as asbestos sheet laminated with aluminium foil, or any non-inflammable material

which is able to withstand the heat from the burners without catching fire or being destroyed.

This blank **10** is by means of score lines or creases **11** divided into two longer side wall portions **12** and two shorter side wall portions **13**. By means of a strip **14** arranged at one side edge, the blank may be formed into a tubular member having the folding creases **11** extending parallel to the main axis of said member, said tubular member having a rectangular cross sectional shape.

At the lower end, the side wall portions **12**, **13** are terminated by a score line **15**, a bottom portion **16** forming a continuation of each longer side wall portion and a bottom portion **17** forming a continuation of each shorter side wall portion. The score lines **11** continue as dividing lines **18** by which lines the bottom portions are separated, whereby one may, in known manner, fold the bottom portions inwardly to form, by the application of adhesive or in other known manner, the bottom of a box shaped carton.

A score line **19** defines the top edges of the side wall portions **12**, **13**. A top portion **20** forms a continuation of each longer side wall portion and a top portion **21** forms a continuation of each shorter side wall portion **13**. The score lines **11** continue as similar score lines **22**. Preferably, the dimensions of the carton are so arranged that the height of said top portions is equal to one half of the total width of the carton. By providing diagonal score lines **23** in each of the shorter top portions **21**, said lines **23** meeting at the centre of the top edge of said top portions **21**, it will be possible to fold said top portions **21** inwardly to be superimposed by the top portions **20**, the latter portions meeting along a central line **24**.

Adjacent to their lower edges the side wall portions **12**, **13** are provided with air intake openings **25** for the supply of combustion air to burners arranged at the bottom of the opened carton when the top portions are folded outwardly to form a tubular stove or heating stand. The top edges of said tubular stove or heating stand may support a cooking vessel resting on said upper edge.

As is shown in FIGS. 3 and 4, a carton shaped main part **26** is formed, which may be covered by a conventional cover **27** in which the longitudinal side portions **28** are provided with a finger recess **29**.

With reference to FIG. 5, the main part **26** of the carton is composed of two separate blanks **30**, **31** the lower blank **30** being made from conventional cardboard, whereas the upper blank consists of a flame resistant material. The blanks **30**, **31** overlap at a portion **32**, the lower blank **30** being superimposed on the upper blank **31** at said overlapping portion **32**. The air intake openings **25** are located beneath said overlapping portion **32**.

By this arrangement, only the part represented by the blank **31**, which part is directly subjected to the stove flame, must consist of the expensive flame resistant material, while the remaining part, represented by the blank **30**, may consist of any material which is strong, cheap and has good resistance towards mechanical stresses.

While again referring to FIG. 4, a ration kit of the present kind usually comprises a lower first tin can **33** having dimensions corresponding to the inner dimensions of the carton, said can forming a closed container enclosing all material in such manner as to be well protected against moisture and other detrimental influence, a sheet of paper **34** above said first tin can **33**, and food blocks **35** arranged above said sheet **34**. The food blocks may, for instance, contain dehydrated soups, cocoa, etc. A fuel container **36** and a second tin can **37** for canned food are arranged in the same level as the food blocks **35** and a can opener **38**, preferably of a known foldable construction, is arranged above the tin can **37**. Finally, foldable drinking

cups 39 of impregnated paper are arranged on the top. Other valuable accessories and condensed food materials for use in an emergency situation may be incorporated into the ration kit, depending upon specific requirements.

In FIG. 6 is shown an opened can, for instance the lower container or tin can 33. According to a feature of the present invention, this can is provided with tongue members 40 arranged at opposing side edges of the can. Preferably, the tongue members 40 are integral with the cover of the can and are folded together with the folding seam to form a unitary structure with the cover and the can after closing by the conventional folding technique. The tongue members may as shown in FIG. 6 face towards the interior of the can to be protected from damage during transportation and handling, or they may, as shown in FIG. 4, be arranged at the outside of the can at 41, the latter being preferred when the can is entirely filled with such foodstuffs as "pork and beans," which preferably are left within the can after opening, when the content is heated for consumption.

In the can illustrated in FIG. 6, the tongues are folded outwardly to form hook members by means of which the can may be suspended on the top edges of the erected and opened carton, as illustrated in FIG. 7. By arranging the fuel containers beneath the can, the content may easily be heated.

Preferably, the first larger can is used for heating soups, beverages and the like applied thereto while the second, smaller one, preferably contains meat, direct heating of the content within this latter can being preferred. Therefore, both cans are provided with tongue members 40, 41, respectively.

In the preceding description of the sheet portion 31, the sheet material has only been described as a flame resistant material. Furthermore, it has been mentioned that score lines are provided in the material to facilitate folding.

However, it has proved difficult to find a commercially available material satisfying this demand of being, on one hand, non-inflammable, and on the other hand easily foldable along score lines applied during manufacture. Consequently, an aspect of the invention relates to a novel material for use in cartons for ration kits of the stated kind.

According to this aspect of the present invention, the sheet portion 31 is manufactured by laminating asbestos sheet with aluminium foil. An excellent material is obtained by laminating aluminium foil on both faces with asbestos sheet, the asbestos being subsequently impregnated with an organic silicon polymer.

By this combination, a material having surprisingly well balanced properties for use as the flame resistant material in the carton according to the invention is obtained.

When manufacturing this novel material, certain precautions must be taken to secure the best results. Thus, the adhesive used for laminating the materials together must be carefully selected, first of all to secure a firm bond, and secondly to prevent the adhesive from striking through the asbestos sheet.

It has been found that the best adhesive for use in the laminating process should be an emulsion. Preferably, an emulsion of polyvinyl acetate is used.

Further according to this aspect of the invention, aluminium foil of a thickness of about 0.05 mm. (0.002") is continuously led through a pair of rolls applying polyvinyl acetate emulsion of a concentration commercially available for use as an adhesive. Two sheets of asbestos having a thickness of between 0.1 and 0.3 mm., preferably 0.25 mm. (0.01") are applied to the faces of the aluminium foil, one on each face of the foil. The laminated structure is led through the nip of a further pair of rolls to expel any air entrapped between the sheets. The laminated structure may thereupon be impregnated with a silicon polymer material to improve its moisture resistance, whereupon it may be processed further.

It will be apparent from the foregoing that the novel ration kit according to the invention is excellently suited for storage to be distributed in emergencies.

What I claim is:

1. A ration kit for sports and military use and for use in an emergency comprising a box-shaped carton having enclosing opposed wall portions, a closed bottom, and cover flap portions, said cover flap portions being integral with associated wall portions of the box-shaped carton, said cover flap portions being connected to the associated wall portions along score lines thereby to enable the cover flap portions to be erected to upright positions wherein the cover flap portions, together with the associated wall portions form a heating stand open at the top, a heating means adapted to be disposed within said stand, at least one box-shaped metal can having opposed side walls disposed within said carton and constituting a foodstuff container, and tongue members on each of one opposed pair of side walls of said can, the other pair of side walls being of a length corresponding to the inner dimension in one direction of the carton, said tongue members forming suspension means for suspending said metal can on the top edges of the carton cover flaps when in use as a heating stand.

2. A ration kit as claimed in claim 1, wherein the upper part of the wall portions of said carton and cover flap portions are made from a flame resistant material while the bottom and the lower part of the wall portions are made from cardboard.

3. A ration kit as claimed in claim 1, wherein the box shaped carton comprises an upper part of a flame resistant material, and a lower part of cardboard, said upper part overlapping said lower part and being disposed inwardly thereof, and air supply openings arranged adjacent the bottom edge of the lower part.

4. A ration kit as claimed in claim 3 including a separate cardboard cover arranged to enclose the top and a substantial part of the side walls of the carton, whereby a rectangular box shaped enclosure is formed in which all exposed faces consist of cardboard.

5. A ration kit according to claim 1, wherein said shaped metal can has an outline corresponding to the internal dimensions of said carton, the tongue members being normally arranged to lie flush against the adjacent side walls of said can and to be foldable outwardly to form hook shaped members by means of which the can may be suspended on the top edges of said carton when the latter is erected to form a heating stand.

6. A ration kit as claimed in claim 1 wherein said cover flap portions comprise a first pair of flap portions integral with a first pair of opposed side walls of said carton and a second pair of flap portions integral with a second pair of opposed side walls of said carton, said first and said second pair of cover flap portions being integral and connected along score lines at their abutting edges, a further score line extending from each bottom corner to the center of the top edges of each of the second pair of cover flap portions.

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