Oct. 20, 1953 J. E. TRIPP 2,655,882

FLAME AND RADIATION RESISTANT CONTAINER

Filed Dec. 28, 1950

Fig. 1.

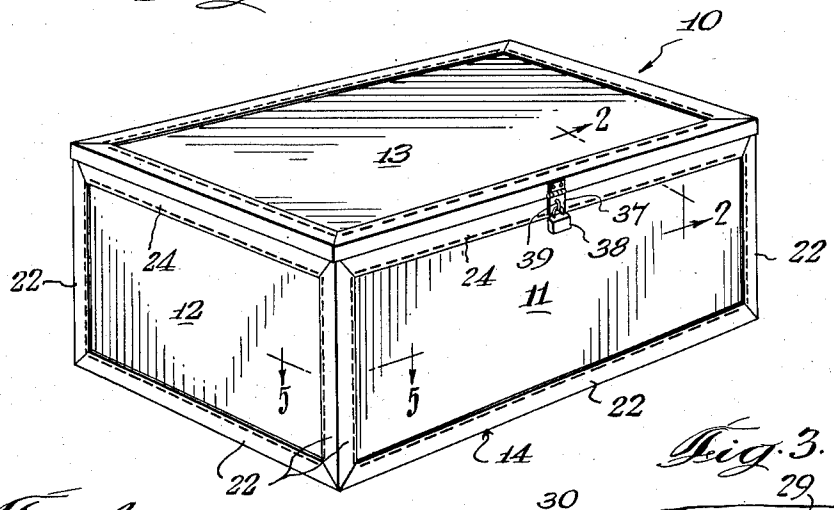


Fig. 4.

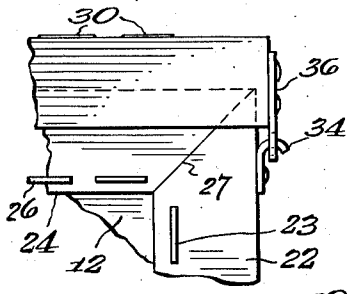
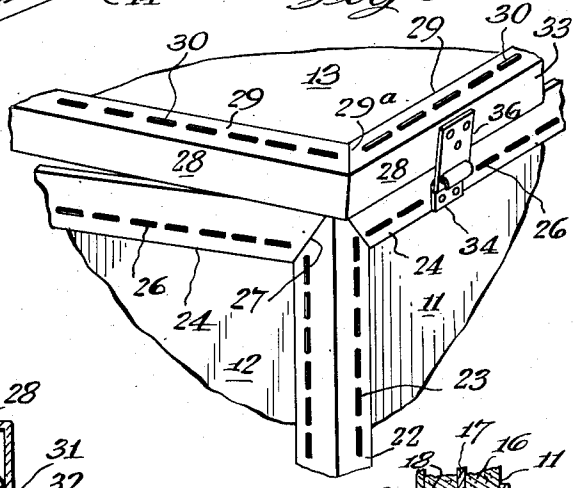


Fig. 3.



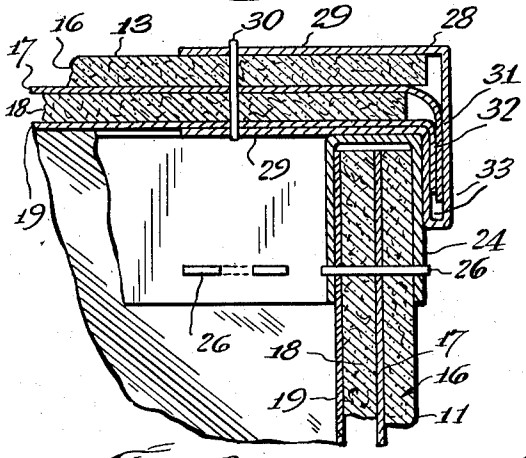


Fig. 2.

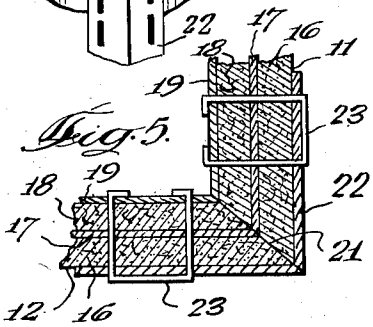


Fig. 5.

Inventor
James E. Tripp
By Richard C. Lindberg
attorney

Patented Oct. 20, 1953

2,655,882

UNITED STATES PATENT OFFICE

2,655,882

FLAME AND RADIATION RESISTANT CONTAINER

James E. Tripp, Chicago, Ill.

Application December 28, 1950, Serial No. 203,109

2 Claims. (Cl. 109—79)

1

This invention relates generally to containers and relates particularly to a container which is resistant to fire and radioactivity occasioned by an atomic explosion.

One of the problems incident to atomic warfare is that of preserving food and medicine against exposure to radioactivity and the flash or fire incident to an atomic explosion. In the event of such an explosion unprotected food and medicine within the effective range of the explosion is either made radioactive, and consequently poisonous for consumption, or is burned by flash and fires. I propose to eliminate the possibility of either eventuality by storing emergency rations and medicines within a container which is formed of laminated material consisting of alternate layers of flame and fire resistant material and material capable of shielding against harmful rays. In a preferred form of my invention I form the top, sides, and bottom of the container from alternate sheets of asbestos and lead foil, and the foil and asbestos material may preferably be cemented together by a high temperature thermosetting resin under pressure. At points where the top rests upon the lower part of the container the shielding material is brought between the limbs of a reinforcing rim in such a fashion that the shielding material overlaps the side and end walls of the lower part of the container to insure against the entrance of harmful rays between the top closure and the lower part of the container. The panels forming the sides, ends and the bottom are mitred so that the lead foil meets at the mitred surfaces thereby completely shielding the interior against such harmful rays. The corners of the container are stiffened by light angle members which preferably are capable of being stitched to the various panels.

One of the primary objects of this invention is to afford a construction for a container which is resistant to fire and radioactivity.

Another object is to provide a construction for a fire-resistant and radiation proof container characterized by the provision of laminar materials which may be laminated into panels and cut to form the panels making up such a container.

Other objects and important features of the invention will be apparent from this description taken with the drawing, which together show a preferred embodiment of the invention, and what is now considered to be the best mode of practicing the principles thereof. Other embodiments of the invention will be apparent to

2

those having the teachings of this specification before them, and it is intended that the scope of the invention cover such other embodiments as may be embraced within the scope and spirit of the appended claims.

In the drawing:

Fig. 1 is a perspective view of a flame resistant and radioactivity proof container according to the present invention;

Fig. 2 is a transverse section taken along the plane 2—2 of Fig. 1 showing the overlapping of the lid or cover with respect to the lower part of the container with the shielding material also in overlapping relationship with respect to the lower part;

Fig. 3 is an enlarged fragmentary isometric view of the back of the container of Fig. 1 near a corner thereof, showing the mode of removably hinging the lid to the lower part of the container;

Fig. 4 is an enlarged fragmentary end view of the container of Fig. 1; and

Fig. 5 is an enlarged fragmentary section taken on the plane 5—5 of Fig. 1.

Referring now to the drawing there is shown a fire resistant and radioactivity resistant container, indicated generally by the reference numeral 10, consisting of front and back panels 11, end panels 12, a top closure indicated generally by the reference numeral 13, and a bottom panel 14.

The front panel 11 is shown in section in Fig. 2, and the front and rear panels 11, the end panels 12, the top closure 13 and the bottom panel 14 are formed from lamination material consisting of a layer 16 of asbestos sheet material, a layer of lead foil 17, another layer 18 of asbestos sheet material, and a layer of lead foil 19. The layers 16, 17, 18 and 19 may preferably be cemented together by a thermosetting resin and the application of both heat and pressure to form laminated panels of such alternate layers of asbestos sheet material and lead foil.

As seen with reference to the Figs. 2, 4 and 5 the edges of each of the front, rear, end and bottom panels are reinforced at the corners by angle shaped reinforcing members, and the top edges of the front, rear and end panels are additionally reinforced by channel shaped members. As seen also with respect to Figs. 2, 4 and 5 the edges where the several panels meet are mitred so that the lead foil of one panel always abuts the lead foil of an adjacent panel to prevent the entrance of harmful rays to the container 10. Referring particularly to Fig. 5, by

way of example, the panels 11 and 12 are mitred at a 45° angle, so that the mitred edges meet along a line 21. The mitred edges and the panels 11 and 12 are held together by angle shaped reinforcing members 22, which in the embodiment shown are formed of a metal thin enough so that the members 22 may be stitched by staples 23 to the panels 11 and 12.

As an alternative, however, the reinforcing angle members 22 may be secured by conventional bolts passing through the members 22 and adjoining panels, and engaged by nuts threaded thereto.

As seen in Fig. 2, the top edges of the panels 11 and 12 are reinforced by inverted channel shaped members 24 formed of metal thin enough so that the members 24 can be stitched to the panels 11 and 12 by staples 26.

The ends of the several reinforcing members 22 and 24 are mitred along meeting faces 27 on the outside of the container 10, as seen in Fig. 4. It is obvious, of course, that the meeting faces of the limbs of the inverted channel members 24 bearing against the inside of the several panels 11 and 12 need not be so mitred, and the end faces of such interior limbs may be cut at right angles thereto.

As seen with reference to Fig. 2 the edges of the top panel 13 are reinforced by members 28 substantially L-shaped in cross-section and having spaced leg elements 29 which embrace the top and under side of the top panel 13 and are held to the top panel 13 by stitching staples 30. In forming the top panel 13 the lead foil sheets 17 and 19 are arranged to extend beyond the edges of the asbestos sheet material 16 and 18 and to be folded downward as shown by the reference numerals 31 and 32 to be held between closely speced leg elements 33 of the L-shaped members 28. The ends of the spaced leg elements 29 are mitred to fit together along matching lines 29a. As seen in Fig. 2, the leg elements 33 overlap the inverted channel shaped elements 24 reinforcing the top edges of the panels 11 and 12, so that the protection afforded by the lead foil sheets 17 and 19 is continuous across what normally would be the parting line between the cover 13 and the panels 11 and 12.

Referring particularly to Fig. 3, the lid 13 is detachably hinged to one of the back panels 11 by spaced hook and hasp hinges comprising a flat hook 34 riveted to the reinforcing member 24 and a cooperating hasp 36 riveted to the leg elements 33. The lid 13 is locked in place by a hasp 37, a padlock 38 and a staple 39 in the conventional fashion.

From the foregoing description it will be apparent that there has been provided a new and useful container which will store emergency rations and medicines and maintain them against the ravages of fire and the possibility of contamination by harmful rays resulting from an atomic explosion. By the provision of the downward extending foil portions 31 and 32 the contents will be maintained against the possibility of contaminating rays entering the container at the parting line between the lower part of the container and the lid or cover therefor. By the provision of alternate layers of asbestos sheet material and sheets of lead foil or the like, the panels forming the sides, top and bottom are resistant to both fire and radioactivity.

While the invention is described in terms of a preferred embodiment it may assume in practice, the precise embodiment herein shown is not intended to be limiting of the scope of the invention, the scope thereof being as defined by the claims here appended.

I claim:

1. A fire and radioactivity resistant container comprising side, bottom and top panels, each of said panels being formed from alternate layers of heat resistant material and a metal capable of shielding against harmful radiation, said side and bottom panels being mitred along contiguous edges of said panels so that said shielding metal is in abutting relationship at the contiguous edges of said panels, and said top panel being reinforced along the edges thereof by reinforcing elements having downward extending legs in lapping relationship with respect to said side panels, said shielding metal of said top panel extending beyond the edges of the heat resistant material of said top panel and being turned down and embraced by said downward extending legs to provide for shielding across the parting line between said top panel and said side panels.

2. A fire and radioactivity resistant container comprising side, bottom and top panels, each of said panels being formed from alternate layers of heat resistant material and a metal sheet material capable of shielding against harmful radiation, said side and bottom panels being mitred along contiguous edges thereof so that said shielding metal is in abutting relationship at the contiguous edges of said panels, members for reinforcing and joining said panels at their contiguous edges consisting of angles having legs secured to said panels and said top panel being reinforced along the edges thereof by reinforcing elements having downward extending legs in lapping relationship with respect to said side panels, said shielding metal of said top panel extending beyond the edges of the heat resistant material of said top panel and being turned down and embraced between said downward extending legs to provide for shielding across the parting line between said top panel and said side panels.

JAMES E. TRIPP.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
268,819	Nolan	Dec. 12, 1882
878,501	Burhans	Feb. 11, 1908
935,748	Fenlason	Oct. 5, 1909
2,507,379	Morrison	May 9, 1950