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2,640,937

PROTECTOR

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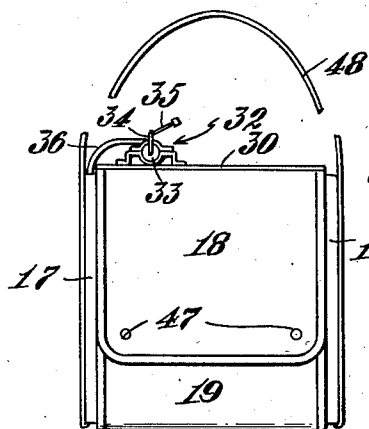


Fig. 1

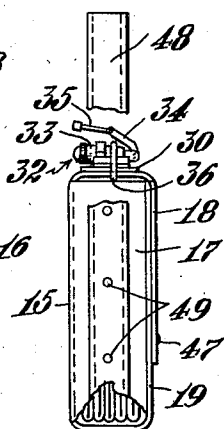


Fig. 2

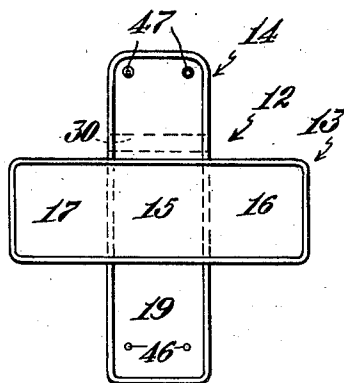


Fig. 6

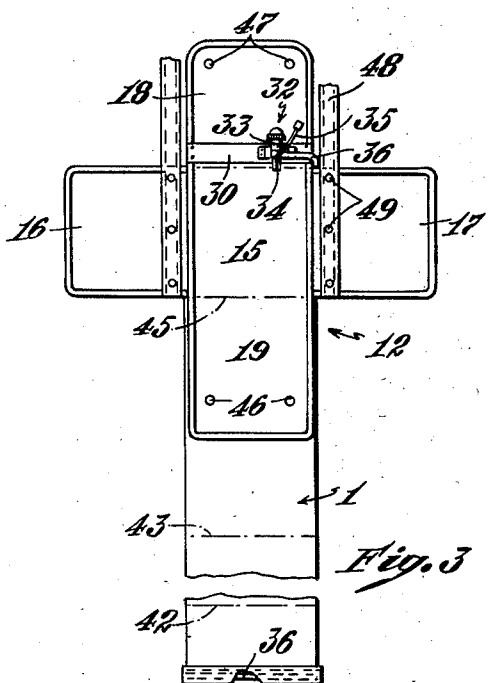


Fig. 3

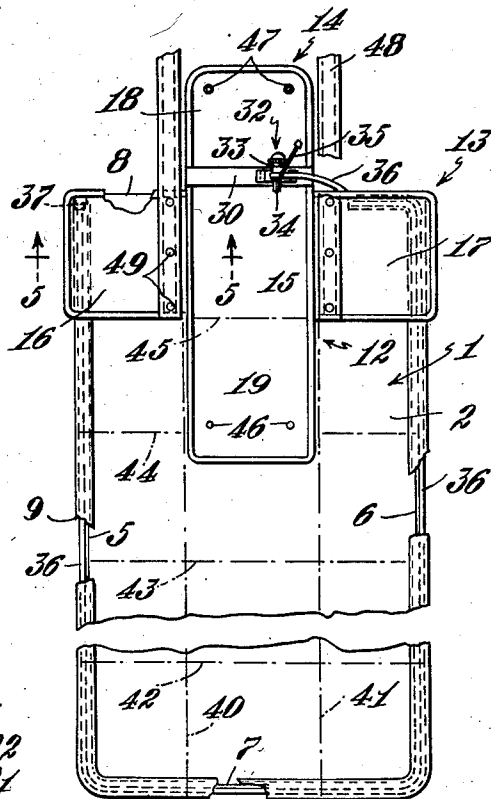


Fig. 4

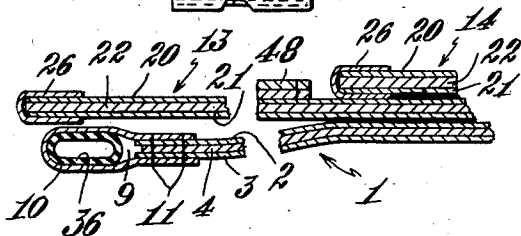


Fig. 5

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6 Claims. (Cl. 250—108)

1

This invention relates to a protective device and more particularly to a device for the protection of individuals from the radiant energy, including the heat and radiation, of an atomic explosion.

One object of the invention is to provide a protective device of the character described which when in use will afford the user complete and adequate protection from the radiant energy of atomic explosion, which when not in use may be conveniently and readily accessible for immediate use at all times, and which may be instantaneously prepared for use on the shortest warning with minimum effort and without danger of inadvertent or accidental injury to the device.

Other objects of the invention is to provide a protective device of the character described which is of simple construction, economical to manufacture, easy to operate and attractive in appearance.

For the purpose of illustration a typical embodiment of the invention is shown in the accompanying drawings in which

Fig. 1 is a front elevation of the protector in folded position with parts of the strap broken away and showing the form in which the protector is maintained while not in use;

Fig. 2 is an end elevation of the embodiment of Fig. 1 with parts of the cover broken away showing the manner in which the blanket is folded;

Fig. 3 is a top plan view of the embodiment of Fig. 1 in partially unfolded position and with parts broken away;

Fig. 4 is a top plan view of the embodiment of Fig. 1 in fully unfolded position ready for use and with parts broken away;

Fig. 5 is an enlarged section along the line 5—5 of Fig. 4 with parts broken away; and

Fig. 6 is a bottom plan view of the protector cover with the blanket omitted.

In the particular embodiment of the invention chosen for the purpose of illustration and with reference to Figs. 4 and 5 of the drawings the protector comprises a foldable blanket 1 of material impervious to the radiant energy of an atomic explosion. While the blanket could be formed from a rubber or plastic sheeting initially compounded with material impervious to said radiant energy, such as lead or lead oxide in a well known manner, it is here shown, by way of example, as comprising outer layers 2 and 3 of flexible textile fabric and an intermediate layer 4 of flexible sheet metal, as lead foil, preferably having a thickness of the order of .002 inch. The outer

2

and intermediate layers are substantially coextensive and are bonded together preferably throughout their contiguous surfaces by suitable means as cement.

At its opposite sides 5 and 6 and end 7 and preferably along a portion of its opposite end 8 the blanket is formed with a marginal pocket 9 by suitable means as a loop-shaped binding 10, the inner ends of the binding overlapping and being fast to the outer layers of the blanket, as for example, by stitches 11, as shown in Fig. 5.

The protector also comprises a cover 12, here shown by way of example, as comprising crossed strips 13 and 14 bonded together and extending in a direction transversely and longitudinally of the blanket, respectively, the overlapping portions of the strips constituting a substantially rectangular shaped body portion 15 of the cover, said body portion being bonded to the marginal portion of the blanket at the end 8 and intermediate the side edges 5 and 6 of the blanket by suitable means as cement. The portions of the strip 13 which extend outwardly from said body portion 15 to the sides 5 and 6 of the blanket, respectively, constitute a pair of flaps 16 and 17 which overlie the blanket when in unfolded position as shown in Fig. 4. The portions of the strip 14 which extend outwardly from the body portion 15 constitute a second pair of flaps 18 and 19, the flap 18 extending outwardly beyond the end 8 of the blanket and the flap 19 overlying the blanket when in unfolded position as shown in Fig. 4.

The strips 13 and 14 also comprise material impervious to the radiant energy of an atomic explosion and are here shown, by way of example, as comprising outer layers 20 and 21 of flexible textile fabric and intermediate layer 22 of flexible sheet metal, as lead foil, preferably having a thickness of the order of .010 inch. The outer and intermediate layers of the strips 13 and 14 are substantially coextensive and are bonded together preferably throughout their contiguous surfaces by suitable means as cement. Preferably also the outer edges of the strips are provided with a binding 26.

Adjacent end 8 of the blanket a narrow relatively rigid reinforcing strip 30 is mounted on the outer face of flap 18 and carries a pneumatic inflating device 32 of a standard commercial type including a receptacle 33, a removable cartridge containing compressed gas, and a pivoted lever 34 operative in response to a pull on the cord 35 to puncture one end of the cartridge to release the compressed gas therewithin. A flexible tube 36 communicates at one end with the interior of the

3

receptacle and then enters into the marginal pocket 9 at the end 8 of the blanket and thence extends about the side 6, end 7 and side 5 of the blanket within said marginal pocket. At its opposite end the tube is provided with a threaded gas release plug 37 of the usual commercial type.

The area of the blanket comprises a multiple of the area of the rectangular body portion 15 of the cover and the blanket is divided into rectangles of the same area as said body portion 15 by spaced longitudinal lines of fold 40 and 41 extending parallel to the side edges of the blanket and by spaced transverse lines of fold 42, 43, 44 and 45 extending parallel to the ends of the blanket.

In describing the use of the protector and assuming that it is in its fully unfolded position, as shown in Fig. 4, and that all gas within the flexible tube 36 has been released through the plug 37, the plug is closed and the blanket is first folded inwardly and rearwardly from its side edges along the lines of fold 40 and 41 to the position shown in Fig. 3. The blanket is then folded along the lines of fold 42, 43, 44 and 45 in successive zigzag folds starting from the end 7 of the blanket so that the entire folded blanket is substantially coextensive with the body portion 15 of the cover, as shown in Fig. 2, and underlies said body portion. The flaps 16 and 17 are then folded rearwardly about the folded blanket and the flaps 18 and 19 are similarly folded rearwardly about the blanket and said folded flaps 16 and 17, with the flap 18 overlapping the flap 19 as shown in Figs. 1 and 2. The blanket is then releasably secured in said folded position by suitable means as pairs of cooperating snap fasteners 46 and 47 provided on flaps 18 and 19. An unexpended gas cartridge is then placed in the receptacle 33.

In this manner the protector while not in use is formed into the compact and neat pack shown in Figs. 1 and 2 and may be conveniently kept readily accessible for immediate use on all occasions and may be conveniently carried at the user's side while traveling by means of the shoulder strap 48, said shoulder strap being fast at its ends to the outer faces of the flaps 16 and 17, adjacent the body portion 15, by means of rivets 49.

Upon warning of an impending atomic explosion and assuming that the user is wearing the protector at his side, as aforesaid, the user need only pull the flap 18 away from the flap 19 which causes the snap fasteners to release, the flaps 18, 19, 16 and 17 to unfold, and the blanket to fall by force of gravity to the partially unfolded position shown in Fig. 3. The user then jerks the cord 35 of the inflating device 32 thereby to pivot the lever 34 causing the release of gas from the cartridge into the tube 36 to inflate the same. Inflation of the tube causes the blanket to unfold to the completely unfolded position shown in Fig. 4. At this time, the user may fall forwardly into a prone position on his stomach drawing the protector over him, as he would a blanket, the body portion 15 and flaps 16, 17 and 19 of the cover overlying portions of the blanket thereby to afford additional protection to the head, chest and spine of the user.

The protector is thus instantaneously unfolded and prepared for use with minimum effort on the part of the user and without danger of inadvertent or accidental rupturing of the thin sheet metal intermediate layer 4 which would result

4

from a hasty shaking of the blanket to unfolded position.

While, by way of illustration, the protector was described above as formed into a releasably secured pack, the invention is applicable to a folded blanket with the pneumatic means described above for unfolding the same.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. A protector from the radiant energy of an atomic explosion comprising a foldable blanket comprising material impervious to said radiant energy, and a cover fast to the marginal portion of the blanket at one end and intermediate the side edges of the blanket, the cover comprising pairs of opposed flaps extending in directions transversely and longitudinally of the blanket, respectively, each of the flaps having three free edges and being foldable about the blanket when folded to envelop the blanket, the flaps of one of said pairs having cooperating fastening means for releasably holding the flaps in folded position about the folded blanket.

2. A protector from the radiant energy of an atomic explosion comprising a foldable blanket comprising material impervious to said radiant energy, and a cover fast to the marginal portion of the blanket at one end and intermediate the sides of the blanket, the cover comprising pairs of opposed flaps extending in directions transversely and longitudinally of the blanket, respectively, each of the flaps having three free edges the inner edges of the flaps defining a rectangle, the area of said blanket comprising a multiple of the area of said rectangle and the blanket being divided into rectangles of the same area by spaced lines of fold extending parallel to the side edges and ends of the blanket, respectively, so that the blanket may be folded inwardly from its side edges along the lines of fold parallel to the side edges of the blanket and then folded along the lines of fold parallel to its ends in successive zigzag folds from the opposite end of the blanket to bring the blanket within the area of said rectangle defined by said flaps, the flaps being foldable about the blanket when folded to envelop the blanket, the flaps of one of said pairs having cooperating fastening means for releasably holding the flaps in folded position about the folded blanket.

3. A protector from the radiant energy of an atomic explosion comprising a foldable blanket comprising material impervious to said radiant energy, and a cover comprising a body portion fast to the marginal portion of the blanket at one end and intermediate the side edges of the blanket and pairs of opposed flaps extending outwardly from the body portion in directions transversely and longitudinally of the blanket, respectively, each of the flaps having three free edges the body portion and at least three of the flaps overlying portions of the blanket when unfolded and comprising material impervious to said radiant energy, thereby to afford additional protection at said portions of the blanket, the flaps being folded about the blanket when folded to envelop the blanket, the flaps of one of said pairs having cooperative fastening means for releasably holding the flaps in folded position about the folded blanket.

4. A protector from the radiant energy of an

5

atomic explosion comprising a foldable blanket comprising material impervious to said radiant energy, and a cover comprising a body portion fast to the marginal portion of the blanket at one end and intermediate the side edges of the blanket and pairs of opposed flaps extending outwardly from the body portion in directions transversely and longitudinally of the blanket, respectively, the body portion and at least three of the flaps overlying portions of the blanket when unfolded and comprising material impervious to said radiant energy, thereby to afford additional protection at said portions of the blanket, said body portion defining a rectangle, the area of said blanket comprising a multiple of the area of said rectangle and the blanket being divided into rectangles of the same area by spaced lines of fold extending parallel to the side edges and ends of the blanket, respectively, so that the blanket may be folded inwardly from its side edges along the lines of fold parallel to the side edges of the blanket and then folded along the lines of fold parallel to its ends in successive zigzag folds from the opposite end of the blanket to bring the blanket within the area of the rectangle of said body portion, the flaps being foldable about the blanket when folded to envelop the blanket, the flaps of one of said pairs having cooperative fastening means for releasably holding the flaps in folded position about the folded blanket.

5. A protector from the radiant energy of an atomic explosion comprising a foldable blanket comprising material impervious to said radiant energy, and a cover fast to the marginal portion of the blanket at one end and intermediate the side edges of the blanket, the cover comprising pairs of opposed flaps extending in directions transversely and longitudinally of the blanket, respectively, each of the flaps having three free edges and being foldable about the blanket when folded to envelop the blanket, the flaps of one of said pairs having cooperating fastening means for releasably holding the flaps in folded position about the folded blanket, the blanket having a marginal pocket extending along at least

6

the sides and opposite end of the blanket, a flexible tube in said marginal pocket, and inflating means, including a container of compressed gas and means for releasing the gas from the container, mounted on the outer face of one of the flaps and communicating with one end of said tube and operative, after the fastening means are released, to inflate the tube thereby to unfold the blanket.

6. A protector from the radiant energy from an atomic explosion comprising a foldable blanket comprising outer layers of flexible textile fabric and an intermediate layer of flexible sheet metal, the intermediate layer being of a material impervious to said radiant energy, said outer and intermediate layers being substantially coextensive and fast together at least at their marginal portions, the blanket having a marginal pocket extending along at least the side edges and one end of the blanket, a flexible tube in said pocket, and inflating means, including a container of compressed gas and means for releasing the gas from the container, and communicating with one end of said tube and operative to inflate the tube, thereby to unfold the blanket.

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