United States Patent

Maywald et al.

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[54] SECURITY CONTAINER HAVING DESTRUCT MEANS

[72] Inventors: **Dennis W. Maywald**, P.O. Box 281, Bedford Hills, N.Y. 10506; **Solomon Wolff**, 80 Rockland Parkway, Spring Valley, N.Y. 10977; **James R. Arcara**, 9 Sixth Street, New Rochelle, N.Y. 10801

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[52] **U.S. Cl.** **109/29**

[51] **Int. Cl.** **E05g 1/02**

[58] **Field of Search** 109/20, 23, 25, 29, 32, 34, 109/33, 35, 36, 37

[56] **References Cited**

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Primary Examiner—J. Karl Bell

Attorney—Abraham A. Saffitz

[57] **ABSTRACT**

A piece of luggage in the form of an attache case is equipped with destruct means for destroying the contents therein in response to an intentionally given signal. The interior of the case comprises a compartment in the form of a metallic box with a cover, which box when closed serves as a combustion chamber to incinerate the contents therein when so desired. Fuel and electric igniter means are placed within the box and ignition current is supplied by a power pack housed in the attache case. A heat insulation barrier surrounds the box and prevents transfer of combustion heat to the walls of the attache case. The circuit interconnecting the electric power pack and the igniter means includes a number of normally open switches arranged in series; all of which must be closed to initiate and start the destruct cycle. One switch is closed in response to closure of the attache case, and others may be deliberately closed by key means or the like. The final switch is closed by a pushbutton in the vicinity of the attache case handle, whereby the carrier of the case may set off the destruct cycle by manipulating the pushbutton with a finger of the hand around the handle.

4 Claims, 6 Drawing Figures

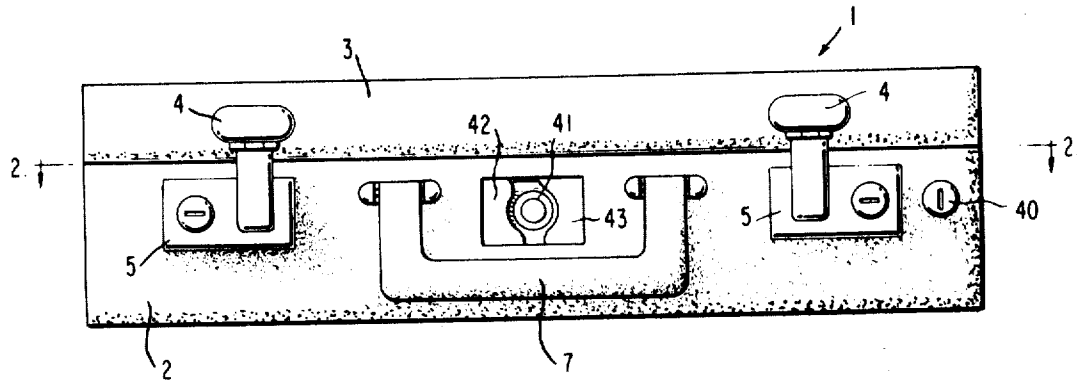
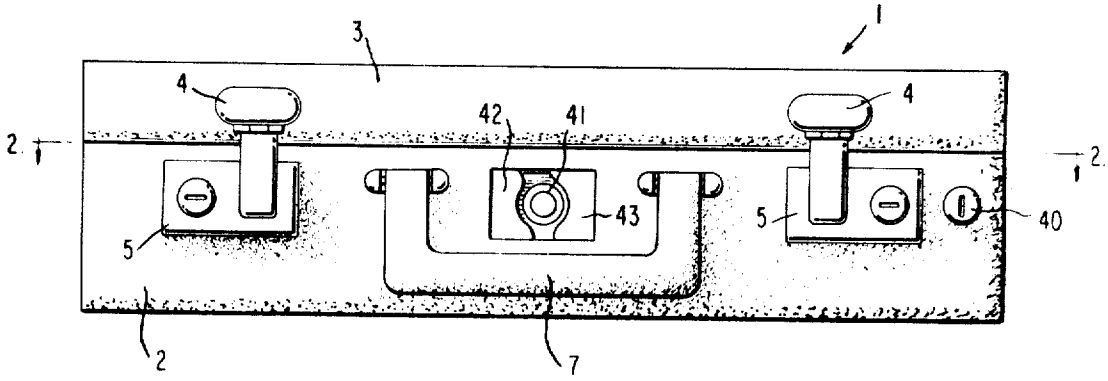


FIG. 1



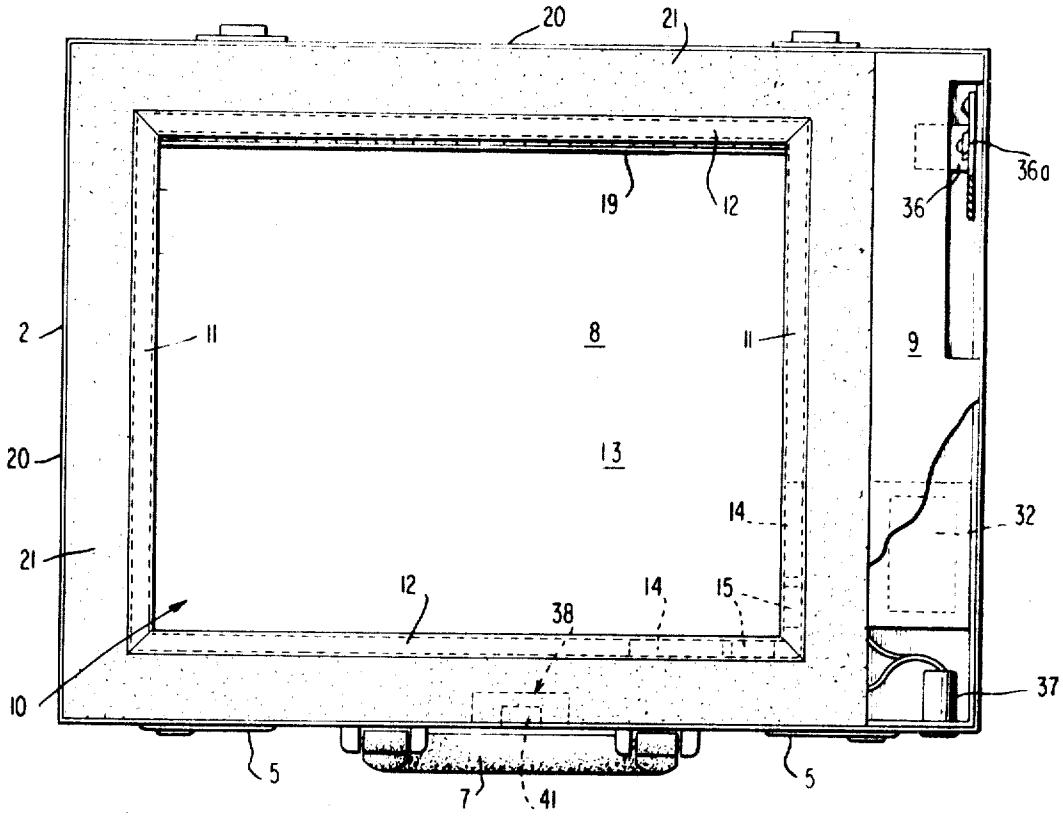


FIG 2

INVENTORS
JAMES ARCARA
DENNIS MAYWALD
SOLOMON WOLFF

BY Abraham A. Saffitz
ATTORNEY

FIG. 3

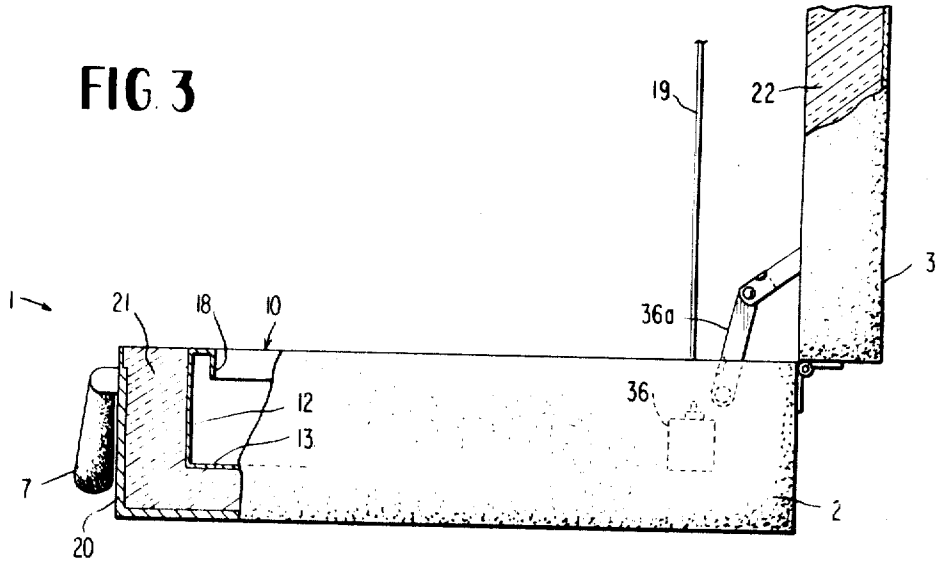


FIG. 5

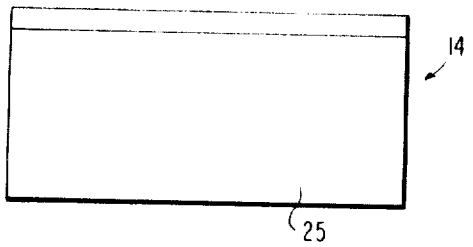
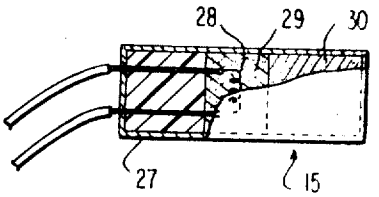


FIG. 4



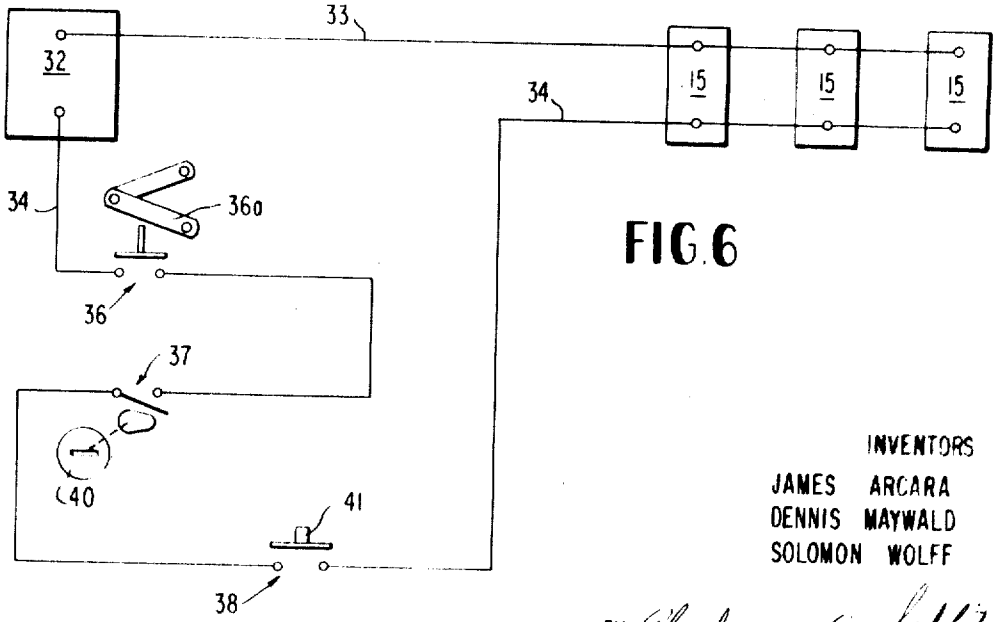


FIG. 6

INVENTORS
JAMES ARCARA
DENNIS MAYWALD
SOLOMON WOLFF

BY Abraham A. Saffitz
ATTORNEY

SECURITY CONTAINER HAVING DESTRUCT MEANS

This invention relates to optionally initiated destruct means to incinerate or otherwise destroy the contents of a container, particularly a container of the luggage type.

There are now various types of containers, including the luggage type, which are provided with means to actuate an alarm, or mark the contents therein to indicate it was stolen, for example, see Morsen, U.S. Pat. No. 1,808,248 granted June 2, 1931, in the event that an unauthorized person opens the container. Some containers may also be provided with a weapon to fire at such an unauthorized person. The above means may also be set off optionally by an operator under certain conditions before the container is open.

However, under certain conditions it is sometimes necessary either to destroy the contents of the container so that it is no longer available, or to totally damage the contents so that it is of no further use. The prior art containers discussed above do not provide such contents-destroying means.

The object of this invention is to provide a container having destruct means therein which upon a given signal destroys the contents therein.

A further object is to provide a container with fuel and igniter means therein, which in response to a given signal ignites and burns to completely incinerate the contents.

Another object is to provide a piece of luggage, such as an attache case, which houses contents-destroying means comprising fuel, electric igniter means therefor, an electric supply connected to the igniter means and a switch system interconnecting the electric supply and the igniter means to intentionally initiate ignition and cause combustion.

A further object is to provide an attache case with a contents destruct means, as set forth above, provided with multiple switch means which must be operated sequentially and manually in order to set off the contents destruct means, thereby preventing accidental setting off of the destroying means.

Further objects and advantages will be apparent from the following description and accompanying drawings, wherein:

FIG. 1 is a front view of the container, which for exemplary purposes, is shown as an attache case;

FIG. 2 is a cross-sectional view of the attache case taken along line 2—2 of FIG. 1;

FIG. 3 is an end view of the attache case partly sectioned, with the covers in open position;

FIG. 4 is a side view of the fuel igniter means;

FIG. 5 is a side view of a fuel packet; and

FIG. 6 is the electric circuit including switch means for firing the igniter means and thereby initiating combustion.

While the principle of this invention may be applied to any type container and its contents, it will be disclosed in connection with a container of the luggage type. More particularly, the disclosed embodiment of the invention is applied to the type of luggage represented by the conventional attache case.

FIG. 1 shows a portable container 1, which looks like a conventional attache case having the usual rectangular body 2, a cover 3 hinged thereto, and hasps and locks 4 and 5 located on either side of handle 7.

The interior of body 2 is divided into a contents compartment 8, and a power and switch compartment 9. Compartment 8, which extends over the major portion of the case, acts as a combustion chamber for incinerating the contents thereof when such an operation is desired. Compartment 8 comprises a box 10 having end walls 11 and sidewalls 12 and a bottom 13. Box 10 may be made of metal, or some strong and noncombustible similar material. Box 10 may be formed by drawing a sheet of metal to form integral walls and bottom or may be formed by bending and folding a single sheet into a box.

Walls 11 and 12 are preferably in form of channel members in which the fuel and igniter means may be housed. As illustrated in FIGS. 2 and 3 a fuel packet 14 and its igniter means 15 occupy an end of sidewall 11 and a similar fuel packet and igniter means occupy the adjacent corner in sidewall 12. The tops of walls 11 and 12 may be flanged over to provide flange 18 to retain the fuel packets and the igniter devices within the channel. The fuel packets and igniters may also be held in place by perforated sheets. Further, walls 11 and 12 may be straight and the fuel packets and igniter devices may be retained thereagainst by using clamp means or fingers, either welded or screwed to the walls.

The fuel packets and igniter devices may also be housed in separate compartment or box means within box 10 and secured to or partly formed by walls 11 and 12. The essential feature is that the fuel and igniter means must contents in the compartment. and retained in position at all times. The fuel packets and their igniter means may be distributed all around the walls, but normally the location of the two fuel packets in an end and side corner is sufficient to ignite and destroy the usual paper contents in the compartment.

Box 10 is equipped with hinged cover 19 made of the same material, or similar material, as the box. Thus, when cover 19 is closed box 10 becomes a closed combustion chamber of sufficient strength to withstand the heat and the pressure generated by the combustion products therein.

Between the outside walls 20 of the attache case and box 10 is inserted a heat insulation barrier or casing 21. Casing 21 may be asbestos, or foamed plastic of the type able to withstand the high temperature generated in box 10 and transmitted through the walls. The insulation barrier also extends to below the bottom 13 of box 10, as illustrated in FIG. 3. A sheet of heat insulation 22 is housed in cover 3 and contacts box cover 19 when in closed position. Thus, when the attache case is closed and locked, cover 3 retains cover 19 in its closed position against the pressure forces of the combustion products.

Fuel packet 14 preferably comprises an envelope 25 made of combustible material, such as plastic or the like, containing fuel material. To protect the fuel material against moisture oxidation or other deleterious conditions, the envelope is sealed. The fuel may be of the type which is in solid state, or in a semisolid or gelled state. There are many available solid fuels of the type used in rockets, or similar environments, which have long life expectancy against deterioration. Most of such fuels comprise rubber or plastic compositions, which once ignited burn with a hot flame not easily extinguished with ordinary fire-extinguishing material. Other fuel incorporating gelled hydrocarbons, or carbohydrates may be used.

The igniter device 15 may be an electric squib. FIG. 4 illustrates a preferred construction. Container 27, made of cardboard, metal, or plastic, houses an igniting means 28, which may be a resistance coil or sparking device in contact with or within ignition material 29. The ignition material may be relatively slow burning black powder, or some other material comprising easily ignitable chemicals; such as potassium or sodium perchlorates or the like. Upon ignition of material 29, a fuel charge 30 in contact with material 29 is ignited and is of sufficient intensity to ignite its adjacent fuel packet 14 which is located in the walls of box 10.

There is a wide choice of igniter material, igniter fuel and packet fuel. The choice depends upon the contents to be destroyed and the intensity of destruction desired. Any skilled pyrotechnist is capable of compounding igniter and fuel materials to attain the desired degree and speed of combustion.

While separate fuel packets and igniter devices are shown, both means may be sealed into one package with the igniter conductors issuing therefrom. Similarly, resistance coil 28, and materials 29, 30 and the packet fuel may be placed in one container to form a combined igniter-fuel packet.

The destructive operation is initiated by an electric impulse controlled by an interlocking switch means. The control circuit is illustrated in FIG. 6. Power pack 32, which for convenience may be a battery of sufficient capacity to set off all the igniter devices is housed in compartment 9. Conductor 33 connects one terminal of each of the igniter devices in box 10 to one terminal of the power pack. The other terminal of each igniter device is connected to the other terminal of the power

pack by conductor 34. Conductor 34 is interrupted by serially arranged, normally opened switches 36, 37 and 38. Switch 36 is located in compartment 9 and is so located with respect to cover holdup means 36a that it is closed when cover 3 is closed. If the container is not in the form of an attache case, switch 36 is so located with respect to the cover, or an element operated by the cover, that the switch is in closed position when the cover is closed.

Switch 37 is located on the front of the attache case and is actuated to closed position by a key inserted in keyhole 40 located on the outside of the case. Switch 37 may be operated through a cylinder lock means controlled by the key, or may be operated by the key directly. The essential function of switch 37 is that it must be optionally and deliberately closed before the destructive impulse is given.

It is not essential that switch 37 and its operating means 40 be located at the front of the case. Obviously, it may be located on an end wall or any other surface of the case.

Switch 38 is also located on the front of the attache case. It is closed by a pushbutton 41, or similar trigger means, actuated by a finger. Switch 38 and its pushbutton 41 are located below handle 7, as illustrated in FIG. 1, whereby the carrier of the case may actuate the pushbutton with a finger of the carrying hand, without arousing any suspicion of his intention to destroy the contents.

To prevent accidental actuation of pushbutton 41, guard means are provided which normally enclose the exposed part of the pushbutton. As shown in FIG. 1, the guard means comprise two slidable cover members 42 and 43 which are normally biased to their covering position to thereby eliminate all access to pushbutton 41. To operate the pushbutton, either guard member 42 and 43 may be pushed back by a finger, and the same finger can depress pushbutton 41 to initiate combustion.

The pushbutton guard may also assume the form of a pivoted cover, spring urged to a position to enclose the pushbutton.

In operation, when such conditions arise that the contents in compartment 8 must be destroyed, switch 37 is closed by the key means at 40. Switch 36 is already closed in view of cover 3 being closed. Thus, if it is finally necessary to destroy the contents, the operator moves his finger to push back guard means 42 or 43 to open position, and as soon as pushbutton 41 is uncovered it can be depressed by the same finger to close switch 38.

The closure of switch 38 completes the circuit between power pack 32 and all the igniter devices 15. The electric igniter means 28 either gets red hot, if it is of the resistance type, or causes a spark, if it is of the sparking type, to ignite the ignition material 29, which in turn ignites the ignition fuel to generate sufficient heat to finally ignite fuel packets 14. By choosing easily ignitable material for the fuel packet, igniter fuel 30 may be omitted. For safety measures, the fuel in packets 14 are chosen for their stability, that is, they do have a relatively high combustion initiating point.

The fuel packets 14 may be such as to supply all or some of the oxygen necessary for complete combustion of the contents of box 10. Some oxygen is supplied by the air within box 10. However, to insure the complete incineration of all contents, fuel packets 14 must supply sufficient oxygen to accomplish the same. There are many commercially available fuel mixtures which incorporate sufficient oxidized material to fully supply the necessary combustion oxygen, independently of outside air.

Insulation barriers 21 and 22 prevent immediate transfer of heat from the walls of box 10 to the outside walls 20 of the attache case. Hasp and lock means 4 and 5 prevent covers 19 and 3 from opening under the generated combustion pressure forces. Thus, the entire operation is concealed until all the contents are consumed or totally damaged as to be no longer useful or recognizable.

Since the fuel material furnishes its own oxidizer, and in view of the pressure generated in box 10, opening box 10 to extinguish the fire would be useless. The pressure would prevent introduction of conventional fire-extinguishing material. Cutting off outside oxygen would also fail to stop combustion in view of the self-oxidation of the fuel material.

Although a preferred embodiment of the invention has been disclosed for purpose of illustration, it will be evident that various changes may be made therein without departing from the scope and spirit of the invention.

What is claimed is:

1. A security attache case, adapted for incinerating its contents, having a cover hinged thereto, a contents incinerating and holding means within said attache case comprising:

a contents-holding compartment formed of a noncombustible material for holding the contents of the attache case, a channel communicating with said first contents-holding compartment and an envelope retained in said channel, said envelope holding incinerating materials for incinerating the contents in the contents-holding compartment upon ignition of said materials;

fuel and igniter means retained in said channel;

an electrical supply;

a control circuit including a plurality of serially connected, normally open switches, all of which must be closed to energize said igniter means by current flowing from said electrical supply through the closed switches of said circuit to said fuel and igniter means; and

an electrical connection between one of said switches and the attache case cover to close the switch in response to the closing of the attache case cover;

and security means on the outside of said attache case including key means to close a second of said switches; and a pushbutton located near the handle for closing a third of said switches, said key means when operated to open said second switch, prevents the closing of said circuit even when the pushbutton is pushed to close said third switch whereby said key means acts as a safety device to prevent accidental operation of said pushbutton; and said key means when operated to close said second switch, permits the pushbutton to complete said control circuit when said button is pushed.

2. An attache case as claimed in claim 1, wherein said contents-holding compartment, said channel, said fuel and igniter means and said incinerating materials are separated from the inner walls of the attache case by means of a heat insulation barrier, said barrier blocking the transfer of combustion heat generated within said contents-holding means to prevent damage to the walls of the attache case.

3. An attache case as claimed in claim 1, wherein said pushbutton is enclosed in a guard means to prevent accidental operation.

4. An attache case as claimed in claim 3, wherein the guard means comprises slidable enclosing means which normally enclose the pushbutton.

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