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(56) Related Art
US 5654523
US 4444111
CRAIG B.D. et al., Handbook of Corrosion Data (June 1995), ASM International, USA, (ISBN:0-87170-518-4), pages 629

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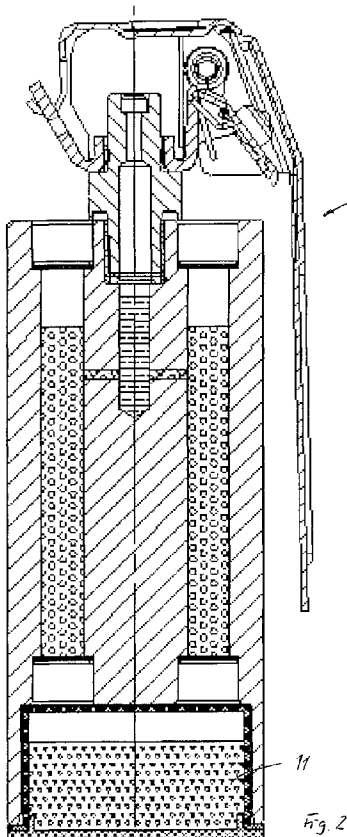
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[Fortsetzung auf der nächsten Seite]

(54) Title: IRRITATION ELEMENT WITH ADDITIONAL EFFECT

(54) Bezeichnung : IRRITATIONSKÖRPER MIT ZUSATZEFFEKT



(57) Abstract: The invention relates to an irritation element (1) having a container (5) and a first effect charge, and further having an igniting mechanism (3) and an igniting cap (4) which comprises an additional body (10) that contains an additional effect charge (11) and is located in the open area at the bottom (8). The housing (12) of the additional body (10) is preferably made of plastic and contains metal dust, for example, as a second effect charge (11).

(57) Zusammenfassung: Vorgeschlagen wird ein Irritationskörper (1) mit einem Behälter (5) und einer ersten Effektladung sowie einem Anzündmechanismus (3) und einem Anzündhütchen (4), der nunmehr im freien Bereich am Boden (8) einen Zusatzkörper (10) mit einer weiteren Effektladung (11) aufweist. Das Gehäuse (12) des Zusatzkörpers (10) besteht bevorzugt aus Kunststoff und beinhaltet als zweite Effektladung (11) beispielsweise Metallstaub.

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3)

DESCRIPTION

Irritation element with additional effect

5 The invention relates to an irritation element, also referred to as a shock weapon, but with additional effects.

10 A reference herein to a patent document or other matter which is given as prior art is not to be taken as an admission or a suggestion that that document or matter was known, or that the information it contains was part of the common general knowledge as at the priority date of any of the claims.

15 Irritation elements are used, inter alia, to assist police or military operations during hostage situations or aircraft hijackings. They are similar to a hand grenade, are generally fired manually, and are then thrown.

20 An irritation element with impulse propulsion mechanisms is known from DE 102 59 913 B4. The impulse propulsion mechanisms cause the irritation element to carry out rolling movements.

DE 92 10 649 U1, DE 92 13 375 U1 and DE 92 13 376 U1 disclose various shock weapons from the same applicant.

25 Various further irritation elements from the same applicant are disclosed in DE 199 44 486 C2 or DE 10 2004 059 991 B4. In this case, DE 199 44 486 C2 deals with the specific design of the compartments included in the container, while DE 10 2004 059 991 B4 relates to the cross sections of blow-out openings in the compartments, and describes in the general form the method of operation and effect of the irritation element.

30 DE 29 42 797 C2 proposes a thrown element having a plurality of flash and bang elements which are arranged in the housing, are fired at different times and are fired by means of in each case one thrown and scattering charge, which is fired by the delay charge. According to one embodiment, a lateral wall is provided instead of a bottom, and separates a small pan with the smoke substances and irritants from the interior of the housing. The small pan is
35 this case a unit which lengthens the irritation element and makes it heavier and which, together with the housing, forms a physical and functional unit.

Irritation elements such as these are now subject to the requirement in particular of increasing the duration of the impediment to vision, that is to say they have to fulfil different performance requirements. A first reaction would be the design change which, for example, would lead to a larger form.

5

It is therefore desirable to specify an irritation element which complies with the abovementioned requirement for a higher performance.

10

According to the present invention, there is provided an irritation body comprising: (a) a container; (b) a first effect charge housed in the container; (c) an ignition cap; (d) an ignition mechanism disposed to encounter the ignition cap in order to ignite the first effect charge; (e) an additional body provided with a second effect charge that is integrated in a free area on a floor of the irritation body, wherein the additional body comprises a housing made of a readily destructible material, and wherein when the ignition mechanism encounters the ignition cap thereby igniting the first effect charge, the additional body is destroyed by a blast wave and exiting combustion gases and the second effect charge is distributed and ignited.

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The invention is based on the idea of using the existing physical space in the free space at the bottom of an irritation element to position an additional element, and to include an additional effect charge therein. In the particular embodiment relating to increasing the impediment to vision, an actually inert metal dust is used, and this is embedded as a further effect charge in the additional element. The additional element is destroyed by the pressure wave and the combustion gases which emerge from the flash charge, and the metal dust, for example aluminium or magnesium, is distributed and ignited.

25

The additional element consists of a material which can be ignited easily, preferably plastic, in order to

prevent fragments from being formed, in particular outside the safety area (10 m).

5 The advantage is that the noise power can be maintained, since this is not minimized. The additional element can be adapted individually, and in this case selectively, immediately before use. There is no need for re-qualification or hazardous-goods classification.

10 The invention will be explained in more detail using one exemplary embodiment and with reference to the drawing, in which:

15 Figure 1 shows an irritation element and an additional element, separately;

Figure 2 shows an additional element inserted into the irritation element.

20 Figure 1 or Figure 2 show an irritation element 1, in this case with a toggle-lever firing means 2, which comprises a firing mechanism 3 with at least one firing bolt which, for operation of the irritation element 1, strikes a firing cap 4, in order to fire a central
25 delay charge 7 via a firing charge. The irritation element 1 furthermore comprises a container 5, which can be closed by a covering 6 or the like on the outside. - Further details relating to this are disclosed in DE 10 2004 059 991 B4, to which reference
30 is hereby made. -

A first effect charge is accommodated in the container 5.

35 An additional element 10 is included in the lower free area 8 at the bottom of the irritation element 1 and is equipped, corresponding to the desired additional effects, therewith in the form of a further (second)

effect charge. In the present exemplary embodiment, the additional element 10 contains a metal dust 11 with the object of likewise burning and thus increasing the impediment to vision, for example from 2 seconds to 10 seconds. The element 10 and/or the housing 12 are/is preferably manufactured from a material which can be destroyed easily, for example from plastic. The element 12 can be inserted, clamped in or screwed in retrospectively in situ.

The operation of the irritation element 1 as such is conventional and known. The toggle-lever firing mechanism 2 is armed and released, for example when the element 1 is thrown. The firing bolt of the firing mechanism 3 strikes the firing cap 4 and fires the entire system. When this takes place, the additional element 10 is torn apart by the pressurized gases, and the metal dust 11 is released and ignited.

Throughout the description and claims of the specification, the word "comprise" and variations of the word, such as "comprising" and "comprises", is not intended to exclude other additives, components, integers or steps.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

- 5 1. An irritation body comprising: (a) a container; (b) a first effect charge housed in the container; (c) an ignition cap; (d) an ignition mechanism disposed to encounter the ignition cap in order to ignite the first effect charge; (e) an additional body provided with a second effect charge that is integrated in a free area on a floor of the irritation body, wherein the additional body comprises a housing made of a readily destructible material, and wherein when the ignition mechanism encounters the ignition cap thereby igniting the first effect charge, the additional body is destroyed by a blast wave and exiting combustion gases and the second effect charge is distributed and ignited.
- 10 2. An irritation body according to claim 1, wherein the readily destructible material of the housing is plastic.
- 15 3. An irritation body according to claim 1, wherein the second effect charge comprises ignitable metal dust.
- 20 4. An irritation body according to claim 1, wherein the additional body is subsequently insertable, clampable, or screwable, into the free area on the floor of the irritation body.
5. An irritation body according to claim 2, wherein the second effect charge comprises ignitable metal dust.
- 25 6. An irritation body according to claim 2, wherein the additional body is subsequently insertable, clampable, or screwable, into the free area on the floor of the irritation body.
7. An irritation body according to claim 3, wherein the additional body is subsequently insertable, clampable, or screwable, into the free area on the floor of the irritation body.
- 30 8. An irritation body according to claim 5, wherein the additional body is subsequently insertable, clampable, or screwable, into the free area on the floor of the irritation body.

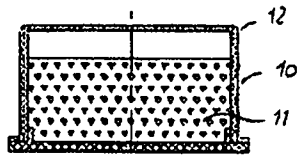
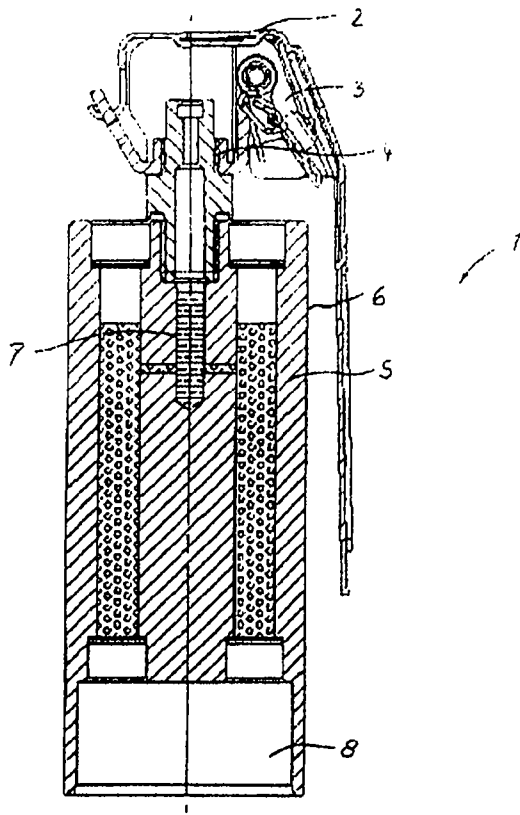


Fig. 1

2/2

