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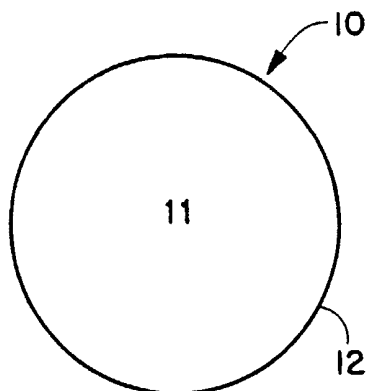
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- (71) Applicant (for all designated States except US): JAYCOR [US/US]; 9775 Towne Centre Drive, San Diego, CA 92121 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): VASEL, Edward, J. [US/US]; 12843 Corbet Court, San Diego, CA 92130 (US). NUNAN, Scott, C. [US/US]; 10670 Granby Way, San Diego, CA 92126 (US). NIEDERHAUS, Gregory, A. [US/US]; 4032 Ashford Street, San Diego, CA 92111 (US). COAKLEY, Peter, G. [US/US]; 1266 Sea Village Drive, Cardiff, CA 92007 (US). WENAAS, Eric [US/US]; 12936 Via Latina, Del Mar, CA 92014 (US). BEHRENDT, Roger [US/US]; 1159 Wild Canary Lane, Olivenhain, CA 92024 (US).
- (74) Agents: SAMPLES, Kenneth, H. et al.; Fitch, Even, Tabin & Flannery, Suite 1600, 120 South LaSalle Street, Chicago, IL 60603 (US).
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(54) Title: NON-LETHAL PROJECTILE SYSTEMS



(57) Abstract: A non-lethal projectile system for non-lethally inhibiting a living target, multi-functional launching devices for delivering the non-lethal projectile systems to a target, methods of assembling the non-lethal projectiles, and tactical methods of the use of the non-lethal projectile, the non-lethal projectile (10) consists of a projectile body (12) to be impacted with a target and a substance (11, 611) comprising a pepper-derived substance within the projectile body (12), wherein, upon impact with the target, the substance (11, 611) is dispersed on and about the target. In a variation, the projectile body (12) comprises a frangible projectile body, wherein upon impact with the target, the frangible projectile body ruptures, dispersing the substance (11, 611). In another variation, the substance (11, 611) comprises a powdered substance. In yet another variation, the pepper-derived substance comprises oleoresin capsicum or capsaicin.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/09331

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :F42B 12/46

US CL :102/502

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 102/395,444,447,498,502,513,529; 42/1.08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

East; malodorant, paintball, aboresin capsicum, pepper capsaicin

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
<u>X</u> Y	US 5,821,450 A (FEDIDA) 13 October 1998 (13/10/98), abstract and lines 23-63 of col. 4.	<u>1-3</u> 20-22
<u>X</u> Y	US 5,361,700 A (CARBONE) 08 November 1994 (08/11/94), See entire document.	<u>1-3,33,34</u> 20-22
Y	US 5,565,949 A (TOUGERON ET AL) 15 October 1996 (15/10/96), Figs 1-3 and line 47 of col. 2 through line 62 of col. 3.	31-34
Y	US 4,449,479 A (MARIOL) 22 May 1984 (22/05/84), Abstract and lines 24-42 of col. 2.	31-34



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
E earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	* & * document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

08 NOVEMBER 2000

Date of mailing of the international search report

27 DEC 2000

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Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

HAROLD TUDOR

Telephone No. (703) 306-4172

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/09331

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,686,905 A (S2ABO) 18 August 1987. (18/08/87).	
A	US 4,899,660 A (BRIGHTON) 13 February 1990 (13/02/90)	
A	US 5,009,164 A (GRINBERG) 23 April 1991 (23/04/91)	
A	US 5,018,450 A (SMITH) 28 May 1991 . (28/05/91).	
A	US 5,353,712 A (OLSON) 11 October 1994 (11/10/94)	
A	US 5,529,215 A (BANKS ET AL) 25 June 1996 (25/06/96)	
A	WO 94/28371 A (BUZICK) 8 December 1994 (08/12/94)	

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/09331

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.: 4-19,23-30,39 and 40
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-3,20-22,31-34

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/09331

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

Group I, claims 1-3, 20-22 and 31-34, drawn to a projectile, classified in class 102, subclass 502.

Group II, claims 35-38, drawn to a method of non-lethally inhibiting a target, classified in class 89, subclass 1.11.

Group III, claims 41-43, drawn to a method of making a projectile, classified in class 29, subclass 1.2.

Group I, claims 1-3, 20-22 and 31-34, drawn to a projectile, classified in class 102, subclass 502.

Group II, claims 35-38, drawn to a method of non-lethally inhibiting a target, classified in class 89, subclass 1.11.

Group III, claims 41-43, drawn to a method of making a projectile, classified in class 29, subclass 1.2.

Group IV, claim 44, drawn to a launcher, classified in Class 42, subclass 90.