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(54) Title: ARMORED CAB FOR LIGHT TACTICAL VEHICLES

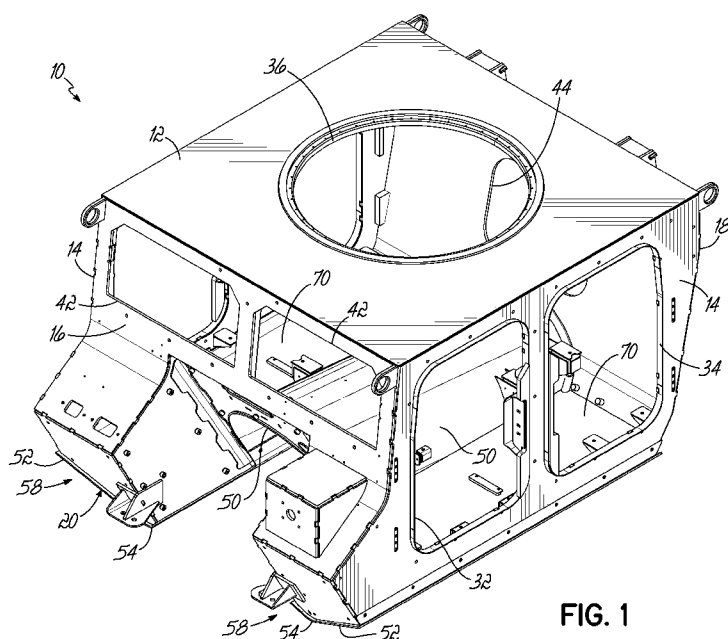


FIG. 1

(57) Abstract: An armored cab 10 comprises a top wall 12, two side walls, 14, 14 a front wall 16, a back wall 18, and a bottom wall 20, the cab 10 having a longitudinal axis 53. The bottom wall 20 comprises a generally centrally disposed downwardly facing smooth concave wall portion 50 extending substantially an entire length of the cab 10 and generally parallel to the longitudinal axis 54 of the cab 10 and forming a power train tunnel of the cab 10, and a pair of opposite laterally disposed wall portions 52, 52 extending substantially the entire length of the cab 10 and generally parallel to the longitudinal axis 53 of the cab 10, each of the opposite laterally disposed wall portions 52, 52 extending downwardly and laterally inwardly and terminating in a lowermost portion 54 of the bottom wall 20 on either lateral side of the concave wall portion 50. The concave wall portion 50 and the opposite laterally disposed wall portions 52, 52 are configured so as to present a substantially reduced surface area of the lowermost portions 54, 54 of the bottom wall 20 in a downwardly facing direction. The armored cab 10 includes one or more additional features 60, 72, 80, 90, or 200 that improve occupant survivability.



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. F41H7/04
ADD.

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)
F41H B62D

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)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2009/102364 A2 (BAE SYSTEMS TACTICAL VEHICLE S [US]; JOHNSON RICKY DON [US]; BUDD WALT) 20 August 2009 (2009-08-20) cited in the application paragraphs [0017], [0019], [0020] - [0022]; figures 1-4 -----	1-4, 16-20
Y	WO 2010/090661 A1 (ALCOA INC [US]; PEER GREGORY LUCAS [US]; TIMKO EDWARD A [US]; FORSYTHE) 12 August 2010 (2010-08-12) paragraphs [0038] - [0040], [0044]; figures 1A, 1B, 2A -----	1-4, 16-20
A	WO 2004/053421 A1 (VALIR PTY LTD [AU]; DE WET JACOBUS FRANCOIS [AU]) 24 June 2004 (2004-06-24) page 3, line 11 - page 4, line 21; figures 1-4 ----- -/-	1-4, 16-31



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"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)

"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

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

14 August 2013

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2006/085926 A2 (STEWART & STEVENSON TACTICAL V [US]; JOHNSON RICKY DON [US]; ROSS MICH) 17 August 2006 (2006-08-17) paragraphs [0017], [0020], [0021], [0023]; figures 3-6 -----	1-4, 16-31

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/065589

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search 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.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

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

see additional 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 fees, this Authority did not invite payment of additional fees.
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.:

1-4, 16-31

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4, 16-31

An armored cab having a bridging structure which is positioned between forward and rearward ends of said concave wall portion and interconnecting opposite sides of said concave wall portion.

2. claims: 5-8, 32-38

An armored cab having a generally horizontal floor on each lateral side of said concave wall portion, and an undulating reinforcement plate beneath each said floor including undulations in and out of a horizontal plane of said undulating reinforcement plate.

3. claims: 9-11, 39-42

An armored cab having a generally horizontal floor on each lateral side of said concave wall portion, each said generally horizontal floor connected to a respective one of said side walls of said cab, and crushable connection structure connecting each said side wall of said cab to a respective one of said pair of opposite laterally disposed wall portions of said bottom wall, each said crushable connection structure located below a respective floor, each said crushable connection structure configured to plastically deform in response to a blast to thereby reduce the amount of upward movement transferred from said opposite laterally disposed wall portions of said bottom wall to said cab side walls and from said cab side walls to said floors.

4. claims: 12-15

An armored cab having a generally horizontal floor on each lateral side of said concave wall portion, and an isolation floor on each said generally horizontal floor, each said isolation floor configured to plastically deform in response to a blast to thereby reduce the amount of upward movement transferred from said generally horizontal floor to an occupant atop said isolation floor.

5. claims: 43-53

A readily replaceable isolation floor module for installation into an armored cab, said isolation floor module configured to plastically deform in response to a blast to thereby reduce the upward movement transferred from the cab to an occupant atop said floor module, said floor

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

module comprising a lower frame, a pair of deck supports, an upper deck, each said deck support comprising a channel section having a center section and opposite end sections, one of said end sections of each said deck support mounted to said frame and the other of said end sections of each said deck support having said deck mounted thereto, and a plurality of energy absorbing columns spaced along each said deck support and positioned between said opposite end sections of each said deck support.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/065589

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