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(54) **Escape door for housings or vehicles**

(57) An escape door includes a panel (10) pivotally secured to a frame (20) with joints (30), the panel (10) includes two lateral sides and an upper side and a lower side each having an inclined surface (11), the frame (20) includes two lateral sides and an upper side and a lower side each having an inclined surface (21) engageable with the inclined surface (11) of the panel (10), for allowing the panel (10) to be forced out of the frame (20) when either side forces and/or upper or lower forces are applied onto the panel (10) and/or the frame (20).

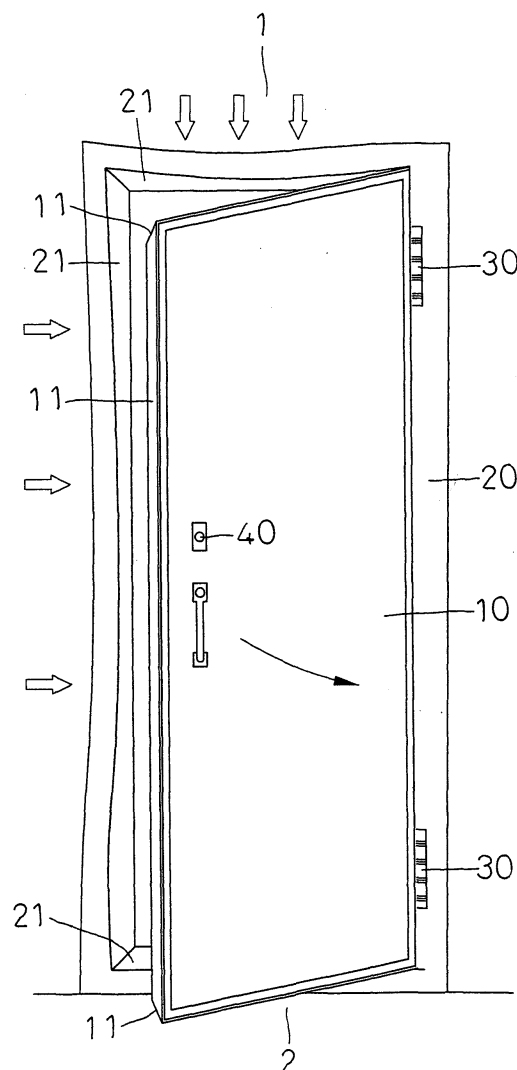


FIG. 5

Description

[0001] The invention relates to an escape door having automatically disengageable structure.

[0002] Typical doors for house buildings or vehicles comprise a door panel pivotally secured to a frame. When the panels or the frames are squeezed or jammed, during such as earthquakes, or traffic accidents, the panels may not be easily opened by the users and thus may not easily escape from the house buildings or the vehicles.

[0003] The invention to provide an escape door having a panel to be automatically disengaged from the frame of the house buildings or the vehicles, for allowing the users to be easily escaped from the house buildings or the vehicles.

FIG. 1 is a plan view of an escape door;

FIGS. 2, 3, 4 are cross sectional views of the escape door;

FIG. 5 is a perspective view of the escape door;

FIG. 6 is a cross sectional view illustrating the operation of the escape door;

FIGS. 7, 8, 9 are partial cross sectional views;

FIG. 10 is an upper view of a vehicle having an escape door;

FIG. 11 is a side view of the vehicle; and

FIG. 12 is a side view of an armored tank.

[0004] Referring to FIGS. 1-6, an escape door comprises a door panel 10 having one side pivotally secured to a door frame 20 with joints 30, and lockable to the frame 20 with a lock 40. The frame 20 is disposed in a wall 1 and supported on the ground 2. The panel 10 includes a peripheral portion or four sides (two lateral sides and an upper side and a lower side) each having an inclined surface 11. The frame 20 also includes a peripheral portion or four sides (two lateral sides and an upper side and a lower side) each having an inclined surface 21 engageable with the inclined surface 11 of the panel 10.

[0005] As shown in FIGS. 4-6, when either side forces and/or upper or lower forces are applied onto the panel 10 and/or the frame 20, the panel 10 may be forced and opened from the frame 20, such that the users may easily escape from the house buildings. The inclined surfaces 11, 21 of the panel 10 or the frame 20 may be faced outdoors, for allowing the panel 10 to be forced out.

[0006] As shown in FIGS. 7-9, the inclined surfaces 11, 21 of the panel 10 or the frame 20 may be flat or curved and arranged for allowing the panel 10 to be forced and opened from the frame 20 when either side forces and/or upper or lower forces are applied onto the panel 10 and/or the frame 20. The panel 10 and/or the frame 20 may include circular, square or various polygonal structure, and may be made of metal, concrete, plastic or other materials.

[0007] As shown in FIGS. 10-12, an escape door for vehicles 5 or armored tanks 7 also comprises a door panel 10 pivotally secured to a door frame 20. The panel 10 and the frame 20 each also includes a peripheral portion or four sides (two lateral sides and an upper side and a lower side) each having an inclined surface 11, 21 engageable with each other.

[0008] When either side forces and/or upper or lower forces are applied onto the panel 10 and/or the frame 20 of the vehicles 5 or armored tanks 7, the panel 10 may also be forced and opened from the frame 20, such that the users may easily escape from the house buildings.

Claims

1. An escape door comprising a frame (20), a panel (10) pivotally secured to the frame (20), **characterized in that:**

the panel (10) includes two lateral sides and an upper side and a lower side each having an inclined surface (11), the frame (20) includes two lateral sides and an upper side and a lower side each having an inclined surface (21) engageable with the inclined surface (11) of the panel (10).

2. An escape door as claimed in claim 1, wherein the inclined surface (11) of the panel (10) is flat.

3. An escape door as claimed in claim 1, wherein the inclined surface (21) of the frame (20) is flat.

4. An escape door as claimed in claim 1, wherein the inclined surface (11) of the panel (10) is curved.

5. An escape door as claimed in claim 1, wherein the inclined surface (21) of the frame (20) is curved.

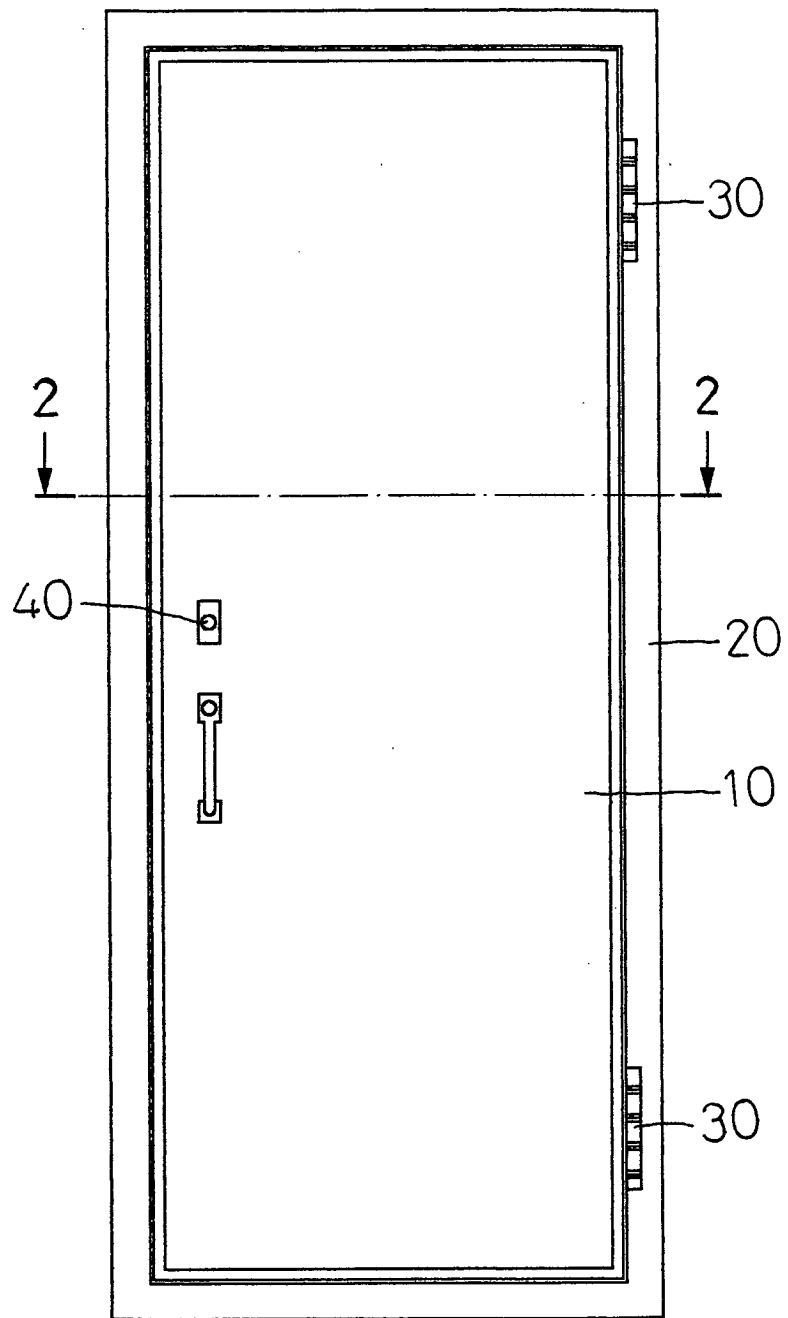


FIG. 1

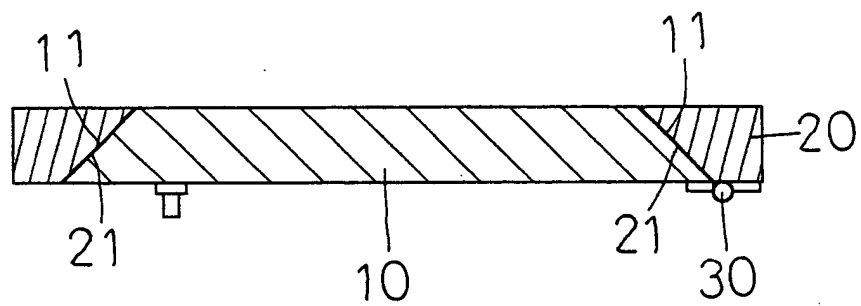


FIG. 2

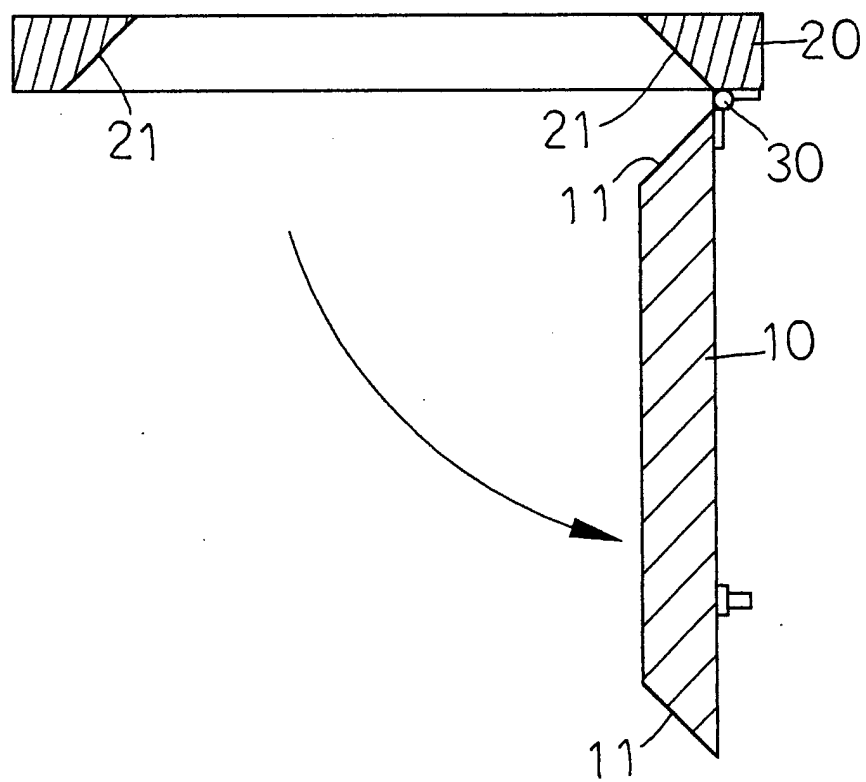


FIG. 3

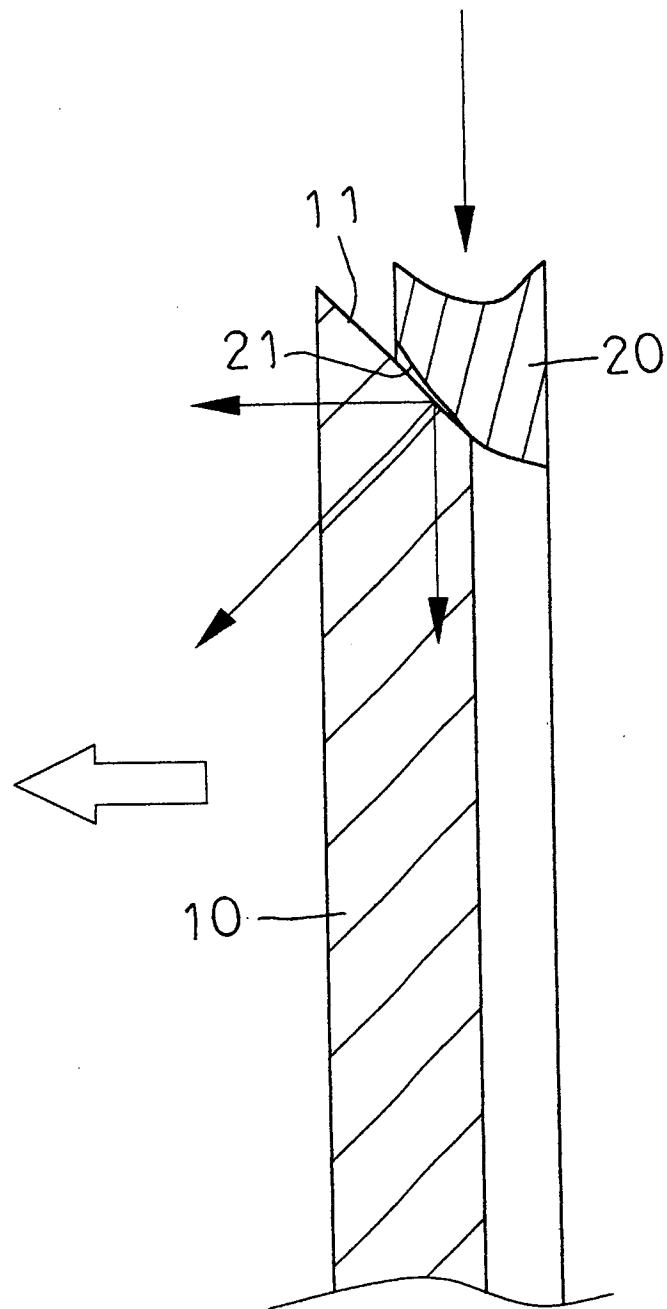


FIG. 4

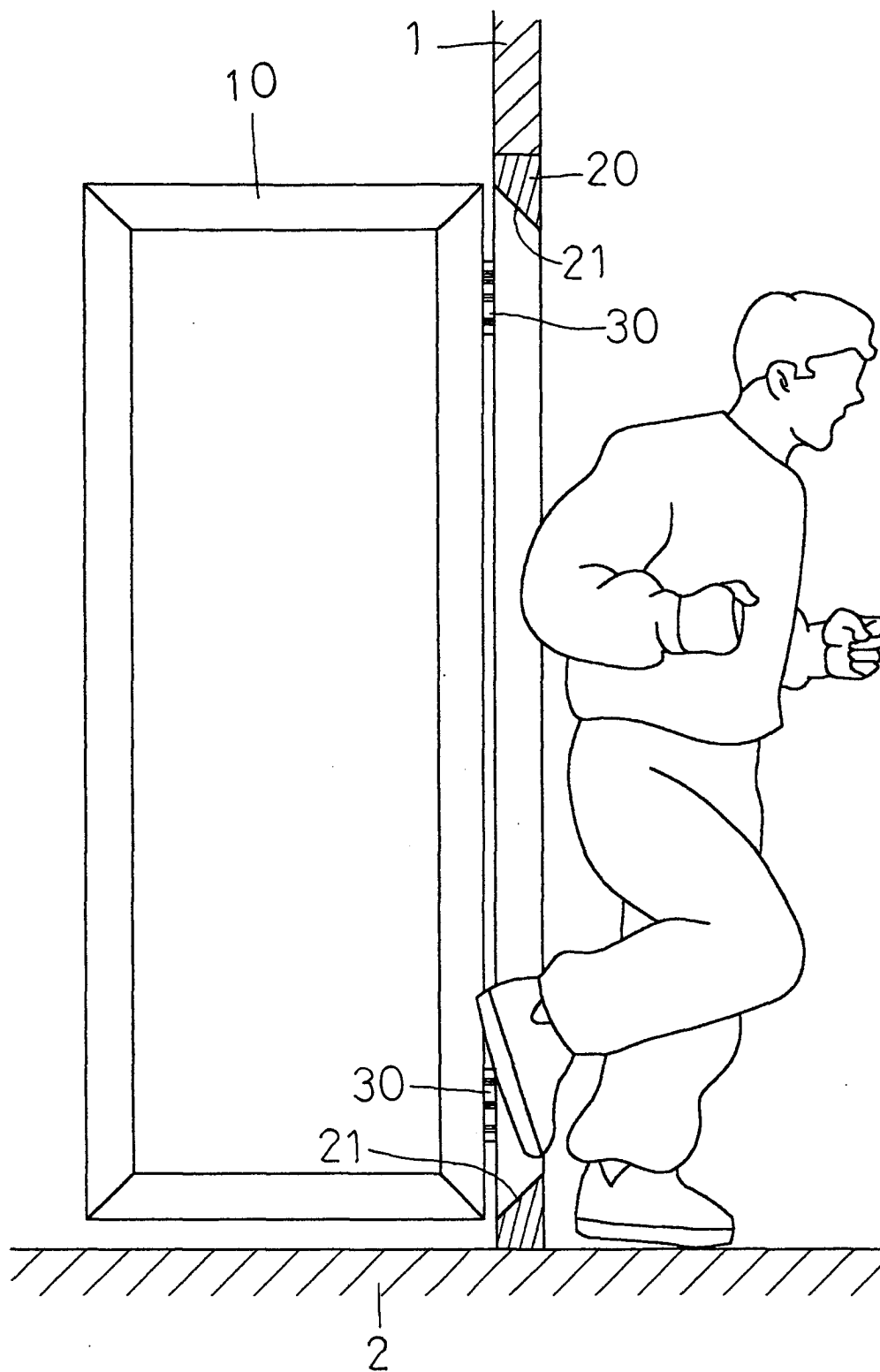


FIG. 6

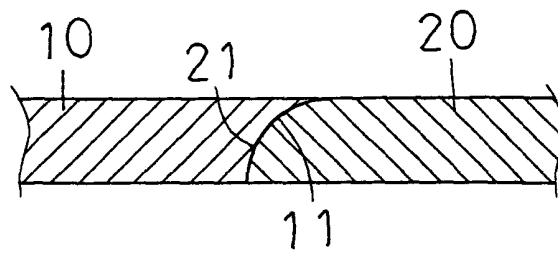


FIG. 7

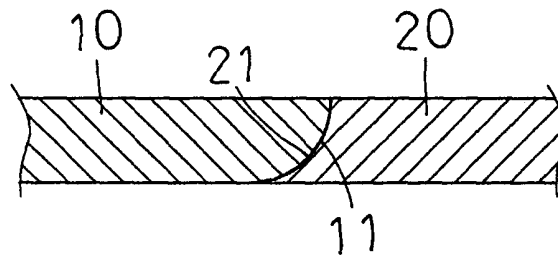


FIG. 8

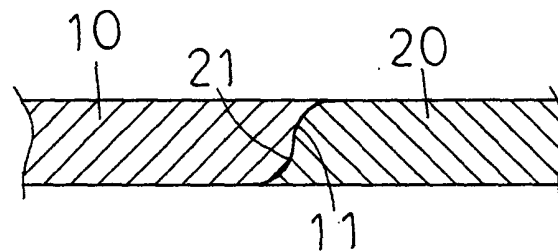


FIG. 9

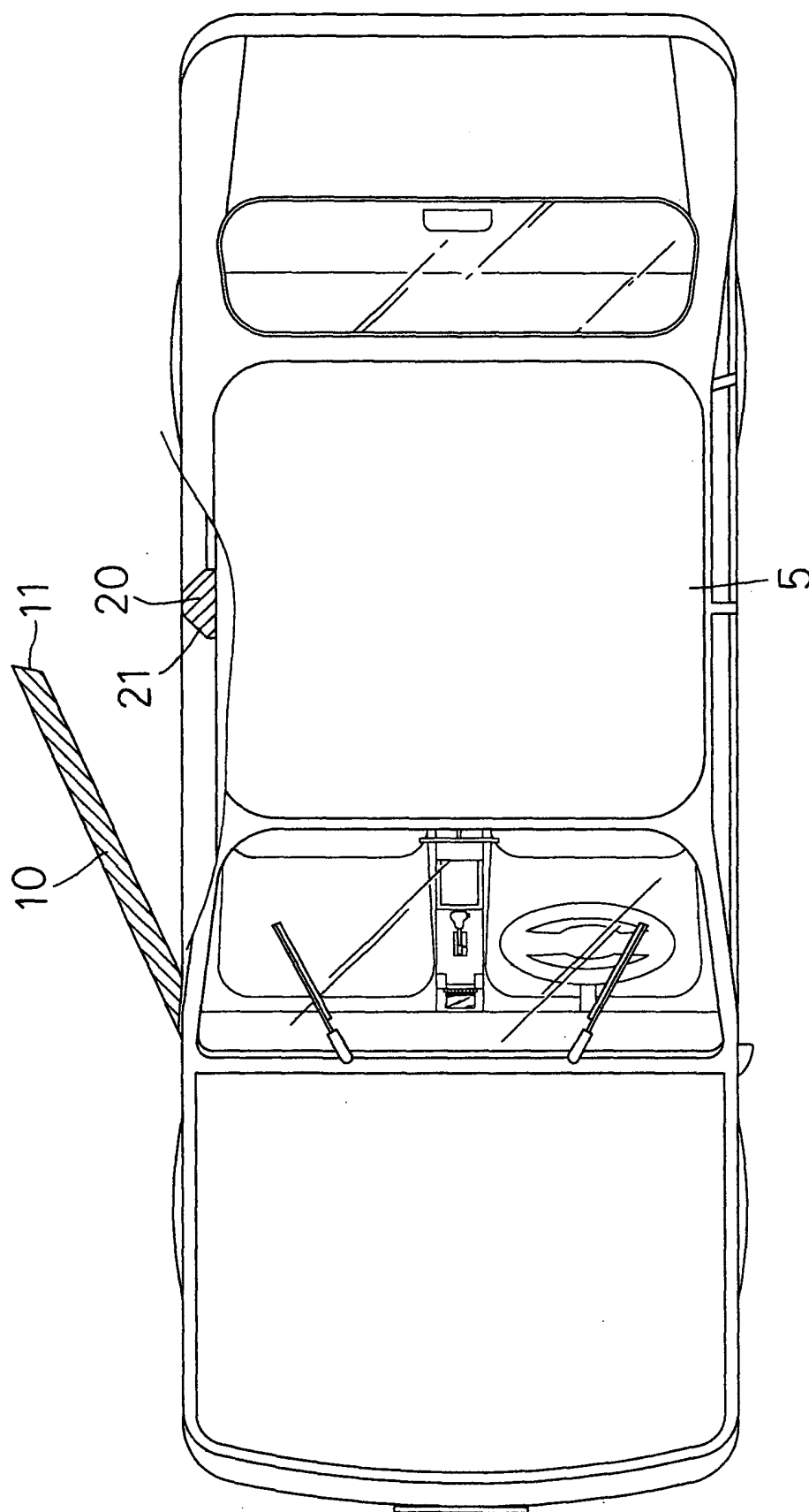


FIG. 10

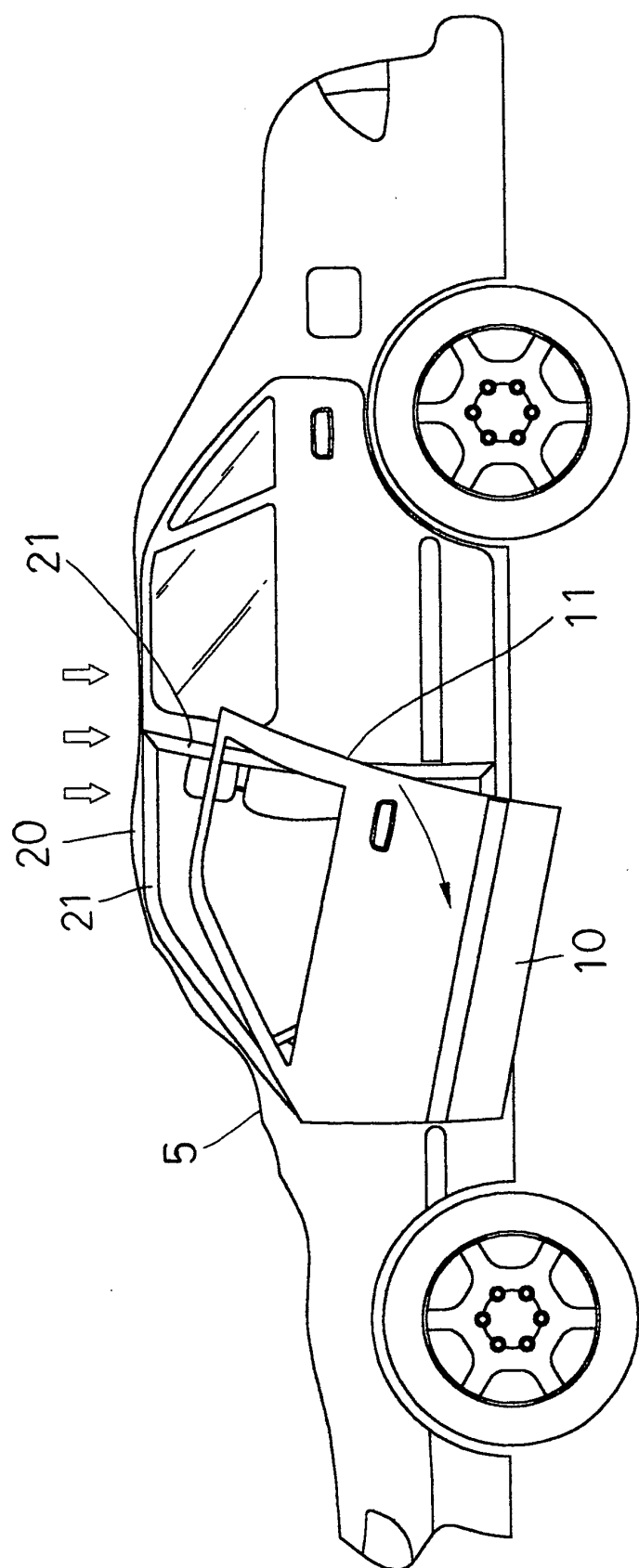


FIG. 11

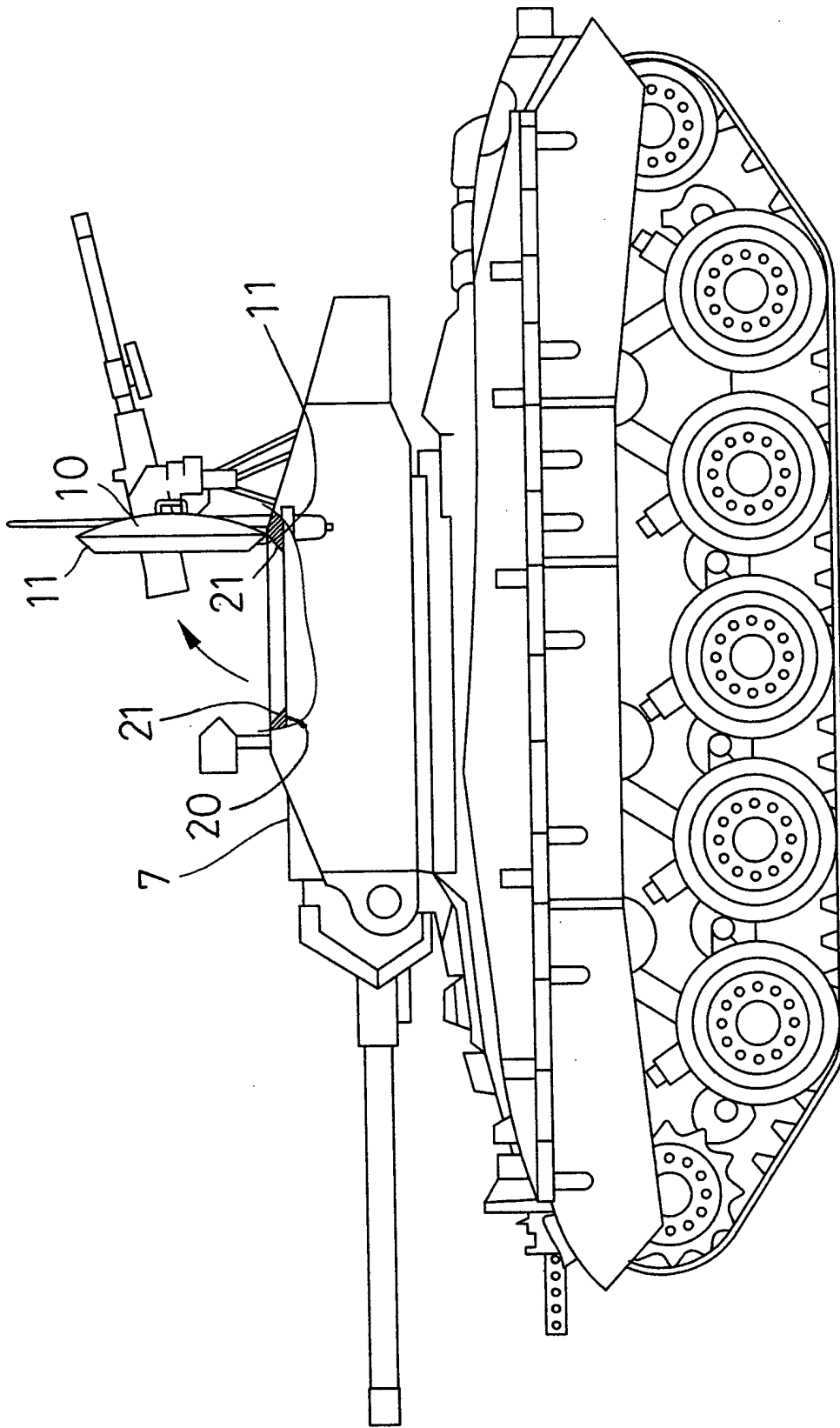


FIG. 12



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EUROPEAN SEARCH REPORT

Application Number
EP 03 00 8630

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 4 429 495 A (AOKI KIYOMI) 7 February 1984 (1984-02-07) * column 1, line 5-32; figures 1-7,15-17 *	1-5	E06B5/00
A	FR 1 081 476 A (CARPE RAYMOND-LEO-ALPHONSE) 20 December 1954 (1954-12-20) * figure 4 *	4,5	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			E06B E05B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 11 September 2003	Examiner Verdonck, B
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 03 00 8630

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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11-09-2003

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82