(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number : **0 441 610 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number : **91300966.8**

(51) Int. Cl.[5] : **F41B 9/00**

(22) Date of filing : **06.02.91**

(30) Priority : **06.02.90 IL 93296**

(43) Date of publication of application :
14.08.91 Bulletin 91/33

(84) Designated Contracting States :
DE ES FR GB

(71) Applicant : **PERYPHON**
14 Eser Tachanot Street
Tel Aviv 69718 (IL)

(72) Inventor : **Peeri, Menahem**
46 Hagolan St.
Tel-Aviv (IL)

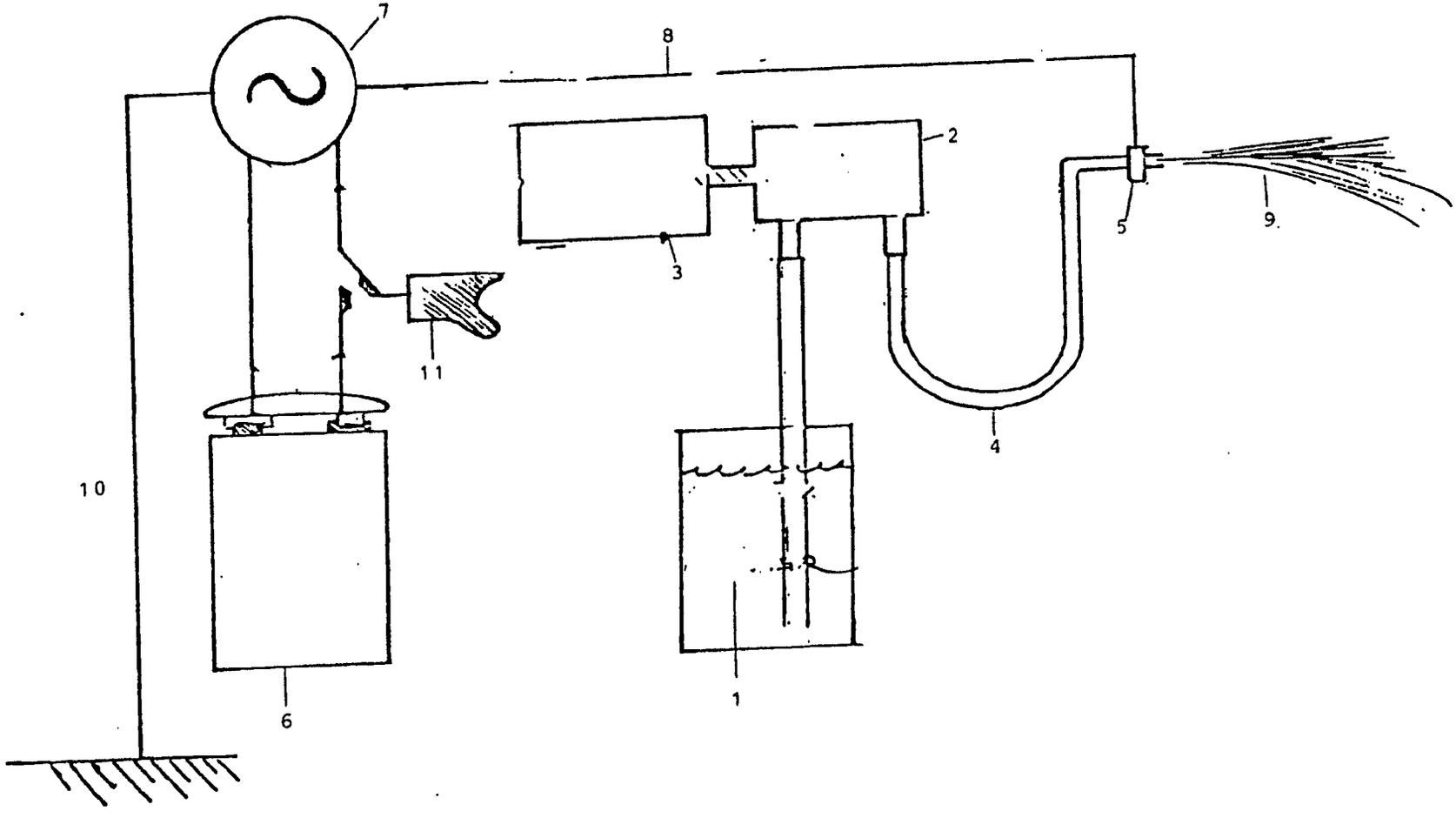
(74) Representative : **Adams, William Gordon et al**
RAWORTH, MOSS & COOK 36 Sydenham Road
Croydon Surrey CR0 2EF (GB)

(54) Electric shock apparatus.

(57) A non-lethal weapon system suitable for self-defence comprising an electric shock apparatus arranged to transmit an electric shock to a person or animal. The apparatus comprises means for projecting (2,4) a continuous jet (9) of conductive fluid towards the person or animal. A high voltage AC pulse generator (7) has one pole (8) connected to the jet of fluid and the other pole (10) earthed.

EP 0 441 610 A1

Fig. 1



ELECTRIC SHOCK APPARATUS

The invention relates to a non-lethal weapon system suitable for self-defence or against demonstrators, and also against animals.

When designed for self-defence, the present weapon system may be preferably of a pistol-like form, when intended for use against demonstrators, it is preferably vehicle mounted.

The weapon system according to the present invention is based on applying non-lethal alternating current (AC) electric shock pulses to the attacker or demonstrators or animals, which shocks are transmitted by a continuous jet of a conductive fluid, said pulses being generated by multiple transformation of the voltage of dry batteries.

Therefore, in its broadest aspect, the invention relates to an electric shock apparatus based on transmitting electric shock to the intended person/s or animals, comprising means for projecting a continuous jet of conductive fluid towards the person or animal, means for generating high voltage AC pulses, means for connecting one pole of said AC pulses to said jet of conductive fluid, and means for earthing the second pole of said AC pulses, or projecting a second jet of conductive fluid to which the second pole of said AC pulses is connected towards said person or animal or towards the ground near said person or animal.

As in order to effectively apply said electric shocks and also to protect the user of the weapon from being affected by said shocks. One pole of the AC voltage sould be connected to the jet of conductive fluid and the other to the ground. Various means are suitable for this earthing, which may be a conductive wire stored in the weapon system and thrown to the ground when in use. Possibly a weight may be attached to the end of said conductive wire or, it may be an elastic spring mounted in a manner to be forced against the ground when released. In order to improve ground contact, said wire or spring may be wetted by said conductive fluid.

Alternative means for earthing may be a second jet of said conductive fluid, connected to the second pole and directed towards the ground, and or towards the attacker or group of demonstrators. In case this second jet of conductive fluid is directed towards the ground it is preferable to direct the same so that it will contact ground near the feet of the attacker or the demonstrators.

The jet, or jets, of the conductive fluid may be produced by either a pump, which may be driven by an electric motor, or possibly, in case of a vehicle mounted embodiment, by the power system of the vehicle. Another means for producing the jet, or jets, of conductive fluid may be storing the fluid in a pressurised container whereby a jet is produced by opening the valve of the container, which opening may be performed simultaneously with the connection of the high voltage by the same trigger mechanism, either by means of a mechanical linkage or electrically by means of a solenoid valve or the like.

A suitable value for the high voltage is from 40 to 60 Kilovolts.

Suitable conductive fluids may be water solutions of salts, since acid solutions may cause permanent damage to people, or clothes or the like.

Some preferred embodiments of the invention will now be described in more detail on hand of the appended drawings, wherein :

Figure 1 illustrates schematically an embodiment in which the earthing is accomplished by means of a conductive wire.

Figure 2 illustrates schematically an embodiment in which the earthing is accomplished by a second jet of conductive fluid.

Figure 3 illustrates schematically an embodiment for self-defence, having a pistol-like form.

Figure 3a is a top view of the arrangement of Figure 3.

Figure 4 illustrates a general view of breaking up a demonstration by a vehicle mounted embodiment of the claimed weapon system.

As may be seen in Figure 1, the conductive fluid is contained in a container (1), the fluid is pumped from this container by pump (2), driven by motor (3), via plastic tube (4) to metallic mouthpiece (5). A 9-volt battery (6), generates voltage which is transformed and amplified by high voltage generator (7). The high voltage is conducted by metal conductor (8) to the metallic mouthpiece (5) and by means of this mouthpiece to the jet of conductive fluid (9). The motor is driven by conventional means (not illustrated). The other pole of the high voltage is earthed by conductor (10). The trigger is represented by numeral (11).

In Figure 2, the conductive fluid contained in container (101) is pumped by pump (102), driven by motor (103), to mouthpiece (104) and the conductive fluid contained in container (105) is pumped by pump (106), driven by motor (107), to mouthpiece (108). A first jet of conductive fluid (109) is ejected from mouthpiece (104), directed towards the attacker or demonstrators and a second jet of conductive fluid (110) is ejected from mouthpiece (108), directed towards the ground. Numeral (111) represents a 9-volt dry battery, the voltage of which is transformed and amplified in high voltage generator (112), one pole of the high voltage generated being connected by conductor (113) to mouthpiece (104) and through the same to the first fluid jet, directed towards the attacker/demonstrators. The second pole of the high voltage generated is connected by conductor (114) to mouthpiece (108) and through the same to the second fluid jet (110), direc-

ted towards the ground. Numeral (115) represents the trigger. The motors are driven conventionally (not illustrated).

Figure 3 illustrates a pistol-like arrangement for self-defence. The conductive fluid is contained in container (201). The fluid flows through conduits (202) and (203) to mouthpiece (204) from which the said jet is ejected. Numeral (205) represents two 9-volt dry batteries, the voltage of which is transformed and amplified by electronic circuits at (6) and (7). The amplified voltage is connected to mouthpiece (4). Numeral (8) represents the trigger.

Figure 4 is an illustrative representation of dispersing a demonstration by a vehicle mounted embodiment of the weapon system of the invention.

While only few embodiments have been described in detail, the invention is not limited thereto and is only defined by the scope of the appended claims.

Claims

1. An electric shock apparatus based on transmitting electric shock to the intended person/s or animal/s, comprising :
   - means for projecting a continuous jet of conductive fluid towards the person ;
   - means for generating high voltage AC pulses ;
   - means for connecting one pole of said AC pulses to said jet of conductive fluid ; and
   - means for earthing the second pole of said AC pulses, or projecting a second jet of conductive fluid to which the second pole of said DC pulses is connected towards said person or towards the ground near said person.

2. The apparatus according to claim 1 wherein said conductive fluid is contained in a pressurized container.

3. The apparatus according to claim 1 or claim 2 wherein said high voltage AC pulses are generated by amplifying the voltage of storage batteries.

4. The apparatus according to any one of the preceding claims wherein said jet of conductive fluid is produced by a pump.

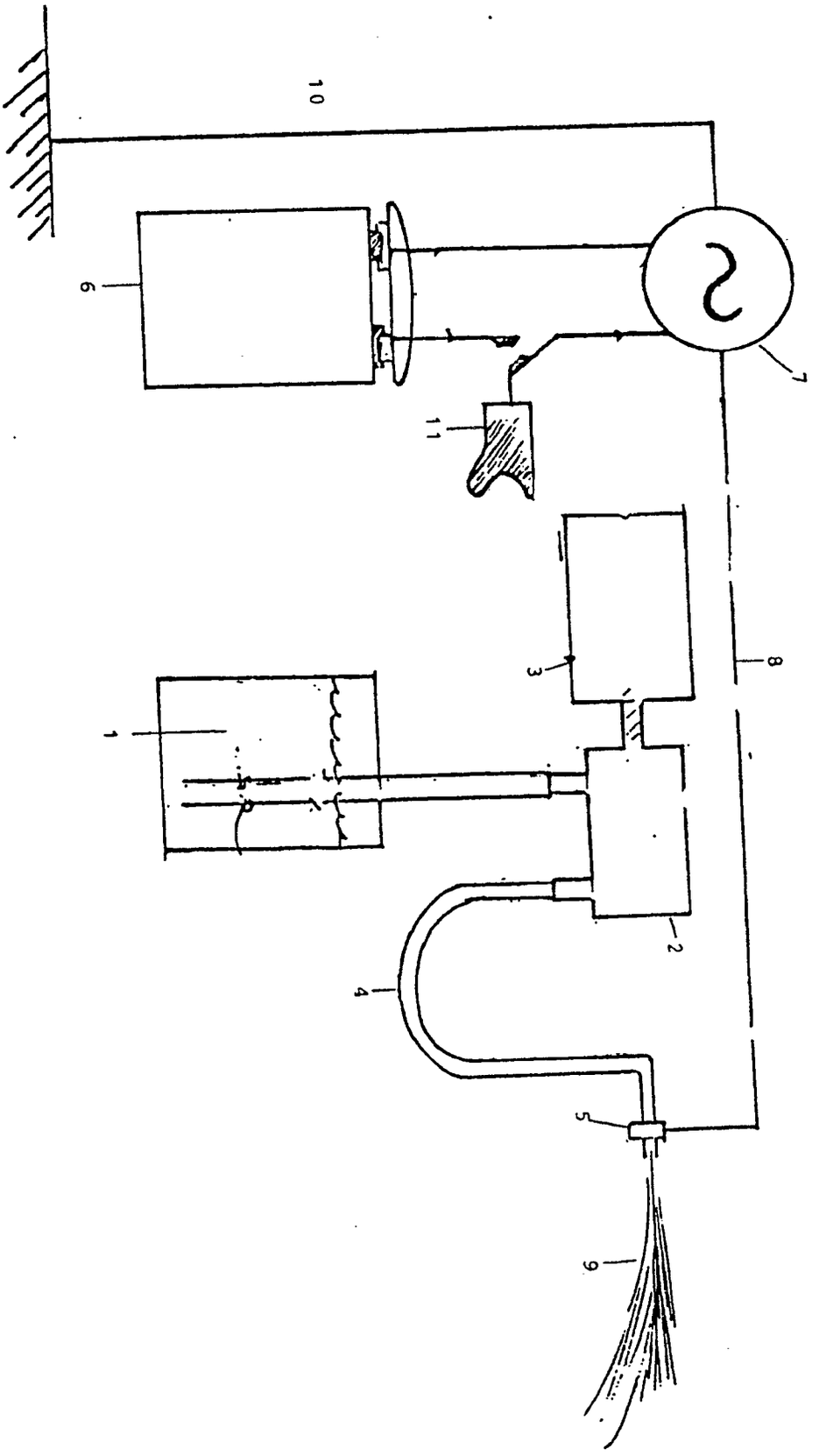


Fig. 1

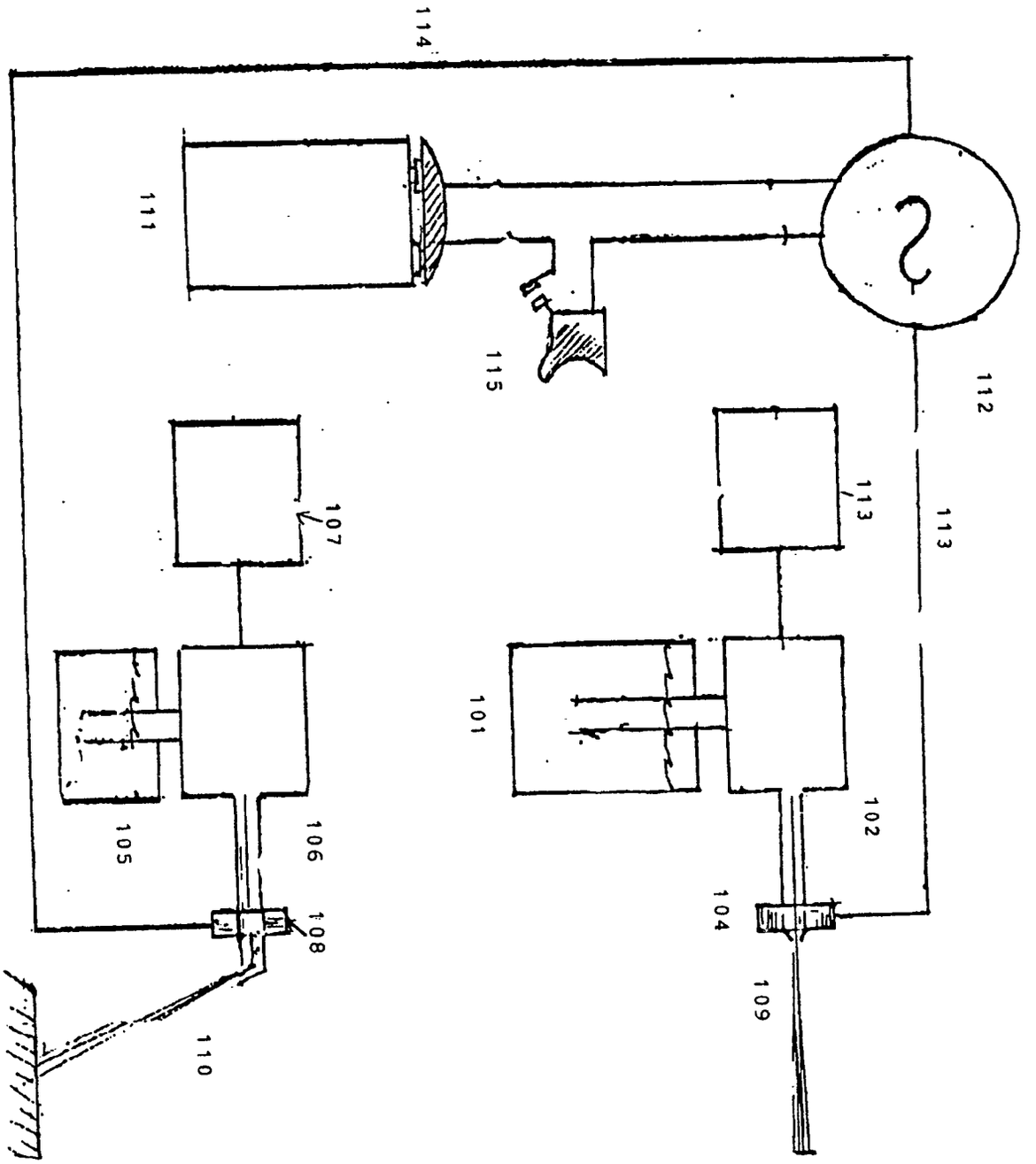


Fig. 2

Fig. 3

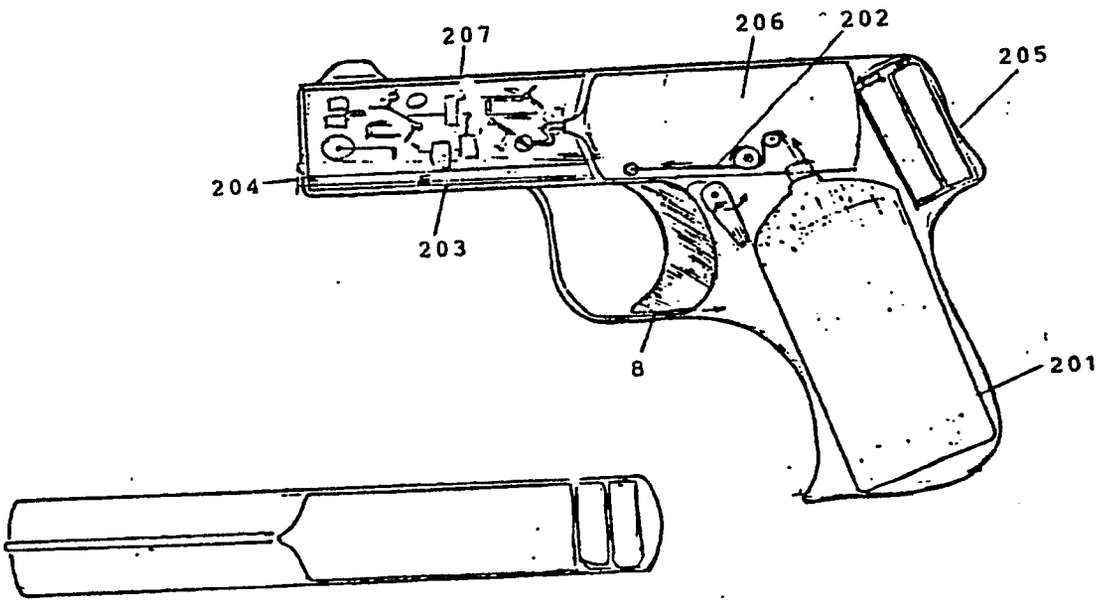


Fig. 3a

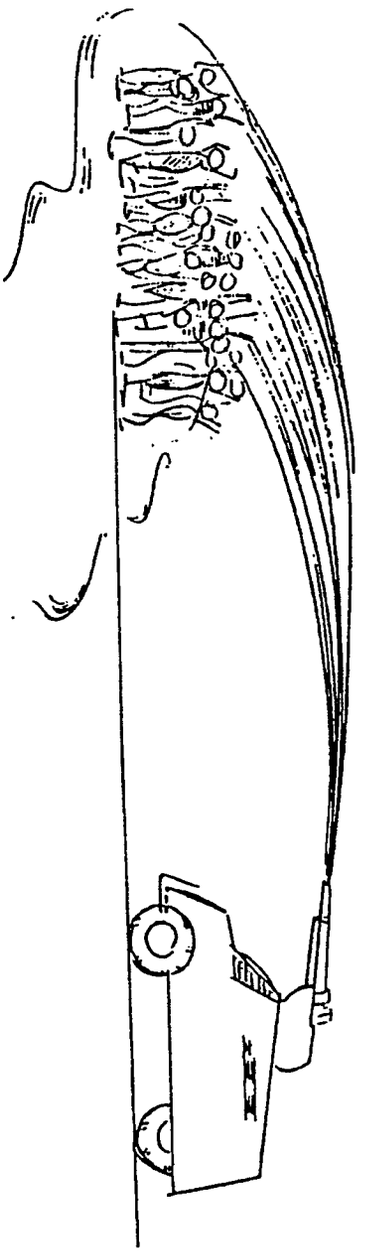


Fig. 4

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 91 30 0966

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.5)
X	EP-A-0 326 268 (NOVATECH ENERGY SYSTEMS INC.) * Column 1, lines 1-5,44-50; column 2, lines 16-33; column 2, line 52 - column 3, line 30; column 4, lines 35-38; column 5, lines 9-33; column 6, line 42 - column 7, line 11; claims 1,4,10; figures 2,3,7 *	1-4	F 41 B 9/00
X	DE-A-3 634 120 (GIRSE) * Complete document *	1,3,4	
X	US-A-3 971 292 (PANIAGUA) * Complete document *	1-3	
X	GB-A-2 118 695 (HOWARD CARTER SCIENTIFIC INDUSTRIES) * Complete document *	1-3	
A	DE-C- 601 775 (LEMKE) * Complete document *	1-3	TECHNICAL FIELDS SEARCHED (Int. Cl.5) F 41 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	10-05-1991	DOUSKAS K.

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

EPO FORM 1503 03.82 (P0401)