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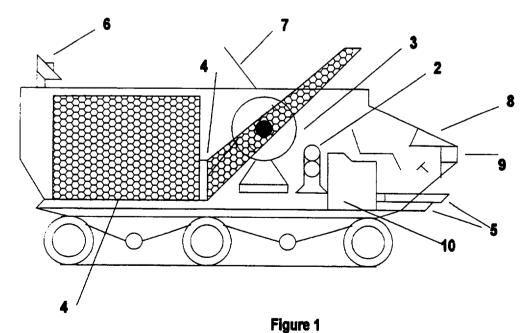
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- (52) UK CL (Edition P) **B7A** ATD
- (56) Documents Cited

GB 1604011 A GB 1181200 A

(54) Abstract Title

A vehicle firing projectiles for clearing anti-personnel mines

(57) An unmanned vehicle, for clearing anti-personnel mines by firing projectiles at a given location so as to detonate any land mines at said location, comprises means mounted on said vehicle supplying high pressure air for ejecting said projectiles, means for controlling the rate and path of said projectiles, and equipment for monitoring and recording parameters associated with the operation and position of said vehicle. As shown the air supply means comprises a compressor 2 supplying air to a high pressure blower 3 and to air and water jets 5 used for clearing debris in front of the vehicle. The blower 3 is mounted on a platform capable of horizontal and vertical movement. The pojectiles, which can be made from a mixture of soil and clay baked in a kiln, are stored in a container 4. Satelite navigation 6 gives accurate positioning of the vehicle. TV equipment 8 and thermal imaging equipment 9 is also provided.



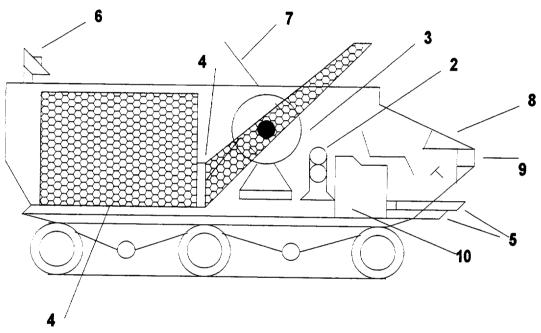


Figure 1

Anti-Personnel Mines - Clearance - Detonation Vehicle

Due to the ever increasing numbers of these devices planted through out the world, its obvious that this global problem will be with us for many, many years, especially when most of the land mine clearance is still done by hand.

My design will be to enable this problem to be tackled by such a vehicle as to speed up this operation in a fully automatic & remote controlled method, also it would be unmanned & operational 24hrs a day, every day, causing no harm to human life or limb.

The object of this invention will be to propel a continual stream of projectiles at precise spots on the ground in a strictly controlled operation to strike & detonate any land mines, concealed or other wise in that area. It must be strictly understood that the main purpose will be to use as many of these vehicles As possible, to clear safe pathways between towns, markets, schools, etc for the local population. When these objectives have been achieved then such vehicles can be used 4 or 6 abreast to clear large areas.

This invention is based on a high pressure blower, mounted on a suitable vehicle, the blower, will be operated by compressed air, with variable air pressure, which controls the rate & distance that the projectiles leave the blower.

Also to be included on the vehicle are the following, Satellite Navigation Item No 5, Communication Equipment Item No 6, TV & Video Equipment Item No 7, Thermal Imaging Equipment Item No 8,

This invention will now be described by a preferred embodiment with references and examples to the accompanying drawings: -

Fig. 1 Shows side view of the vehicle.

- 2 Shows the high-pressure compressor.
- 3 Shows the high-pressure blower.
- 4 Shows the materials compartment with flexible coupling.
- 5 Shows high-pressure air and water jets.
- 6 Shows satellite navigation.
- 7 Shows communication antennae.
- 8 Shows TV camera and video equipment.
- 9 Shows Thermal imaging equipment.
- 10 Shows Internal water tank.

As shown in Figure 1

2 This high pressure compressor 2 shall be driven by a suitable diesel engine, which will provide all the requirements for supplying the blower unit 3 & operating the air jets 5 3 The high pressure blower 3 will be the responsible for ejecting the necessary projectiles & shall be mounted on a suitable platform that will be capable of traversing left & right As well as elevating up & down, hence the flexible coupling 4. 4 the material compartment 4 shall hold sufficient projectiles as to sustain a reasonable time factor for operating in the field, where in it shall be replenished. Indeed the projectiles shall be made from a suitable material such as a mixture of soil & clay, baked in a kiln to achieve the right hardness so as to strike the ground with the necessary Force required, detonating any land mine. Various compounds & sizes of projectiles shall be used to suit different locations. Projectiles made from such materials shall have no harm full affect as to cause pollution on the land. 5 Shows the high pressure air & water jets 5 which shall be used to clear any debris, in front of the vehicle at the beginning of the sweep, if this is necessary. 6 Satellite navigation 6, used with digital mapping & global positioning, will give pin point accuracy for location & grid references, so all areas covered in the operation shall be held in a computer programme & the data stored securely. 7 the communication antennae 7 will carry out all necessary functions for radio, fax, Etc, as it intended for the vehicle to be driven to the start area & then go into remote Control mode from a command centre. 8 Shows the location for TV equipment 8, so all operations can be recorded for further Analysing if required. TV cameras will also be used to give the operator back in the Command centre a full field of view when the vehicle is used in the remote control Mode. Shows the location for thermal imaging equipment 9, it shall be used to sweep the 9 Area first to detect any land mines that may be picked up using infrared equipment. 10 Is the internal water tank 10, to supply the water jets, & shall be replenished when necessary.

CLAIMS

- A suitable vehicle comprising of an adequately strengthened body so as to offer protection for the occupants & equipment so as to carry out its intention. In so far as to propel adequate projectiles at a given location, its intention to detonate any land mines. Extra equipment shall monitor All the results & carry out accurate assessments regarding location, conditions, rate of projectiles used, times & dates etc.
- 2 Suitable equipment with the means to supply all the air required for carrying out the necessary operations as claimed in claim 1
- Suitable blower unit as in claim 1 in so much it will have the requirements for carrying out all its functions, accuracy, rate of ejection, precise control of traverse & elevation.
- 4 Suitable material compartment with the means to control the rate of projectiles travailing to the blower unit as I claim 1
- 5 Suitable electronic equipment to carry out all the other functions, as described in claim 1

Amendments to the claims have been filed as follows

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CLAIMS

An unmanned vehicle, for clearing anti-personnel mines by propelling projectiles towards a given location so as to detonate any land mines at said location, comprising means mounted on said vehicle supplying high pressure air for ejecting said projectiles, means for controlling the rate and path of said ejected projectiles, and equipment for monitoring and recording parameters associated with the operation and position of said vehicle.

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Amendments to the claims have been filed as follows

CLAIMS

- "An unmanned vehicle, for clearing anti-personnel mines by propelling projectiles towards a given location so as to detonate any land mines at said location, comprising means mounted on said vehicle supplying high pressure air for ejecting said projectiles, means for controlling the rate and path of said projectiles, and equipment for monitoring and recording parameters associated with the operation and position of said vehicle".
- 2 "A vehicle as claimed in claim 1 provided with a compartment for storing said projectiles"
- 3 "A vehicle as claimed in claims 1 or 2, wherein said air supply means comprises a compressor supplying a high pressure blower for ejecting the said projectiles".





Application No:

GB 9800252.0

Claims searched: 1-5

Examiner:

Alan Habbijam

Date of search:

9 February 1998

Patents Act 1977 **Search Report under Section 17**

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.P): B7A (ATD)

Int Cl (Ed.6): F41H 11/12, 11/16

Online: WPI Other:

Documents considered to be relevant:

Category	Identity of document and relevant passage			Relevant to claims
A	GB 1604011	(ETAT FRANCAIS)	See Fig 1.	
A	GB 1181200	(MORO)	See eg Fig 1.	

Member of the same patent family

- Document indicating technological background and/or state of the art.
- Document published on or after the declared priority date but before the filing date of this invention.
- Patent document published on or after, but with priority date earlier than, the filing date of this application.

Document indicating lack of novelty or inventive step

Document indicating lack of inventive step if combined with one or more other documents of same category.