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(56) Documents Cited
GB 1604011 A **GB 1181200 A**

(58) Field of Search
UK CL (Edition P) **B7A ATD**
INT CL⁶ **F41H 11/12 11/16**
Online:WPI

(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 projectiles, which can be made from a mixture of soil and clay baked in a kiln, are stored in a container 4. Satellite navigation 6 gives accurate positioning of the vehicle. TV equipment 8 and thermal imaging equipment 9 is also provided.

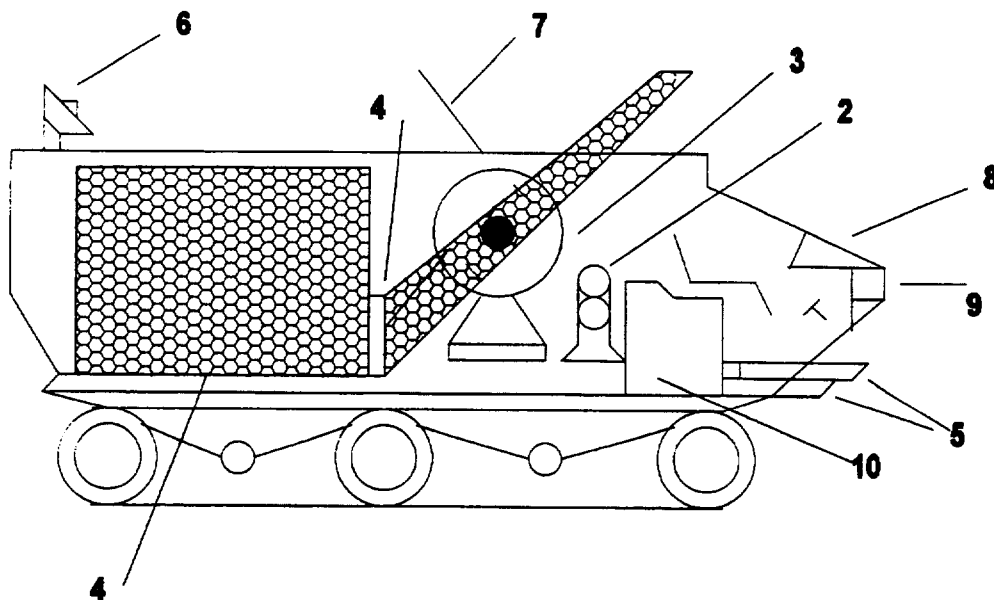


Figure 1

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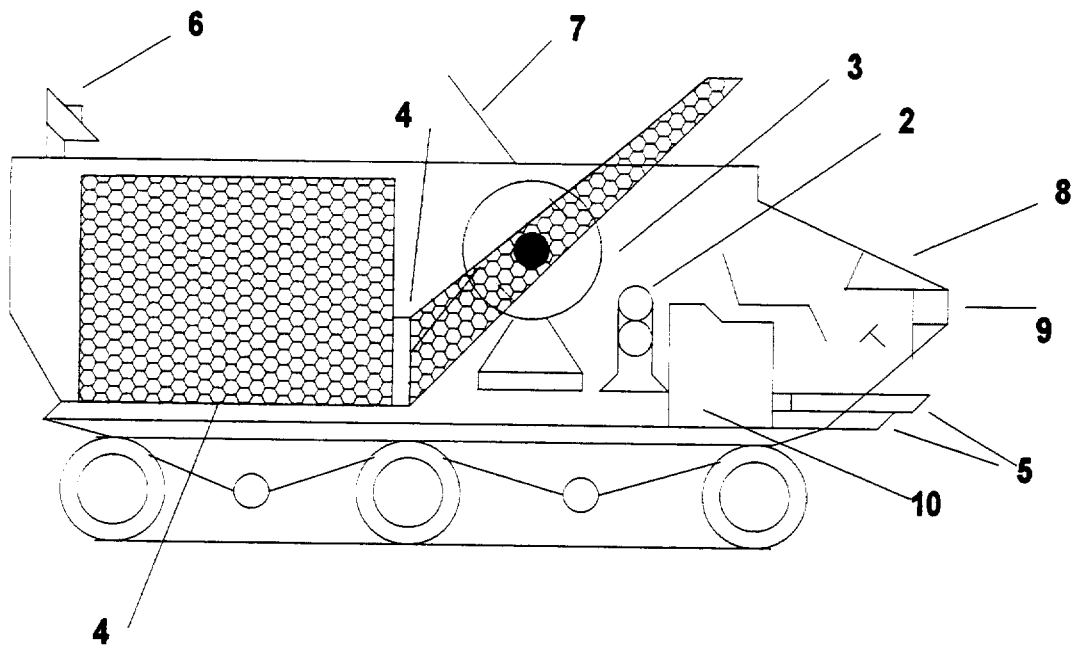


Figure 1

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.
- 9 Shows the location for thermal imaging equipment 9, it shall be used to sweep the 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

- 1 **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**

- 3 **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 travelling 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

- 1 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.

Amendments to the claims have been filed as follows

CLAIMS

- 1 "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

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Patents Act 1977
Search Report under Section 17

Databases searched:

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

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

Other: Online:WPI

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.	

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

& Member of the same patent family

A Document indicating technological background and/or state of the art.
P Document published on or after the declared priority date but before the filing date of this invention.

E Patent document published on or after, but with priority date earlier than, the filing date of this application.