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International application number: PCT/IB2009/007045

International filing date: 06 October 2009 (06.10.2009)

Document type: Certified copy of priority document

Document details: Country/Office: ZW
Number: 20/2008
Filing date: 07 October 2008 (07.10.2008)

Date of receipt at the International Bureau: 15 January 2010 (15.01.2010)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



PCT/IB2009/007045



ZIMBABWE

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08 December 2009

Honey and Blanckenberg

Harare

Dear Sir/Madam

Request for certified copy of Provisional Patent Application No. 20/2008

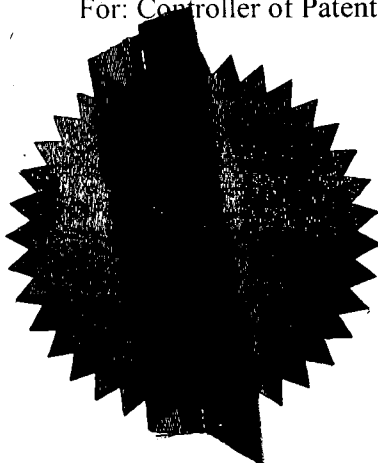
Annexed hereto is a true copy of the documents as originally filed in connection with the Provisional Application identified therein. The Provisional Application Registration No. 20/2008 was filed on the 7th October 2008, entitled ‘**METHOD OF WILDLIFE CONTROL BY MEANS OF CHILLI GAS DISPENSER**’ made by Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), A French parastatal organization, of 42 rue Scheffer, Paris 75116, France.

Yours Faithfully

W. Mupaso

W. Mupaso

For: Controller of Patents, Trade marks and Industrial Designs.



20/08

Z I M B A B W E

Form P.1

Sections 6, 7 and 26 of the Act
Section 3 of the regulations
Official fee : USD40.00

PATENTS ACT; CAP. 26:03

Application for a Patent
(Non-Convention)

I/We, **Centre de Coopération Internationale en Recherche
Agronomique pour le Développement (CIRAD)**

A French parastatal organisation

of 42 rue Scheffer, Paris 75116, France

do hereby declare :

CERTIFIED A TRUE COPY

Y. M. ...
Registrar of Trade Marks

Date 09/12/2009

1. That I/we am/are the owner of an invention in respect of
ZIMBABWE ~~by having invented it/by~~ having acquired it by assignment and
which invention is described in the accompanying provisional/~~complete~~
specification under the title -

Method of wildlife control by means of chilli gas dispenser.

2. ~~That I/We claim to be the inventor thereof.~~

3. That I/we are the assignee(s) of :
1. Michael LA GRANGE citizen of Zimbabwe
2. Joshua John MOSTERT citizen of South Africa

Of (both) c/o CIRAD Zimbabwe, 37 Arcturus Road, Harare, Zimbabwe

4 That to the best of my/our knowledge and belief, the statements
made above are correct and there is no lawful ground of objection to
the grant of a patent to me/us on this application, and I/we pray that
a patent may be granted to me/us for the said invention;

And I/we request that all notices, requisitions
relating to this application may be sent to :

HONEY & BLANCKENBERG
200 Herbert Chitepo Avenue
P O Box 85, Harare

and communications
**REGISTRAR OF PATENTS,
TRADE MARKS, INDUSTRIAL
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07 OCT 2008 17:43:22
P.O. BOX 177, CAUSEWAY

~~whom I/we hereby appoint, with power of substitution, to act for me/us
in all matters relating to this application and any Letters Patent
granted thereon.~~

DATED this 7th day of October 2008

..... Roseanne ...
for Honey & Blanckenberg
AGENTS FOR THE APPLICANT

The Registrar
The Patent Office
Harare

ZIMBABWE

FORM P.4

Sections 8 and 9 of the Act
Regulation 3 (2)

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PATENTS ACT, CAP. 26:03

.....M. H. H. H......
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Provisional Specification

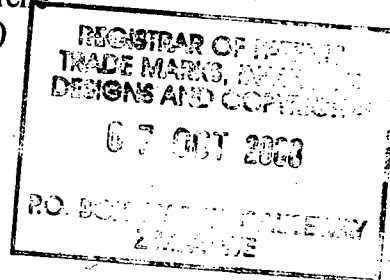
Date: 09/12/2009

TITLE OF INVENTION : Method of wildlife control by means of chilli gas dispenser.

I/We, Centre de Coopération Internationale en Recherche
Agronomique pour le Développement (CIRAD)

A French parastatal organisation

of 42 rue Scheffer, Paris 75116, France



do hereby fairly describe the invention in the following provisional specification :

Title : Method of wildlife control by means of chilli gas dispenser.

Introduction : The present invention is a gas-dispenser of powdered chilli (Capsaicin) or chilli oil extract, useful in the management of wildlife, particularly in human-elephant conflict situations.

With the expansion of human settlements into wildlife areas, local communities living in marginal land adjacent to protected areas are faced with increasing occurrences of crop raiding by wildlife, granary destruction and in some cases human casualties and even death .

Elephant is the main species involved in problem animal control, with crop-raiding and destruction by elephants reported in some areas to be more than half of the anticipated yield of cotton, maize, sorghum, millet and peanuts. Additional indirect problems are restrictions on people's ability to travel or access resources such as water, firewood, thatching grass; guarding property against wildlife; negative attitudes towards wildlife; and increase of unsustainable and unregulated hunting.

Current methods of managing this human/wildlife conflict have been mostly external (requiring outside intervention) and centralized (requiring authority from a district or central authority). They have been both expensive (use of ammunition, guns, vehicles, etc), ineffective or temporary (e.g. using firearms to scare-off wildlife) and methods to which wildlife has become habituated. Farmers' groups have been trained to use non-lethal methods such as vigilance to the presence of approaching wildlife, passive methods aimed at impeding the passage of potential crop-raiding animals using simple physical barriers and deterrents, and active methods to scare off crop-raiding animals using various disturbance measures such as fires, noisemakers and chemical deterrent. Utilisation of chilli pepper as an active method has been tested but not on a big scale with rural communities due to the cost of commercial products and the difficulty of purchase from external sources.

~~Date~~

The invention : The present invention is a method for managing wildlife. It is a gas dispenser of chilli powder or chilli oil extract for use against crop-raiding animals, and which is particularly effective against elephant. The device is a gas-filled dispenser which fires balls filled with either chilli powder or chilli oil extract by means of propellant of any household aerosol .

Tests on elephants show that the chilli-filled balls fired from distances ranging from 15 to 50 metres break on impact with the animal, or upon the ground in front of it, releasing the chilli oil extract onto the animal, and causing most animals to run away .

The proportion of elephants running away or backing up without being sprayed by the chilli powder or oil extract suggest that the noise and/or the impact produced also have a significant deterrent effect.

An embodiment of the invention, and a means of use and method of construction is further described in detail with reference to the accompanying drawings.

In Figure 1 the dispenser (1) is built with two pieces of pipe. A first section pipe (2) is the combustion chamber which is closed at the one end (3) by a backing cap and at the other end by a section of pipe of a lesser diameter (4) which forms the barrel.

The trigger mechanism is an igniter (5), such as a propane-gas lighter, which is attached to the dispenser. Two wires (6) connect the igniter (5) to the combustion chamber (2) by means of two electrical connectors (7) and self tapping screws (8) which screw through the wall of and into the combustion chamber (2) where they act as sparking pins .

Ignition of such device may be triggered manually or by means of a trip wire .

Figure 2 shows the projectile. The projectile may be a standard ping pong ball.

(1). A hole (2) is made in the ball to enable filling with chilli powder or chilli oil extract by means of a syringe and large bore needle (3). Once the ball has been filled, the ball is closed by means of wax, or by the insertion of a screw to improve accuracy.

The oil filled ball is loaded into the dispenser by means of removing the screw-on backing cap, inserting the ball through the combustion chamber and seating the ball tightly into the base of the barrel. The loaded ball thereby creates a seal between barrel and combustion chamber.

To fill the combustion chamber with gas, the screw-on backing cap is removed and a propellant is inserted into the combustion chamber (4). The propellant may be sourced from any domestic aerosol. The screw-on backing-cap is then quickly and securely replaced before the dispenser is aimed and fired.

The gas is ignited by the spark created between the two firing pins by the trigger mechanism. Expansion of the gas by resultant combustion forces the ball down the barrel at high velocity.

A minimum of one minute is required to properly load the dispenser ready for firing again.

Other embodiments can be envisaged within the scope of the present invention.

Some advantages of the present invention over known methods of wildlife control are noted :-

- For any human/wildlife conflict management strategy to succeed it must be sustainable. The device according to the present invention can assist a local community to administer an effective management programme.


- The device is not dangerous; it causes discomfort but no damage to

animals, humans or property.

- Use helps to reduce crop loss and to improve livelihood security of small-scale farmers.
- Materials are mostly available locally and are not expensive.
- The device is easily operated.

DATED this 7th day of October 2008

Signed :



For HONEY & BLANCKENBERG
Agents for the Applicant

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2 SHEETS
SHEET 1

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Register of Trade Marks

Date

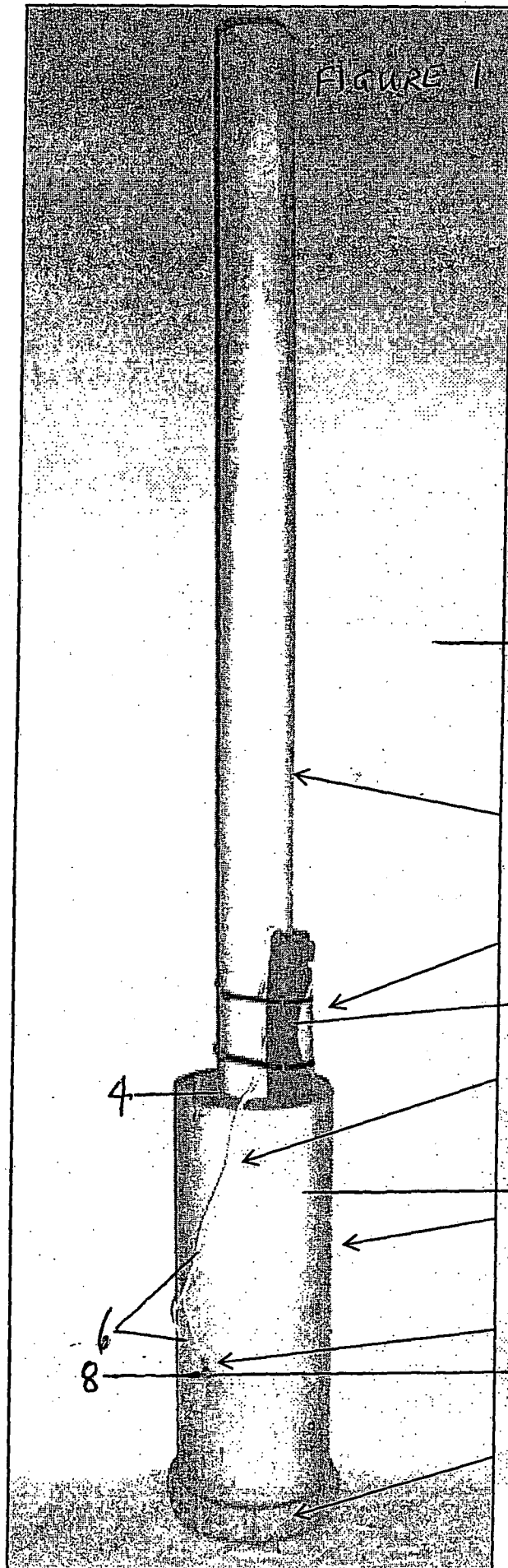


FIGURE 1

Barrel 4

Trigger mechanism 5

Electrical wire

Firing chamber 2

Sparking pins 6, 8

Backing cap 3

W. Strickley
 PATENT AGENT

EIKAD

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2 SHEETS
SHEET 2

2/2



FIGURE 2.

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Shroff & Co.
PATENT AGENT