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FIRE CARTRIDGE

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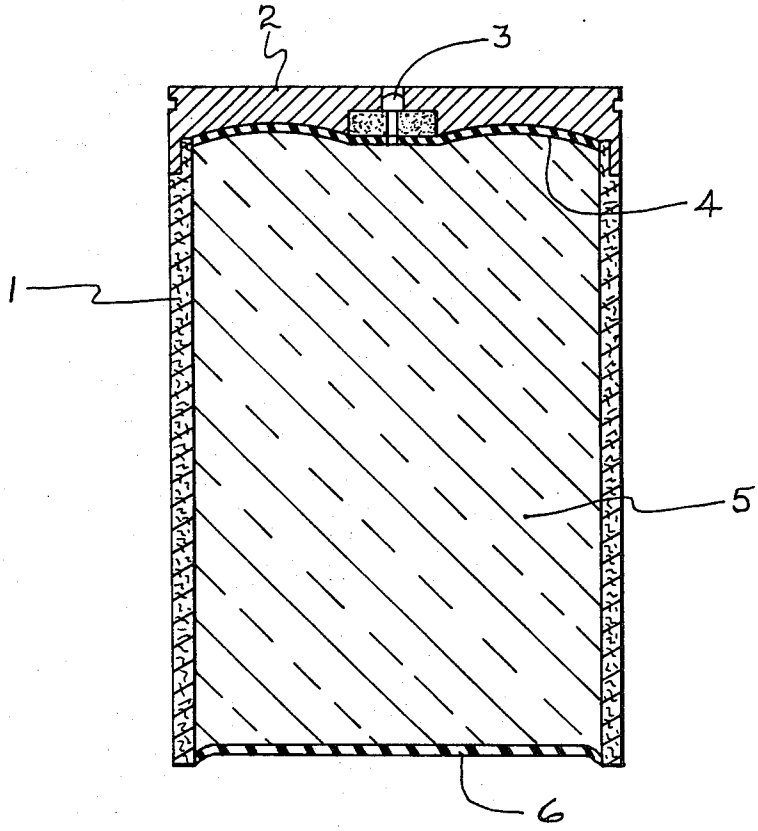

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FIRE CARTRIDGE

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ABSTRACT OF THE DISCLOSURE

A cartridge, which is actuated by a pyrotechnic primer, and which contains a special pellet that when loaded in a weapon and discharged, projects a special pellet in the burning state at a low velocity; thus the target material when contacted will not be disturbed, and though damp or wet, combustion will take place.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment to me of any royalty thereon.

This invention relates to a fire cartridge for starting a fire under adverse circumstances or in inclement weather by an individual who may encounter such circumstances.

It is, therefore, the object of this invention to overcome such adversity by providing a charge adaptable to any shell casing that may be inserted in and fired from the barrel of any conventional hand weapon to attain combustion in the target material.

This special pellet may be modified to fit any type shell casing, completely fills the case and requires no other material. The powdered pellet material is readily mixed and formed prior to pressing in the cartridge case, wherein the pressing is accomplished by a hydraulic press utilizing a pressure of approximately 8000 p.s.i. The precaution of water-proofing is adequately provided for by employing a standard glue or adhesive at the bottom of the shell casing before compressing the pellet in the shell casing and at the top of the casing the pellet is sealed by a waterproofing material.

The drawing illustrates any conventional cartridge casing **1** with a cap **2** and a primer **3** in the center of the cap **2**. On the inside of the cap **2** a standard glue or adhesive **4** is applied as shown for reception of the pellet **5**. The open end of the shell casing **1**, after the pellet **5** has been pressed therein, is sealed with a waterproof composition **6**.

The following fire starter formulations were devised to yield the desired characteristics and the percentages are by weight:

Composition No. 1

	Percent
Antimony sulphide	5–15
Barium nitrate	20–30
Lead styphnate	3–8

	Percent
Tetracene	3–8
Magnesium oxide	3–8
F33D	40–60
(Ferric oxide, 51%; zirconium, 49%)	

Composition No. 2

	Percent
Barium nitrate	67–87
Red phosphorous	13–23
TNT	2–6
Aluminum oxide	3–7

The pellet may be pressed into any shell casing that is selected to fit the barrel of the particular hand weapon chosen for this type of survival equipment. This method of igniting a fire has the advantage while insuring combustion of the target, material also is ejected at a velocity low enough as not to disturb or scatter the material to which it is directed.

This device will naturally be of great assistance to the individual that is lost or separated from companions for the purpose of initiating a fire regardless of the prevailing conditions whether it be for domestic or incendiary purposes.

I claim:

1. A pellet for a cartridge shell casing adapted when initiated to ignite a fire even in damp materials in which the composition of said pellet consists of 67–86% barium nitrate, 12–23% red phosphorus, 2–6% TNT and 3–7% aluminum oxide.

2. A method of igniting a fire even in damp material comprising compressing a powdered pellet material in a conventional cartridge shell case, wherein the powdered pellet material consists of 67–87% barium nitrate, 13–23% red phorphorus, 2–6% TNT and 3–7% aluminum oxide, and igniting the pellet material.

3. The method of igniting a fire as in claim **2**, wherein the open end of the shell case with the pellet material compressed therein is sealed with a waterproof composition.

4. A cartridge for igniting a fire even in damp materials comprising a shell casing, a pellet disposed in said casing, the composition of said pellet consisting of 67–86% barium nitrate, 12–23% red phosphorus, 2–6% TNT and 3–7% aluminum oxide, means to seal the pellet within the shell casing, and a primer actuated igniting propellant in said shell casing of a strength to propel the pellet from the casing in a burning state at a low velocity.

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