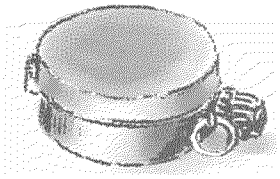
BLAST EFFECT ANTIPERSONNEL MINES

These antipersonnel mines strike their target with the actual blast of their explosion, which may also project certain elements from the ground; i.e., the casing of such devices is relatively light, whether metallic or not, and therefore does not contain any objects such as splinters or balls intended to enhance the injury-effect of the explosion. Indeed, there are even certain such mines made of «moulded explosive» i.e., without any casing at all. This sort of mine generally contains an explosive charge of around 50 grams; they are either placed on the ground or else buried a few (about ten or so) centimetres under it, and they have a lethal range which does not exceed 1 or 2 metres. Blast-effect mines are far and away the most numerous kind, being as they are:



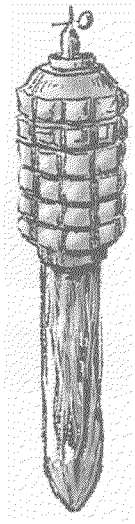
PMN (USSR)

- easy to produce (easily copied from old models),
- easy to acquire (at 2 ECU per mine),
- easy to carry (sometimes less then 100 g),
- easy to hide (diameter less than 10 cm), and
- easy to lay (e g., for militias or guerrillas).

ANTIPERSONNEL FRAGMENTATION MINES

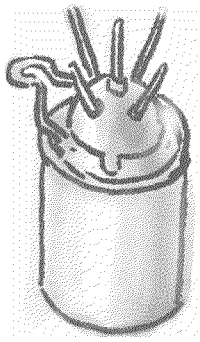
While «blast» mines strike an individual victim, fragmentation models are designed to decimate whole groups. As their name suggests, they are made to project a large number of lethal splinters. Thus, fragmentation mines are a good deal more dangerous than are blast mines. Fragmentation mines usually send out metal fragments (about 4 to 6 cm in size and with a weight of between 0 5 and 6 g.) at an initial speed which reaches 1.600 m/s (as compared to 950 m/s for a rifle shot), and that over a wide area. The lethal range of directional fragmentation antipersonnel mines can be as great as 100 m, and certain fragments may be projected, in a single direction, as far as 250 m.

Fragmentation antipersonnel mines are more expensive and more complicated to handle (with laying of «trip-wires», etc.). They require an operator who is sufficiently well-trained not to put himself at risk from them, and to be able to direct the effects of the device precisely For these reasons, this kind of mine is more unusual. Three main categories of antipersonnel fragmentation mine may be distinguished:



PMR 2A (Yugoslavia)

- **«fixed» fragmentation stake-mines**: this kind of mine was thought up during the Second World War, and derived from defensive grenades which were booby-trapped and triggered by means of a wire. The name of this category of mine comes from the stake to which they are generally fixed. Positioned in this way at about thirty or so centimetres above ground, such mines send out their lethal splinters in all directions; Their lethal range, which tends to be of about 40 m, is thus in fact proportional to the strength of their main charge.



Valmara 69 (Italy)

- **«bouncing» fragmentation mines:** this kind of mine, which was developed during the Second World War, contains two explosive charges, the successive explosion of which produces a very considerable destructive capacity. The first of the two charges serves to propel the mine above ground from where it has been buried; the second («fragmentation») charge is then set off by the tension of a «restraining wire», to explode and project its lethal fragments over a range (of 40 m) comparable to that of stake-mines.

M18A Claymore (USA)

- **«directional» mines:** unlike the above two categories of antipersonnel fragmentation mines, which act in all directions at once. «directional» fragmentation mines concentrate their fragments in a pre-determined direction, which has the effect of enhancing their destructiveness and their lethal range (up to 100 m).

NOTE: «Home-Made» Antipersonnel Mines:

Attention should be drawn to the particular case of home-made antipersonnel mines.

An explosive originally intended for some other purpose (e.g., a demolition charge, or an abandoned shell) can relatively easily be converted into a mine. Such cases may be referred to as «circumstantial mine-laying». All that is needed is to fit an activator which can be triggered by a human footstep or by some simple operation.

In the case of a shell, the artillery fuse (the classical activation system) may be replaced by a mine-activator. The explosive charge will be so great that whole buildings may be subject to the blast (the explosive charge of air-to-ground bombs being of the order of hundreds of pounds or indeed of kilograms), and, in certain unlucky cases, the number of victims may be in double figures