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(54) **Active defense motor vehicle.**

(57) The active defense motor vehicle comprises:
- a rotating turret (1) on a horizontal plane,
- a gun (3) mounted on said turret (1) and inclinable on a vertical plane,
- a telecamera (2) collimated with the shooting direction of the gun (3),
- a monitor (5) mounted in the cabin of the motor vehicle for visualization of the images picked up by the telecamera (2),
- means for controlling the rotation of the turret (1), the inclination of the gun (3)/telecamera (2) system, the activation of the gun (3) and telecamera (2), placed in the cabin of the motor vehicle.

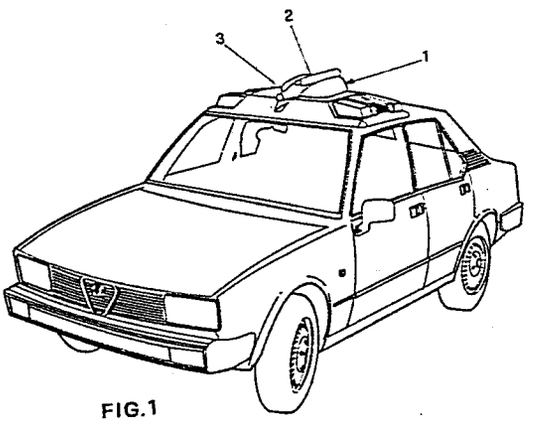

FIG.1

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The present invention relates to an active defense motor vehicle.

The well known motor vehicles used by the police are usually of the armoured type in order to ensure an efficient protection against projectiles and gunshot in general. However, in the case that the policemen need to reply to the criminals' fire or they have to open fire against the criminals, this is only possible by their complete exposure and often in a precarious position, which sensibly minimizes efficiency and precision of the shooting.

Well known are also vehicles (armoured cars, tanks, etc.) provided with turrets in which fire arms are installed. The shotman is situated in the turret, and, operating the suitable controls, can cause the rotation of the turret and/or the inclination of the arms in order to direct it on the target. Such well known vehicles are used exclusively in the military field and use has not been found, and could not be found, either for patrol, vigilance nor for escort service assigned to the police.

According to the invention the problem of giving the policemen the possibility of carrying out their work with maximum security and, if the necessity arises, with a high precision and efficiency of shooting, is solved by an active defense motor vehicle characterized in that it comprises:

- a rotating turret on a horizontal plane,
- a gun mounted on said turret and inclinable on a vertical plane,
- a telecamera collimated with the shooting direction of the gun,
- a monitor mounted in the cabin of the motor vehicle for visualization of the images picked up by the telecamera,
- means placed in the cabin of the vehicle for controlling the rotation of the turret, the inclination of the gun-telecamera system, the activation of the gun and telecamera.

The invention is hereinafter further clarified in two preferred embodiments with reference to the enclosed drawings in which:

Figure 1 shows in perspective view a motor vehicle according to the invention,

Figure 2 shows it in plan view,

Figure 3 shows in front view particulars of the dashboard, and

Figure 4 shows in perspective view the motor vehicle according to the invention in another embodiment with the turret raised.

As can be seen from the drawings the motor vehicle according to the invention is provided on the roof with a seat for mounting a circular turret 1, and in which a

telecamera 2 and a machine gun 3 are mounted, collimated with each other.. Preferably the telecamera 2 is of the infrared ray type in order to operate even in limited or completly bad visibility, and also preferably it is provided with a light intensifier. The telecamera 2/machine 3 gun system is mounted on the turret 1 in such a way that it can be inclined on the vertical plane by an angle for example, of -15° to +15° with respect to the horizontal plane. Furthermore, the turret 1 can rotate around a vertical axis of 360°. Both the movements are obtained by means of well known equipments, (not shown in the drawings) and are operable from inside of the motor vehicle. With this aim the inside of the cabin is provided, on the passenger seat side, with a control stick 4 which, when laterally moved, causes the rotation of the turret 1, whilst, when moved forwards or backwards, it causes a corresponding inclination, respectively downwards or upwards of the telecamera/machine gun system. Obviously, the two movements can be simultaneously combined and furthermore take place at a high or less high velocity, according to the deviation degree of the control stick 4 from the rest position. A higher velocity allows rapid movement of the telecamera/machine gun to the desired direction, whilst a lower velocity allows to "follow" the target during movement of this and/or the motor vehicles.

In front of the control stick 4, in the dashboard of the motor vehicle, a monitor 5, displaying the images picked up by the telecamera 2 is mounted. Two controls 6 and 7 are applied to the monitor 5: the former is used for activating the telecamera 2, whilst the latter is used for activating the zoom, which the telecamera 2 is preferably provided with. The telecamera 2 is also connected to a video-recorder, housed on the inside of the motor vehicle and can also be connected to a trasmitting unity, which is also housed in the motor vehicle, having the purpose of transmitting the picked up images to another monitor foreseen in a distant operative centre. In such a case it is also possible that the video-recorder is settled in the operative centre instead of in the vehicle.

The control stick 4 is provided with a button 8 for operating the gun 3. For greater security it is preferable that this operation is also "allowed" by the driver of the motor vehicle.

It is also possible that controls, analogous to those operated by the control stick 4 for the rotation of the turret 1, for the rotation of the telecamera/machine gun system, for the activation of the telecamera 2 and eventually for the activation of the gun 3, can also be operated via radio by the operative centre.

The motor vehicle according to the invention

operates as follows:

the operator situated on the side of the driving seat can explore by means of the control stick 4, the areas surrounding the motor vehicle, and can "follow" the eventual target by simple movements of said control stick.

When it is necessary to use the machine gun 3, the operator, always looking at the monitor 5, can aim at the target, using in this case the telecamera 2 as pointing means of the gun 3. Naturally, he is completely protected due to protection offered by the cabin of the motor vehicle and also he has the maximum comodity and efficiency due to his correct position facing the monitor. For this reason it is preferable that the operator's seat is of the adjustable type to ensure stability of the position also in the case of jolting or however of high and/or irregular speed.

According to the invention it is also possible that the turret 1 is mounted on a telescopic support 9 which is vertically mobile (see Fig. 4). This allows an advantageous use of the motor vehicle according to the invention as a simple patrol vehicle which can pick up the surrounding area from a certain height, particularly useful in the case of processions, demonstrations, meetings, etc.

C L A I M S

1. Active defense motor vehicle characterized in that it comprises:

- a rotating turret (1) on a horizontal plane,
- a gun (3) mounted on said turret (1) and inclinable on a vertical plane,
- a telecamera (2) collimated with the shooting direction of the gun (3),
- a monitor (5) mounted in the cabin of the motor vehicle for visualization of the images picked up by the telecamera (2),
- means placed in the cabin of the motor vehicle for controlling the rotation of the turret (1), the inclination of the gun (3)/telecamera (2) system, the acivation of the gun (3) and telecamera (2).

2. Motor vehicle according to claim 1 characterized in that the turret (1) is mounted on a telescopic support (9) vertically raisable.

3. Motor vehicle according to claim 1 characterized in that the telecamera (2) is of the infrared ray type.

4. Motor vehicle according to claim 1 characterized in that the telecamera (2) is provided with a light intensifier.

5. Motor vehicle according to claim 1 characterized in that the telecamera (2) is provided with a zoom.

6. Motor vehicle according to claim 1 characterized in that it comprises a control stick (4) for the rotation of the turret (1), the inclination of the gun (3)/telecamera (2) group, inside the cabin of the vehicle.

7. Motor vehicle according to claims 1 and 6 characterized in that the means causing the rotation of the turret (1) and inclination of the gun (3)/telecamera (2) system are operated at a variable speed by variation of the degree of movement of the control stick (4) from the rest position.

8. Motor vehicle according to claims 1 and 5 characterized in that the control stick (4) is situated in front of the monitor (5).

9. Motor vehicle according to claims 1 and 8 characterized in that the monitor (5) is settled in the dashboard on the side of the driving seat.

10. Motor vehicle according to claims 1 and 5 characterized in that the monitor (5) is provided with control means (6,7) for operating the telecamera (2) and its zoom.

11. Motor vehicle according to claims 1 and 6 characterized in that the control stick (4) is provided with a button (8) for activating the gun (3).

12. Motor vehicle according to claim 1 characterized in that it is provided with a video-recorder connected to the

telecamera (3).

13. Motor vehicle according to claim 1 characterized in that it is connected via radio to an operative centre.

14. Motor vehicle according to claims 1 and 13 characterized in that the telecamera (2) is connected via radio to a monitor and/or video-recorder placed in an operative centre.

15. Motor vehicle according to claims 1 and 13 characterized in that the means for the rotation of the turret (1) and the inclination of the gun (3)/telecamera (2) system are provided with connection via radio for operation by the operative centre

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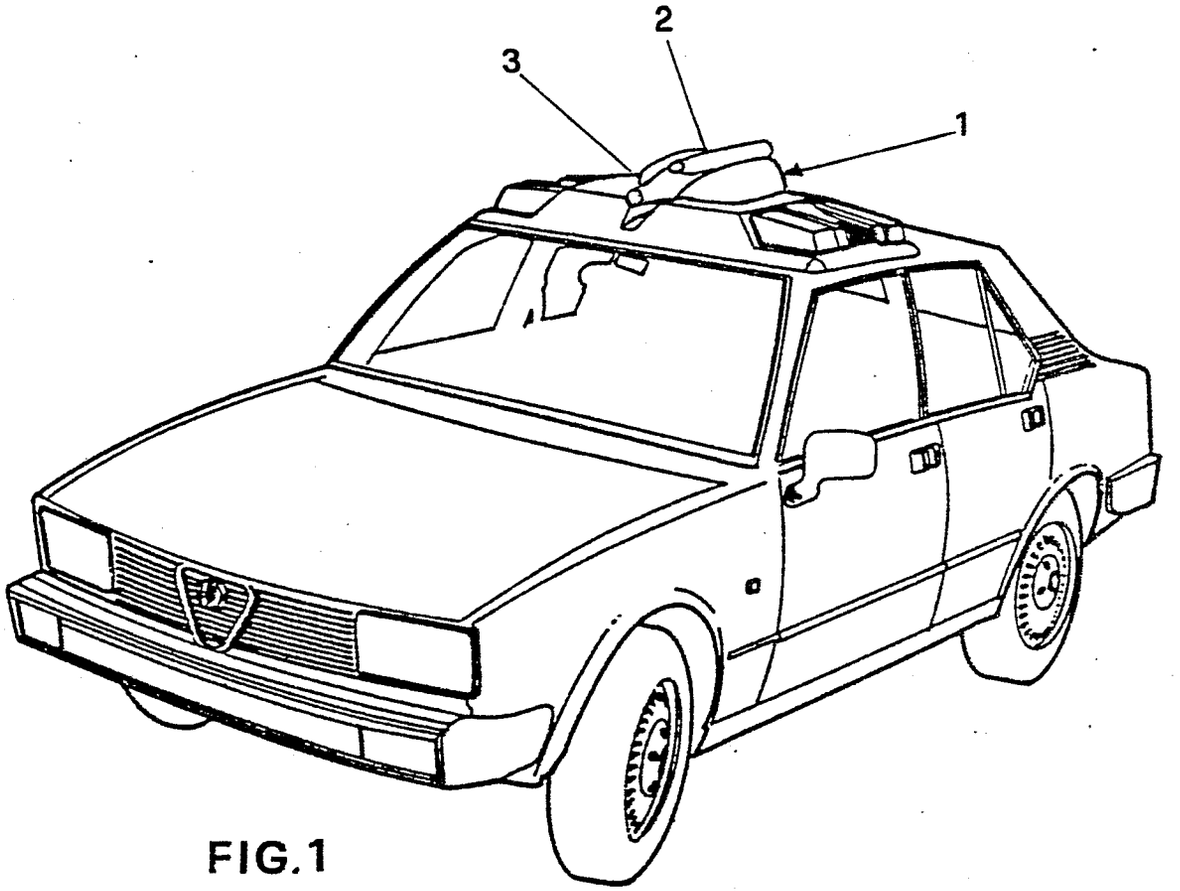

FIG.1

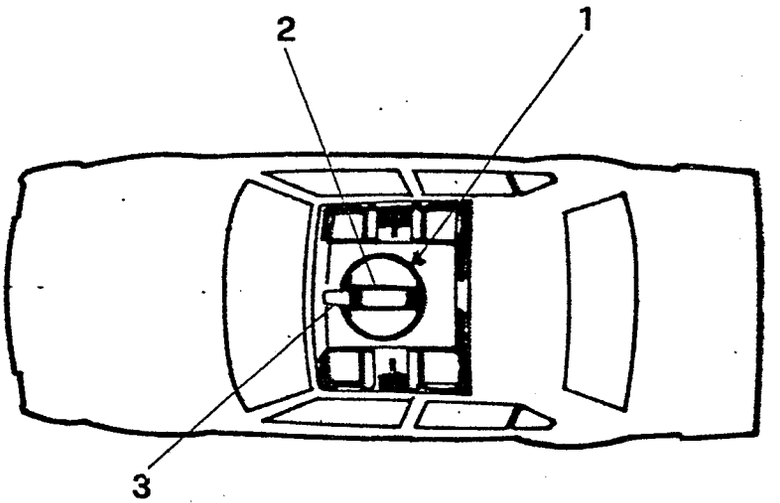

FIG.2

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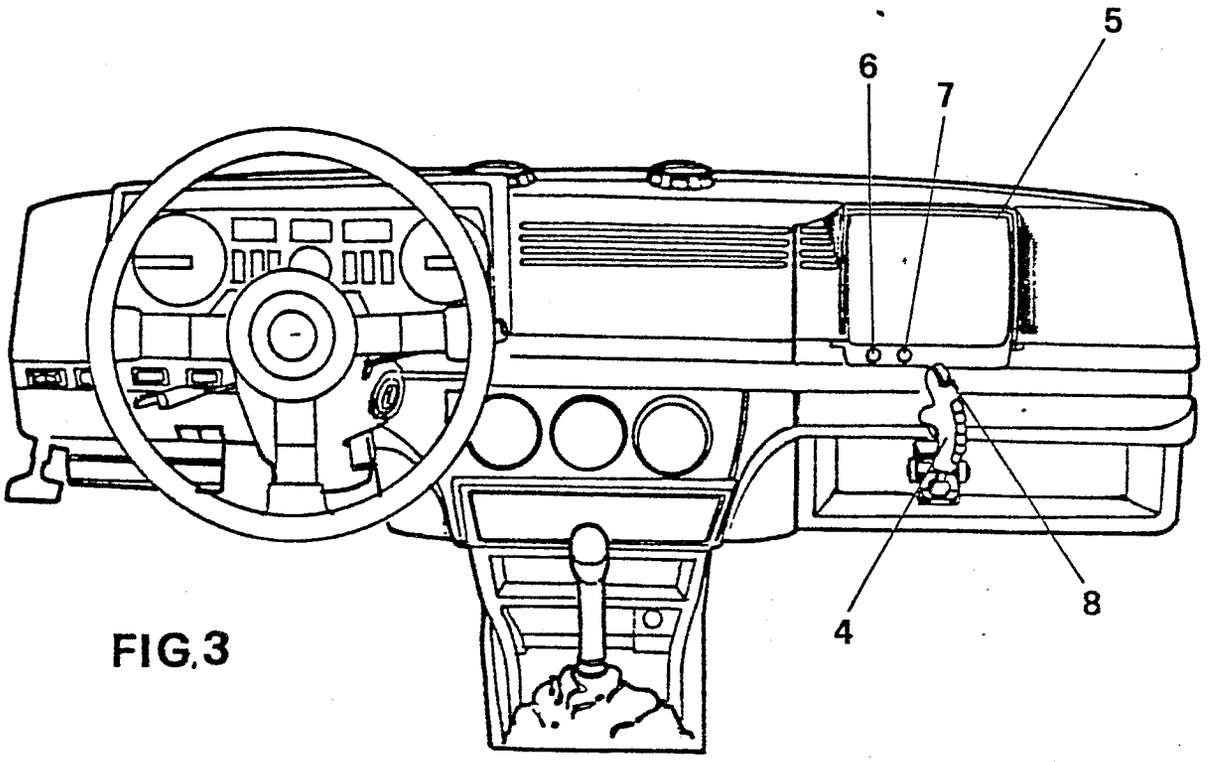

FIG.3

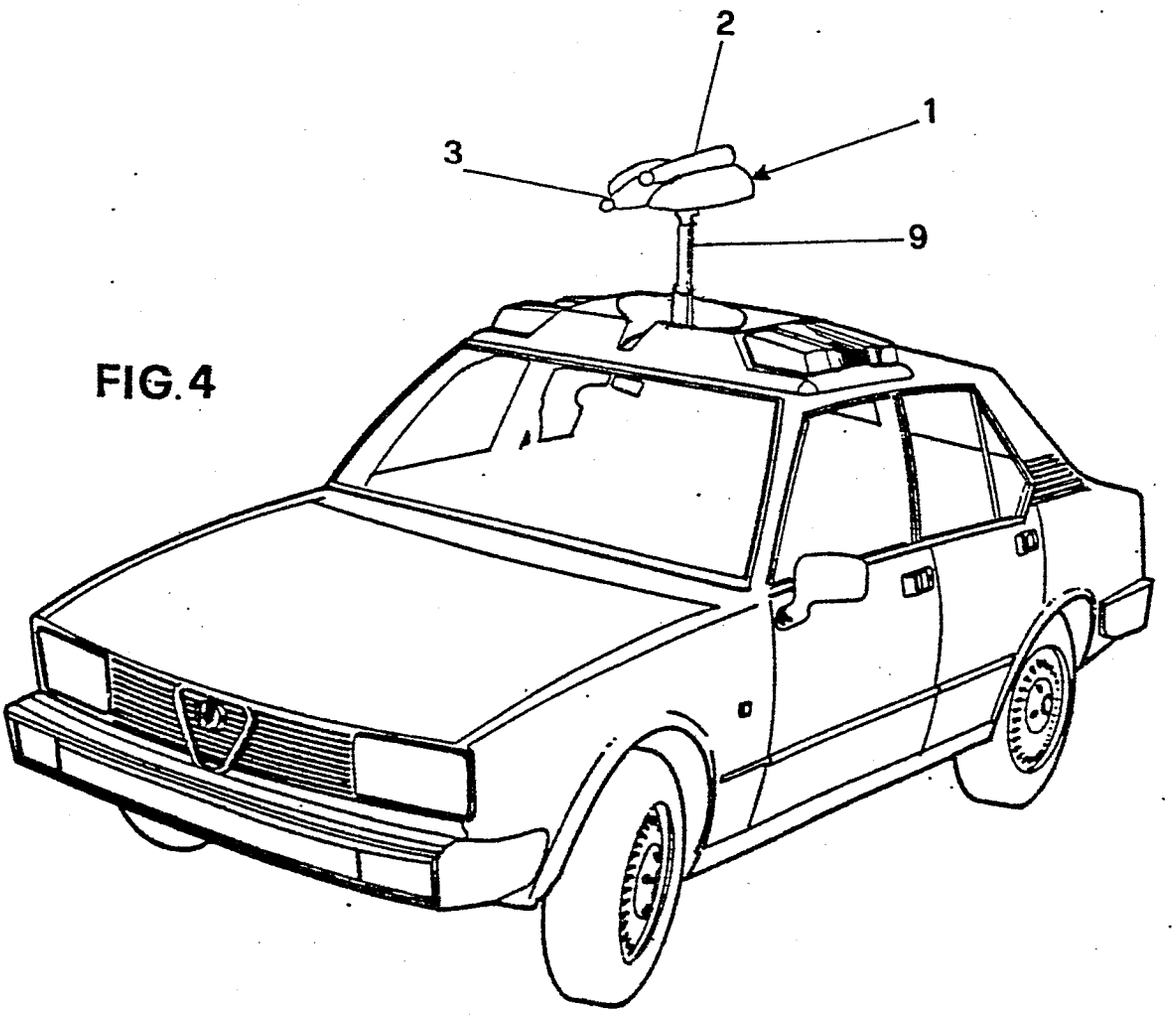

FIG.4