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(54) **Armor**

(57) The armor is designed for protection of targets against shaped charges equipped with piezoelectric fuses and fired by RPG launcher. The armor comprises supporting components (1) on which there are fixed lamellae shaped as oval (2) and

spiral (3) bodies. The spiral bodies (3) have holes cut. The peripheries of the oval (2) and spiral (3) bodies have sharpened edges. The supporting components (1) can be two or more and are fixed at distance one behind the other which ensures destruction of the ammunition in wide range of obliquities.

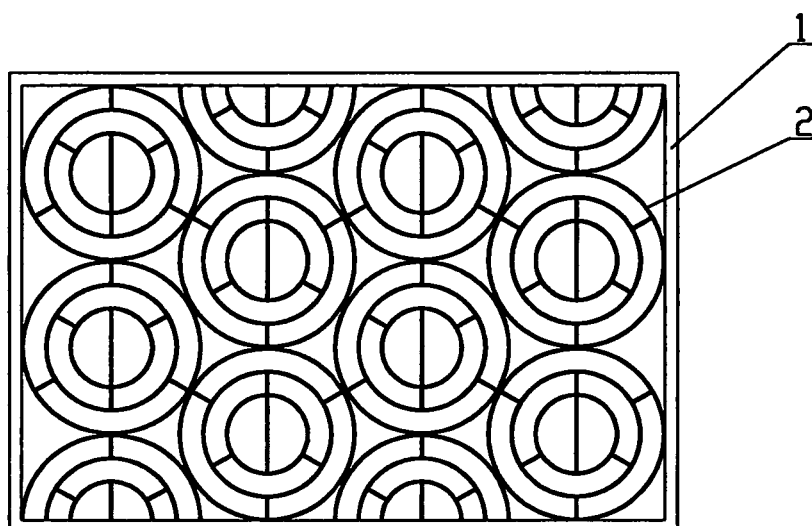


Fig. 1

Description

FIELD OF THE INVENTION

[0001] The invention relates to armor of passive type designed for protection of targets against the effects of shaped charges equipped with piezoelectric fuses and fired by RPG launcher.

BACKGROUND TO THE INVENTION

[0002] There is known a light protective electron screen [1], which consists of several grids of electrodes, installed one behind the other on a frame. Every electrode grid is fixed to the frame at one of its sides only and the opposite side is connected to the frame by means of special elastic tubes. The rest of the electrode grid sides are free.

[0003] In case of grenade hit on the protective screen, a special electron device directs modulated electron impulses as a result of which the grenade is destroyed.

[0004] The main disadvantage of the screen is the low effectiveness in relation to the neutralization of the ammunition and the insufficient protection reliability.

[0005] Another disadvantage of this protective screen is that the directed modulated impulses are not enough for neutralization of all destructive factors of the ammunition.

[0006] A further disadvantage of this protective screen is that it is no reusable.

[0007] There is also known an armor [2], which consists of a protective grid of special configuration, made of solid material, the space between the components in the grid being filled with electric insulation material. The grid is indented on the attacked side and has an electric conductive cathode on the opposite side. All electrodes are connected to an electron device which is programmed to neutralize the electric energy generated by the piezoelectric generator of the ammunition after a hit on the grid.

[0008] Main disadvantage of this armor is that its protective system is active, low reliable and low effective in relation to the neutralization of the ammunition.

[0009] Another disadvantage is its ineffectiveness in relation to the damages by the kinetic effects of the grenades.

[0010] Further disadvantage of the armor is that it can resist only a small number of hits per unit surface.

[0011] Besides, another disadvantage is its weight that makes it difficult for application in protection of mobile targets.

SUMMARY OF THE INVENTION

[0012] The invention is purposed to development of armor of lower weight and higher effectiveness against shaped charges fired by RPG launchers that makes it applicable in protection of mobile facilities as well.

[0013] The task is resolved by an armor comprising horizontal and/or vertical supporting components. Lamellae of different shape are arranged on the horizontal and/or vertical supporting components.

[0014] The lamellae are made of high strength materials.

[0015] The number of the lamellae as well as the distance between them vary in a wide range and depend on the characteristics of the protected target and the ammunition.

[0016] Considering the geometric shape, the lamellae are manufactured in two versions.

[0017] In the first version /B1/ the lamellae are shaped as oval bodies.

[0018] In the second version /B2/ the lamellae are shaped as spiral bodies with cut holes.

[0019] The peripheries of the lamellae versions /B1/ and /B2/ have sharpened edges.

[0020] The lamellae of both /B1/ and /B2/ versions can be arranged on two or more supporting components, attached one to the other at distance which provides destruction of the ammunition in a wide range of obliquities.

[0021] The main advantage of the proposed embodiment is the reduced probability for detonation of the ammunition after contacting the armor.

[0022] Another advantage of the proposed armor is that the ammunition is disintegrated inevitably.

[0023] A further advantage of the armor is the reliable neutralization of the detonation of the ammunition in wide range of obliquities.

[0024] Another advantage is the reduced weight as a result of using lamellae of specific embodiment.

DESCRIPTION OF THE DRAWINGS

[0025]

Fig. 1- Version 1 /B1/. Scheme of armor with oval bodies.

Fig. 2 - Version 2 /B2/. Scheme of armor with spiral bodies.

DETAILED DESCRIPTION

[0026] The invention is illustrated by the following example embodiments:

In version B1, the armor comprises horizontal and/or vertical supporting components 1, on which lamellae shaped as oval bodies 2 are arranged.

In version B2, the armor comprises horizontal and/or vertical supporting components 1, on which lamellae shaped as spiral bodies 3 with cut holes are arranged.

[0027] The peripheries of lamellae of both versions have sharpened edges.

[0028] The lamellae of both B1 and B2 versions can

be arranged on two or more supporting components 1 attached one to the other at distance which provides destruction of the ammunition in wide range of obliquities.

USE OF INVENTION

[0029] The invention operates in the following way:

When the shaped charge hits the front surface of the armor in version B1 and comes into contact with the sharpened edges of the oval bodies 2, then the ammunition is disintegrated and its detonation is neutralized. 10

Moreover, when the shaped charge hits the front surface of the armor in version B2 and comes into contact with the sharpened edges of the spiral bodies 3, then the ammunition is disintegrated and neutralized and the fragments are forced to move along the spiral surface considerably changing their trajectories and either attacking the protected target tangentially or not contacting it at all. 15 20

When the bodies 2 and 3 of both B1 and B2 versions are arranged on two or more supporting components 1, the disintegration of the ammunition is ensured in wide range of obliquities. 25

REFERENCE:

[0030]

1. WO 2008/102183 A1
2. WO 2006/134407 A1

Claims

1. Armor, comprising supporting components, **characterized in that** the supporting components /1/ are horizontal and/or vertical supporting components and lamellae /2/ and /3/ are fixed on the horizontal and/or vertical supporting components /1/ at distance one from the other along the horizontal and/or vertical supporting components /1/. 35 40
2. Armor, in compliance with claim 1, **characterized in that** the supporting components /1/ can be two or more and are fixed at distance one behind the other. 45
3. Armor, in compliance with claim 1, **characterized in that** the lamellae (B1) are shaped as oval bodies /2/. 50
4. Armor, in compliance with claim 1, **characterized in that** the lamellae (B2) are shaped as spiral bodies /3/ with cut holes. 55
5. Armor, in compliance with claim 1, **characterized in that** all peripheries of the lamellae /2/ and /3/ of both (B2) and (B2) versions have sharpened edges.

6. Armor, in compliance with claim 1, **characterized in that** the lamellae /2/ and /3/ of the versions (B1) and (B2) can be arranged on two or more supporting components /1/ and ensure destruction of the ammunition in wide range of obliquities.

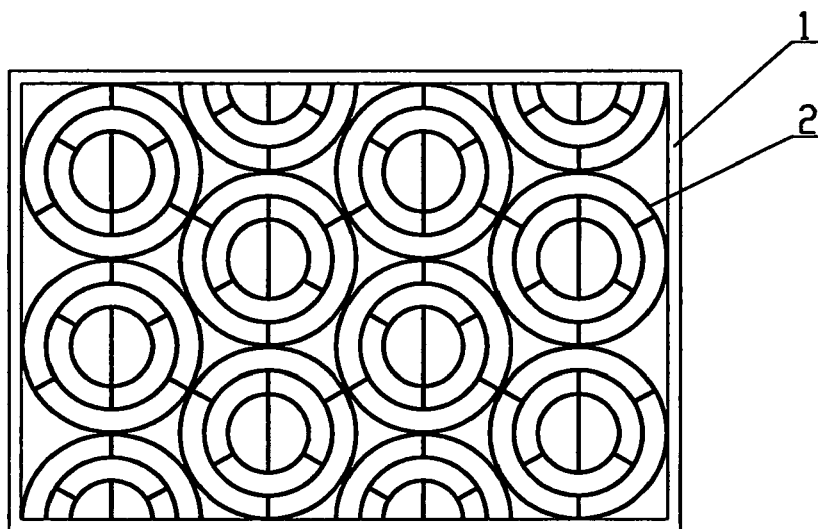


Fig. 1

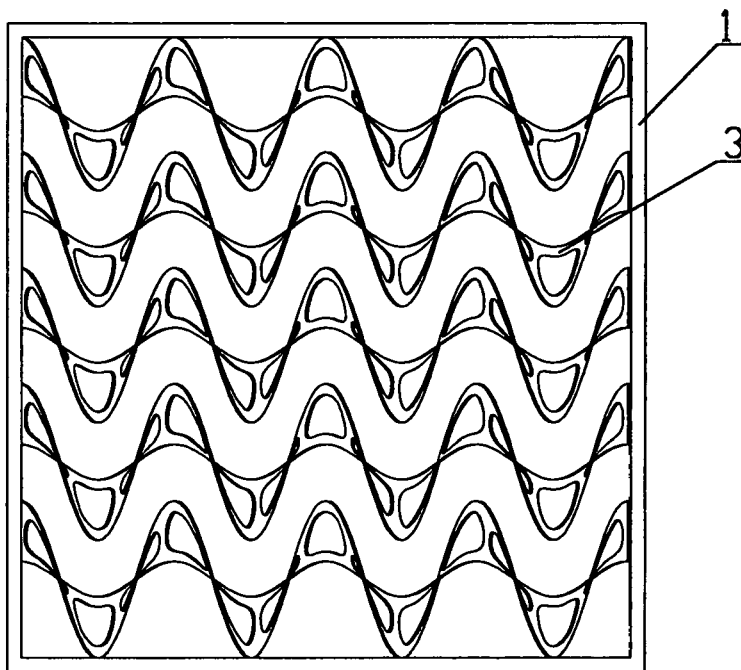


Fig. 2

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2008102183 A1 [0030]
- WO 2006134407 A1 [0030]