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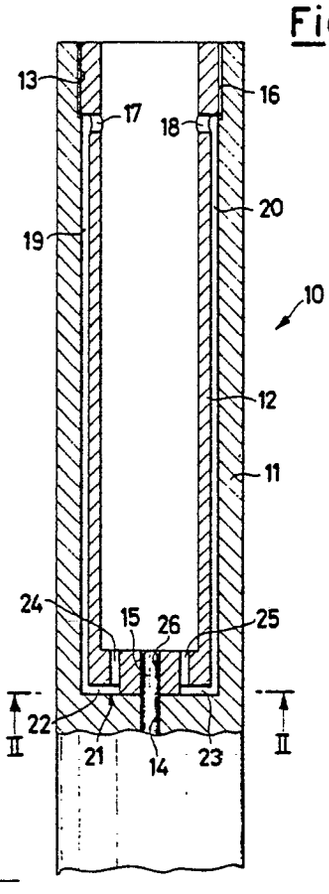
(54) Special barrel for direct-percussion grenade-launcher.

(57) Barrel for grenade-launchers with an external cylindrical shell (11), open at one end, and provided with a bore (14) for a percussion pin (15) at its other end. The open end is provided with an inner screw-threaded portion (13) to which is coupled an end of a cylindrical hollow sleeve (12) to be inserted in the shell. This barrel reduces the size of a grenade-launcher and maximize the launch energy.

Fig.1



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SPECIAL BARREL FOR DIRECT-PERCUSSION GRENADE-LAUNCHER

The present invention relates to a special barrel for direct-percussion grenade-launchers.

Grenade-launchers are known, wherein the barrel performs the task of containing the burst gases, or wherein the task of the barrel is of guiding the projectile.

Generally, the barrels used in the grenade-launchers known from the prior art have a length much longer than the length of the cartidge, or of the cartridge chamber.

This causes considerably large overall dimensions, a heavy weight, but, above all, reductions in launching energy, due to the losses occurring inside the interior of the barrel.

The purpose of the present invention is to provide a barrel for grenade-launchers which is of a reduced size, with simultaneously being strong, and making it possible the energy generated by the burst gases of a cartridge to be globally exploited, and being furthermore capable of expelling the cartridge without using mechanical devices.

In order to accomplish said purpose, a barrel for grenade-launchers was developed, which is characterized in that it comprises an external cylindrical shell, open at one end, and provided with a bore for a percussion pin at its other end, with said one end being provided with an inner screw-threaded portion; inside said cylindrical shell a cylindrical hollow sleeve can be inserted, which is provided at an end with a screw-threading, which can be coupled with said screw-threaded portion of said external shell, under said one screw-threading on the side wall of said sleeve at least one couple of through- bores being provided, from each of said bores a milled groove extending downwards in a longitudinal direction, with each one said milled grooves being connected with a shaped bottom of said sleeve, said sleeve bottom being provided with a second couple of through-bores in order to connect said milled grooves with the interior of said sleeve; and with a further central bore for the passage of said percussion pin.

The characteristics and further advantages of the present invention will be clearer from the following disclosure thereof in greater detail, referred to the hereto attached drawing table, wherein:

Figure 1 shows a sectional view of a barrel according to the present invention, and

Figure 2 shows a sectional view of the element made along path II-II of Figure 1.

Referring to the figures, by the reference numeral 10 a barrel according to the invention is generally indicated, which barrel is constituted by an external shell 11, and an internal sleeve 12.

The external shell 11 is provided with an upper screw-threading 13, and, through its bottom, with a bore 14 for the passage of a percussion pin 15.

The internal sleeve 12 is provided with an upper screw-threading 16, which can be coupled with the screw-threading 13, and immediately under the screw-threading 16, two bores 17 and 18 are provided in diametrically opposite positions. From the bores 17 and 18, two respective milled grooves 19 amd 20 extend, which reach a shaped bottom 21 of the sleeve 12. The bottom 21 is provided in its turn with two milled grooves 22 and 23 connected with two through-bores 24 and 25.

Furthermore, still on the bottom, a further through-bore 26 is provided for the passage of the percussion pin 15. By inserting the sleeve 12 inside the external shell 11, the milled grooves, in cooperation with the inner walls of the shell, define channels, which are suitable for conveying a portion of the burst gases towards the bottom, and hence towards the base of the cartridge, in order to eject it immediately after the deflagration.

This makes it possible, by means of the recovery of a minimum amount of gas, to get rid of complex mechanical ejection devices, rendering the barrel very simple and functional.

Furthermore, still according to the present invention, the barrel 10 is used as an expansion chamber for the burst gases. and such a barrel 10 is of dimensions at least equal to those of a cartridge (not shown in the figures), so as to enable the shell case to expand during the deflagration. Subsequently, thanks to its elasticity, the shell case shrinks, and can be later on ejected by means of the recovery of the gases.

The present invention was disclosed for illustrative and non-limitative purposes, but it should be understood that modifications and changes can be supplied by those skilled in the art, without anyway departing from the scope of protection of the instant patent-right.

Claims

1. Barrel for grenade-launchers characterized in that it comprises an external cylindrical shell, open at one end, and provided with a bore for a percussion pin at its other end, with said one end being provided with an inner screw-threaded portion; inside said cylindrical shell a cylindrical hollow sleeve can be inserted, which is provided at an end with a screw-threading which can be coupled with said screw-threaded portion of said external shell, under said one screw-threading on the side wall of

said sleeve at least one couple of through-bores being provided, from each of said bores a milled groove extending downwards in a longitudinal direction, with each one of said milled grooves being connected with a shaped bottom of said sleeve, said sleeve bottom being provided with a second couple of through-bores in order to connect said milled grooves with the interior of said sleeve, and with a further central bore for the passage of said percussion pin.

2. Barrel for grenade-launchers according to claim 1, characterized in that said barrel is used as an expansion chamber for the burst gases, and has dimensions at least equal to the dimensions of a cartridge.

3. Barrel for grenade-launchers according to claim 1 and/or 2, substantially as herein disclosed and illustrated.

Fig.1

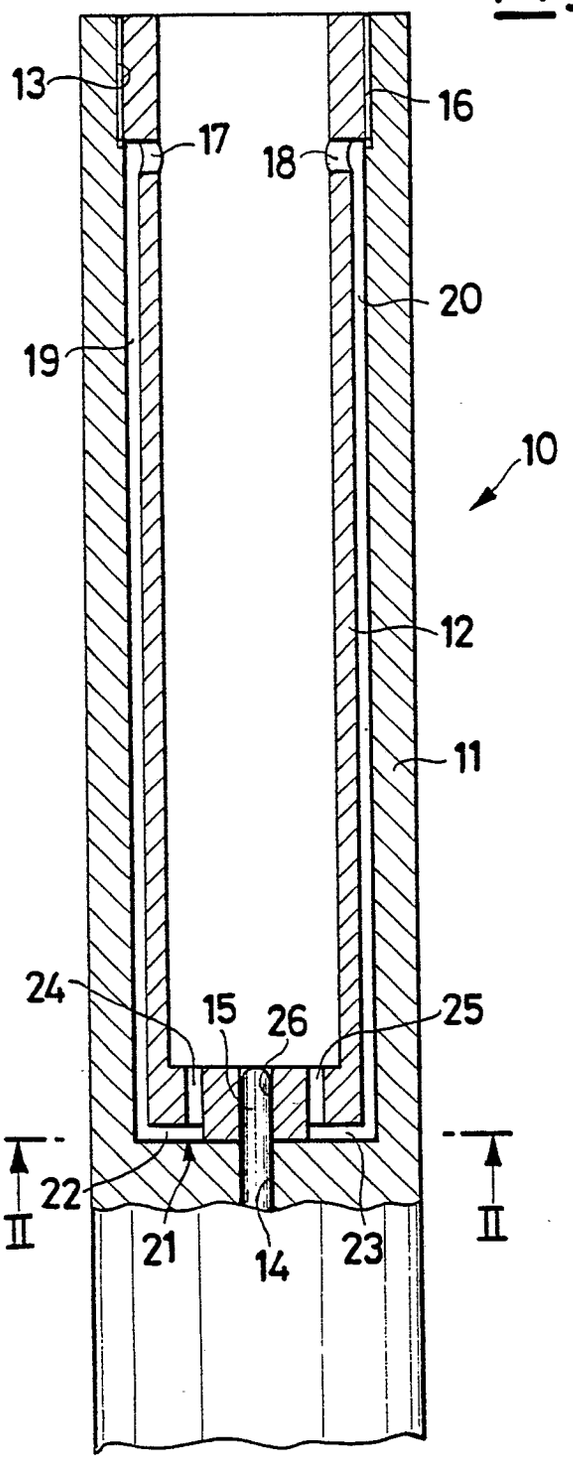
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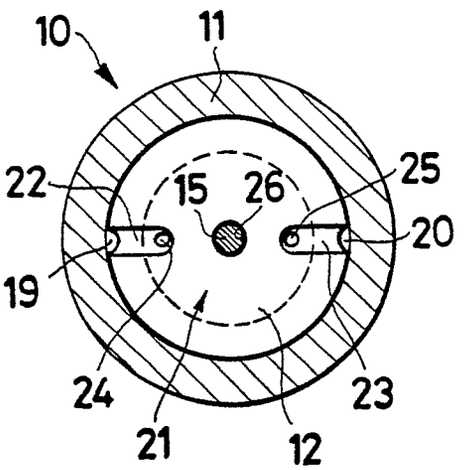
Fig.2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European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 89 20 0581

DOCUMENTS CONSIDERED TO BE RELEVANT

	Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
1	A	CH-A- 393 139 (GRIESSEN) * Page 1, lines 62-74; page 2, lines 1-22; figures *	1-3	F 41 C 27/00 F 41 C 15/00
1	A	CH-A- 96 684 (PANTOFLICEK)		

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

F 41 C
F 41 D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	10-05-1989	RODOLAUSSE P.E.C.C.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
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P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

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