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(54) **Lead bullet with plane base and base spoke.**

(57) Lead bullet with plane base and base spoke, provided with an oil duct which avoids leading or residues in the bore, which serves as separation mean between the two rifling zones of the bourrelet, composed of two separate zones, achieving a centering and guidance of the bullet with a decrease in the friction, having a crimping channel and a separation zone between the bourrelet and the driving-band which corrects the oscillations in the chamber, forcing the coincidence of the bullet centerline with the bore centerline, eliminating the fracture and dislocation of the shot bullets, having a spoke which allows the adequate interrelation with the junction cone of the bore and a cone frustum favouring the deformation of the bullet.

Description

LEAD BULLET WITH PLANE BASE AND BASE SPOKE

OBJECT OF THE INVENTION

This invention refers to a lead bullet with plane base and base spoke whose obvious objective is its quality of being able to be shot by any type of bore for metallic cartridges, furthermore having at disposal a high stopping power and, at the same time, an adequate penetration and perforation.

ANTECEDENTS OF THE INVENTION

As it is known, cartridges have nowadays more and more success for multiple uses in small calibers. The cartridges of caliber 22 are normally employed for small game, shot contests, subcaliber, spiking, etc.; these cartridges were designed in 1857, being employed in a determined model of revolver manufactured by the company Smith & Wesson, now being able for an exchange with pistols and revolvers from different origins.

There is also a series of cartridges of caliber 22 only destined for the shooting with short or long weapons, employing targets with a bull of 50 mm. diameter.

The use of the 6,25 x 15 short Browning cartridges, better known as cartridges of caliber 6,35 - although it must be considered that 6,35 is the diameter of the shell and not the caliber - still enjoys a great popularity, although this popularity of course decreases constantly because of the great spreading of the cartridge 22 in the last time, cartridge which, being considerably more economical, has a greater muzzle velocity and greater muzzle energy, even with a smaller shell weight.

Nevertheless, the wrongly called caliber 6,35 mm is still being manufactured in big quantities, being provided with a cap primed with unoxidizing Tetrix, noncorrosive and nonmercurial.

There is also a type of cartridges, the so called 7,65 mm, primed like the caliber 6,35 mm with caps of Tetrix, which, as already said, is not corrosive, neither mercurial nor oxidizing.

There is in this caliber a long model whose use is quite infrequent.

The cartridges of 9 mm. short, long and NATO have great success because of their fire accuracy and stopping power; their use has become general in the world, although there is a trend nowadays towards the only use of the so called NATO type.

The cartridge of 38, short and long type, have a lot of supporters, but, obviously, the short type is already obsolete and at present out of the manufacturing programmes.

Notwithstanding it, the cartridges of caliber 38 long, although employing unclad lead bullets and being old-fashioned, are provided with excellent ballistic conditions, improved by the modern gun-powders used in the manufacture of these cartridges.

At present, the marketing of caliber 38 cartridges provided with clad bullet has also begun, improving their excellent characteristics.

As it is a bullet which easily deforms upon impact, its logical consequence is producing less grazes while having a greater stopping power at the effective range.

As a consequence of this fact, it is obvious its more and more considerable importance due to the numerous aspects in which the short weapons and their ammunitions may be employed.

We must also consider as antecedents of the present invention the cartridges of the type 7,63-51 and 7,62-63, as well as the so called 12,7-99 and 12,7-76.

Nevertheless, none of the above mentioned types has a cartridge provided with a plane base for the purpose of favouring the setting of the propelling charge and the uniform pressure of the gases during the combustion, with a base spoke which facilitates the alignment of the bullet in the charge and, at the same time, with a wide and deep oil duct.

Of course, a very interesting fact to be considered is the manufacturing price of the shell and the stopping power of the cartridge.

The evident solution for getting an ideal bullet designed for fulfilling determined needs and goals would consist in the harmonious conjunction of the whole elements stated as advantages of the cartridges, furthermore having the virtue of maintaining a not very high price in their manufacture.

Nevertheless, the solutions found in this respect until now are very complicated in some cases, inoperative in other, and exceeding the budgetary possibilities in most of them.

DESCRIPTION OF THE INVENTION

The lead bullet with plane base and base spoke proposed by the invention constitutes an extremely simple solution and, consequently, of low cost, easy to implant, and offering total guarantee and advantages not considered until now in the conventional cartridges.

For this purpose and in a more specific way, a bullet has been designed provided with the following characteristics:

The bullet proposed by the invention is provided with a plane base favouring the setting of the propelling charge and the uniform pressure of the gases during the combustion.

This bullet has a base spoke which facilitates the alignment of the bullet during the charge, and, as a consequence, favours the ballistics at muzzle by eliminating the material removal produced by the combustion gases in the bullets with angle base, especially in those bullets using lead alloys in their configuration.

This characteristic may be easily checked, since this bullet does not leave any residues of lead material on the muzzle plane of the barrel.

It can be assured in a categorical and irrefutable way that there is no lead bullet nowadays with the characteristics of plane base and base spoke.

Another important characteristic of this plane

bullet is the fact of being equipped with a wide and deep oil duct in order to avoid the leading or storage of residues in the bore of the weapon, this duct furthermore constituting a separation mean for the two rifling zones of the bourrelet.

Obviously, this oil duct can be optionally filled or not with bullet grease.

In this bullet, the bourrelet is composed of two widely separated zones, as a consequence of the above detailed oil duct, so that it is achieved a perfect centering and guidance of the bullet with a friction decrease.

It is very important the fact that this bourrelet, because of its special configuration, represents more than 48% of the total bullet length.

The crimping or fastening channel, depending on the cartridge, is wide and deep, having a separation zone between the bourrelet and the driving-band.

The driving-band has the main mission of correcting the oscillations in the chamber, or upon inlet in the junction cone of every shot bullet, forcing the coincidence of the bullet centerline with the bore centerline.

This eliminates the fracture and dislocation frequently existing in the revolver shot bullets, since the bullets nowadays available on the market have no differentiation between the two above mentioned bands, only presenting the bourrelet.

Once the bullet has been guided, the driving-band becomes also a bourrelet, so that this band means more than 62% in length of the total bullet length.

The double function of this band has been checked in shot bullets.

The spoke that allows the adequate interrelation with the junction cone of the bore is also adequate for preparing the task of the driving-band.

Because of the cone frustum designed in this bullet, the deformation upon impact is considerably favoured.

The sphere radius on the head is in conjunction with the cone frustum, fact that motivates the deformation of the bullet ogival head, by virtue of the adequate shock wave that it produces, so that a development of an adequate terminal ballistics is given, goals to be met by a police or defense bullet.

This lead bullet with plane base and base spoke may be conformed with any material, metal or alloy suitable for ballistics.

The most important advantages arising from the new conception of this bullet are the generation of smaller pressures in the chamber for speeds of the bullet equal to or higher than the nowadays available on the market, so that, with the pressures indicated by the Standing International Committee for the testing of firearms (C.I.), the bullet has a higher speed with an absence of leading, this not being the case of the lead bullet at present on the market.

The increase in the accuracy weapon-cartridges, and the improvement of the muzzle ballistics, as well as a smaller weapon recoil, constitute facts certainly to be kept in mind when evaluating this new bullet.

The use of this bullet prolongs the life of the bore and of the bullet-catchers, whichever they are.

As already mentioned above, there is a substantial decrease in the risk of grazes because of the design.

The center of mass is slightly backed up.

The stopping power of the bullet is very high, while it also has an adequate penetration and perforation.

Finally, it must be remarked that this bullet may be shot with any type of bore for metallic cartridges (rifled, polygonal, combined) without damaging the bore, this not being the case in the present solid bullets because of the quick wear of the polygonal and combined bores with the subsequent ballistic death.

DESCRIPTION OF THE DRAWINGS

As a complement to the present description and with the aim of a better understanding of the invention characteristics, this descriptive brief includes, as a part integrating the same, a sole sheet of drawings in which, with an illustrative but not restrictive character, the following representation has been done:

A section of the described bullet, so that any expert in this matter may easily recognize and state the substantial differences between this new bullet and those at present existing on the market.

We do not deem necessary to make a longer description so that any expert in the matter can understand the scope of this invention and the advantages arising from the same.

The materials, shape, size and arrangement of the elements may be modified, provided that it does not mean a change in the essentiality of the invention. The terms in which this brief has been described must always be understood in a wide and not restrictive sense.

Claims

1.- Lead bullet with plane base and base spoke, essentially characterized by its configuration with a plane base, base spoke, with an oil duct as separation mean of the rifling zones of the bourrelet.

2.- Lead bullet with plane base and base spoke according to the first claim, essentially characterized by the fact of being provided with a bourrelet consisting of two zones, crimping channel and separation zone between the bourrelet and the driving-band.

3.- Lead bullet with plane base and base spoke according to the above claims, essentially characterized by the fact of being provided with a corrective driving-band, interrelation spoke.

4.- Lead bullet with plane base and base spoke according to the above claims, essentially characterized by the fact of being designed with a cone frustum favouring the deformation of the same upon impact, having a sphere spoke in the head in conjunction with the cone frustum.

5.- Lead bullet with plane base and base spoke according to the above claims, essentially characterized by the fact of being provided

with a high stopping power and an adequate penetration and perforation, while it can be shot with any type of bore for metallic cartridges without damaging the bore, the center of mass being slightly backed up.

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