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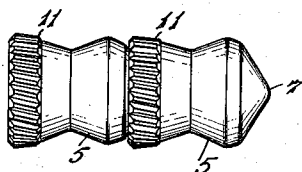
N. B. FRANCIS

2,982,550

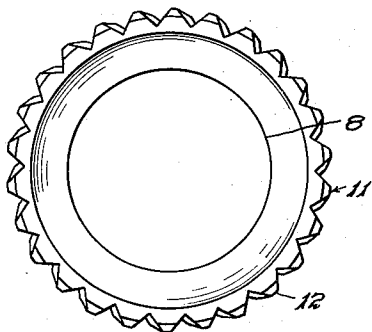
RIFLE PELLET

Filed July 8, 1958

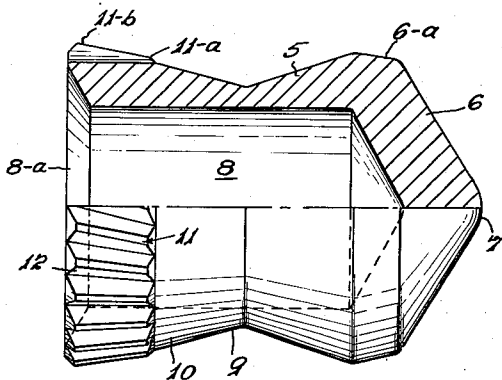
*Fig. 1.*



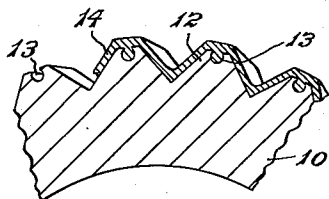
*Fig. 3.*



*Fig. 2.*



*Fig. 4.*



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**RIFLE PELLET**

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2 Claims. (Cl. 273-106)

This invention relates to a rifle pellet and particularly to a pellet for rifles using carbon dioxide or compressed air as a propellant.

An object of this invention is to provide a pellet which is accurately produced within close limits and which is always uniform in size and dimensions so that it will accurately fit the bore of the rifle and operate with a maximum degree of accuracy and uniformity.

A further object of this invention is the provision of a pellet which can be produced from a material, such as soft steel, so that it can be manufactured in large quantities on standard type screw machines and which is adapted to engage with the rifling within the bore of a rifle so as to impart rotary motion to the pellet as it is being propelled through the bore.

A still further object is to provide such a pellet which will continue to be rotated aerodynamically as it is moving through air and until it strikes its target.

Further objects and advantages of the present invention will be more clearly understood from the following description and the accompanying drawing in which:

Fig. 1 is a side view showing two of my improved pellets in nested position.

Fig. 2 is an enlarged side view, partly in central vertical section, showing the details of construction of my improved pellet.

Fig. 3 is a rear view thereof.

Fig. 4 is a further enlarged sectional rear view of a modified form of said pellet.

As shown in the drawing, my improved pellet includes a one-piece body 5 having a head portion 6 which is pointed at 7.

The said body has a cavity 8 which extends forwardly from the rear of the pellet to a point well forward of the center of the body to within a short distance of the head 6 to provide for applying the pressure from the gas propellant near the front of the pellet and thereby preventing it from tumbling and keeping it straight on its course. The said cavity 8 is countersunk at 8-a to form an annular shoulder having a taper conforming to the taper at the front of the head 6 whereby a plurality of said pellets may be nested together, as shown in Fig. 1, and they will follow in a straight line in the magazine of the rifle.

The intermediate portion of the pellet is preferably reduced in diameter to provide a waist portion 9 and a rearwardly diverging skirt 10 which terminates at the rear of the pellet around the periphery of the cavity 8. The said skirt is provided, around its rear trailing edge portion, with a knurl having an annular row of ribs 11 which extend longitudinally of the pellet and are spirally disposed and pitched to conform with the pitch of the rifling in the bore of the rifle. The outside diameter of said knurl is greater than the outside diameter of the head portion 6 and said ribs are preferably tapered inwardly towards the head of the pellet to provide a low portion 11-a at the front of said ribs and a high portion 11-b at the rear thereof.

The outside diameter of the pellet, at the high portion

of said knurl, is slightly larger than the diameter of the bore of the rifle so that, upon being propelled through said bore, those of said ribs which do not register with the rifling in said bore will crush against the surface of the bore, while those which do register with said rifling will extend into it and thereby impart the rotary movement as the pellet is being propelled through the bore. After the pellet has left the bore, the pitch of the ribs will power the pellet aerodynamically so that it will continue to rotate until it strikes its target or ends its flight.

It will be noted that the head of the pellet is slightly tapered annularly at 6-a. This will allow the pellet to enter the bore of the rifle easily and still permit a close fit between the outer diameter of said tapered portion and the inside diameter of the bore.

In the form illustrated in Fig. 4, the ribs 12 are so formed that each will have a groove 13 running along its outer edge and the entire pellet is coated, by a suitable process, with a layer of lead or other soft material forming a shield 14 which is bonded to the ribs 12 by the grooves 13 to resist the inertia as the pellet is rotated by the rifling.

The outside diameter of the ribs 12, independently of the lead coating, is of a slightly smaller diameter than the inside of the bore, while the outside diameter of the lead coating on said ribs is slightly larger so that the lead coating only will enter the rifling of the bore and impart the rotary motion to the pellet, while the thin coating of lead remaining on the other surfaces of the pellet which contact the inside surface of the bore will shield said surface against contact with the core material of the pellet.

It will be understood that, when a charge of propelling gas or air is applied to my improved pellet, the propelling pressure upon the pellet is placed upon the forward end of the cavity 8 and, since said end is well forward of the lengthwise center of the pellet, said pellet will be propelled forwardly with its knurled end trailing and the ribs 11 acting as an aerodynamic tail to prevent toppling of the pellet as it leaves the bore.

I claim:

1. A pellet including a one-piece body having a head portion at its forward end and a bore extending lengthwise into the rear end of said pellet, a skirt portion surrounding said bore, and a knurl surrounding said skirt adjacent the trailing edge thereof and including a plurality of spaced ribs extending radially from said skirt and disposed spirally thereon to thereby aerodynamically rotate said pellet as it is projected through air; the outside diameter of said knurl being less at its forward edge than at its trailing edge and greater than the outside diameter of said head portion.

2. A pellet for a rifle including a one-piece body having a head portion, an open axial cavity in the rear end of said body, a trailing skirt portion surrounding said cavity, and a knurl comprising a row of spirally disposed ribs surrounding said skirt portion and disposed adjacent said rear end; the outside diameter of said knurl being greater than the outside diameter of said head portion.

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