Dec. 26, 1933. D. BARBIERI 1,941,336

SCATTER LOAD FOR SHOTGUN SHELLS

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Fig. 1.

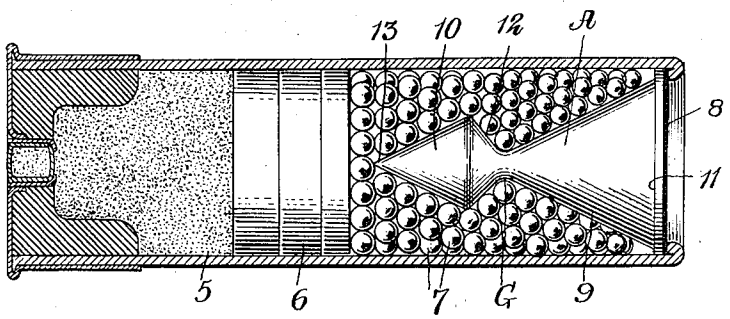


Fig. 2.

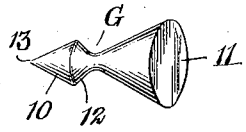


Fig. 3.

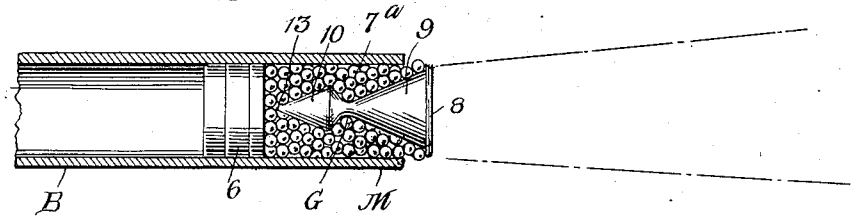
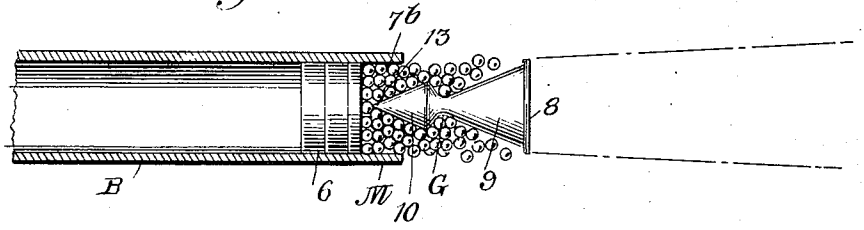


Fig. 4.



WITNESSES

Geo. W. Naylor

Hugh H. Ott

INVENTOR

David Barbieri

BY

Munn, Anderson, Stanley, Foster & Liddy

ATTORNEYS

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SCATTER LOAD FOR SHOTGUN SHELLS

David Barbieri, Garwood, N. J.

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5 Claims. (Cl. 102—15)

This invention relates to ballistics, and has particular reference to an improved scatter load for shot gun shells, the broad object of which is to provide means incorporated in and forming part of the load, which means functions to obtain a shot pattern of greater effective area, with a more uniform distribution of the shot over the entire area of the shot pattern than has heretofore been obtained.

More particularly, the invention comprehends an improved scatter load for shot gun shells which includes a shot distributor plug or device, which plug or device is so fashioned or contoured as to attain the desired end in view and which, to the best of applicant's knowledge, by the fashioning or contouring of the body of the plug or device, defines surfaces which function to effect the deflection or spreading of different portions of the shot load in successive stages, as the load emerges from the muzzle of the gun or at some point following said emergence.

As a further feature, the invention resides in the provision of a distributor plug or device which when incorporated in the load functions equally as well to obtain the desired result whether fired from a gun having a cylinder-bore or a full choke-bore.

The invention further provides an improved means for attaining the results set forth, which is comparatively simple and not complicated in its structure, which is inexpensive to produce and incorporate in a shell, which does not materially affect the proportions of the shell and which has proved highly effective in accomplishing the purpose set forth.

With the above recited and other objects in view, reference is had to the following description and accompanying drawing, in which there is exhibited one example or embodiment of the invention, while the claims define the actual scope of the same.

In the drawing:

Figure 1 is an enlarged longitudinal sectional view through a shot gun shell provided with a load scattering and distributing device constructed in accordance with the invention.

Figure 2 is a perspective view of the load scattering and distributing device removed from the shell, the same being illustrated on a smaller scale.

Figure 3 is a fragmentary longitudinal sectional view of the muzzle portion of a shot gun barrel, illustrating the initial stage of the functioning of applicant's device.

Figure 4 is a similar view illustrating a subsequent stage of the functioning of the device.

Referring to the drawing by characters of reference, 5 designates the body of a shot gun shell, 6 the lower or inner wads, 7 the shot and 8 the top wad. The scattering and distributing device or plug, which is designated generally by the reference character A, is, in the form of the invention illustrated, constructed of any suitable material and is preferably secured to and carried by the top wad 8, so that it may be emplaced in the shell with the top wad. As shown, the device or plug A includes substantially conical leading and trailing portions 9 and 10, which portions are each of increasing diameter from the inner end toward the outer end thereof. The forward end face 11 of the leading portion 9 abuts with and is preferably adhesively or otherwise secured to the inner face of the top wad 8, while the trailing or rear portion 10 is joined at its larger forward or leading end to the leading or forward portion 9 by a neck 12 which merges into the rear end of the leading portion 9 and the forward enlarged end of the trailing or rear portion 10, the said neck presenting a substantially conical surface which is of decreasing diameters toward the outer end of the shell when the device is emplaced in the shell, as shown in Figure 1. While in the particular form illustrated the device or plug A is disclosed as being provided with only two portions 9 and 10, it is to be clearly understood that more than two of said portions may be employed within the scope of the invention. In any event, the trailing or rear portion 10 preferably terminates in a point 13, which point is disposed concentric to the axis of the plug and the axis of the shell when the device is arranged therein. The configuration or contour of the plug or device A as viewed from the side or in profile defines by said neck 12 and the leading portion 9 a substantially V-shaped peripheral groove G which extends around the circumference of the plug or device A, and for the purpose of explaining applicant's theory of the functioning of his invention, the portion of the shot load, it is thought, which lies between the walls of the shell body 5 and the surfaces of the leading portion 9 and the neck 12, which portion of the shell load is designated as 7a, is deemed to be influenced by the leading portion of the plug 9 as the load initially emerges from the muzzle M of the gun barrel B, as shown in Figure 3, so that this portion of the load is caused to be initially deflected and uniformly distributed over the outer area of the shot pattern. The remaining portion of the shot

load designated 7b is deemed to be influenced by the trailing or rear portion 10 of the plug body A, as this portion, together with the remainder of the shot load, emerges from the muzzle M of the gun barrel B. It thus follows that different portions of the shot load are deflected, spread and uniformly distributed over the area of the shot pattern, with the portion 7b of the shot being scattered and uniformly distributed over the center of the shot pattern.

It has also been observed in actual tests which have been conducted that the result of the equal distribution of the shot over the area of the shot pattern is substantially the same whether the shell is fired from a gun having a cylinder-bore or a full choke-bore.

It should also be understood that no limitation is made to the exact size or proportionate size of the leading and trailing portions 9 and 10, as it is felt that changes in the relative sizes and angularity of the surfaces may accomplish results which will vary and which obviously should form a part of this invention.

What is claimed is:

1. In a shot gun shell, means incorporated in the load for causing the same to scatter at successive stages comprising a distributor plug, said plug having a plurality of substantially conical portions spaced longitudinally of the axis of the shell which are of increasing diameter from the inner end toward the outer end of the plug.

2. In a shot gun shell, means incorporated in the load for causing the same to scatter at successive stages comprising a distributor plug, said plug having a plurality of substantially conical portions spaced longitudinally of the axis of the shell which are of increasing diameter from the inner end toward the outer end of the plug with the innermost of said portions terminating in a point.

3. In a shot gun shell, means incorporated in the load for causing the same to scatter at successive stages comprising a distributor plug, said plug having a plurality of substantially conical portions spaced longitudinally of the axis of the shell which are of increasing diameter from the inner end toward the outer end of the plug with the innermost of said portions terminating in a point disposed concentric to the axis of the plug.

4. In a shot gun shell, means incorporated in the load for causing the same to scatter at successive stages comprising a distributor plug, said plug having a plurality of substantially conical portions spaced longitudinally of the axis of the shell which are of increasing diameter from the inner end toward the outer end of the plug with the innermost of said portions terminating in a point disposed concentric to the axes of the plug and shell.

5. A distributor plug for shells containing shot, said distributor plug adapted to cause the scattering of the shot and comprising a series of conical portions, the smaller ends of the cones of each successive portion fixed to the larger ends of the cones of adjacent portions so that an annular groove is formed at the juncture of the conical portions.

DAVID BARBIERI.