J. S. GRAVELY.

SHOT SHELL.

APPLICATION FILED JAN. 9, 1919.

1,304,962. Patented May 27, 1919.

Fig. 1.

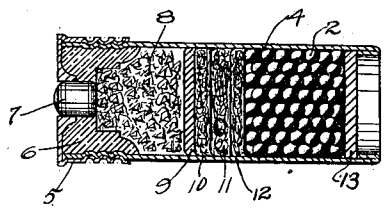
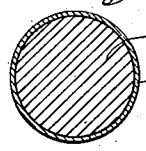


Fig. 2.



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UNITED STATES PATENT OFFICE.

JULIAN S. GRAVELY, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO WINCHESTER REPEATING ARMS CO., OF NEW HAVEN, CONNECTICUT, A CORPORATION.

SHOT-SHELL.

1,304,962. Specification of Letters Patent. Patented May 27, 1919.

Application filed January 9, 1919. Serial No. 270,383.

To all whom it may concern:

Be it known that I, JULIAN S. GRAVELY, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Shot-Shells; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1 a view in longitudinal central section of one form which a shot-shell embodying my invention may assume.

Fig. 2 an enlarged sectional view of a shot of the shot charge thereof.

My invention relates to an improvement in shot-shells, the object being to produce a shot-shell adapted to mark the flight of its charge of shot, especially during the initial and significant portion of such flight.

With these ends in view my invention consists in a shot-shell provided with a flight-marking body to indicate the flight of the charge of shot.

My invention further consists in a shot-shell having one of its shot adapted to indicate the flight of its charge of shot.

In carrying out my invention as herein shown, I provide each of the shot 2 of the entire charge of shot with a thin coating 3 of some material which will ignite on the explosion of the shell with the production of flame or smoke, or both, so as to indicate to the eye of the shooter, the flight of the charge of shot especially during the initial and significant portion of such flight. I do not limit myself to the use of any particular ingredient or ingredients for the coating, but have obtained satisfactory results with a coating consisting of powdered magnesium, potassium chlorate, lead sulfocyanid and paraffin oil. Such a coating or an equivalent coating, may be applied to one or more of the shot in any convenient manner, as for instance, by rolling the shot in a vessel containing the material in pasty or viscous form and then loading them directly into the shells. As shown, the shell is of standard form, and comprises a paper tube 4, a metal cap or head 5, a base-wad 6, a primer 7, a powder charge 8, and wads 9, 10, 11, 12 and 13.

When such a shell is fired, the concussion or shock between the shot of the shot-charge causes the ignition of the coating 3 enveloping the individual shot. As the contents of the shell leave the muzzle of the gun barrel, the wads drop away and the shot enveloped in their burning or smoking coatings, have their flight indicated by the products of such combustion, whereby the shooter is enabled to mark their flight, at least during the initial and significant portion thereof, the duration of this flight-marking being dependent upon the character of the coating.

I do not limit myself to coating all of the shot of the charge, though I have secured satisfactory results in that manner.

I claim:—

A shot-shell having a shot of the shot-charge provided with a composition adapted to be ignited by the concussion between the shot consequent upon firing the shell and to burn and mark the flight of the shot-charge.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JULIAN S. GRAVELY.

Witnesses:

ERIK S. PALMER,

DANIEL H. VEADER.