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H. W. BROWNSDON ET AL

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SHOTGUN CARTRIDGE

Filed Jan. 29, 1931

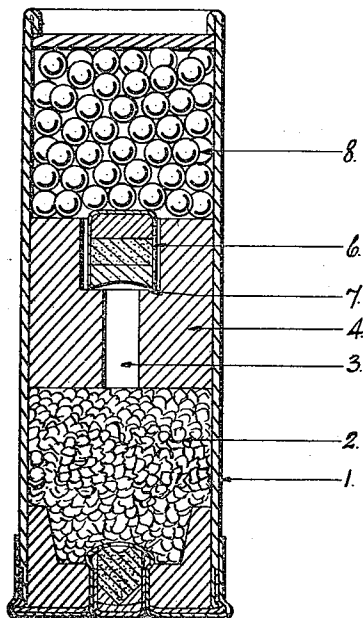


FIG. 1.

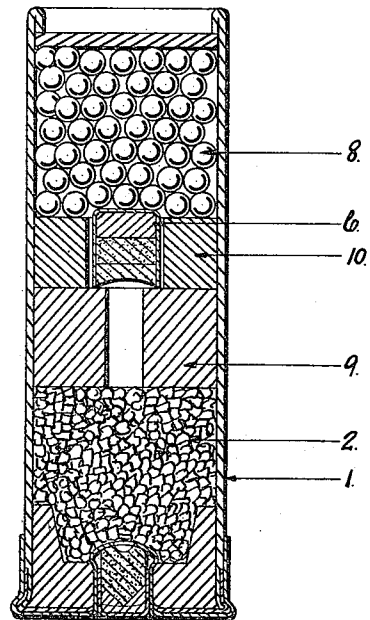


FIG. 2.

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UNITED STATES PATENT OFFICE

HENRY WINDER BROWNSDON, OF MOSELEY, BIRMINGHAM, AND WALTER R. NIMMO,
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SHOTGUN CARTRIDGE

Application filed January 29, 1931. Serial No. 512,188.

Our invention relates to shot gun cartridges containing a tracer pellet distinct from the ordinary charge of shot, which pellet is so arranged as to indicate the trajectory of the shot when the cartridge is fired.

Fig. 1 is a sectional view showing one embodiment of our invention.

Fig. 2 is a sectional view showing a modified form of the invention.

In U. S. Specification No. 1,457,337 to Earle M. Barrows there is described and claimed a tracer cartridge of this type.

Our researches have shown that a correct mean trajectory is only indicated by the tracer pellet when certain conditions are fulfilled, and it is the object of our invention to provide a shot gun tracer cartridge fulfilling these conditions, and hence capable of registering with considerable accuracy the correct mean trajectory of the charge of shot.

The shot gun cartridge in accordance with our invention contains a tracer pellet which is positioned centrally at the base of the shot charge, and yet is substantially as free to move forward with the shot as the shot pellets themselves, and is thus capable of taking accurately a central path amongst the shot trajectories. This is accomplished by arranging that the tracer pellet sits loosely in a central perforation in the wad which is immediately behind the charge of shot. If a single wad is used the perforation should be stepped as shown diagrammatically in Figure 1, where 1 is the shell of the cartridge, 2 the charge of powder, 4 the single wad having a perforation into which the tracer pellet, 6, sits loosely, this perforation being stepped so as to be narrower behind the tracer pellet (as shown at 3) and to provide a seat, 7, for the tracer pellet. The shot charge is indicated at 8.

In another embodiment of our invention a plurality of wads is used, that or those nearest the shot charge being perforated centrally so as to hold the tracer pellet loosely in posi-

tion, whilst the wad or wads towards the rear have a smaller perforation connecting with the charge of powder and provide a seat for the tracer pellet. An arrangement having two wads, 9 and 10, is shown in Figure 2.

The figures are merely diagrammatic and are not drawn to scale. In practice, for instance, the tracer pellet need not be greatly larger than the shot pellets. The clearance shown between the tracer pellet and the walls of the perforation in the wad must be such that the pellet is held in position substantially without friction and can move freely forward independently of the wad. The smaller perforation may be of any convenient dimensions provided that it is smaller in diameter than the tracer pellet, and preferably the difference in diameter between the larger perforation and the smaller one should be greater than the diameter clearance between tracer pellet and larger perforation.

The tracer pellet is preferably of a type which produces a bright light, but a smoke-producing pellet may be used if desired. It contains a light- or smoke-producing composition, e. g. a mixture of magnesium powder and an oxidizing agent such as barium peroxide, preferably highly compressed, together with a priming composition, which may be of similar nature but packed loosely so as to be easily ignited by the gases from the powder charge.

As many apparently widely different embodiments of this invention may be made without departing from the spirit and scope thereof, it is to be understood that we do not limit ourselves to the specific embodiments thereof except as defined in the appended patent claims.

We claim:

A shot gun cartridge comprising a shell containing a powder charge, a shot charge, and a driving wad interposed between the powder charge and the shot charge, said wad having a cylindrical opening therein in the

direction of the shot charge and an opening
of smaller diameter extending rearwardly
from the larger opening to the powder
charge, a tracer cartridge comprising a small
cylinder open at one end and closed at the
other and seated in said larger opening, but
spaced laterally from the walls thereof, the
open end of said cylinder being seated upon
the driving wad and directly over the pas-
sage leading to the powder charge, the closed
end of the said tracer cartridge being in en-
gagement with the shot charge.

In testimony whereof we affix our sig-
natures.

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