No. 777,031. PATENTED DEC. 6, 1904.

C. LA DOW.

WAD TO EFFECT AND CONTROL SPREADING OF MULTIMISSILE CHARGES.

APPLICATION FILED SEPT. 2, 1904.

NO MODEL.

Fig. 1.

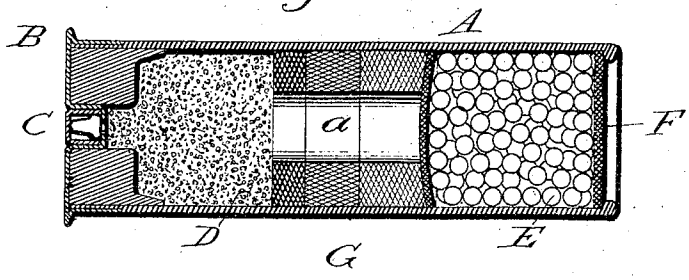


Fig. 2.

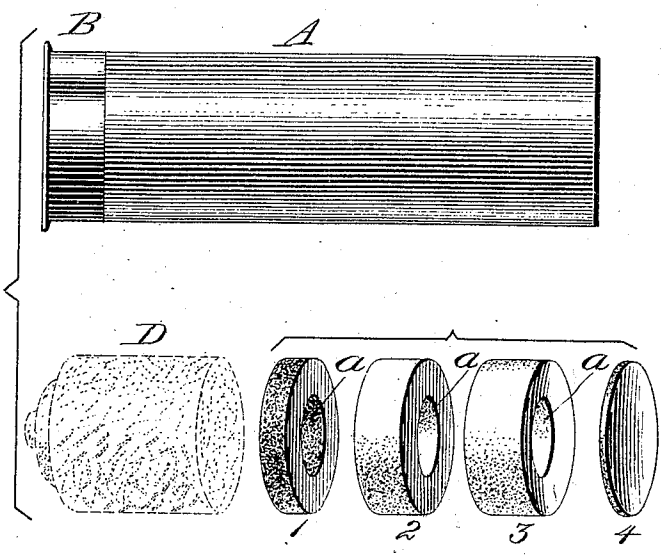
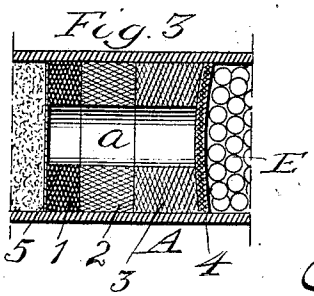


Fig. 3



Witnesses

Inventor:
Charles La Dow,
by Dodger & Sons
Attorneys

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UNITED STATES PATENT OFFICE.

CHARLES LA DOW, OF ALBANY, NEW YORK.

WAD TO EFFECT AND CONTROL SPREADING OF MULTIMISSILE CHARGES.

SPECIFICATION forming part of Letters Patent No. 777,031, dated December 6, 1904.

Application filed September 2, 1904. Serial No. 223,144. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LA DOW, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Wads or Separators to Effect and Control Spreading of Multimissile Charges, of which the following is a specification.

This invention pertains to cartridges or charges for shotguns and other arms for firing multimissile projectiles.

It consists, essentially, in a separator or wad interposed between the powder or propelling charge and the shot or projectile charge and having an axial opening, passage, or chamber covered at one or at both ends by a light and destructible disk or covering.

The present application covers one specific embodiment of a broader and more generic invention set forth and claimed in application Serial No. 187,998, filed in my name on the 7th day of January, 1904, and in divisions thereof, it being my purpose to claim herein a form of cartridge or loaded shell which is found peculiarly adapted to a certain class of shooting in which it is desirable to cover a certain area at a predetermined range.

In the accompanying drawings, Figure 1 is a longitudinal central sectional view of a shot-cartridge embodying the invention. Fig. 2 is a view showing the shell or cartridge-case in elevation and the component portions of the charge or load, with the exception of the shot, in perspective and separated from one another; Fig. 3, a sectional view illustrating a slight modification of what is shown in Figs. 1 and 2.

In the drawings, A indicates a cartridge shell or case, here represented as having a body of paper or pasteboard reinforced at the base and provided with a flanged metal head B, as is common and usual. The shell or case may, however, be of any ordinary form, material, and construction and furnished with any usual means for igniting the powder or propelling charge, a cap or primer C being shown in the present instance.

Within the shell or case A is placed the usual powder or propelling charge D and shot or multimissile charge E, the latter being retained by a closing wad or disk F, held in place by crimping or inturning the end of the shell or otherwise. Between the powder or propelling charge and the shot or projectile charge is interposed a separator G, which constitutes the distinctive feature of the present invention. This separator may be a single wad or body, but in the form shown comprises four wads or members 1, 2, 3, and 4, of which 1, 2, and 3 are of annular form or provided with an axial opening *a*, as shown in the several figures. The wad or member 4, which is placed in advance of the others and between wad 3 and the projectile charge E, is relatively thin and light and is designed to be readily destructible either by the force or by the flame and heat incident to explosion or combustion of the powder or propelling charge.

Precisely what takes place within the shell or the gun is not definitely ascertainable; but in one or another way, either through rupture or combustion, the light wad 4 is perforated, and a passage is formed by which the gases or some portion thereof may and do pass to the central or axial portion of the projectile charge. As a consequence and as abundantly demonstrated by extended tests in actual firing the shot on emerging from the gun are found to spread more than with the common imperforate wad.

Wads 1, 2, and 3 are here represented as making up a separator of considerable thickness or length, and in practice it is found that the wad 1 may advantageously be of cardboard or other relatively compact material, while wads 2 and 3 may be of felt or other elastic material and wad or disk 4 of paper, thin cardboard, or other readily-destructible material. As above indicated, a single perforated or annular wad may be employed, or two, three, or more, as found expedient under any given conditions.

In Fig. 3 I have illustrated a slight modification wherein a fifth member 5 is interposed between the powder or propelling charge and the rearmost wad 1 of the series shown in Figs. 1 and 2. This member is merely a thin and light disk of paper or other suitable material sufficient to retain the powder within

its proper space, or, in other words, to exclude it from the central opening of chamber of the separator. It is ruptured or burned through by the gases incident to explosion or combustion of the powder charge and constitutes no appreciable barrier thereto. The gases consequently pass at once to and either rupture or burn through the light wad or disk 4, entering the shot or projectile charge at or near its axis and effecting, as above stated, a spreading or scattering of the charge. The purpose of the second thin member 5, Fig. 1, is to prevent the powder charge from becoming loosened and working into the space or chamber *a*. It is not, however, essential and may, as above noted, be omitted. The extent or degree of spreading is variable and controllable within pretty well defined limits, the axial measurement of the wad or separator and the diameter of the passage *a* being the primary controlling factors in such control.

The wad may be made up in like manner in a gun without the containing shell A.

It is found advantageous to form the separator of a plurality of wads or disks, because of the fact that a comparatively thin wad or disk can be more easily and accurately perforated than a thicker one. When thus formed of several wads, the separator can be built up to any desired thickness or length in the direction of its axis and the opening maintained of proper diameter and its walls kept smooth and uniform.

It is to be noted that in passing through the gun and in emerging therefrom the projectile charge is free from and devoid of any wrapper, casing, jacket, or binder and is consequently free to be acted upon by the gases and to spread in the manner contemplated in making up the cartridge or load.

Having thus described my invention, I claim—

1. A cartridge, comprising a shell; a powder or propelling charge; a shot or projectile charge; and an interposed wad or separator comprising an axially-perforated wad and a destructible disk or covering applied to the forward side of the separator, next to the projectile charge, the projectile charge being adapted and arranged to emerge from the gun without wrapper or binding.

2. In combination with a powder or propelling charge, and a shot or projectile charge adapted and arranged to leave the gun in a free or unbound condition, an interposed wad having an axial passage or opening; and a destructible covering or disk applied to the forward end of said opening, next to the projectile charge.

3. The herein-described cartridge, comprising a shell A; powder charge D; shot charge E, and interposed separator G, having a destructible closing or covering disk 4, the projectile charge being adapted and arranged to emerge from the gun in a free or unbound condition.

4. A cartridge, comprising a shell; a powder or propelling charge; a shot or projectile charge; a series of axially-perforated wads interposed between the propelling and projectile charges; and an imperforate wad located between the perforate wads and the projectile charge, the projectile charge being adapted and arranged to emerge from the gun in a free or unbound condition.

5. A cartridge, comprising a shell; a powder or propelling charge; a shot or projectile charge; a series of axially-perforated wads interposed between the propelling and projectile charges; and an imperforate wad located between the perforate wads and the propelling charge, the projectile charge being adapted and arranged to emerge from the gun in a free or unbound condition.

6. A cartridge, comprising a shell; a powder or propelling charge; a shot or projectile charge; a series of axially-perforated wads interposed between the propelling and projectile charges; an imperforate wad located between the perforated wads and the projectile charge; and a second imperforate wad located between the perforated wads and the propelling charge, the projectile charge being adapted and arranged to emerge from the gun in a free or unbound condition.

7. A cartridge, comprising a projectile charge; a powder charge; a series of centrally-perforated wads between said charges; and a combustible imperforate wad interposed between the projectile charge and the perforated wads, the projectile charge being free to emerge from the gun in a free or unbound condition.

8. A cartridge comprising a projectile charge; a powder charge; a centrally-perforated separator between said charges; and two imperforate wads or disks covering the ends of the perforation of the separator, the projectile charge being free to emerge from the gun in a free or unbound condition.

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

CHARLES LA DOW.

Witnesses:
WILLIAM W. DODGE,
FANNIE WISE.