

(Model.)

F. G. FARNHAM.

GUN WAD.

No. 288,168.

Patented Nov. 6, 1883.

Fig. 1.

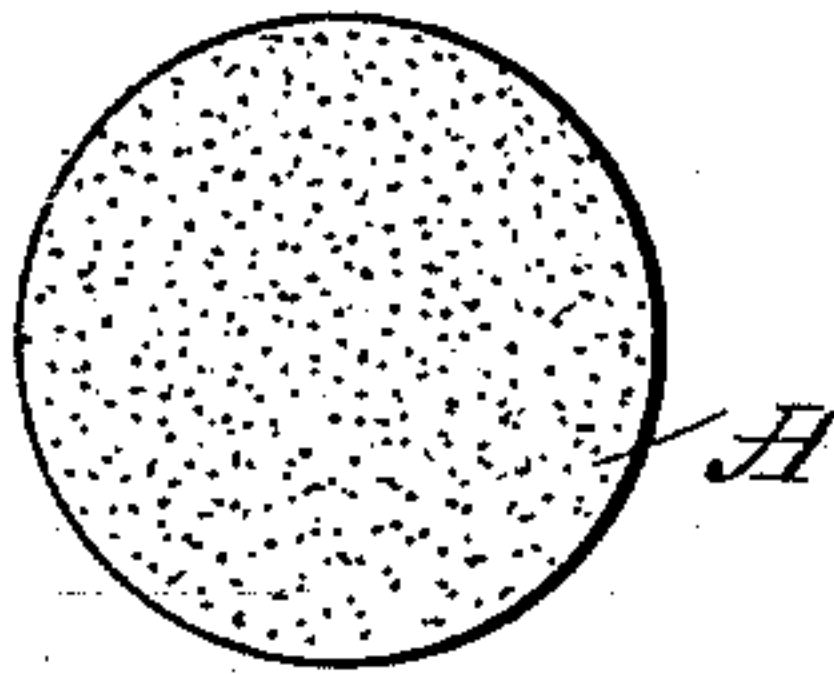


Fig. 2.

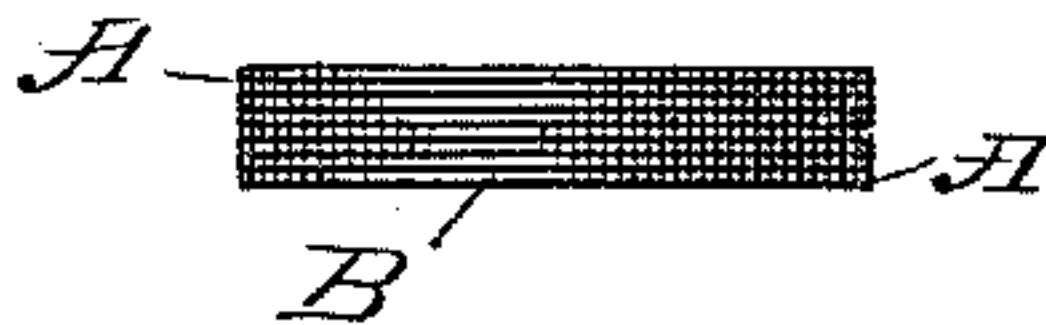


Fig. 3.

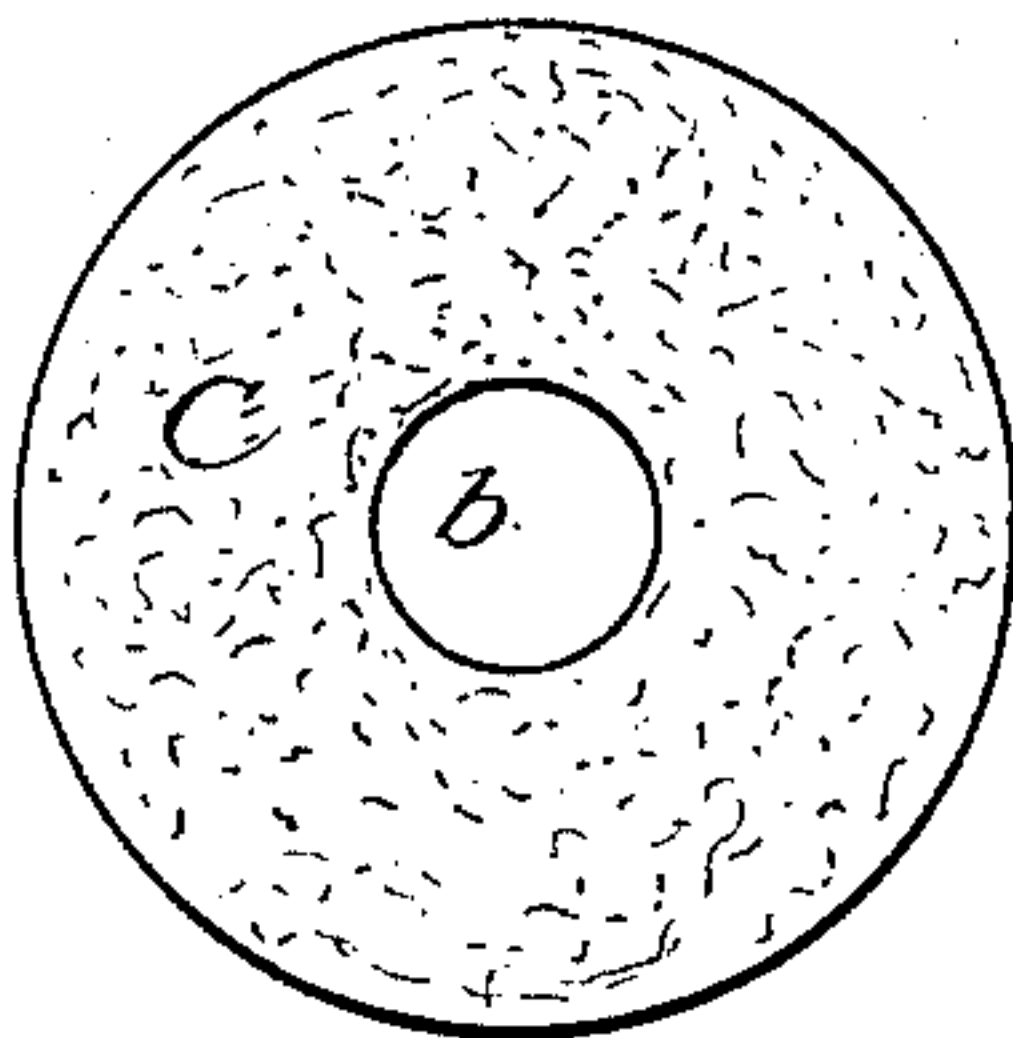


Fig. 4.

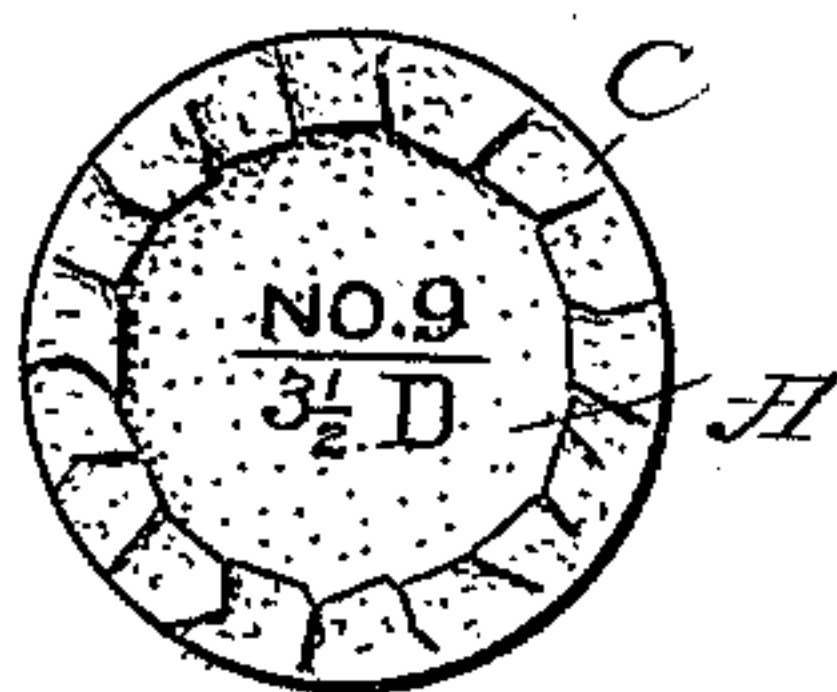


Fig. 5.



Attest:

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UNITED STATES PATENT OFFICE.

FRANK G. FARNHAM, OF WHITE MILLS, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND C. W. DEMAREST, OF SAME PLACE.

GUN-WAD.

SPECIFICATION forming part of Letters Patent No. 288,168, dated November 6, 1883.

Application filed February 23, 1883. (Model.)

To all whom it may concern:

Be it known that I, FRANK G. FARNHAM, of White Mills, in the county of Wayne and State of Pennsylvania, have invented a new and useful Improvement in Wads for Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description of the same.

In the use of shot-guns it is a well-known fact that to render the gun effective and the shooting accurate a wad must be used over both powder and shot, and that such wads must be of sufficient thickness to produce a "valve action" in the barrel by the spreading and crowding of the wad against the interior. When a paper cartridge-case is used, the shot-wad must have sufficient thickness or body to straighten out the crimp or crease which must be used in such cartridges, as otherwise the charge of shot will be deflected or broken up. While it is therefore necessary to use a wad of considerable thickness, the disadvantages of such wads in other ways are well known to sportsmen. The thick solid wad passing out of the gun ahead of the charge of shot must, to a certain extent, impair its shape and tend to scatter it. Such wads are frequently found at a distance of thirty yards from the muzzle of the gun, and actual tests have shown that the effectiveness and accuracy of the discharge are much impaired thereby. To remedy these disadvantages it has been proposed to pierce the wad with slots or holes, in order that the force of the discharge will tear it apart; but this method, besides interfering with the proper action of the wad, permits it, or, rather, causes it, to fly apart at the instant of discharge, before it leaves the gun, the pieces mixing with and impairing the pattern of the shot.

My invention relates to an improved shot-wad for muzzle or breech loaders, which shall not only be of sufficient thickness for effective action, but shall remain intact while in the gun, and separate and drop the instant it leaves the muzzle, so as in no wise to interfere with the shot.

My invention consists of a wad constructed of thin laminae of suitable material, held in contact by an inclosing-envelope, which readily permits the separate pieces to separate; further, in a wad made of thin circular paper

disks held in contact by a surrounding disk of tin-foil crimped over its edges; and, finally, in peculiarities of construction, fully hereinafter described and claimed.

In the drawings, Figure 1 is a view of a single thin disk. Fig. 2 shows several loose disks composing a single wad. Fig. 3 shows the tin-foil disk. Fig. 4 shows the complete wad. Fig. 5 is a view with the tin-foil broken away.

A A represent thin disks, preferably of paper, though felt, leather, or any suitable substance can be used. Several of these disks are placed loosely in contact, as shown in Fig. 2, forming a wad, B, of from three thirty-seconds to one-eighth of an inch in thickness. From six to ten laminae are used, the number depending upon the thickness of the material. Of card-board, very thin wood-pulp paper is preferable; but better results can be obtained from ordinary heavy wrapping-paper, as a greater number of thicknesses can be used, making the wad more elastic, and avoiding the danger of bulging the shell incident to the use of thick solid wads. Sportsmen are aware that an eleven-gage wad in a twelve-gage shell will give better results than a twelve-gage wad, and hence, if the larger wad can be used without the expansion or bulging of the shell, material advantages result. This is the case with my laminated elastic wad.

C represents a circular disk, which I prefer to make of tin-foil. It is of greater diameter than the disks A, and when cut is formed with a central orifice, b, of from a quarter of an inch to half an inch in diameter, according to the diameter of the wad. The wad B is placed centrally upon this disk, the overlapping edges of which are folded over and pressed down, so as to entirely surround the edges of the wad, and hold the separate disks which compose it firmly in place. It is only necessary that the tin-foil should slightly overlap the edges when pressed down, which leaves a circular blank space on which the charge can be marked, as shown. The paper and tin-foil disks can be made very rapidly by suitable cutters, and the complete wads as rapidly finished. The tin-foil, when pressed down into place, has no tendency to separate, and the wads will bear any amount of handling.

It is evident that when a shell or gun loaded with a wad thus constructed is fired, the wad will be forced along the barrel ahead of the shot until it reaches the muzzle. Up to this point the various laminae remain intact; but the shock of the discharge and friction on the interior of the barrel have broken up the thin tin-foil envelope, leaving the wad proper free to separate and fall to the ground. While experiments have shown that the disks fall to the ground within from ten to twenty feet from the muzzle, no trace is ever found of the tin-foil, showing its total disintegration at the muzzle of the gun.

The perforation *b* makes a tearing-point in the rear for the tin-foil, and though it is not necessary I prefer to use it.

I do not confine myself to any particular material for the envelope, though I consider tin-foil especially well adapted for the purpose,

as it does not foul the gun, and will neither corrode nor absorb moisture. It will also retain the shape given it in all changes of temperature.

What I claim is—

1. A wad composed of several thin disks held in contact by a surrounding envelope of flexible material—such as tin-foil—adapted to be destroyed by the discharge and permit the disks to separate.

2. A wad composed of several thin disks and an envelope of tin-foil.

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

FRANK G. FARNHAM.

Witnesses:

F. W. FARNHAM,

E. A. FARNHAM.