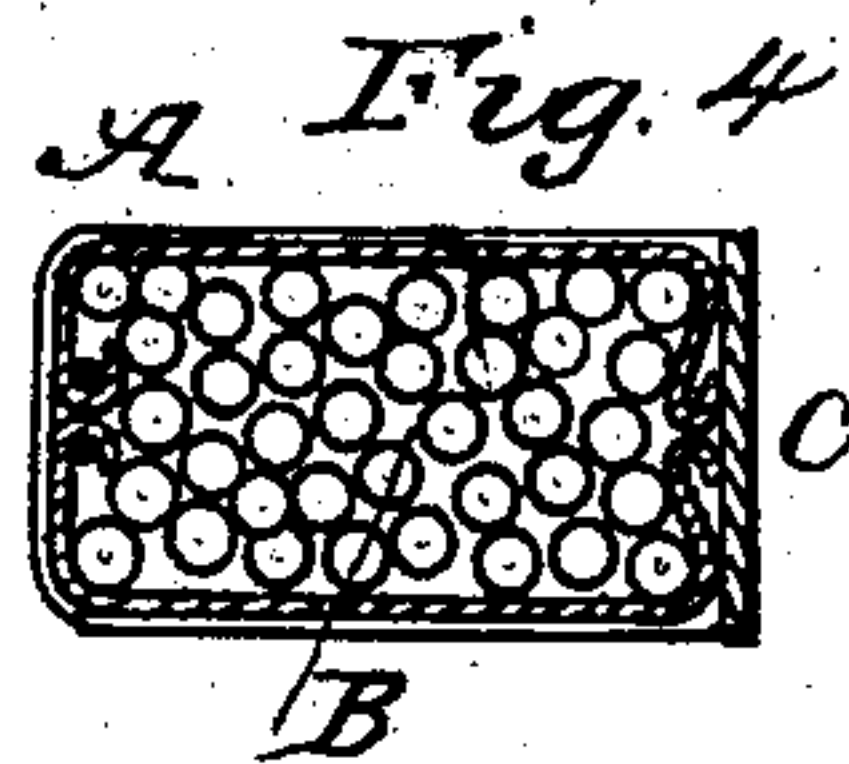
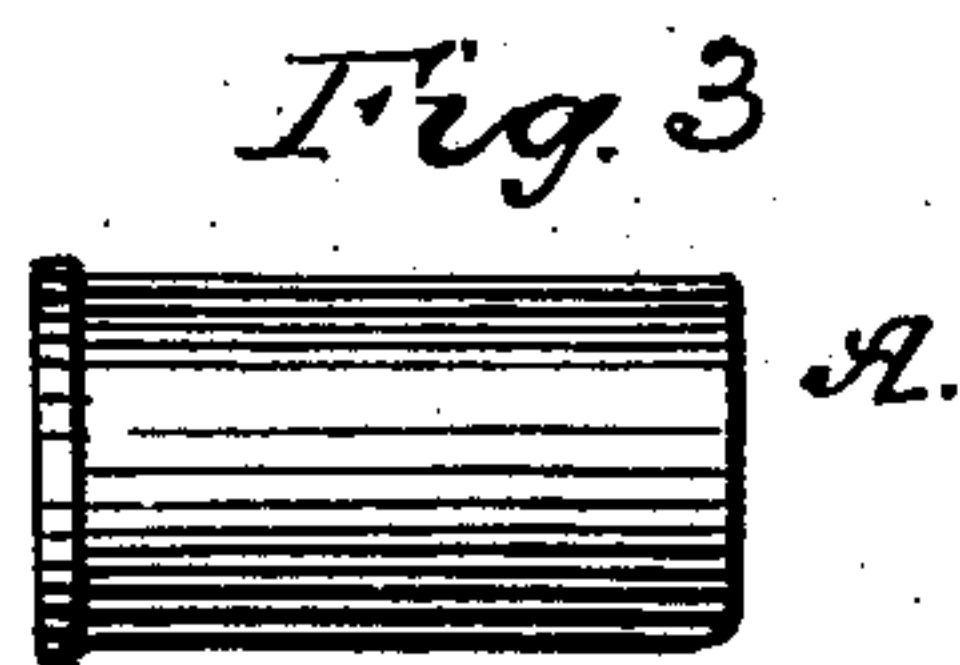
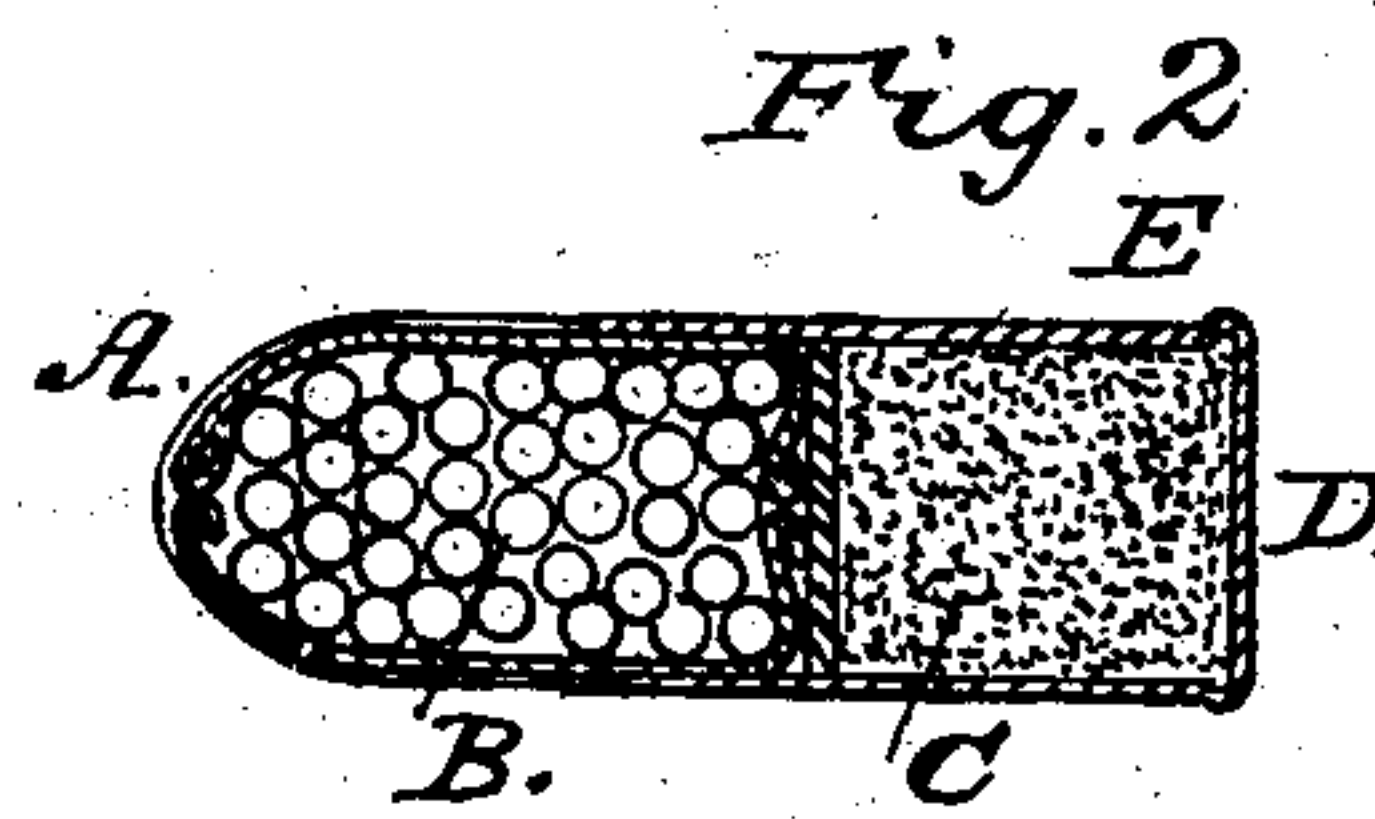
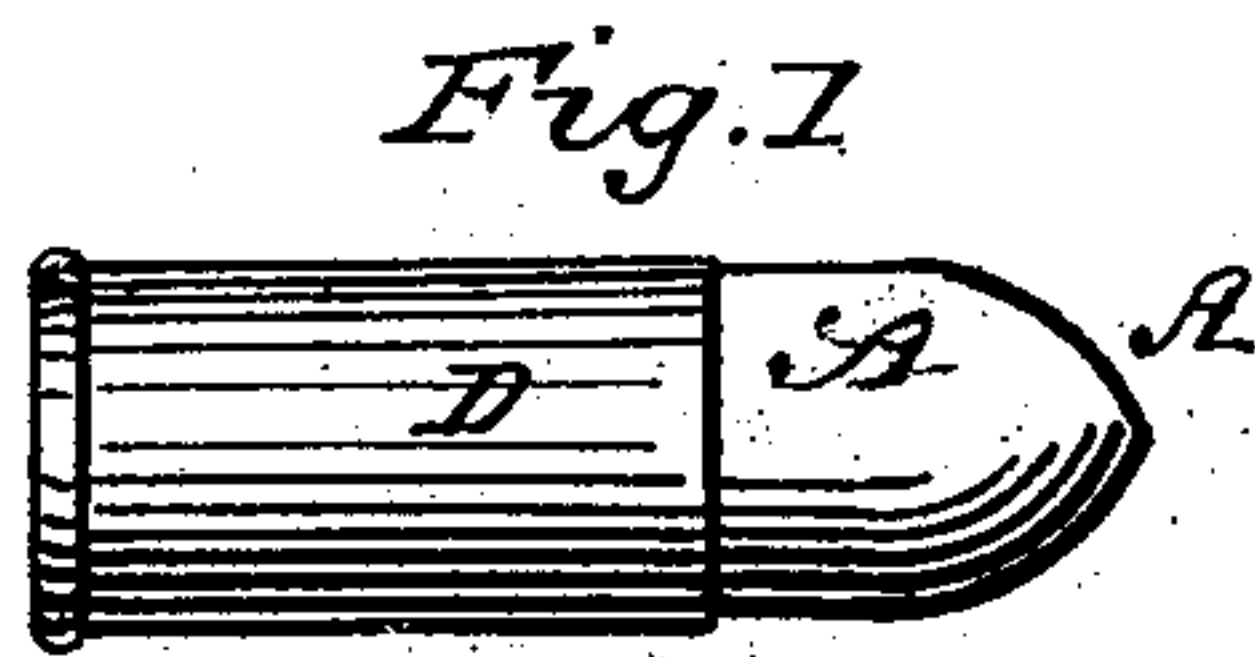


W. O. HOWARD.

Shot Cartridge.

No. 75,019.

Patented March 3, 1868.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM O. HOWARD, OF NEW YORK, N. Y.

IMPROVEMENT IN SHOT-CARTRIDGES.

Specification forming part of Letters Patent No. 75,019, dated March 3, 1868; antedated February 22, 1868.

To all whom it may concern:

Be it known that I, WILLIAM O. HOWARD, of New York, in the county of New York and State of New York, have invented a new and Improved Shot-Cartridge; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of my invention is to supply small shot for fire-arms, either muzzle or breech loading, in small packages or cartridges, each of which is sufficient for one charge, the said cartridges being so constructed that the shot shall, in the act of leaving the gun, remain well together until the force of the explosion ceases to act directly on their rear, then separating sufficiently for all purposes for which such shot are intended to be used, the friction of the shot on the sides of the gun and the leakage of gas being reduced to a minimum.

To accomplish this object, I incase the small shot in a fibrous elastic tube, knit, braided, or woven from suitable yarn or thread, the said tube being cut of suitable length, tied at one end, formed by the aid of adamantine, stearine, or other suitable fatty or oily substance, applied hot and allowed to cool in a mold or die, into which the tube is thrust on the end of a former, the shot then inserted and the rear end tied and formed in a similar die of suitable shape, with or without a wad at the rear end. For a muzzle-loading gun, this is all that it is necessary to do; but in the case of cartridges intended to be used in breech-loading fire-arms, the shot, prepared as above, are inserted, with sufficient powder and fulminate behind them, in a metallic cartridge-case, in a manner similar to that in which the bullet is inserted in an ordinary cartridge for a breech-loader.

In the accompanying drawings, Figure 1 is a side elevation of a cartridge made according to my plan for a breech-loader. Fig. 2 is an axial section of the same. Fig. 3 is a side elevation of a cartridge made according to my plan for a muzzle-loader. Fig. 4 is an axial section of the same.

A is a fibrous elastic covering, which is knit, braided, or woven with suitable yarn or thread, and of proper size, which should be a little less

than the diameter of the bore of the piece in which it is to be used. When braided or knit in the ordinary manner, this cover will possess sufficient elasticity to serve the purpose for which it is intended, but if woven, it will be necessary to make the tube biasing, in order to make it elastic enough. I prefer the braided or knit tubes, however, as it is not necessary, when they are used, to have a seam on the side. These tubes are cut into short pieces, each long enough for one cartridge, one end sewed or tied together, and the little bag thus formed is put on the end of a former, dipped into melted adamantine, or other suitable fatty or oily material, which is hard when cold, and then thrust into a die or mold, which gives the proper shape to the forward end of the cartridge. Shot for small game, of any desired size, up to buck-shot, are then filled into these cases, the rear end tied or sewed together, dipped into the melted fatty or oily substance, a wad, if desired, placed on the rear end, and the whole formed in a mold. After it is cool and hard, the necessary labels, wrappers, and coverings may be added to protect them in handling and transportation. B are the shot, and C is the wad. In Figs. 1 and 2, D is the metallic case, and E the powder. Very little strength is required in the fastening at the front end of the case A, as it is desirable that the said case should strip from the shot soon after the powder ceases to act on their rear. The case will thus hold the shot together and prevent too great scattering until they are well on their way, when they are allowed to separate sufficiently before reaching the object aimed at. By making the case A of fibrous elastic material, the cartridge will be cheap, will increase in diameter, or swell on firing, so as to fill the gun and prevent windage, and being covered with adamantine, or other similar substance, will slide through the bore with but little friction. The use of the substance known in commerce as adamantine has peculiar advantages, among which are, its hardness when cool, which permits of the cartridge being handled without breaking the coating, its property of becoming reduced to a fine greasy powder by the shock of firing, and its lubricating properties. It is consequently preferred in the manufac-

ture of these cartridges. The article above described as adamantine is that of which the candles sold under that name in the market are made.

The cartridge thus made, with or without powder and fulminate, I call a shot-cartridge.

I am aware that cartridges of small shot have been made by incorporating or mixing the shot with clay or other plastic material, and covering the cartridge made of the mixture with a coating of felted or matted fibers to prevent breakage; I am also aware that paper cylinders filled with small shot have been dipped into collodion, and a coating thereby made upon them, and that paper wads or disks have been introduced into or fixed

upon the ends thereof. These I do not claim, nor do they contain the essential features of my invention, as they are practically non-elastic for the purposes served by my covering, and are in themselves entirely wanting in lubricating material.

I claim as my invention—

The combination, with the fibrous elastic covering A and shot B, of a coating of adamantine, stearine, or equivalent substance, substantially as and for the purpose specified.

W. O. HOWARD.

Witnesses:

THOS. P. HOW,

H. JAMES WESTON.