

L. B. BRUEN.
Cartridge.

No. 37,491.

Patented Jan. 27, 1863

Fig 5

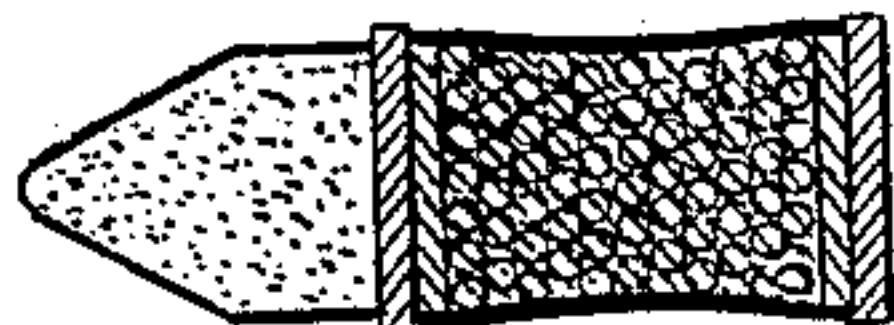


Fig 4



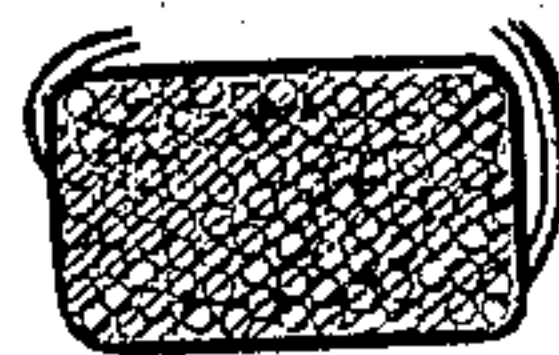
Fig 3



Fig 2



Fig 1



Louis B. Bruen
att'y

WITNESSES.

Wm H. Harrison,
James M. Allen

UNITED STATES PATENT OFFICE.

LEWIS B. BRUEN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SHOT-CART RIDGES.

Specification forming part of Letters Patent No. 37,491, dated January 27, 1863.

To all whom it may concern:

Be it known that I, LEWIS B. BRUEN, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in the Manufacture of Bird and Buck Shot Cartridges; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which the several figures represent, in illustration of my invention, both the ordinary shot-cartridge and my improved cartridge, also modifications and applications of the same.

The object of my invention is to render ordinary cartridges, made of paper, muslin, or other suitable fabric or material, and containing bird and buck shot, more compact and hard than those heretofore in use, without thereby rendering the envelope incombustible; and my invention consists in dipping the shot-case, after being filled with shot, into collodion, or its equivalent, and allowing the case or cartridge so dipped to dry in the air.

My invention is based on the discovery that when paper is dipped in collodion it will, while drying, powerfully contract, and remain so contracted when dry, and at the same time acquire a hard, smooth, or glazed surface, with increased combustibility.

To carry this my invention into effect I proceed as follows: I prepare the shot-case of paper, muslin, or other strong and suitable fabric, in the same manner as heretofore practiced—i. e., I form it into a cylinder by wrapping it one or more times around a stick or form for that purpose made. The overlapping edge is then pasted down with some adhesive substance, preferably the ordinary glue. To preserve the cylindrical form of the shot case I use a wad, which may be made either of felt, pasteboard, leather, or other convenient and suitable material, and insert it in the case at one of its ends, previous to its being filled with shot.

The shot is then poured into the case, and another wad is put on top of it to close it. The paper of the case (if paper be used) is then trimmed flush with the wads. The cartridge thus made is dipped into the collodion, whose requisite semi-fluid condition ought to be maintained throughout the whole operation. The cases are then allowed to dry in a room at the ordinary temperature.

The effect of the collodion on the paper will be that of powerful contraction, and the shot in the case will thereby be so tightly packed

as to form a mass nearly compact. In order successfully to produce hardness of the case, I deem it important to use, before dipping, at the two ends of the case, wads, as before described. By this means the cylinder will be constrained with uniformity, both transversely and longitudinally, to contract.

If the wads within the cartridge-case be also contracted by the action of the collodion, I use outside wads of a size to suit the caliber of the gun the cartridge is to be used in.

These wads are attached to the outside of the shot-case by some cementing substance; but if dipped together with the cartridge-case, I make them either of some material less yielding to contraction or of a larger size to compensate therefor.

If it be desirable that the shot-case should be of a smaller diameter than the bore of the gun or the diameter of the wads, I apply to the filled cartridge-cases wads of a larger diameter.

In Figure 1 of the accompanying drawing I have shown a shot-cartridge of the usual construction. Fig. 2 is a representation of a cartridge made in accordance with my invention. In Fig. 3 I have shown a bird and buck shot case provided with outside wads of a diameter larger than that of the case. Figs. 4 and 5 are sectional views of shot-cartridges, with a compacted or pressed powder-charge, made in accordance with Doremus & Budd's patent of March 18, 1862, attached.

My improved cartridges, on account of their hardness, are less liable to injury in transportation, and the compactness of the charge allows them to be fired with much greater precision and range than any other shot-cartridges heretofore in use.

Having thus fully described my invention and the manner in which the same is or may be carried into effect, I shall state my claims as follows:

1. The method herein described of forming bird and buck shot cartridges by dipping cases filled with shot in collodion, in the manner and for the purposes herein set forth.

2. In combination with the above, the use of wads made in the manner and for the purpose set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

Witnesses: LEWIS B. BRUEN.
A. POLLOK,
WM. H. HARRISON.