

(No Model.)

J. H. BROWN.

CARTRIDGE.

No. 389,496.

Patented Sept. 11, 1888.

Fig. 1

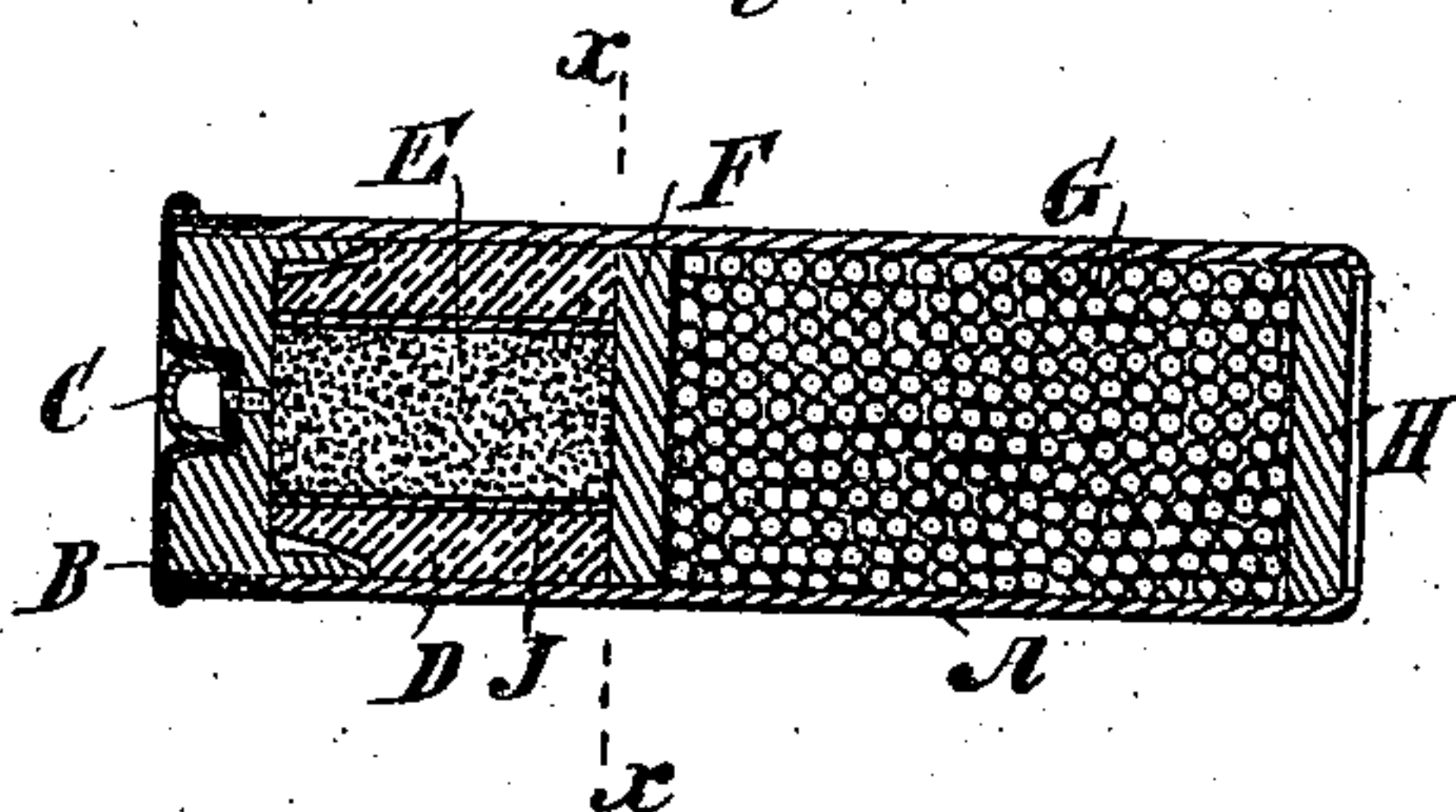


Fig. 2

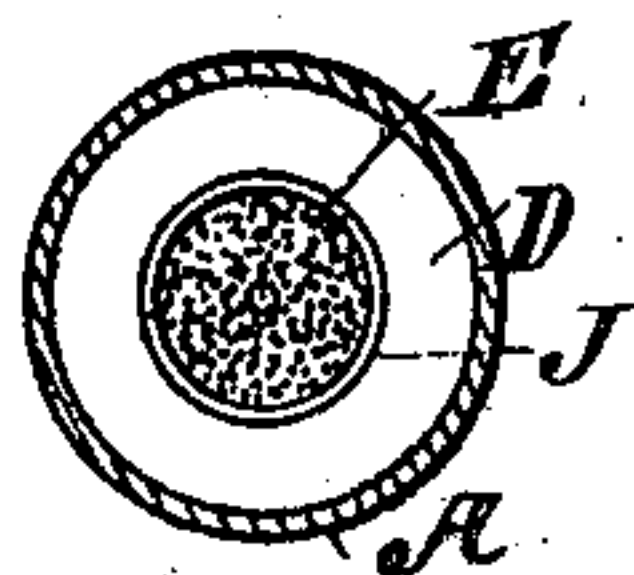


Fig. 3

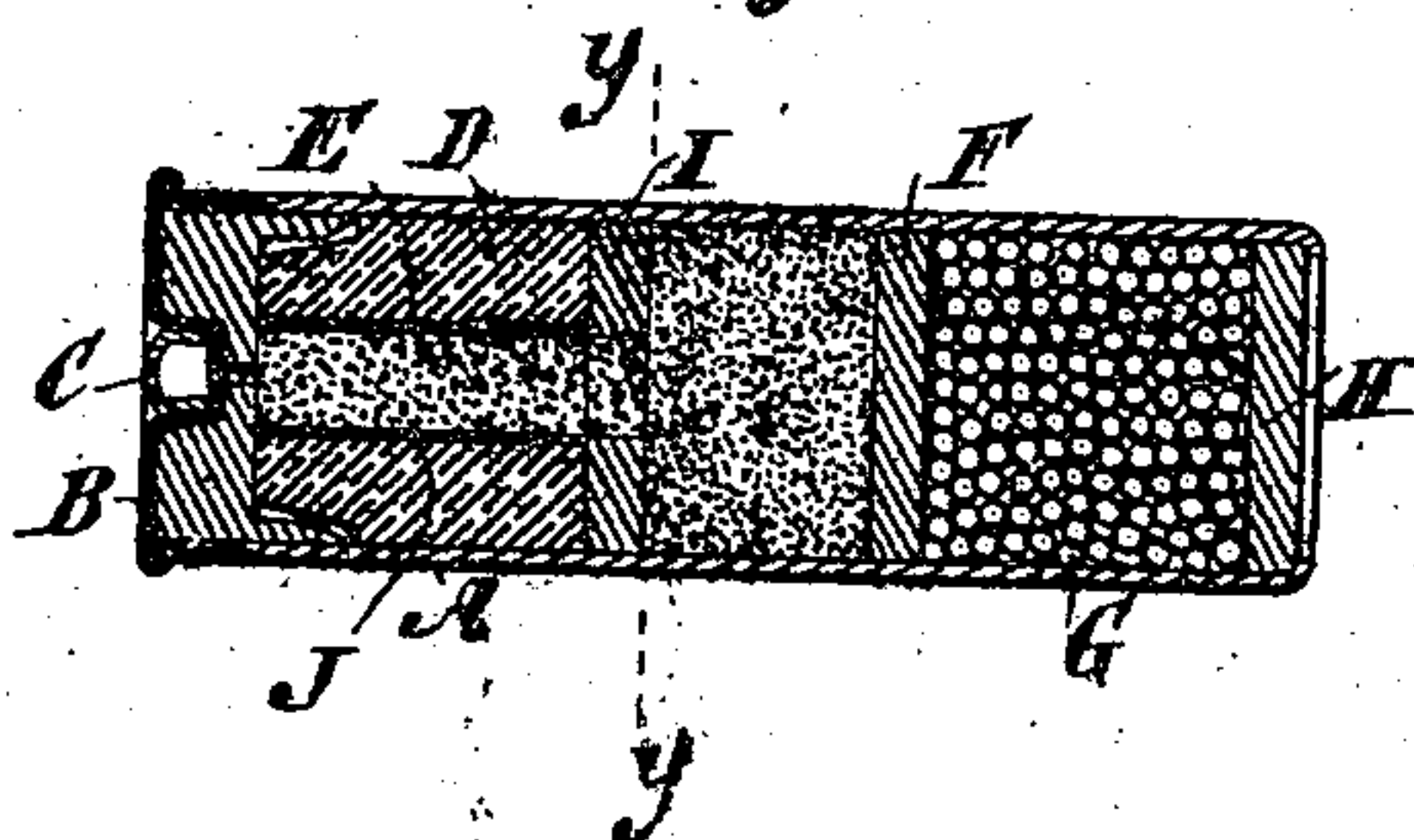
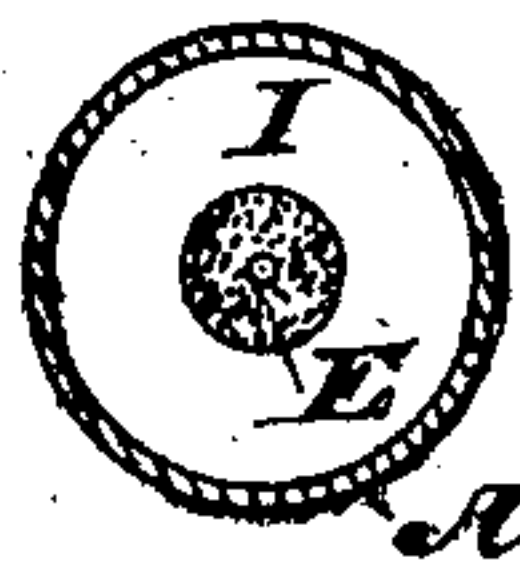


Fig. 4



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 389,496, dated September 11, 1888.

Application filed May 16, 1888. Serial No. 274,083. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. BROWN, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Cartridges, of which the following is a specification.

I will describe a cartridge embodying my improvement, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a central longitudinal section of a cartridge embodying my improvement. Fig. 2 is a transverse section of the same, taken at the plane of the dotted line *x x*, Fig. 1. Fig. 3 is a central longitudinal section of another cartridge embodying my improvement and illustrating a modified form of the improvement. Fig. 4 is a transverse section taken at the plane of the dotted line *y y*, Fig. 3.

Similar letters of reference designate corresponding parts in all the figures.

A designates the shell of the cartridge. It may be made of paper or any other suitable material. The rear end is closed by a metallic shell, B, in which a cap, C, is shown as fitted. The shell may be of the ordinary or any suitable construction.

D designates compressed powder.

E designates loose powder.

The compressed powder, preferably, amounts to about two-thirds of the charge in the example of the improvement illustrated by Figs. 1 and 2. The compressed powder is in the form of a hollow cylinder or ring whose exterior fits snugly within the interior of the shell A and in the rear end of the shell. The loose powder, E, in this example of the improvement, fills the space within the hollow cylinder or ring of compressed powder. In this example of the improvement shown in Figs. 1 and 2 a wad, F, is arranged across the forward end of the compressed powder and the loose powder forming the charge. Beyond this wad I have shown a number of shot, G, arranged. Beyond the shot a wad, H, is shown. The forward end of the shell is represented as crimped or turned inwardly to secure the wad H in place.

In the other example of the improvement (shown in Figs. 3 and 4) it will be seen that the loose powder not only fills the space within the hollow cylinder or ring of compressed powder, but also fills some of the space in the shell

A of the cartridge beyond the forward end of the hollow cylinder or ring of compressed powder. Just in advance of the forward end of the hollow cylinder or ring of compressed powder is a wad, I. This wad has a central perforation or opening, which may advantageously be about the size of the interior of the hollow cylinder or ring of compressed powder. The loose powder extends through this wad and in advance of the wad, as well as in advance of the compressed powder. Forward of the loose powder is a wad, F. Beyond the wad F, I have shown shot, G, arranged. Forward of the shot I have shown a wad, H. The extreme forward end of the cartridge-shell is shown as bent or crimped inwardly to secure this wad H in place. Preferably a thin shell, J, will be inserted between the inner surface of the hollow cylinder or ring of compressed powder and the loose powder. This shell may be made of paper, or a thin film or shell of shellac applied to the inner surface of the hollow cylinder or ring of compressed powder may be used.

By means of my improvement a better combustion of the charge of powder will be secured, and the recoil from the discharge of the powder will be lighter, owing to the fact that the powder will be consumed more gradually, because the loose powder will be burned first and the compressed powder will not be consumed until later. Moreover, the penetration effected by the discharge of the powder will be at least as great, if not greater, than when the powder is used in the ordinary manner.

I have only shown the cartridge as supplied with shot; but I do not wish to restrict my improvement to such a cartridge.

The compressed powder may be compressed before being inserted in the shell of the cartridge or while in the shell. In the latter case it will be necessary to sustain the shell by means of an outer die or holder during the act of compressing the powder.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a cartridge, the combination of a shell, a cylindrical block of compressed powder adapted to fit and slide within the base of the shell, a core of uncompressed powder within the said block of compressed powder, and a projectile-chamber seated within the shell in



front of the explosive section of the charge, substantially as set forth.

2. In a cartridge, the combination of a shell, a cylinder or ring of compressed powder at the  
5 base of the shell, loose powder within and in front of the cylinder or ring of compressed powder, and a projectile-chamber in front of the powder charge, substantially as set forth.

3. A cartridge having a charge of powder,  
10 consisting, partly, of a hollow cylinder or ring of compressed powder, uncompressed powder

within said hollow cylinder or ring, a wad arranged forward of the hollow cylinder or ring of compressed powder and having an opening coinciding with the interior of such hollow  
15 cylinder or ring, and uncompressed powder forward of said wad, substantially as specified.

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Witnesses:

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