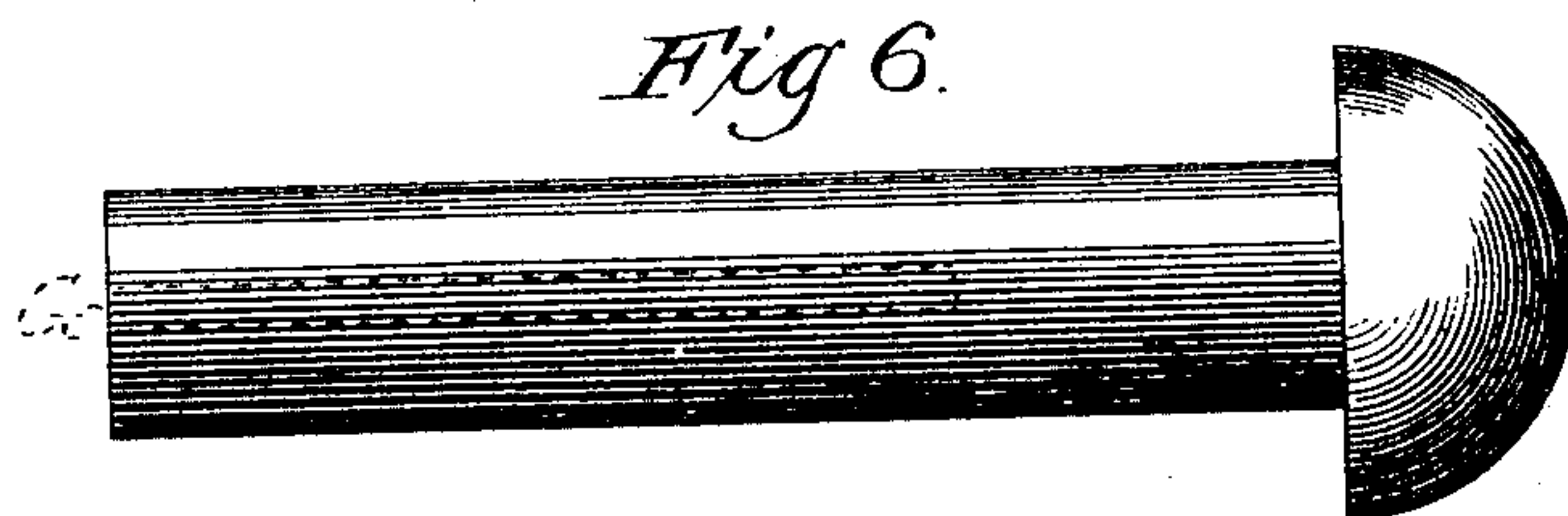
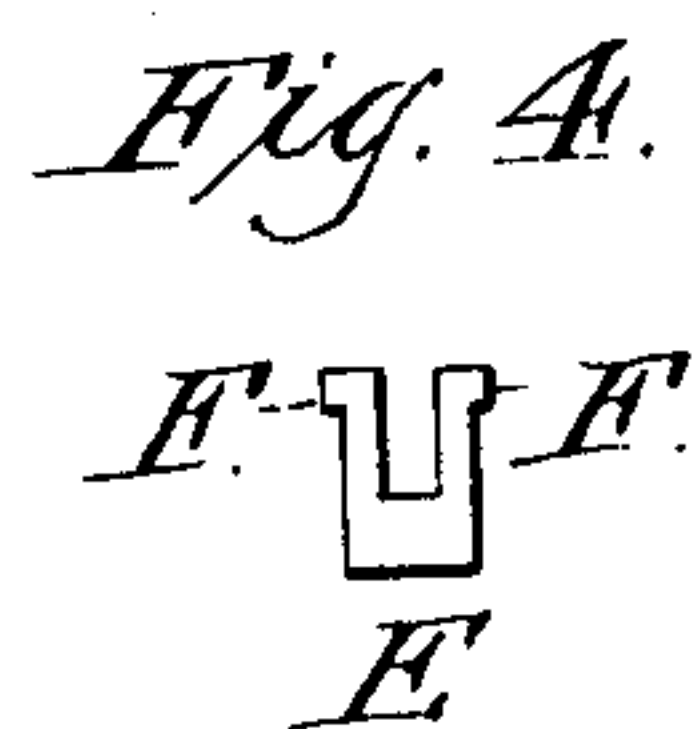
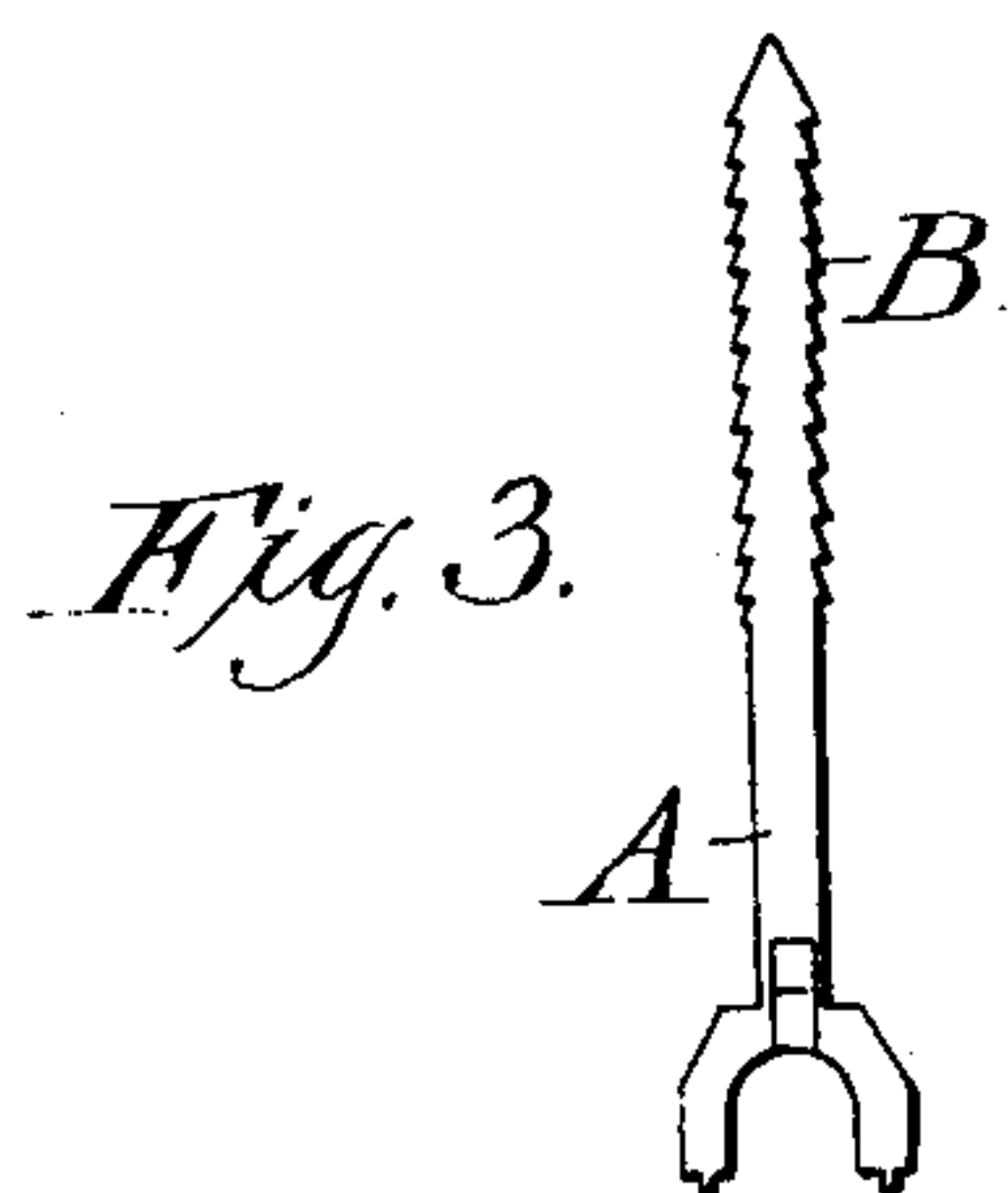
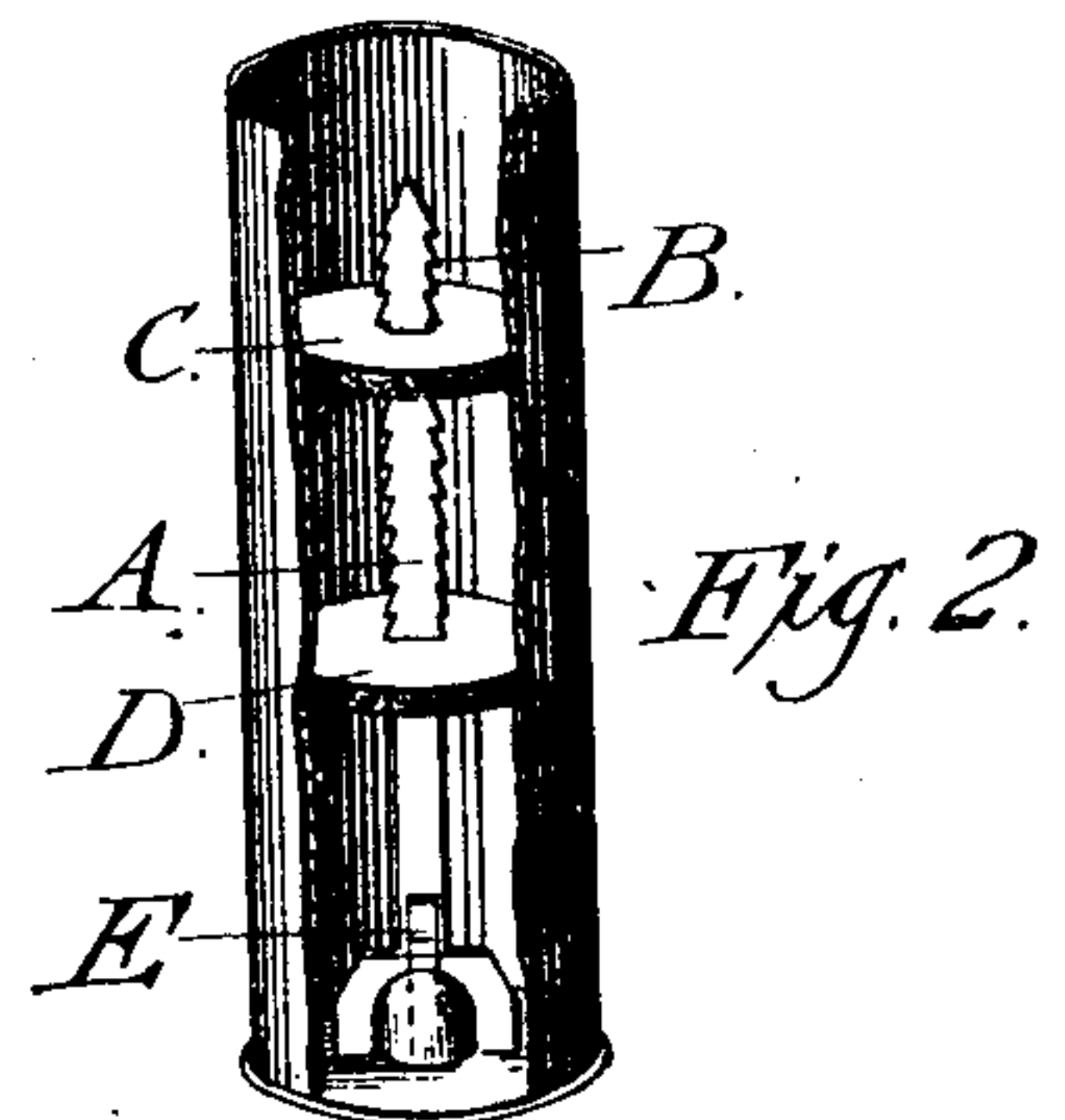
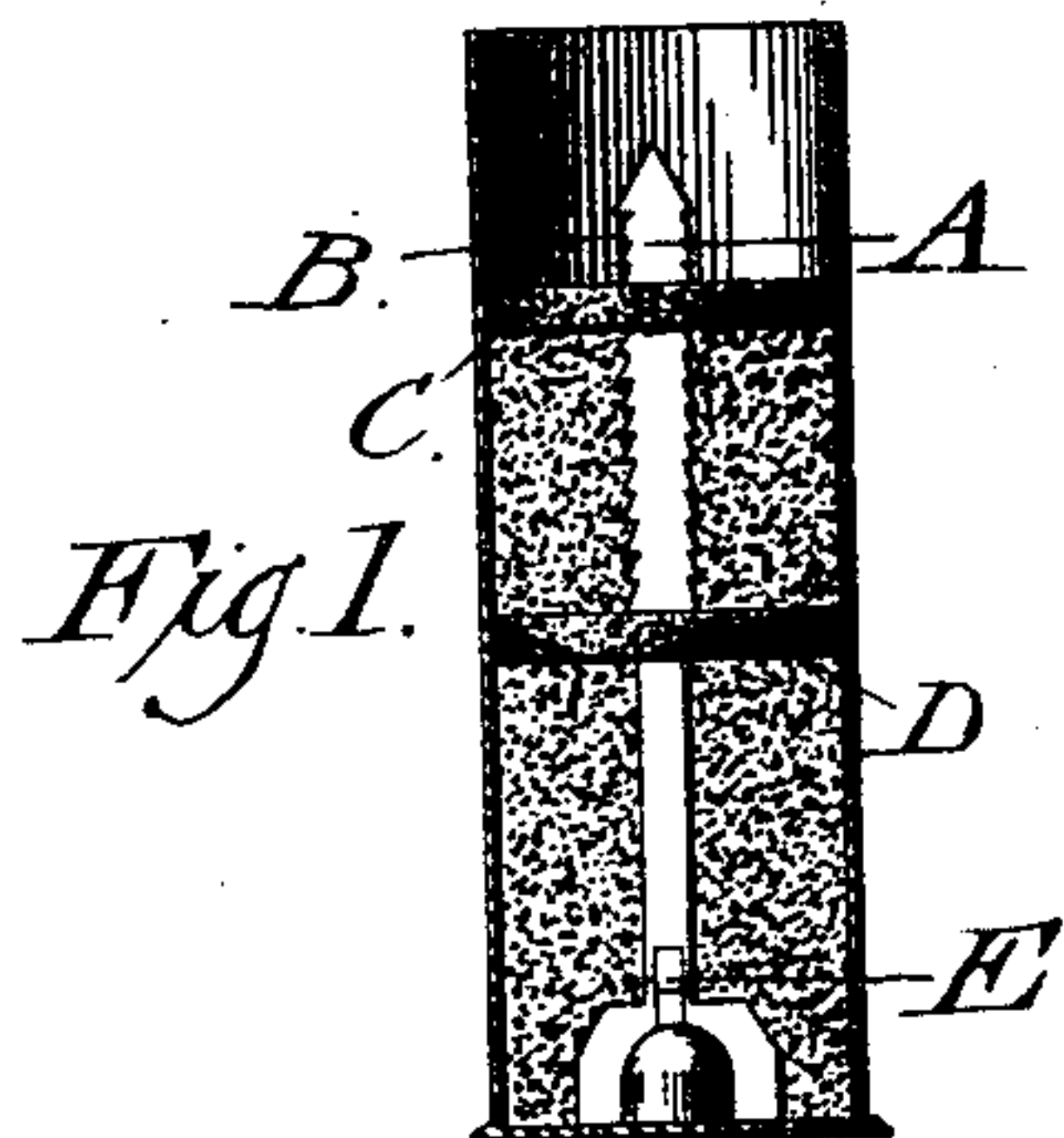


(No Model.)

L. G. KNOWLES  
CARTRIDGE.

No. 283,898.

Patented Aug. 28, 1883.



Witnesses;  
H. G. Knowles  
Robert D. Green

Inventor;  
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# UNITED STATES PATENT OFFICE.

LEWIS GARDNER KNOWLES, OF NEW YORK, N. Y.

## CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 283,898, dated August 28, 1883.

Application filed June 12, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS GARDNER KNOWLES, of New York city, in the county of New York and State of New York, have  
5 invented a new and useful Improvement in Shells for Breech-Loading Shotguns, of which the following is a specification.

The invention relates to a device for the retention of wads in shotgun-shells, and facility  
10 of uncapping and recapping the same.

Heretofore in metal shells wads two and three sizes larger than the caliber of the gun have been used. A metal shell provided with friction-points on inside by puncturing the  
15 shell, and another made very thin toward the mouth, admitting of fluting with a specially-devised tool, have been used to retain the wad upon the shot, and paper shells have been made to retain the wads by folding, creasing,  
20 fluting, and compressing with various devised tools. The first method is objectionable because the larger wads, cupping in the barrel of the gun, produce recoil and undue scattering of the charge. The second method is  
25 objectionable because it does not certainly secure the wad, and from each discharge of the gun becomes more inefficient, rendering the shell valueless after little use. The third method is objectionable because requiring an  
30 after operation with a specially-devised tool, and the repeated creasing or corrugation of the metal renders the shell worthless after short service. The several methods employed with paper shells are objectionable because  
35 they all cause undue resistance to the wad, thereby producing recoil and scattering of the charge, requiring an after operation with specially-devised tools and the destruction of the form and stiffness of the shells, rendering them  
40 unfit for reloading.

The object of my invention is to provide a device for holding wads upon the charge of shot in metal or paper shells for shotguns, thus resisting the impacting force of the  
45 charge while carrying same in the belt or otherwise, or from the shock of the discharge of one barrel of a double gun, and the use of a thin wad of same caliber preventing recoil and scattering, thereby insuring greater effectiveness of aim, rendering the shell durable, capable of reloading, and requiring no

after operation with specially-devised tools, and in connection therewith an effective method of uncapping and recapping the shell.

The invention consists in a needle attached  
55 to the base of the shell, extending to near the mouth, and occupying the central space of the same, provided with barbed, serrated, or equivalent frictional surface from the point as far as the varying charge may require; in  
60 connection therewith an anvil, with a slot straddling the base of the needle, with armed points to prevent detaching, constructed to move freely outward for uncapping and to rest solidly upon the base of the needle when  
65 capped, and a rammer with a hole in the center for the needle to enter while pushing home wads or uncapping the shells.

The operation of the device is as follows: In reloading the shell the old cap is removed by  
70 pressing upon the arms F of the anvil E with the rammer G, which pushes the anvil E out of the shell as far as the arms F will allow, thus disengaging the old cap, a new cap being placed upon the anvil and pressed home. Up  
75 on the powder now placed in the shell the wad D is pressed home firmly with the rammer, the needle passing in the hole G in the rammer and through the center of the wad D, followed by the charge of shot, upon which is  
80 pressed the wad C, the needle A passing through and holding securely with its serrated edges B the same.

What I claim is—

1. In a cartridge-shell, and in combination  
85 therewith, the metallic needle A, having serrated edges B attached to the base of the shell, extending longitudinally within said shell, and adapted to secure the wad C in position, substantially as shown, and for the purpose set  
90 forth.

2. In a cartridge-shell, and in combination therewith, the needle A and the slotted anvil E, straddling the base of said needle, and having the arms F, whereby the percussion-cap  
95 may be ejected from the shell while the anvil is retained therein, all substantially as described.

LEWIS GARDNER KNOWLES.

Witnesses:

HUGH ALEXANDER KNOWLES,  
ROBERT D. GREEN.