

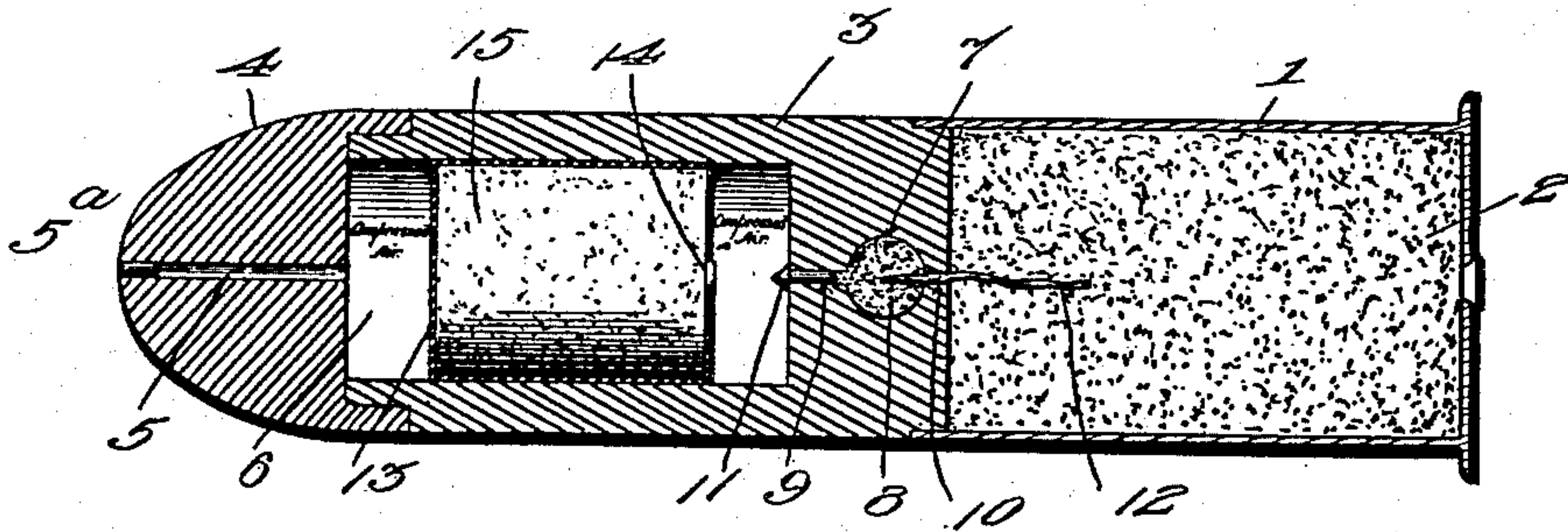
No. 672,514.

Patented Apr. 23, 1901.

W. M. RYAN.  
CARTRIDGE.

(Application filed July 28, 1900.)

(No Model.)



William M. Ryan, <sup>Inventor</sup>

Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM MILTON RYAN, OF BENSON, NEBRASKA.

## CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 672,514, dated April 23, 1901.

Application filed July 28, 1900. Serial No. 25,199. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM MILTON RYAN, a citizen of the United States, residing at Benson, in the county of Douglas and State of Nebraska, have invented new and useful Improvements in Cartridges, of which the following is a specification.

This invention relates to new and useful improvements in cartridges; and its primary object is to provide a device of this character the ball of which is adapted to explode after the same is discharged from the bore of a rifle.

A further object is to provide means of novel construction whereby the premature discharge of the explosive within the ball is prevented.

Another object is to provide peculiar means for discharging the explosive within the ball.

To these ends the invention consists in providing a cartridge-shell of ordinary construction which is provided with a suitable explosive and from which projects a ball having a compartment therein within which is slidably mounted a receptacle containing a suitable explosive, as dynamite. This receptacle is provided with a cap, and a pin is mounted within the wall of the compartment adjacent to the cap and is adapted to be projected by a second charge of explosive material, which is placed within the wall of the ball and is ignited by a fuse extending from the interior of the cartridge-shell. A cushion, preferably of compressed air, is formed at each end of the sliding receptacle of the cartridge-ball to prevent the premature explosion of the material when the ball is discharged or when the same comes into contact with an obstruction.

The invention also consists in the further novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawing, which is a longitudinal section through the preferred form of my invention.

Referring to said drawing by numerals of reference, 1 is a cartridge filled with suitable explosive material 2. Projecting from this shell is a ball 3, which may be of any preferred form and which is provided with a cap 4, having a passage 5 therein, whereby air may be admitted to a compartment 6, formed within the ball. This passage may be closed in any

desired manner, as by means of a plug 5<sup>a</sup>. A small receptacle 7 is formed within the rear end of the ball and is also adapted to be filled with a suitable explosive material, as 8. This receptacle communicates with the compartment 6 and with the interior of the shell 1 by means of passages 9 and 10, as shown. Fitted within the passage 9 is a spear-shaped pin 11, the point of which projects into the compartment 6. A fuse, as 12, extends from the passage 10 and into the explosive material within the cartridge-shell 1.

Slidably mounted within the compartment 6 is a receptacle 13, which is formed of any desired material and which contains a suitable explosive material. A cap 14 is provided on the end of the receptacle 13 in alignment with the head of the pin 11. The receptacle 13 is preferably formed of rubber, which is wrapped around the explosive material 15 or secured thereto in any other suitable manner. This casing will, as is obvious, prevent the passage of air from one end of the compartment to the other.

After the shell 1 and the compartment 7 have been filled with explosive material and the fuse 12 and the pin 11 placed in position the receptacle 13 is placed in position within the compartment 6, compressing the air between it and the end of said compartment. The cap 14 is then placed in position, and air is forced through the passage 5 and compressed within the compartment 6. Said passage is then closed, and the device is in condition for use.

It will be seen that when the projectile is discharged by the explosion of the material 2 the air which is located between the rear end of the ball and the end of the receptacle 13 will form a cushion to prevent undue jarring of the explosive material. At the same time the fuse 12 will be ignited and will convey sparks to the material within the receptacle 7, igniting the same and firing the pin 11 forward into contact with the cap 14. This will, as is obvious, explode the contents of the receptacle 13 and shatter the ball.

In the event of the ball contacting with an obstruction prior to the explosion of the contents of the receptacle 13 it is obvious that the cushion in front of said receptacle will prevent the premature explosion thereof.



In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with an explosive-containing shell, of a hollow projectile having a compartment therein, a sliding receptacle within the compartment having a cushion at each end, containing an explosive charge, a priming-receptacle within the end of the projectile and communicating with the interior of the shell and with the compartment, and a firing-pin between said receptacle and the compartment.

2. The combination with an explosive-containing shell, of a projectile having a compartment therein, a priming-receptacle within the end of the projectile communicating with the interior of the shell and with the compartment, an explosive-containing receptacle

slidably mounted within the compartment and having a cushion at each end, a firing-pin between the compartment and the receptacle in the projectile, and a fuse extending from said receptacle into the shell.

3. The combination with an explosive-containing shell, of a projectile having a compartment therein and a passage extending from said compartment to the outer surface, a priming-receptacle within the end of the projectile communicating with the compartment and with the interior of the shell, a firing-pin between the receptacle and the compartment, a fuse extending from said receptacle into the shell, a sliding explosive-containing receptacle within the compartment of the projectile and having a cushion at each end thereof, a cap thereto in alinement with the pin and means for closing the passage from the compartment.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM MILTON RYAN.

Witnesses:

ARTHUR H. MERMAN,  
NETTIE R. MERMAN.