No. 686,375. Patented Nov. 12, 1901.

M. J. WHEELER.

SUBCALIBER CARTRIDGE.

(Application filed Jan. 15, 1901.)

(No Model.)

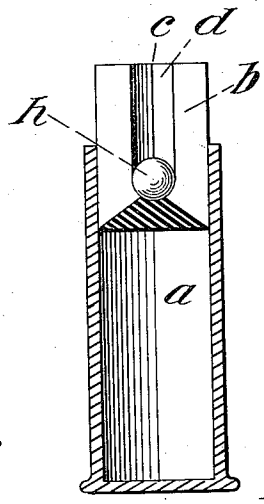

Fig I,

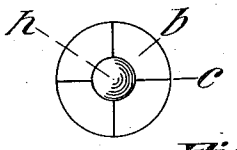

Fig III,

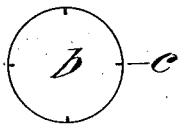

Fig IV,

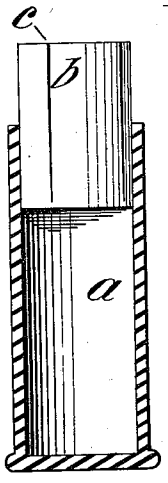

Fig II,

Witnesses,
Christopher Clarke
H. L. Williams

Inventor;
Morris J. Wheeler
by his attorney
R. F. Hyde

UNITED STATES PATENT OFFICE.

MORRIS J. WHEELER, OF WESTFIELD, MASSACHUSETTS.

SUBCALIBER CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 686,375, dated November 12, 1901.

Application filed January 15, 1901. Serial No. 43,314. (No model.)

To all whom it may concern:

Be it known that I, MORRIS J. WHEELER, a citizen of the United States, and a resident of Westfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Subcaliber Cartridges for Small-Arms, of which the following is a specification.

My improvements relate to that class of subcaliber projectile for rifle small-arms in which the projectile is inclosed and held by a sabot or jacket of wood or other soft material adapted to transmit a rotation to the projectile and to itself be exploded or dissipated at the muzzle of the piece; and the object of my improvements is the provision of a sabot which in fulfilling the above-named conditions will insure greater accuracy to the flight of the projectile and greater uniformity in the results from the use of the ammunition.

My invention consists in the construction as hereinafter described and more fully pointed out in the claims, and the invention is fully illustrated in the accompanying drawings, in which—

Figure I is a vertical central section of a cartridge-shell seating a sabot containing a subcaliber ball, the sabot being also shown in a central vertical section. Fig. II is a vertical central section of a shell, showing a sabot in elevation. Fig. III is a top plan view of the sabot. Fig. IV is a bottom plan view of the same.

Referring to the drawings, *b* (preferably formed of wood and of the general shape of a cylinder with flat ends and of several diameters in length) is the sabot, seated in the shell *a*, as its own proper bullet would be—that is, to project therefrom to have its flat end come in proximity to the rifling when the shell was seated in the gun-chamber—and the sabot is of the diameter of the bullet whose place it takes, so as to take the rifling of a barrel in passing through it.

The sabot *b*, as shown, is a flat-ended cylinder, preferably of wood, and is hollow for the major portion of its length, having a central cylindrical bore *d*; but the sabot has a solid base, as shown in section, Fig. I. The body of the cylinder is divided, as shown at *c*, on radial lines from the front end to about the bottom of the cylindrical bore. Four cuts are shown, but the number is not essential.

The projectile *h*, preferably a round bullet or shot, is entirely inclosed in the sabot *b*, the open end of said sabot extending some little distance in front of the projectile. The effect of the cuts *c*, made entirely through the walls of the sabot, is to permit the biting in of the cylindrical sabot sufficiently to grasp the projectile firmly. When the cartridge is fired in a gun, the sabot and projectile move together along the bore of the gun in the same manner that a bullet usually does; but when the sabot and projectile leave the muzzle the atmospheric resistance is so great as to split the sabot and throw it off from the projectile, leaving the latter to fly alone. The sabot should fit the bore of a rifle so as to acquire rotary motion therein, which motion it will impart to the projectile before leaving the muzzle and dropping off from the projectile.

I am aware that Milbank, in a patent dated May 30, 1871, describes a sabot composed of wood and which might have external incisions; but as such sabot did not have a solid base it obviously could not have incisions extending through its outer walls or the sabot would fall from the projectile. I have, however, discovered that a sabot without a solid base is defective for the purpose. I am also aware that a patent to Hubbell, dated April 23, 1872, describes a sabot or "carrier" of paper-pulp, with a solid base and with side walls which inclose the sides of a bullet, but do not extend to the point thereof. I do not claim such a device.

The function of a sabot is correctly described in the above-mentioned patent to Hubbell. It is to grasp and hold a projectile without distorting the form thereof, so that the projectile proper may leave the gun unmarred by the action of the lands and grooves of the rifling. A patch for a projectile differs from a sabot in that the patch is compressed by the lands of the gun into the soft body of the projectile, so that the projectile is roughened and offers a greater and rougher

surface to the resistance of the air in its flight. A sabot possesses considerable rigidity. A patch is always thin and flexible.

What I claim is—

1. In combination with a bullet, a sabot inclosing said bullet and having a solid base, and side walls extending in front of the nose of the bullet, substantially as described.

2. In combination with a bullet, a sabot inclosing said bullet, and having a solid base, the side walls of said sabot being slitted through their thickness, from the front of the sabot to the solid base, substantially as described.

3. In combination with a bullet, a wooden sabot having a central bore, solid base, and side walls slitted entirely through their thickness, and a cartridge-shell inclosing the base of said sabot.

4. In combination with an inclosed bullet, a wooden sabot having a central bore in which the projectile is inclosed, said sabot having side walls extending in front of the projectile, the side walls being slitted, and having a solid closed base behind the projectile, substantially as described.

MORRIS J. WHEELER.

Witnesses:
R. F. HYDE,
H. S. CULLUMNS.