No. 680,549. Patented Aug. 13, 1901.

T. C. SMITH.

MUSHROOM BULLET.

(Application filed May 15, 1901.)

(No Model.)

Fig. 1.

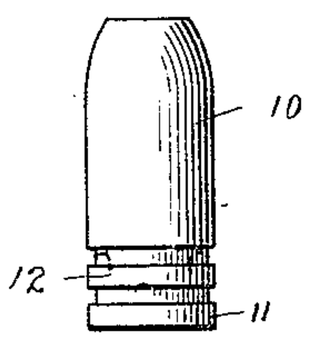

Fig. 2.

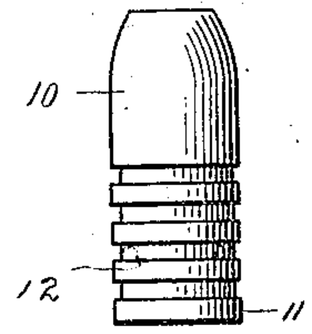

Fig. 3.

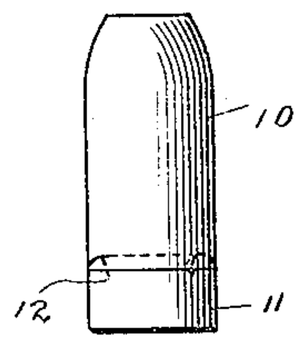

Fig. 4.

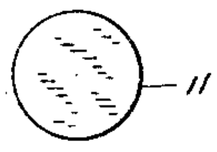

Fig. 5.

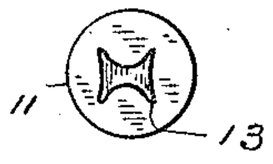

Fig. 6.

WITNESSES.

H. A. Lamb.

S. H. Atherton.

INVENTOR.

Thomas C. Smith

By A. M. Wooster

Atty.

UNITED STATES PATENT OFFICE.

THOMAS C. SMITH, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE UNION METALLIC CARTRIDGE COMPANY, OF SAME PLACE.

MUSHROOM-BULLET.

SPECIFICATION forming part of Letters Patent No. 680,549, dated August 13, 1901.

Application filed May 15, 1901. Serial No. 60,302. (No model.)

To all whom it may concern:

Be it known that I, THOMAS C. SMITH, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented a new and useful Mushroom-Bullet, of which the following is a specification.

My invention relates to the class of bullets known as "mushroom-bullets"—that is, bullets which when they meet with resistance after firing will mushroom or flatten out, the shape which the bullet will assume upon striking being uncertain and depending greatly upon the quality of the resistance, but the bullet after mushrooming being always an irregular jagged mass. The object in using this class of bullets is to produce a large and lacerated wound, accompanied by great shock, the bullet having less penetrative power than a full-covered or jacketed bullet, which will penetrate or perforate, but without making a lacerated wound. Mushroom-bullets are used extensively in hunting large game—as, for instance, lions, tigers, and elephants—where it is desirable to produce the greatest shock possible, so as to disable the animal instantly, and also in hunting small game—as, for instance, rabbits—where it is necessary to use guns of small caliber, but desirable to produce such a severe shock that a wounded animal cannot escape. As an illustration of this type of bullet reference is made to my former patent, No. 549,334, dated November 5, 1895, and as an illustration of a full-covered bullet reference is made to patent to W. M. Thomas, No. 437,262, dated September 30, 1890. It is of course well understood by those familiar with the art of gunnery that the combustion of high-grade explosives, in addition to developing enormous pressure, generates intense heat—a heat so great, in fact, as to partially melt ordinary lead slugs or bullets, the effect being to foul the gun-barrel to such an extent as to quickly fill the grooves, thereby lessening the range and preventing accuracy of results.

My present invention has for its object to provide a bullet combining the properties both of a mushroom-bullet and a full-covered bullet—that is, a bullet which when it strikes an object will mushroom or flatten out, thereby producing a lacerated wound, accompanied by great shock, and also having the advantages of full-covered bullets in that fouling of the barrel is prevented, the barrel being cleaned each time the rifle is fired and having an important additional advantage in that the cover or jacket is short, thereby lessening the friction upon the gun-barrel and materially lengthening its life.

Heretofore the cover has ordinarily extended over the entire bullet, for the reason that otherwise it has been impossible to prevent the cover from stripping off when fired, the effect of which is to prevent any approach to accuracy in results and to seriously injure the gun-barrel.

In order to produce the desired results, I have invented a novel bullet whose cover or jacket extends over the lower end only of the bullet and is so securely attached to the slug that it cannot be stripped off or turned thereon to the slightest extent during its passage through the gun-barrel no matter how high the velocity.

My novel bullet has important advantages in that it may be fired at any velocity without injury to the bullet, as perfect accuracy is attained, as with a full-covered bullet the life of the gun-barrel is greatly lengthened, as the short cover produces less friction on the barrel, and escape of gas past the bullet is wholly prevented; as the lead in front of the cover fills the grooves of the barrel perfectly, but without upsetting of the bullet any more than is required to insure perfect accuracy of results. My novel bullet therefore insures that the full benefit of the powder charge will be utilized, the barrel will be cleaned by the cover each time it is fired, thereby giving velocity and accuracy without injury to the barrel, and by covering only the lower end of the bullet I insure that the bullet will mushroom when it meets with resistance.

In the accompanying drawings, forming part of this specification, Figures 1, 2, and 3 illustrate the application of my invention to three styles of bullets, Fig. 1 showing a bullet having two cannelures, Fig. 2 a bullet having four cannelures, and Fig. 3 a smooth bullet; Fig. 4, a view of the base of a bullet left

perfectly smooth; Fig. 5, a view of the base of a bullet, showing a base that has been perforated by a punch and some of the metal of the jacket driven into the slug; and Fig. 6 is a view of one of my novel bullets that has been fired and mushroomed.

10 denotes the slug, which is made of lead or a relatively soft alloy, and 11 a relatively short cover extending over the lower end only of the slug, and made of a much harder metal or alloy. The exact length of the cover is not of the essence of my invention. I have found in practice that it is amply sufficient for the purposes of my invention if the cover extends from one-fourth to one-third the height of the bullet. The covers are secured in place upon the slugs by having their upper edges turned inward and downward and swaged into the slugs 12. (See dotted lines in Figs. 1, 2, and 3, indicating the inwardly and downwardly turned edge of the cover.) As an additional means of retaining the cover securely in place upon the slug, making assurance doubly sure, the base of the cover may be perforated, as at 13, by means of a punch or in any suitable manner, and a portion of the metal of the cover driven into the base of the slug, the cover and the slug being firmly compacted together by swaging or in any suitable manner.

Having thus described my invention, I claim—

1. A mushroom-bullet consisting of a slug having a cover extending over its lower end, the cover being secured to the slug by having its upper edge turned into the metal of the slug.

2. A mushroom-bullet consisting of a slug having a cover extending over the lower end thereof, the base of the cover being perforated and a portion of the metal of the cover turned into the base of the slug.

3. A mushroom-bullet consisting of a slug having a cover extending over its lower end, the edge of the cover being turned into the metal of the slug and the base of the cover being perforated and a portion of the metal of the cover turned into the base of the slug.

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

THOMAS C. SMITH.

Witnesses:

GEO. T. PERCY,

WM. H. SKINNER.