

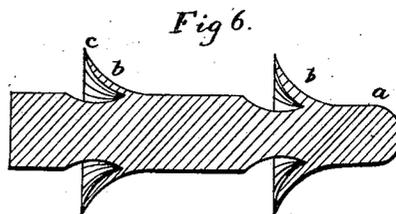
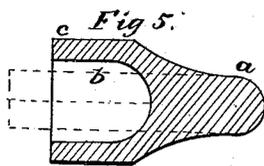
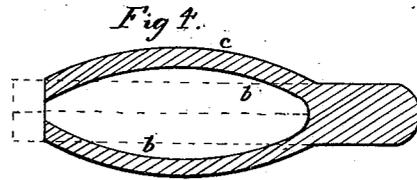
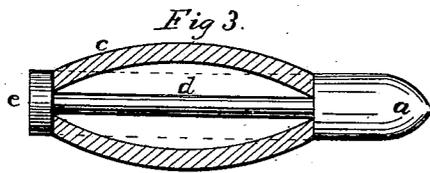
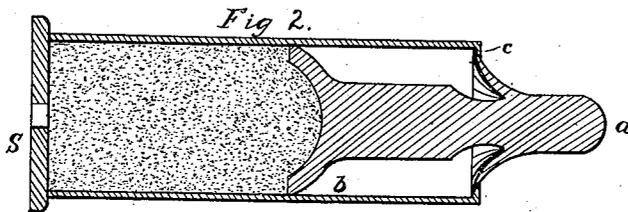
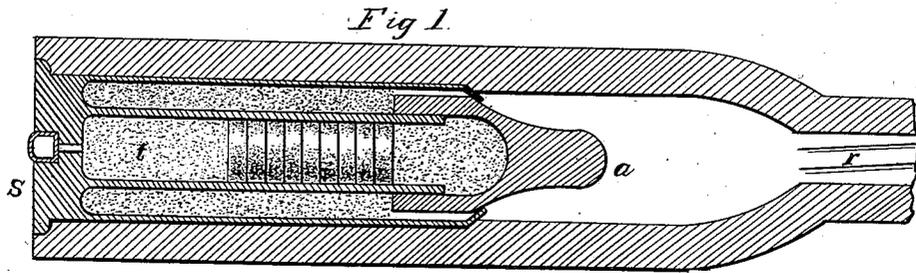
(No Model.)

H. P. HURST.

PROJECTILE.

No. 391,367.

Patented Oct. 16, 1888.



Attest:
L. M. Bartlett.
F. D. Brock.

Inventor:
Harris P. Hurst.
By *H. A. Bartlett.*
att'y.

UNITED STATES PATENT OFFICE.

HARRIS P. HURST, OF SUMMIT, MISSISSIPPI, ASSIGNOR TO THE HURST REINFORCE CARTRIDGE AND ARMS COMPANY, OF NEW JERSEY.

PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 391,367, dated October 16, 1888.

Application filed November 3, 1887. Serial No. 254,235. (No model.)

To all whom it may concern:

Be it known that I, HARRIS P. HURST, residing at Summit, in the county of Pike and State of Mississippi, have invented certain new and useful Improvements in Projectiles, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to projectiles; and it consists in the construction of the projectile in such manner that it will fill the chamber or bore of a gun having a large caliber, and will afterward compress to pass through a bore of much smaller caliber.

The object of the invention is to produce a bullet or similar projectile which will cover a large charge of powder in the chamber of a gun using either a single or a multicharge cartridge, the bullet afterward passing through a smaller bore before leaving the muzzle of the gun.

In the drawings, Figure 1 is a longitudinal section of one form of projectile shown in a multicharge cartridge, the cartridge and part of the gun-barrel being similarly shown. Fig. 2 is a longitudinal section of a single-charge cartridge with bullets having two compressible flanges. Fig. 3 is a section of a soft-metal bullet having steel core, (the core and point being shown in elevation.) Fig. 4 is a section of a compressible bullet without steel core. Fig. 5 is a detached section of a bullet similar to that shown in Fig. 1, and Fig. 6 is a section of a bullet slightly differing from that shown in Fig. 2.

The head of the projectile is solid, of the caliber required to fit snugly in the rifling of the gun. This head may be of lead or similar soft metal, or may be steel or other hard material, as in Fig. 3, in which case a spindle, *d*, of the hard metal may pass through the bullet and terminate in a base-piece, *e*. The flange or flanges *b* in rear of the head *a* are at their broadest portion *c* of considerably greater diameter than the head *a*. This expanded portion *c* is of such diameter as to fill the chamber of the gun-barrel or cartridge-shell, which chamber is of considerably greater diameter than the bore of the gun *r*.

The bullet is put into a multicharge shell, *s*, having a central tube, *t*, in manner as shown in Fig. 1, or in any other shell in the usual manner, as in Fig. 2, the main idea being that the flange or expanded portion of the projectile shall equal in diameter the chamber of the cartridge or gun, and shall after the firing be compressed to fit the bore.

The metal of the expanded portion of the bullet will, as it passes along the bore of the gun, be compressed until the entire projectile back of the head *a* will assume a practically cylindrical form, as indicated in dotted lines in several of the figures. Where the bullet has a core, the amount of metal in the expanded portion of the bullet is just sufficient to compress solidly on the core and form a solid cylinder equal in diameter to the bore of the gun. Where the flanges extend from a central spindle the same is true.

It is obvious that numerous modifications may be made besides the forms shown.

I do not herein claim the cartridge, or the combination of the bullet and its packing with the cartridge-shell, as the same will be embraced in another application.

My theory of operation is that as the bullet is of large diameter and comparatively light weight, a large charge of powder may be burned behind it in the gun with but little recoil, the bullet being compressed before leaving the gun, so as to offer but little resistance to the air during its flight.

I claim—

1. A projectile having a cylindrical head of the full caliber of the rifled bore of the gun, and a hollow portion in rear thereof enlarged to a considerably greater diameter than the cylindrical portion, so as to fill an enlarged chamber in rear of the rifled bore, substantially as described.

2. The combination, with the head of a projectile of the diameter of the bore of the gun, of a flange in rear thereof of greater diameter than the head, but containing metal in such quantity as to form with the body of the projectile when compressed a compact cylinder of the diameter of the head.

3. The combination, in a projectile, of a head

of substantially the caliber of the main bore
of the gun, a hard-metal spindle extending
backward from said head, and a soft-metal band
of considerably greater diameter than the main
5 bore of the gun surrounding said spindle and
leaving a space between said band and spindle
until the band is compressed, as stated.

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

HARRIS P. HURST.

Witnesses:

W. A. BARTLETT,
SAML. C. MILLS.