

(No Model.)

D. B. WESSON.
PROJECTILE.

No. 499,487.

Patented June 13, 1893.

Fig. 1.

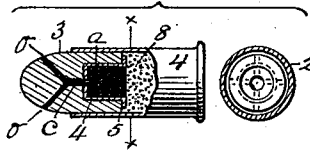


Fig. 2.

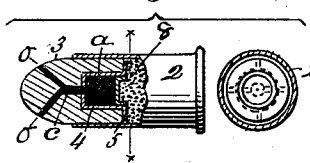


Fig. 3.

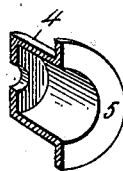


Fig. 5.

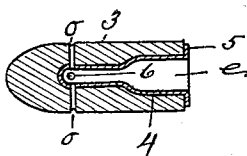


Fig. 6.

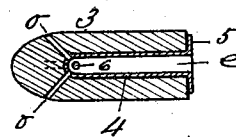
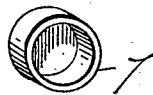


Fig. 4.



Witnesses:
J. H. Garfield
G. M. Chamberlain

Inventor,
Daniel B. Wesson
by *Chapman* Attys.

UNITED STATES PATENT OFFICE.

DANIEL B. WESSON, OF SPRINGFIELD, MASSACHUSETTS.

PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 499,487, dated June 13, 1893.

Application filed January 19, 1891. Serial No. 378,249. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. WESSON, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Projectiles, of which the following is a specification.

This invention relates to projectiles for small arms, pistols, &c., the object being to provide improved projectiles for the above-mentioned uses in respect to means for lubricating the same whereby the movement of the projectiles through the barrels of firearms is attended with the least frictional resistance, and injury to the interior of said barrels by the movement of projectiles there-through so lubricated is wholly prevented.

In the drawings forming part of this specification, Figures 1 and 2 are side elevations, partly in section, and transverse sections on lines *x, x*, of cartridges having therein projectiles constructed according to my invention, and Figs. 5 and 6 are sectional views of projectiles only, embodying my improvements. Fig. 3 is a longitudinal section, in perspective, and Fig. 4 a perspective view, of a cap fitting into the part shown in Fig. 3, all as fully described below.

This invention is in the nature of an improvement upon the projectile construction shown and described in my Patent No. 440,672, dated November 18, 1890, to which reference may be had. My said patent describes a projectile for guns and pistols having a reservoir for a lubricant in its rear portion, and one or more ducts leading from said reservoir to the outer surface of the projectile and opening near the front of that part of the same which has a bearing on the walls of the gun whereby pressure on the rear of the projectile may expel the lubricant during the passage of the projectile along the gun-barrel.

The essential object of the improvements within described is, to provide means for suitably strengthening a projectile (and particularly so when the same shall be made of lead or similar soft metal) which is chambered as aforesaid to receive in its interior a lubricating material. The desirability of so strengthening said projectiles is rendered obvious by the use in small arms which is becoming frequent, of explosive materials of high power in

place of the ordinary gunpowder heretofore employed for firing said arms. The said explosive materials referred to consist of various kinds of so called smokeless powder which are understood to be composed mainly of substances like, or similar to gun cotton and nitro-glycerine which explode in cartridges with great force, and in so doing act against a soft metal surface like that of a lead bullet to cause more or less of a deformity therein which injures the accuracy of its flight, and the improvements herein described prevent any such injury to the said lubricant-carrying projectile from the extraordinary forcible action of said explosives.

In the drawings, 2 indicates a cartridge shell, and 3 the bullet or projectile. 4 indicates a cup of cylindrical or similar form, made from copper, brass, or similar hard and strong ductile metal, and having a flange 5 on one end and one or more openings 6, through its opposite or inner end. A cap 7, is illustrated in Fig. 4, made of the same, or similar metal to that of which said cup 4, is made, and is adapted to be placed within the lower or rear end of said cup 4, in the position shown in Fig. 2. For the purpose of strengthening the said bullet or projectile 3, as and for the purpose aforesaid, I provide a sheet metal lining for its lubricant chamber, or reservoir, which consists of the said cup 4, which covers the walls thereof and with or without a flange 5, on its rear end. The said cup is adapted to such form of lubricant chamber as it may be desirable to employ, there being shown in Figs. 1, 5 and 6, three different forms of such chamber, the chamber having the greatest diameter being more particularly adapted to projectiles of large caliber, and those having a smaller diameter to projectiles of greater length, or smaller caliber, or both, as may seem most desirable. The said chamber-lining cup 4 is adapted to fit the lubricant chamber in the projectile, substantially as shown in the drawings, the flange 5, thereof having a bearing against the rear end of the projectile, as shown, whereby said lining cup is more surely prevented from any endwise movement in the projectile which may be caused by the force of the firing charge there-against, whereby said lining may be driven more or less into the bullet. Through the in-

ner end of said lining cup 4, one or more perforations 6, are made which communicate with one or more lubricant ducts *o*, which communicate with the surface of the projectile, as shown. The said ducts *o*, may be arranged to communicate directly with the interior of the said lining cup 4, or there may be made, as shown in Figs. 1 and 2, a duct leading from the inner end of said lining cup, indicated in said figures by *c*, with which the said ducts *o*, communicate. The projectile having been constructed as described with said lubricant-chamber lining, it is prepared for firing by placing in said lubricant chamber *c*, any suitable lubricating material *a*, as indicated in Figs. 1 and 2, and preferably, when the projectile is charged with said lubricant the latter is made to fill the lubricant ducts *o*, which communicate with the surface of the projectile in order that the force of a firing charge against the projectile shall result in an immediate discharge of the lubricant against the walls of the barrel of the fire-arm in which the projectile is used.

The lubricant-charged projectile may be used without the cap 7, as illustrated in Fig. 1, or with said cap as illustrated in Fig. 2. It is preferable, however, that projectiles which are so charged with a lubricant and stored to be fired at some future time, should contain said cap 7, which serves to retain the lubricant in serviceable condition in the projectile, but projectiles intended for immediate use may be fired without said cap thereby allowing the force of the charge to act directly against the lubricant itself to throw it from said chamber through the ducts *o* against the surface of the barrel whereby thorough lubrication of the surface of the same is effected. Said cap, under the force of the firing charge, moves like a piston against the lubricant to force it out of the projectile, as aforesaid.

Referring to Figs. 1 and 2, in which said projectile is shown in a cartridge-shell, 8 in-

dicates the above referred to explosive or gun-powder with which the cartridge is charged.

The above-described metal lined projectile, which lining consists of a metal harder and stronger than that of which the projectile is made, is preferably constructed by casting the projectile with a chamber within it of suitable form to receive the lining cup which is to be used therewith, or the bullet may be cast onto the lining cup, or the lining cup may be placed on a bullet-swaging plunger, thus fixing the lining when the bullet is formed.

What I claim as my invention is—

1. A soft metal projectile having a chamber therein, said chamber having a lining of a hard, strong metal, and having a duct leading from the chamber to the exterior of the projectile.

2. A projectile having therein a chamber for a lubricant, a metallic lining constituting a covering for the walls of said chamber having a flange around its open end bearing against the rear end of the projectile, and a duct leading from said chamber to the outer surface of the projectile and opening near the front of that part of the projectile which has a bearing on the walls of the gun, substantially as set forth.

3. A soft metal projectile having a chamber therein, a lining of harder metal covering the walls of the said chamber, a duct leading from the chamber to the exterior of the projectile, and a movable cap covering the base of said chamber, substantially as described.

4. A soft metal projectile having therein a chamber, a hard metal lining to said chamber, a passage leading from said chamber to the exterior of the projectile, a body of lubricant inclosed within the chamber, and a covering for the base of said chamber, all substantially as described.

DANIEL B. WESSON.

Witnesses:

H. A. CHAPIN,
J. K. DAVIDSON.