

UNITED STATES PATENT OFFICE.

CHARLES Y. WHEELER, OF ALLEGHENY, PENNSYLVANIA.

PROJECTILE-COATING.

SPECIFICATION forming part of Letters Patent No. 573,120, dated December 15, 1896.

Application filed July 13, 1896. Serial No. 599,041. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES Y. WHEELER, a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have
5 invented a new and useful Improvement in Projectiles; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to projectiles.

10 My invention consists in a peculiar protecting-coating for projectiles, the object being, primarily, to prevent breaking up of the projectile at the moment of impact and the fusion of the same or pieces of the same to
15 the armor-plate, and incidentally to act as a lubricant for the projectile and to protect the same against rust and corrosion.

It is well known to those skilled in the art that an enormous degree of heat is developed
20 at the moment of impact of the shell, accompanied by certain electrical conditions, and that the cracking and breaking of the shell and the fusion of the same with the metal of the armor-plate are liable to occur. I have
25 discovered that by providing the projectiles with a protecting-coating, composed of plumbago or graphite and silicate of soda, or, as it is commonly termed, "water-glass," this liability to fusion is largely, if not altogether,
30 obviated. The water-glass, owing to its peculiar non-conducting properties, tends to hinder or retard these electrical conditions and, together with the graphite, which, as is well known, has the power to withstand enormous degrees of heat, forms a non-conducting
35 film between the surfaces of the projectile and the armor-plate, which precludes that

intimate contact between the surfaces of the plate and shell which is essential to fusion. In the preparation of this coating I prefer to
40 take about equal parts of the graphite and water-glass and mix them together to about the consistency of a creamy paste. I then coat the projectile over at the point or over its entire surface with this paste. This coat-
45 ing may be applied with a brush, by immersion of the shell in the liquid, or in any other suitable manner. Although I have obtained good results from the mixture of these ingredients in equal proportions, I do not limit my-
50 self to any exact proportions, as the proportions may vary according to certain conditions. Practical experience has proven that projectiles coated with this composition will
55 penetrate very thick dense plates without being broken, owing to the peculiar properties of the composition, which prevent the breaking up of the projectile and the fusion of the same.

Within the terms "plumbago" and "graphite" I wish to include their chemical equivalents.

What I claim as my invention, and desire to secure by Letters Patent, is—

A projectile having a protecting-coating 65 composed of plumbago, or graphite, and silicate of soda, substantially as set forth.

In testimony whereof I, the said C. Y. WHEELER, have hereunto set my hand.

CHARLES Y. WHEELER.

Witnesses:

CAROLINE E. DAVIDSON,
CHAS. W. MACKEY.