

UNITED STATES PATENT OFFICE.

EDWARD DICKSON, OF OAK LAKE, CANADA.

GUNPOWDER.

SPECIFICATION forming part of Letters Patent No. 567,536, dated September 8, 1896.

Application filed August 27, 1895. Serial No. 560,699. (No specimens.)

To all whom it may concern:

Be it known that I, EDWARD DICKSON, a citizen of Canada, residing at Oak Lake, in the county of Dennis and Province of Manitoba, Canada, have invented certain new and useful Improvements in Gunpowder; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in gunpowders; and it has for its general object to provide a powder which, while possessing great power, makes very little noise and smoke and causes but little recoil.

To the attainment of the foregoing end the invention consists of the following ingredients, combined in the proportions stated, viz: barium nitrate, forty per cent.; wheat-flour, six and two-thirds per cent.; ferrocyanid of potassium, six and two-thirds per cent.; picric acid, thirty-two per cent.; chlorate of potash, six and two-thirds per cent.; liquid ammonia, eight per cent.; lampblack, one per cent. These ingredients are thoroughly mixed in any suitable manner and are then granulated, after which they are subjected to a bath of refined petroleum which has been previously treated with nitric acid, (preferably anhydrous,) sulfuric acid, and ammonia in succession.

In making the coating for the grains of powder about one-quarter of a pound of nitric acid (preferably anhydrous) is added to one gallon of refined petroleum and the mixture is permitted to stand about thirty minutes. One-quarter of a pound of sulfuric acid is then mixed with the refined petroleum and nitric acid and the entire mixture is permitted to stand about two hours. The petroleum, with the acids, is then poured out into another vessel and about one-half pound of liquid ammonia is added to the mixture and it is permitted to stand for about twenty-four hours.

When anhydrous nitric and sulfuric acids are intimately mixed with ordinary refined petroleum in the proportions or approximate proportions stated, a resinous substance is precipitated and a number of heavy nitro compounds of complex origin are formed, the latter remaining in solution and imparting to the liquid the property of forming a coating impervious to moisture to the material to which it may be applied. A portion of the excess of acid is neutralized by treating with ammonia, as described, which also dissolves out the sulfuric compounds which have been formed by the action of the sulfuric acid.

When the powder is to be immersed in the petroleum, prepared as above described, all dust is removed from the powder and the same is then placed in a rotary drum. This drum is then rotated, and while it is in motion the prepared petroleum is poured upon it until every grain of powder is entirely covered.

A powder such as above described possesses great power and yet makes very little noise and smoke and causes but a minimum amount of recoil, all of which are important advantages, as is obvious.

Having described my invention, what I claim is—

The gunpowder described consisting of barium nitrate, flour, ferrocyanid of potassium, picric acid, ammonia, chlorate of potash and lampblack, and coated with refined petroleum which has been subjected to the action of nitric acid, sulfuric acid and ammonia after the removal of the resinous substance precipitated therefrom, substantially as specified.

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

EDWARD DICKSON.

Witnesses:

WILLIAM J. THORNELOE,
JOHN EMSLIE.