

# UNITED STATES PATENT OFFICE.

GEORGE W. GENTIEU, OF PEORIA, ILLINOIS.

## SEMISMOKELESS POWDER.

No. 868,919.

Specification of Letters Patent.

Patented Oct. 22, 1907.

Application filed March 8, 1906. Serial No. 305,001.

*To all whom it may concern:*

- Be it known that I, GEORGE W. GENTIEU, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Semismokeless Powder; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.
- 10 This invention relates to improvements in the manufacture of explosive compounds, particularly to that class known as "semi-smokeless gun powder" and consists in the combination of ingredients, as is more fully set out hereinafter.
- 15 In the manufacture of my improved powder, I employ ammonium picrate, potassium nitrate, sulfur, charcoal and starch. These are mixed in approximately the following proportions according to weight: ammonium picrate, twenty five percent; potassium
- 20 nitrate, fifty two percent; sulfur ten percent; charcoal three percent; and starch ten percent. But these proportions may be varied somewhat for different uses,—as for example, when used in rifles the proportions here given are very effective. When used in shot guns,
- 25 however, the proportions of potassium nitrate and starch, would be diminished and the ammonium picrate and charcoal increased slightly.

In preparing this powder, I first weigh out the proper proportion of charcoal, sulfur and starch, which being non-explosive, are finely pulverized together in a ball mill or triturating machine. The potassium nitrate and ammonium picrate are ground or pulverized separately. The materials being in a finely pulverized state and the proper proportion of each weighed out, the mixture is introduced in any suitable incorporating machine, ordinary rolling or wheel mills such as are used for black powder being suitable, and the mixture incorporated until a suitable powder is produced, which is then placed in a hydrostatic press and pressed into cakes and these cakes are then broken up and granulated in the same manner that ordinary black powder is made. After granulation the powder is dried at a temperature of from ninety to one hundred and twenty degrees Fahrenheit.

What I claim is:

An explosive composition consisting of ammonium picrate 25%, potassium nitrate 52%, sulfur 10%, charcoal 3%, and starch 10%.

In testimony whereof I have affixed my signature, in presence of two witnesses.

GEORGE W. GENTIEU.

Witnesses:

E. M. GILES,  
MARY E. COMEGYS.