

UNITED STATES PATENT OFFICE.

CONRAD HUBERT HEINRICH CLAESSEN, OF BERLIN, GERMANY, ASSIGNOR TO E. I. DU PONT DE NEMOURS POWDER COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF NEW JERSEY.

NITROCELLULOSE GUNPOWDER.

979,431.

Specification of Letters Patent. Patented Dec. 27, 1910.

No Drawing.

Application filed June 7, 1910. Serial No. 565,615.

To all whom it may concern:

Be it known that I, CONRAD HUBERT HEINRICH CLAESSEN, a subject of the King of Prussia, residing at Berlin, Germany, have invented new and useful Nitrocellulose Gunpowder; and I do hereby declare the following to be a full, clear, and exact description of the same.

Heretofore it has been the practice to add materials such as camphor, diphenylamin, or carbamid, to nitrocellulose powders and powders containing nitrocellulose and nitroglycerin, to lower the combustion temperature and also to do away with the injurious effect which these explosives exert on the material of the barrel or bore, as well as to regulate the relation between gas pressure and initial velocity and to increase the stability of the powders.

My experiments have shown that all of the above-mentioned purposes can be attained, and in a far greater degree, without impairing the ballistic qualities in powders, if fenchone is added thereto. The advantage arising from the use of fenchone, in place of the mentioned substances, is that, in itself, it furnishes an excellent gelatinizing material for nitrocellulose.

The proportions which I have found by experiment to give excellent results are, (1.) 97% nitrocellulose with about 8% nitrogen content and 3% fenchone, or (2.) 30% nitroglycerin 65% nitrocellulose with about 12.9% nitrogen content, 5% fenchone. The components are, at the ordinary temperature, and in the ordinary way, mixed together in a kneading-machine, with the aid of a solvent, for example, acetone, ether-alcohol, or the like, and are then shaped, in ordinary molds to the form desired, for instance, tubes, strips, cubes, etc.

What I claim is:

1. A new composition of matter containing an intimate mixture of nitrocellulose gunpowder with fenchone.

2. A new composition of matter containing an intimate mixture of nitrocellulose and nitroglycerin gunpowder with fenchone.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

CONRAD HUBERT HEINRICH CLAESSEN.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.