

UNITED STATES PATENT OFFICE.

ALFRED B. COLE, OF BLOOMSBURG, PENNSYLVANIA.

EXPLOSIVE.

1,126,401.

Specification of Letters Patent.

Patented Jan. 26, 1915.

No Drawing.

Application filed July 2, 1913. Serial No. 777,079.

To all whom it may concern:

Be it known that I, ALFRED B. COLE, a citizen of the United States, residing at Bloomsburg, in the county of Columbia and State of Pennsylvania, have invented certain new and useful Improvements in Explosives, of which the following is a specification.

The purpose of my invention is to provide a high power explosive which is easily and quickly manufactured by hand or by machinery as desired by the manufacturer and eliminates the danger of accidents in manufacturing and handling and when blasting it does not smoke or give off obnoxious gases or injurious odors, does not freeze and is not affected by heat or cold. This powder will retain its strength in any climate by being kept dry, for example in a sealed package. These results I accomplish by preparing the following composition:

Example of the process of making the explosive.—The following ingredients are used: first, sugar 25%, wood alcohol 2%, potassium permanganate $\frac{1}{2}\%$, stirred together, then added to the following ingredients: chlorate of potash 30% and stir thoroughly then add coal dust or coke dust 22%, lamp black $\frac{1}{2}\%$ and stir thoroughly, then add nitrate of soda 20%, and again stir the mass thoroughly. It is then ready for use.

This explosive can be made by the heat process, with the same results as to the power of the explosive as follows: sugar 25% with enough water to dissolve it and heating until a syrup is formed then add alcohol 2%, potassium permanganate $\frac{1}{2}\%$, and remove from the heat and stir into this chlorate of potash 30%, nitrate of soda 20%, coal dust or coke dust 22% and lamp black $\frac{1}{2}\%$. This must be thoroughly stirred until dry and then it is ready for use.

This explosive can be exploded by a spark

and can be fired by squib fuse or battery, will not explode by jar or concussion, and can be exploded under water. The explosive force is mainly upward and outward.

While I have stated certain proportions of the ingredients, in the above specific example, it is to be noted that the invention is not limited to these particular proportions, since the proportions may be considerably varied without departing from the scope of the invention. By varying the proportions, I can produce explosives which are strong, that is rapid burning, and therefore especially suited for blasting hard rock with a considerable shattering effect; or I can produce explosives which are weak, that is slow burning, and therefore particularly suited for blasting soft coal, and the like. The particular proportions stated above, give a rather slow explosive, suitable for blasting hard coal.

What I claim is:—

1. An explosive compound consisting of a granulated composition containing sugar, comminuted mineral carbonaceous matter, potassium chlorate and sodium nitrate, in proportions to leave no material excess of oxygen, carbon or hydrogen, together with relatively small amounts of alcohol, potassium permanganate and lamp black.

2. An explosive comprising the following materials in substantially the proportions stated: sugar 25%, potassium chlorate 30%, comminuted mineral carbon 22%, nitrate of soda 20%, wood alcohol 2%, potassium permanganate $\frac{1}{2}\%$ and lamp black $\frac{1}{2}\%$.

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

ALFRED B. COLE.

Witnesses:

D. R. COFFMAN,
J. S. BRACE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."