

UNITED STATES PATENT OFFICE.

WESLEY MILLER, OF CAMBRIDGE, NEW YORK.

IMPROVEMENT IN EXPLOSIVE COMPOUNDS.

Specification forming part of Letters Patent No. **212,726**, dated February 25, 1879; application filed May 31, 1878.

To all whom it may concern:

Be it known that I, WESLEY MILLER, of Cambridge, in the county of Washington and State of New York, have invented certain new and useful Improvements in Blasting-Powder, of which the following is a specification:

My invention may be said to consist of an improved blasting-powder composed of nitrate of soda, nitrate of potash, bichromate of potash, sulphur, charcoal, and starch, formed preferably in two complementary divisions or parts, composed, respectively, of nitrate of soda, nitrate of potash, and starch, and bichromate of potash, sulphur, and charcoal, which are harmless when separated and explosive when mixed, as hereinafter set forth.

In the manufacture of this improved explosive compound I take nitrate of soda, thirty-five parts; nitrate of potash, (crude,) twenty-five parts; nitrate of potash, (refined,) ten parts; bichromate of potash, three parts; sulphur, thirteen parts; charcoal, twelve parts; starch, two parts.

These ingredients are separately ground to a fine powder, and are afterward mixed in the following manner: The nitrate of soda, nitrate of potash, and starch are mixed together, and form compound No. 1. The bichromate of potash, sulphur, and charcoal are mixed, and form compound No. 2. Either of these mixtures, when taken by itself, is both non-explosive and non-inflammable; but when eight-een parts of No. 1 are mixed with seven parts

of No. 2, an explosive compound is made that acts with a greater force than the ordinary blasting-powder.

This mode of making reduces the expense and facilitates the manufacture of the powder, obviating the danger caused by grinding in an edge-mill, and renders the powder harmless until properly mixed and confined.

I am aware that it is not new in itself to form an explosive compound in two complementary parts or divisions which are harmless when separated and explosive when mixed.

I am also aware that the ingredients used in my composition, excepting starch, have been used previously in one instance, but not in the same proportion and in connection with dangerous additional ingredients which modify the action of the others, as in the English Patent No. 1,939 of 1865.

What I claim as my invention is as follows:

A blasting-powder composed of nitrate of soda, nitrate of potash, bichromate of potash, sulphur, charcoal, and starch, in substantially the proportions specified, and formed in two complementary divisions or parts, composed, respectively, of nitrate of soda, nitrate of potash, starch, and bichromate of potash, sulphur, and charcoal, substantially as and for the purpose herein set forth.

WESLEY MILLER.

Witnesses:

EDWARD H. WALES,
CHAS. M. HIGGINS.