

UNITED STATES PATENT OFFICE.

JOHN PATTISON, OF NEVADA CITY, CALIFORNIA.

IMPROVEMENT IN EXPLOSIVE COMPOUNDS.

Specification forming part of Letters Patent No. 220,304, dated October 7, 1879; application filed November 29, 1878.

To all whom it may concern:

Be it known that I, JOHN PATTISON, of Nevada City, of the county of Nevada, State of California, have invented an Explosive Compound; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has reference to that class of explosive compounds in which chlorate of potash forms the explosive base; and it consists in the addition thereto or intermixture with such explosive compounds of an oleaginous vegetable flour or meal, which will neutralize the tendency of the chlorate-of-potash mixture to explode prematurely or spontaneously, and which will render it perfectly safe to handle, and at the same time furnish a due proportion of gases when the mixture is exploded.

I have found that much of the tendency or cause of premature explosion has arisen from the friction between the particles produced by the breaking of the heretofore solidified or caked compound put up in the form of cartridges. As long as the cartridge or caked mixture remains in its solid and unbroken condition there is no danger of premature or accidental explosion; but if the cartridge or cake should become broken or fractured the friction of the fractured parts rubbing against each other causes the explosion, and it is usually when putting the cartridge or cake into the drill-hole that such accidents occur, because the cartridge is usually broken when inserting it into the hole.

The object of my meal or flour is to prevent the solidification or caking of the mass, so that the mixture will remain granular in the condition of a powder, and thus not only avoid the danger of premature explosion but keep the particles in a loose condition, so that they will explode more readily and more effectively.

The meal or flour from which I have obtained the best results is made of mustard or flaxseed ground coarsely and intermixed with the chlorate-of-potash compound in sufficient quantities to prevent the compound from hardening.

The proportion of the meal or flour to be used will vary according to the nature of the chlorate-of-potash mixture to which it is added; but the proper or sufficient quantity will soon be learned by the person mixing it.

Any vegetable flour or meal possessing the qualities above referred to in a greater or less degree can be used; but I prefer the meal made of flax or mustard seed.

The addition of this meal or flour to the chlorate-of-potash compound serves to retard the usual tendency of the compound to explode quickly, so that a larger proportion of gases is generated, and the explosive effect, especially in loose material, such as gravel and earthy material, is more extended and effectual.

The gases arising from the burning of this powder or compound are neither unpleasant nor unhealthy.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with an explosive compound having for its base chlorate of potash, of an oleaginous flour or meal to prevent premature and spontaneous explosion, substantially as specified.

In witness whereof I hereunto attach my hand and seal.

JNO. PATTISON. [L. s.]

Witnesses:

D. B. LAWLER,
H. M. CHACE.