

UNITED STATES PATENT OFFICE.

ADRIEN GACON, OF PARIS, FRANCE.

BLASTING-POWDER.

SPECIFICATION forming part of Letters Patent No. 314,824, dated March 31, 1885.

Application filed March 15, 1884. (No specimens.) Patented in Belgium November 21, 1883, No. 46,269, and in France November 22, 1883, No. 146,346.

To all whom it may concern:

Be it known that I, ADRIEN GACON, of Paris, France, have invented a new and Improved Explosive Compound, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved explosive compound which has the explosive force of dynamite, but has none of the defects or dangerous properties of dynamite.

My improved explosive compound consists of a mixture of powdered nitrate of potash, six thousand nine hundred parts, by weight; flowers of sulphur, one thousand nine hundred parts, by weight; ashes, one thousand two hundred parts, by weight; tannin, two hundred parts, by weight.

The nitrate of potash and the sulphur are thoroughly mixed, and then the ashes are added and thoroughly mixed with the above ingredients. The ashes used must contain large quantities of soda or potash. I prefer to use the ashes of decayed or partly decayed leaves. The tannin is dissolved in water and then well filtered, and is preferably prepared twenty-four hours before mixing it with the other ingredients. I prefer to obtain the tannin by making a decoction of bark or wood containing the tannin—for instance, the bark of the chestnut or oak. The barks also contain resin, which greatly improves the explosive compound.

In place of the nitrate of potash, nitrate of soda may be used. In place of tannin, sumac may be used.

Some of the ingredients can be dispensed with; but then the explosive force of the powder will be decreased.

The proportions may be varied; but I prefer those given.

The compound is always cold. It ignites

and explodes at 480° centigrade, (996° Fahrenheit.) It cannot be ignited or exploded by a shock. It has very great explosive force.

I am aware that an explosive compound has heretofore been compounded of sulphur, chloride of sodium, nitrate of sodium, tannic acid, sulphuric acid, and sawdust, and I do not claim any such composition. The ashes in my compound have an entirely-different effect from the sawdust, as the sawdust contains only the same substances that are contained in the wood, and if there are any salts they are combined and not free. On the other hand, in the ashes is found a hygrometric substance composed of insoluble substances, and serving to keep the powder dry by absorbing the moisture at the moment of deflagration, and salts of soda and of potash are also found. In the presence of the tannin these salts are changed to tannate of soda and tannate of potash. Tannates are salts which are easily decomposed. When the powder is ignited, a large quantity of nitric acid is freed in a nascent state and it instantly transforms the tannates of soda and potash into nitrates of the same. Thus with ashes, a valueless product in itself, we add a new force which cannot be accomplished with sawdust.

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

An explosive compound consisting of a mixture of nitrate of potash or nitrate of soda, sulphur, ashes, and tannin, substantially as herein described.

The foregoing specification of my improvement in explosive powders signed by me this 9th day of January, 1884.

ADRIEN GACON.

Witnesses:

A. E. CAVERNIER,
M. LAFONTAINE.