United States Patent Office.

EDWIN GOMEZ, OF NEW YORK, N. Y.

Letters Patent No. 86,980, *dated February* 16, 1869.

IMPROVED EXPLOSIVE COMPOUND.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, EDWIN GOMEZ, of the city and State of New York, have invented and made a new and useful Improvement in Explosive Compounds; and I do hereby declare the following to be a full, clear, and exact description of the same.

The primary object of this invention is to produce an increased volume and intensity of flame.

In Letters Patent granted, September 15, 1857, to Gomez and Mills, an explosive compound is therein set forth, in which chlorate of potash is mixed with a precipitate produced from the mixture of nitrate of lead and prussiate of potash in solution.

My present invention consists in combining, with the foregoing or similar explosive compound, metallic salts that will increase the volume or body of the flame, and at the same time lessen the risk of explosion from detonation.

I take a solution of sugar of lead, and add thereto a solution of prussiate of potash, and allow the solid material, or ferrocyanide, to deposit.

I prepare a nitrate of iron, with about two pounds of nitric acid to one pound of iron, in one gallon of water, or the mother-water hereafter named.

I mix the aforesaid substances together, in the proportion of about one pound of nitrate of iron to three pounds of the ferrocyanide of potash, shake or stir them thoroughly, and allow the precipitate to subside. The mother-water is drawn off, and the precipitate is washed and dried.

The foregoing compound is ground to a fine powder, and then mixed with about an equal proportion of ground chlorate of potash, to form an explosive compound adapted to use in place of gunpowder.

This compound may remain separate until required for use, and thus the risk of explosion be prevented.

I find that the addition of iron, as aforesaid, lessens the detonating or fulminating-properties of the powder, and at the same time increases the volume and intensity of the gaseous flame; hence, this powder is adapted to use as a substitute for gunpowder in blasting, for cartridges, and under almost all circumstances where gunpowder can be employed. It will also act well as a fuse when enclosed in a tube.

There is little or no residuum, in firing, and the composition is not affected injuriously by atmospheric changes.

It will be evident that other metals and acids or metallic salts might be employed in place of or in addition to the nitrate of iron, to form a compound with the ferrocyanide of potash, and give volume and intensity to the flame, as aforesaid.

The chlorate of potash and the before-named compound may be mixed with the greatest safety, when wet with alcohol, and then allowed to dry.

What I claim, and desire to secure by Letters Patent, is—

The explosive compound formed substantially as set forth.

In witness whereof, I have hereunto set my signature, this 26th day of December, 1868

Witnesses: EDWIN GOMEZ.

CHAS. H. SMITH,

GEO. T. PINCKNEY.