

UNITED STATES PATENT OFFICE.

FRANK P. BETTANIN, OF BESSEMER, MICHIGAN.

COMPOUND FOR ELIMINATING NOXIOUS FUMES WHEN EXPLODING NITRO-GLYCERIN.

No. 930,030.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed September 14, 1908. Serial No. 453,048.

To all whom it may concern:

Be it known that I, FRANK P. BETTANIN, subject of the King of Italy, residing at Bessemer, in the county of Gogebic and State of Michigan, have invented certain new and useful Improvements in Compounds for Eliminating Noxious Fumes when Exploding Nitroglycerin, of which the following is a specification.

10 Nitro-glycerin, as generally manufactured, gives off noxious gases and large quantities of smoke when exploded. These gases are extremely poisonous and injurious to health and often prove fatal, particularly when
15 generated in close and confined places, such as mines, tunnels and the like, hence serious loss of time is occasioned to clear such places of the smoke and gases after blasting, or necessitating the use of expensive ventilating appliances.

20 The purpose of the present invention is to supply a compound which may either be combined with the nitro-glycerin or explosive or employed in conjunction therewith so as
25 to be set off simultaneously with the explosion of the nitro-glycerin so as to neutralize or eliminate the noxious fumes and smoke, thereby obviating the objectionable features heretofore experienced and herewith enumerated.
30 ated.

In preparing the compound for use with dynamite containing 60 per cent. of nitro

glycerin as a basis, potassium chlorate approximately 18 per cent. is employed, or in lieu thereof, a like amount of any other
35 oxidizing agent may be substituted. 6 per cent. oil of pine, tar or rosin is added to the potassium chlorate or oxidizing agent. These ingredients are thoroughly mixed and may be added to the nitro-glycerin powder
40 or explosive or put up in capsule or other convenient form and placed in contact with or close to the powder so as to be set off with the explosive. The great quantity of oxygen
45 given off by the compound at the instant of the explosion combines with the intense heat or flame and eliminates the noxious fumes and effectually destroys the same. What-
50 ever may be the operation, it has been found that by use of the compound the noxious fumes and dense smoke given off by nitro-glycerin powder when exploded are practically eliminated.

Having thus described the invention, what is claimed as new is:--

55 An explosive compound consisting of dynamite, potassium chlorate and oil of pine combined in about the proportions stated.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK P. BETTANIN. [L. S.]

Witnesses:

G. BARBER,

JOHN F. MARTIN.