

## UNITED STATES PATENT OFFICE

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## EXPLOSIVE COMPOSITION

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## 1 Claim. (Cl. 52—17)

The object of the invention is to provide an explosive composition which will explode only by ignition when confined in a small space, such for instance as bored holes, said explosive being insensitive to blows, friction or pounding, and in the use of which the provision of a capsule or cap is unnecessary.

The fire of this explosive can be extinguished with water on burning like the fire of black powder, without deflagrating in the atmosphere; it is an explosive of absolute safety for use in stone quarries, tunnels, and mines, especially when they are operated in three shifts, inasmuch as this explosive permits the work to be continued immediately after the detonation. This explosive is safely transported, whether by railway, automobile, or any other means, and it also provides security in connection with storage and handling in all climates, even at the very highest temperatures.

In preparing the composition I prefer to use the ingredients in about the following proportions: perchlorate of potassium ( $\text{KClO}_3$ ) 65%; bioxide of manganese ( $\text{MnO}_2$ ) 1.30%; nitrate of sodium ( $\text{NaNO}_3$ ) 5%; hexamethylenetetramine ( $(\text{CH}_2)_6\text{N}_4$ ) 1.40%; sulphur ( $\text{S}^8$ ) 1.30%; saccharose ( $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ ) 26%; iron filings ( $\text{Fe}$ ) 1%.

These ingredients are mixed in a dried and powdered form.

I do not wish to be limited in using the above mentioned ingredients inasmuch as I am able to employ the derivatives of such ingredients and furthermore, other similar ingredients for obtaining the same explosive.

This explosive is carefully prepared with chemically pure materials. There are used therein salts constituted of nitrates that are doubly refined, starches, glucoses, and siccative oils. This explosive does not require the capsule or cap, as required by other explosives, said capsule increasing the danger at the time of charging, for it suffices to prime it—with a small reed as is done when igniting black powder. In order to obtain the best effects possible in the explosion, and due to the fact that this explosive does not detonate by means of a blow, it can, and should be hit twice in a heavy manner when being tamped into a bore-hole.

## I claim:

An explosive composition consisting of a mixture of the following ingredients in approximately the proportions indicated, namely, perchlorate of potassium ( $\text{KClO}_3$ ) 65%, bioxide of manganese ( $\text{MnO}_2$ ) 1.30%, nitrate of sodium ( $\text{NaNO}_3$ ) 5%, hexamethylenetetramine ( $(\text{CH}_2)_6\text{N}_4$ ) 1.40%, sulphur ( $\text{S}^8$ ) 1.30%, saccharose ( $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ ) 26%, and iron filings ( $\text{Fe}$ ) 1%.

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