

UNITED STATES PATENT OFFICE.

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EXPLOSIVE COMPOUND.

968,919.

Specification of Letters Patent.

Patented Aug. 30, 1910.

No Drawing.

Application filed May 9, 1910. Serial No. 560,362.

To all whom it may concern:

Be it known that I, JOSEPH BURROWS, of Port Arthur, in the district of Thunder Bay, in the Province of Ontario, Canada, a subject of the King of Great Britain, have invented certain new and useful Improvements in Explosive Compounds, of which the following is a specification.

My invention relates to improvements in explosive compounds and the objects of my invention are to provide a safe form of explosive compound which will not be injured by moisture or affected by frost, and which, while of much greater force than dynamite, may be manufactured much more cheaply.

The principal ingredient of the compound consists of barium nitrate and toluene (being methyl benzene corresponding to the formula $C_6H_5.CH_3$). A small quantity of mixed coarse and fine aluminium is also preferably added and where the compound is intended to be used under water, paraffin wax and powdered charcoal may be added in suitable proportions.

In ordinary use the proportions which I have found suitable are as follows: 32 pounds of barium nitrate. 10 pounds of toluene. $7\frac{1}{2}$ pounds of coarse aluminium (capable of passing a mesh of from fifty to sixty wires to the inch.) $\frac{1}{2}$ pound of fine aluminium in as fine a form as it is possible to secure it.

The various ingredients are thoroughly mixed together by any suitable grinding process or the mixture might be placed in a revolving drum having a plurality of balls therein.

In general it may be stated that the mix-

ture of the ingredients may be effected in any manner now well known in the art.

Where the mixture is to be used under water, the proportion of paraffin wax and powdered charcoal for the quantities of the other ingredients mentioned above would be as follows: white paraffin wax, 5 pounds; powdered charcoal, 5 pounds.

The finished powder is a fine, loose, dry powder containing no moisture and for this reason is not affected by the frost and does not require to be thawed or dried before using. It will be found much safer than ordinary dynamite and requires much stronger detonators to explode it, and will therefore be less likely to explode from shock or jar. It has been found to be fifty per cent. at least stronger than first grade dynamite.

What I claim as my invention is:

1. An explosive compound comprising barium nitrate, toluene, and aluminium.

2. An explosive compound comprising barium nitrate, toluene, coarse aluminium and fine aluminium.

3. An explosive compound comprising barium nitrate, toluene, aluminium, paraffin wax and charcoal.

4. An explosive compound comprising substantially: 32 parts barium nitrate; 10 parts toluene; 8 parts aluminium.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOSEPH BURROWS

Witnesses:

ALEX. ROSS,

I. M. LAMONT.