

UNITED STATES PATENT OFFICE.

NORBERT CEIPEK, OF VIENNA, AUSTRIA-HUNGARY.

EXPLOSIVE.

988,244.

Specification of Letters Patent. Patented Mar. 28, 1911.

No Drawing.

Application filed September 29, 1910. Serial No. 584,527.

To all whom it may concern:

Be it known that I, NORBERT CEIPEK, a subject of the Emperor of Austria-Hungary, residing at Vienna, Austria-Hungary, have invented certain new and useful Improvements in Explosives, of which the following is a specification.

In U. S. Letters Patent No. 907007 is described a safety explosive which contains besides ammonium nitrate carbonized turmeric powder as carbonaceous substance. In order to increase the explosive power of this mixture an addition of trinitrophenol or trinitrotoluene may be added.

A series of practical experiments have shown that by conveniently proportioning the ingredients of the explosive mixtures composed of ammonium nitrate, carbonized turmeric powder and trinitrotoluene explosives are obtained which are appropriate to be used for different purposes. If the quantity of the trinitrotoluene is a relatively low one the explosives so obtained are safe in an inflammable atmosphere, that is to say fire-damp is not ignited by the same, whereby the said mixtures are well appropriate for coal mining. If, however, the quantity of the trinitrotoluene is increased the safety of the explosive mixtures somewhat diminishes, whereas their explosive power increases, so that these explosives may be advantageously employed for work in hard rock and in ore mining.

In the explosive mixtures of a lesser power the proportion of trinitrotoluene varies between about 4 and 7%, in the stronger mixtures between about 11 and 13.5%, the proportion of carbonized turmeric powder being about 6% in the first and about 5.5 to 10% in the latter mixtures.

In the following several examples are given for the composition of explosive mixtures of this kind intended for different purposes:

I. For coal mining: (a) ammonium nitrate 87%, carbonized turmeric powder 6%, trinitrotoluene 7%; (b) ammonium nitrate 87%, carbonized turmeric powder 6%, trinitrotoluene 4%, sodium chlorid 3%.

II. For hard rock and ore mining: (a) ammonium nitrate 78%, carbonized turmeric powder 10%, trinitrotoluene 12%; (b) ammonium nitrate 83%, carbonized turmeric powder 6%, trinitrotoluene 11%; (c) ammonium nitrate 81%, carbonized turmeric powder 5.5%, trinitrotoluene 13.5%.

To the mixtures intended for coal mining and composed of ammonium nitrate, carbonized turmeric powder and trinitrotoluene some sodium chlorid may be added as is shown in example I b.

Part of the carbonized turmeric powder contained in the several mixtures may be replaced by carbonized flour from cereals. The quantity of the latter may amount up to 30% of the carbonized turmeric powder and the cereal flour employed is obtained by roasting maize-flour or rye-flour.

Claims.

1. An explosive of the class described comprising a mixture of ammonium nitrate, carbonized turmeric powder, trinitrotoluene, sodium chlorid, and carbonized cereal flour.

2. An explosive of the class described comprising a mixture of ammonium nitrate with 6% of carbonized turmeric powder, 4% of trinitrotoluene, and 3% of sodium chlorid.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

NORBERT CEIPEK.

Witnesses:

EDWARD TYBERRY,
AUGUST FUGGER.