

UNITED STATES PATENT OFFICE.

NORBERT CEIPEK, OF VIENNA, AUSTRIA-HUNGARY.

SAFETY EXPLOSIVE.

1,038,292.

Specification of Letters Patent.

Patented Sept. 10, 1912.

No Drawing.

Application filed September 5, 1911. Serial No. 647,740.

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 the Manufacture of Safety Explosives, of which the following is a specification.

In the specification to U. S. Patent No. 907,007 an explosive is described that consists of nitrate of ammonia and of turmeric charcoal and is distinguished by its manufacture as also its storage and its transport being absolutely free from danger. Now, further experiments have been made for the purpose of increasing the explosive power of the said explosive without however diminishing its permanence and its inalterability. According to the present application this purpose is attained by using as carboniferous agent a mixture of turmeric charcoal with sandal-wood charcoal. This latter has the further quality of increasing the rate of combustion of the explosive mixture. The carboniferous mixture is produced preferably by mixing turmeric powder with powder of sandal-wood in such a proportion of weight that after its being carbonized the mixture will contain 50 to 60 parts by weight of turmeric charcoal and 40 to 50 parts by weight of sandal-wood charcoal.

An explosive mixture containing 88% of nitrate of ammonia, 6.25% of turmeric charcoal and 5.75% of sandal-wood charcoal, has an explosive power producing an ex-

pansion of 1220 to 1240 cm³. of Trauzl's lead cylinder while an explosive containing 12% of turmeric charcoal produces under the same circumstances only 900 cm³. The explosive power of the said explosive compound which consists of ammonium nitrate, turmeric charcoal and sandal-wood charcoal, can be considerably increased by mixing thereto one or several of the following materials: dinitrotoluene, trinitrotoluene, and gelatinized nitro-cellulose. By adding this latter material the hygroscopic qualities of the mixture are diminished and its loading density is increased.

In an explosive compound consisting of 80 81% ammonium nitrate, 2.35% turmeric charcoal, 2.65% sandal-wood charcoal and 13.50% trinitrotoluene an explosive power of 1440 to 1460 cm³. expansion has been ascertained.

Claim:

1. A safety explosive comprising a mixture of ammonium nitrate with turmeric charcoal and sandal wood charcoal.

2. A safety explosive comprising a mixture of ammonium nitrate, turmeric charcoal, sandal wood charcoal, and trinitrotoluene.

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

NORBERT CEIPEK.

Witnesses:

JOSEF RUBASCH,
AUGUST FUGGER.