

UNITED STATES PATENT OFFICE.

ERIC SORENSON, OF BROOKLYN, NEW YORK.

EXPLOSIVE COMPOSITION.

No Drawing.

Application filed September 17, 1927. Serial No. 220,283.

This invention relates to an explosive composition to be employed chiefly for blasting purposes, and has for one of its objects to provide a composition that will yield more explosive force than any of the various kinds so far known.

Another object of my invention is to produce a composition that will prove very cheap to manufacture, one of the reasons therefore being, that I only employ 10% by weight, of the rather expensive element nitroglycerine; the latter may even in some cases be eliminated, as will be hereinafter more fully described.

A further object of my invention has been to provide an explosive composition that will constitute a rather heavy mass, and therefore, be comparatively safe to transport, and proof against mistake, as to its sort or nature, in handling the same.

Another great advantage of my device resides in the fact, that this composition may be handled quite freely, as it will not explode unless exposed, or made subject, to the application of extremely strong heat, or rather is acted upon by an electric current of high voltage, applied in the usual manner, that is through the cap-system.

Another feature of my device, rendering the latter of great importance, lies in the fact, that this composition is substantially smokeless and free from odor, thereby making the said composition especially adaptable to, and useful for, underground work and deep shaft mining, where the retention of clear and pure air is very essential.

It will thus be evident that through my said device, I have subjugated the objectionable features hitherto inalienably attending the use of the sort of substances employed at present.

While my invention is capable of being carried out in different ways, further objects of same will appear as the description thereof proceeds.

The said explosive composition is prefer-

ably made up of the following ingredients in the proportions stated:

800 parts ammonium nitrate.	50
100 parts potassium nitrate.	
16 parts sulphur.	
15 parts manganese dioxide, or peroxide.	
6 parts paraffin wax.	
6 parts petroleum naphtha.	55
15 parts rosin.	
8 parts potato flour.	

To this is added 3% aluminum of total weight, and further may be added 10% nitroglycerine of total weight.

The further process in order to arrive at my said composition of matter is as follows:

The elements of ammonium nitrate and potassium nitrate are first mixed in the proportions stated; to this mixture are further added, as aforesaid in the proportions stated, sulphur, manganese dioxide (or peroxide), paraffin wax, petroleum naphtha, rosin and potato flour; those latter ingredients are then in turn mixed with the former two and stirred well for about one hour. The mass thus produced is thereupon melted to a boiling point and after being cooled off, made into lump-pieces, which are next transformed into a powdered mass in any suitable manner.

To this composition in the present stage is then added 3% of aluminum by weight, obtaining thereby a product which will constitute an explosive composition of a considerable force, having all the aforesaid properties. It should in this state be specially adaptable for blasting of a less intensive character, for instance, farm work, removing trees, etc.

However, by further adding thereto 10% nitroglycerine by weight, this composition of matter will now, beside the aforesaid properties, possess an explosive force, superior to anything so far known, and, as formerly said, be very safe to handle.

The composition thus produced, when the

ingredient of nitro-glycerine in the proportion stated is added thereto, is really considered by me to be the most important of the compositions disclosed.

5 It is evident, that modifications may be made in compounding the aforesaid ingredients well within the scope of this invention and the appended claims.

10 Having thus described my invention, I claim as new and desire to secure by Letters Patent of the United States:

1. A composition of matter for the purpose described, comprising ammonium nitrate, potassium nitrate, sulphur, manganese 15 dioxide, paraffin wax, petroleum naphtha, rosin, potato flour, and aluminum.

2. A composition of matter for the purpose described, comprising in combination ammonium nitrate, potassium nitrate, sulphur, manganese peroxide, paraffin wax, 20

petroleum naphtha, rosin, potato flour, aluminum and nitroglycerine.

3. An explosive composition consisting of the following ingredients: ammonium nitrate, potassium nitrate, sulphur, manganese 25 dioxide, paraffin wax, petroleum naphtha, rosin, potato flour, mixed with 3% by weight of aluminum.

4. An explosive composition consisting of the following ingredients: ammonium nitrate, potassium nitrate, sulphur, manganese peroxide, paraffin wax, petroleum naphtha, rosin, potato flour, 3% by weight, of aluminum, and 10% by weight, of nitroglycerine. 35

Signed at New York city in the county of New York and State of New York this 16th day of September, A. D. 1927.

ERIC SORENSON.