

UNITED STATES PATENT OFFICE.

JOHN F. A. MUMM, OF DAYTON, KENTUCKY.

COMPOUND FOR RAILWAY-SIGNAL TORPEDOES.

SPECIFICATION forming part of Letters Patent No. 261,247, dated July 18, 1882.

Application filed November 23, 1881. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN F. A. MUMM, of Dayton, in the county of Campbell and State of Kentucky, have invented a new and useful Improvement in Compounds for Railway-Signal Torpedoes, which improvement is fully set forth in the following specification.

The object of my invention is to provide a safe and positive compound to be employed as the explosive property in railway-signal torpedoes.

It is customary on all railways for trackmen, switchmen, and engineers to carry torpedoes to be secured on the track in front of approaching engines in case of danger. These torpedoes are simply small tin cases containing fulminate powder, and the design in this invention is to prepare a fulminate which will not absorb moisture, and be at all times and under all circumstances sure of being exploded by the wheels of the engine. The ingredients used are chlorate of potash, gum-tragacanth, alcohol, antimony, sulphur auratum antimonii or golden sulphuret, sublimed sulphur or flowers of sulphur, French chalk, and powdered glass, gravel, or iron filings. This is compounded in the following manner: I first unite four (4) ounces of liquid gum-tragacanth with six (6) ounces of alcohol. In this I put one (1) pound of chlorate of potash and allow it to soak well. To this is added twelve (12) ounces of pure antimony and well worked over, after which is added two (2) ounces of sulphur auratum antimonii or golden sulphuret, also two (2) ounces of sublimed sulphur or flowers of sulphur, and one (1) ounce of French chalk. The whole is then thoroughly mixed, and is ready to be placed in the case or shell after drying. I now prepare a number of small packages of gravel, broken glass, or iron filings. These are simply paper wrappers containing gravel, &c. Preparatory, however, to placing the fulminate in the shell, I prepare small molds, and the

fulminate which has been mixed in a moist state is molded into cakes and allowed to dry. When placed in the shell the fulminate cakes may either be placed in whole or crushed to a powder.

The compound above described is first placed in the case or shell, and several of these shells or packages are placed in among the cakes so made or put in the powder or embedded in the fulminate, and the lid of the case or shell put on. By experiment I find that three or four gravel packages in one shell produce the best results. The relative proportion in bulk would be about four of fulminate to one of gravel. The whole is then varnished or hermetically sealed, as is now done with goods of this class. The object of the gravel is to provide a frictional substance whereby the fulminate may be more readily ignited.

I am aware it is not new, broadly, to use gravel in combination with a fulminate, and I therefore disclaim this. My invention has particular reference to the ingredients named prepared in the manner specified, and having a number of gravel packages interspersed among the fulminate in the shell.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A compound for torpedoes, composed of chlorate of potash, gum-tragacanth, alcohol, antimony, sulphur auratum antimonii or golden sulphuret, sublimed sulphur or flowers of sulphur, and French chalk, in the form of small pellets, cakes, or pieces, and packages of gravel or its equivalent, as set forth, interspersed among the pellets, in the proportions substantially as set forth.

JOHN F. A. MUMM.

Witnesses:

J. S. ZERBE,
HENRY J. HARROP.