UNITED STATES PATENT OFFICE.

GEORGE M. MOWBRAY, OF NORTH ADAMS, MASSACHUSETTS.

IMPROVEMENT IN PRIMINGS FOR ELECTRIC FUSES.

Specification forming part of Letters Patent No. **161,430**, dated March 30, 1875; application filed March 19, 1873

CASE C.

To all whom it may concern:

Be it known that I, GEORGE M. MOWBRAY, of North Adams, in the county of Berkshire and State of Massachusetts, have invented an Improved Priming for Electric Fuses, of which the following is a specification:

The nature of my invention is a composition of matter, being a mixture of the double fulminate of metallic antimony and mercury with fulminate of mercury in a fine state of division, and finely-divided metallic antimony and traces of an amalgam of mercury and antimony.

I take mercuric fulminate and grind the crystals with a soft cork under water in a porcelain mortar, so as to reduce it to a fine state of division. I next reduce antimony to a fine state of division, by using a smoothing-file, and passing it lightly over the metallic antimony, or, if not quite fine enough, by grinding the filings, with alcohol, on a ground-glass plate. One part of mercuric fulminate is then mixed with from two to five parts (both by weight) of the metallic antimony, and the mixture introduced into a porcelain evaporating-basin. Cold distilled water is then poured over the mixture, and digested for twelve hours at a temperature not to exceed 60°, for at 70° Fahrenheit I find bubbles of hydrogen are given off, indicating oxidation of the antimony, which I prefer to avoid. During this digestion the mixture should be frequently stirred. The pasty mass may now be thrown on a filter, for the antimonic fulminate is nearly insoluble, and dried in a current of dry air.

Of the dried compound from half to one grain introduced between the terminal or discharging wires leading from a friction electric battery or induction-coil, and secured so as to prevent dispersion by the force of the discharge, on operating the machine and passing a spark between the terminals, through the mixture, explosion ensues. The terminals may be one-sixteenth of an inch apart.

For electric fuses, after the composition is secured between the terminals, it should be hermetically sealed.

This composition is not so sensitive to electricity or friction as an analogous compound, prepared by substituting cadmium for antimony, neither does it detonate so sharply; but it may be manipulated with less precaution.

Without limiting myself to any precise proportions of either of the several ingredients,

I claim—

A composition of metallic antimony and fulminate of mercury, as a priming for electric fuses, substantially as described.

GEORGE M. MOWBRAY.

Witnesses:
W. H. GRISWOLD,
WM. K. BARLOW.