

UNITED STATES PATENT OFFICE.

THOMAS K. ANDERSON, OF HORNELLSVILLE, NEW YORK.

IMPROVED COMPOSITION FOR FUSE OR SLOW-MATCH FOR IGNITING POWDER UNDER WATER.

Specification forming part of Letters Patent No. 34,233, dated January 28, 1862.

To all whom it may concern:

Be it known that I, THOMAS K. ANDERSON, of the town of Hornellsville, in the county of Steuben, State of New York, have invented a new and useful compound for an inextinguishable fuse or slow-match for igniting powder under water, and for various other purposes; and I do hereby declare that the following is a clear, full, and exact description of the same, reference being had to the several ingredients and prepared mixture herein described, and making a part of this specification.

The materials I use are niter, (pulverized,) charcoal, (pulverized,) sulphur, (pulverized,) and muriate of soda, (pulverized.)

My invention consists in the discovery (by practical experiment) that the above simple ingredients, prepared and compounded in the manner and proportions specified, produce the following practical results.

To enable others skilled in the art to make and use my inextinguishable fuse, I will proceed to describe the mode of preparing and its operation and effects.

The several ingredients should all be finely ground or pulverized separately. I then take of the powders in bulk, as follows: niter, eight (8) parts; charcoal, ten (10) parts; sulphur, two (2) parts; salt, one (1) part. Mix and grind them together. The preparation is then ready to charge a quill or a tube in the same manner as with gunpowder; or it may be rammed down to various degrees of solidity, and thereby the length of time it will continue to burn in a given length of fuse before exploding the charge may be determined on with certainty.

A canister containing any quantity of powder may with certainty be ignited at the depth of many hundred feet by connecting therewith a tube of the size of a common goose-quill, from five to ten inches in length, the tube being ignited at the end with perfect safety while the canister is held, and then allowed to drop and sink, and will give sufficient time for a boat to move off to a suitable distance for safety before the explosion takes place.

This compound will not explode instantaneously if ignited in a mass in the atmosphere, so that it is perfectly safe to manufacture in

large quantities, but it burns slowly like wet or soaked gunpowder; but when it is confined in small tubes, as fuse and ignited at the end there is no power in earth or water to extinguish it. The gases formed are of sufficient force to remove water under the pressure of any depth; and the oxygen it imbibes when burning under water increases the flame in power and brilliancy, so that the deep places in the sea may be illuminated in the most perfect and satisfactory manner by lowering tubes ignited into them. In effect, the burning of this simple and cheap compound under water has been found to be of the most extraordinary nature, and to produce the most practical and beneficial results.

A small tube containing at the end an ordinary charge of gunpowder and filled up with this compound dropped into and exploded in a well or cistern will bring to the surface of the water all obnoxious substances, remove worms and animalculæ, and destroy all the noxious vapors.

A small charge of gunpowder ignited by this fuse at the bottom of a pond or stream where a person has been drowned will immediately raise the body to the surface; and for the purpose of blasting rocks, or breaking up the hulls of sunken ships, or removing any heavy body in or under water by the use of powder, it is sure fire.

It is believed to be a superior fuse for shell and shrapnell to any before discovered or now in use, as none of them would be extinguished by falling into the water, or by any other means, when once ignited, and the explosion in every instance would be certain.

Having thus fully described my discovery and improved compound for inextinguishable fuse, what I claim as new, and desire to secure by Letters Patent, is—

A compound consisting of the four named ingredients, in or about the same proportions specified, prepared and used in the manner as and for the purposes herein set forth.

THOMAS K. ANDERSON.

Witnesses:

EDM. F. BROWN,
J. B. WOODRUFF.