

UNITED STATES PATENT OFFICE.

THOMAS SHEEHAN, OF DUNKIRK, NEW YORK.

COMPOSITION OF MATTER FOR PREVENTING THE OCCURRENCE OF EXPLOSIONS.

SPECIFICATION forming part of Letters Patent No. 274,666, dated March 27, 1883.

Application filed July 17, 1882. (No specimens.) Patented in England May 19, 1882, No. 2,366.

To all whom it may concern:

Be it known that I, THOMAS SHEEHAN, a citizen of the United States, residing at Dunkirk, Chautauqua county, State of New York, United States of America, residing temporarily at 49 Great Portland street, in the county of Middlesex, England, have invented certain new Means for Preventing Explosions in Steam-Boilers, Mines, and other Places, (for which I have received Letters Patent in Great Britain, No. 2,366, dated May 19, 1882,) of which the following is a specification.

This invention has for its object the preventing explosions in steam-boilers, mines, and other places.

I insert into the upper part of the boiler a case containing a mixture of hydrate of lime, black oxide of manganese, and finely-powdered charcoal. Cases similarly charged serve as a protection against explosions in mines and other places by absorbing or decomposing explosive gaseous matters (oxygen and hydrogen) which otherwise are liable to accumulate. I make the mixture of hydrate of lime or slaked lime, black oxide of manganese, and powdered charcoal, in the proportion of twenty parts, by weight, of lime to two parts of black oxide of manganese and fifteen parts of charcoal. These substances should all be finely powdered. They are to be intimately mixed in any convenient manner. The mixture should be kept, until required for use, in air-tight boxes. For use in steam-boilers I prepare cases of thin perforated sheet metal. The size and dimensions of the case (or cases) must depend upon the form of the boiler; but the more extensive the surface exposed the better, and the case should be capable of containing a bed of the material several inches in thickness. The dimensions of a case suitable for a Cornish boiler six (6) feet in diameter would be about eighteen (18) inches

wide, six (6) inches deep, and of the same length as the boiler. The case, when charged, is to be placed in the steam-space of the boiler as far above the water-line as is convenient. It is sometimes convenient to provide guides within the boiler, on which the case or cases may be made to slide in and out. The cases should be occasionally examined to ascertain whether the material is still in active and reliable condition. If it be found to effervesce when sulphuric acid is dropped upon it, it is spent, and should be replaced by a fresh charge.

I make similar arrangements to prevent explosions in mines. In this case I provide a perforated sheet-metal box or case upon wheels, so that it may be drawn along the rails in the mine as a trolley. The dimensions of the box or case may conveniently be nine feet long by two feet wide and ten inches deep. The box or case should be well perforated all over, so that the mine-gas may obtain ready access to the charge of material which it contains. The box or case, when in use, is to be drawn to any part of the mine in which it may be found that mine-gas is present. The dangerous gases (mixtures of carbureted hydrogen and oxygen) are absorbed by the charge and their explosion thus prevented.

Having thus described the nature of my said invention and the manner of performing the same, I would have it understood that I claim—

The composition consisting of the mixture of hydrate of lime or slaked lime, black oxide of manganese, and charcoal, substantially as and for the purpose described.

THOMAS SHEEHAN.

Witnesses:

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