

United States Patent Office.

EDWARD A. GALBRAITH, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 80,720, dated August 4, 1868.

IMPROVED COMPOUND FOR EXTINGUISHING FIRES.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, EDWARD A. GALBRAITH, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful Improvement in Compound for Extinguishing Fires; and I do hereby declare that the following is a full and exact description thereof.

My invention has reference to a class of devices or means of extinguishing fires by the employment of a jet, streams, or shower of water impregnated with fire-subduing or extinguishing materials projected upon fire by pressure or force from a suitable vessel or machine.

Experience has shown that most fires are discovered soon after their outbreak, and if a ready means of extinguishing them is at hand, in nearly every case they could be easily extinguished with a small quantity of fire-extinguishing materials, if properly directed and applied.

The object of this invention is to devise a cheap, convenient, and ready mode of checking and subduing a fire in its early stages, by neutralizing, removing, or destroying the elements causing the combustion, and at the same time so simple and convenient that any one can apply it, and be always sure of its success.

Chemically considered, if you neutralize, remove, or destroy either of the elements which make the fire, you destroy the fire.

Water does this by saturation, when sufficiently large quantities are early applied, but this is not always at hand, and there are many objections to the use of large quantities of water.

My plan is to destroy the fire by impregnating the water with materials which neutralize or destroy one or all of the elements of the fire, and at the same time have a tendency to coat over and cover the materials on fire, and thus, by operating at its roots, effect the object, and also by use of materials and substances held in solution, which, when coming in contact with the fire, will become instantly solidified, form incrustations on the burning mass, and generate and emit gases unfavorable to combustion.

This may be effected by impregnating the water to be used, by dissolving therein salt-cake of commerce, or sal-nixon of commerce, both being the residuum of the manufacture of muriatic or nitric acid; crystallized sulphate of ammonia; bicarbonate of soda; chloride of calcium; bittern-water; chloride of magnesium; bleaching-powder; Epsom salts; bisulphate of ammonia; silicate of soda; any soluble silicate or their equivalents, which, when brought in contact with the fire, will tend to destroy it by incrustation and decomposition, and, by coming in contact with the fire, creating and generating gases unfavorable to combustion.

To carry out my invention, I use a cylinder, or other properly-constructed vessel, made in any of the known forms, with the necessary appurtenances and fixtures, and, after filling it nearly full of water, I dissolve therein two or three of the above-mentioned ingredients, but prefer the salt-cake of commerce, or sal-nixon of commerce, both of which are very cheap, and remarkably efficacious in extinguishing fire, and some one of the soluble silicates and bicarbonate of soda, with or without some of the other materials, but I do not rely upon the expansive force of the fire-destroying ingredients to furnish power to project the water thus impregnated upon the fire, but use compressed air, or gas, or a small pump for that purpose, or their equivalents, which may be introduced into or used in connection with the vessel containing them in various ways.

When the materials used are fully dissolved in the water, I force them upon the fire from the cylinder or vessel used.

I do not claim in this invention any particular form or construction of vessel, or mode of forcing the water thus impregnated, do not intend to confine myself to any particular mode of carrying out this invention; but

What I do claim, and desire to secure by Letters Patent, is—

1. A solution of salt-cake of commerce in water for extinguishing fires.
2. A solution of chloride of magnesium and silicate of soda, in combination with salt-cake of commerce, or its equivalent, for use in extinguishing fires, substantially as set forth.
3. A solution of any soluble silicate, Epsom salts, and bicarbonate of soda, in combination with salt-cake or sal-nixon, or their equivalents, for the purpose set forth.
4. A solution of chloride of calcium, any soluble silicate, and bicarbonate of soda, in combination with salt-cake of commerce, or its equivalent, for use in extinguishing fires.

EDWARD A. GALBRAITH.

Witnesses:

SELWIN Z. BURMAN,
ISAIAH KNOWLES, Jr.