

United States Patent Office.

WILLIAM P. VAN DEURSEN, OF CINCINNATI, OHIO.

Letters Patent No. 106,518, dated August 16, 1870.

IMPROVEMENT IN COMPOUND FOR EXTINGUISHING FIRES.

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

I, WILLIAM P. VAN DEURSEN, of Cincinnati, Hamilton county, State of Ohio, have invented a new and useful Application of a Chemical Product, to be used in Combination with any Fire-extinguishing Agent, for the Purpose of Extinguishing Fire, of which the following is a specification.

General Description.

Glycerine is the chemical product. I do not claim any special mode of its manufacture.

The nature of my invention consists in using glycerine as the vehicle to convey any of the known fire-extinguishing agents, in solution or suspension, to the fire, and assist in the extinguishing of the same.

Either of the following fire-extinguishing agents may be used, in the proportion of one pound of the powder to one gallon of the glycerine, (except water, which I use in about equal proportion with the glycerine,) to create the most effective results: but I do not consider these proportions essential, as the agitation of the vessel containing the composition would allow the glycerine to hold in suspension the undissolved portions of the powders.

Fire-extinguishing agents which may be used, and which are commonly known, when applied to fire, to generate gases unfavorable to combustion, are salt, alum, carbonates and sulphate of soda, sulphate of iron, and sulphate of magnesia, carbonate of potash, carbonate of magnesia, chloride of calcium, and chloride of magnesium.

Water is, of course, an important agent for extinguishing fires, and is used in combination with the glycerine independently of the above-mentioned agents.

The preferred means of dissolving the solid matter in the glycerine is to reduce the solids to powder by grinding, and, after putting the powder into the glycerine, to agitate the same until the solid matter is dissolved. Such proportion as may not be thoroughly dissolved will, when again agitated, (just before apply-

ing to the fire,) be carried out with the liquid, being held in suspension by the viscosity of the glycerine in its globules.

Glycerine, being a heavy and viscid liquid, is capable of resisting evaporation to such an extent that, in its application in combination with any of the fire-extinguishing agents, it spreads, in a foam-like covering, over the fire or burning material, and, excluding the air, allows the principal extinguishing agent to attack the fire, and terminates combustion, while the evaporation of the glycerine carries off the heat from the solid constituents of the fire. Its exemption from freezing, even at a very low temperature, insures its effective condition in the coldest climate, and relieves any tanks from any liability of being burst by ice, to which annihilators in common are liable.

The preferred mode of applying the compositions to the fires is by any of the usual modes of pumping from a tank; but any of the various appliances known as fire-extinguishers, used at a high or low pressure of gas or confined air, or such automatic apparatus as may be used on railroad cars, steamboats, or ships, without pressure, may be adopted, the object being to have the liquid conveyed to the fire as quickly as possible.

I do not claim the use or employment of glycerine alone, or in combination with carbonic-acid gas, (with or without water,) under pressure, as a fire-extinguishing agent in this connection; but

I do claim—

Glycerine, as a vehicle for holding in solution or suspension any fire-extinguishing agent, solid or liquid, substantially as and for the purpose set forth, the compound thus formed to be applied by any common means or apparatus to the extinguishing of fire, on land or sea.

WM. P. VAN DEURSEN.

Witnesses:

JOHN W. DUDLEY,
JAS. H. FOOTE.