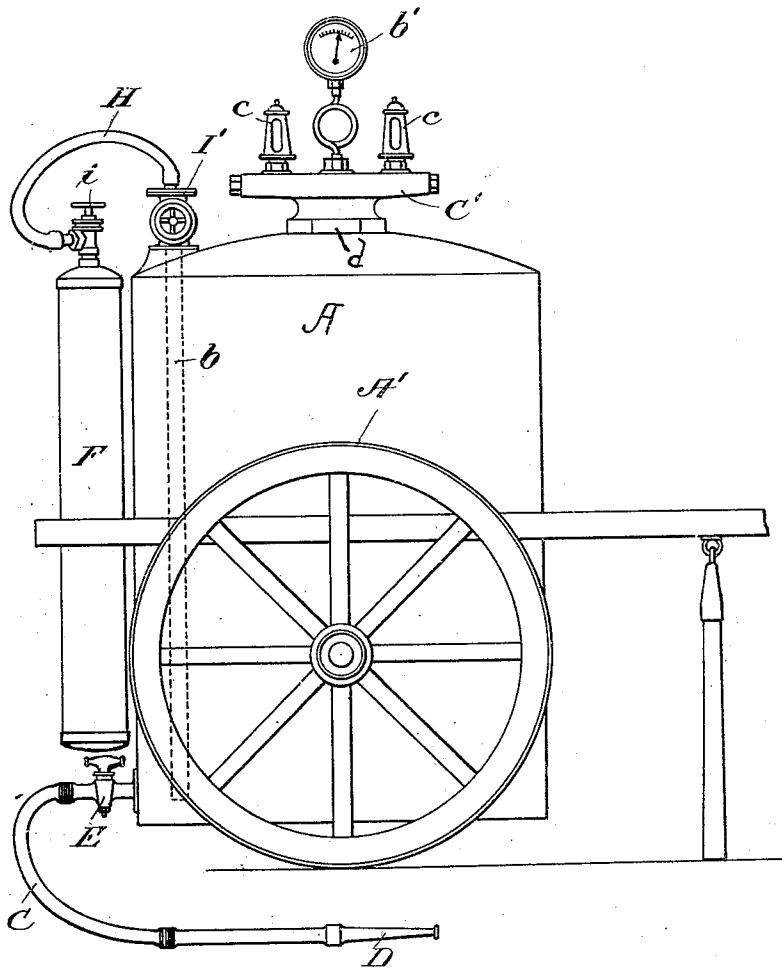


G. L. DANEY.
 PROCESS OF EXTINGUISHING FIRES.
 APPLICATION FILED SEPT. 26, 1910.

1,062,894.

Patented May 27, 1913.



Inventor.

Witnesses:

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UNITED STATES PATENT OFFICE.

GUILLAUME LOUIS DANÉY, OF PARIS, FRANCE.

PROCESS OF EXTINGUISHING FIRES.

1,062,894.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed September 26, 1910. Serial No. 583,934.

To all whom it may concern:

Be it known that I, GUILLAUME LOUIS DANÉY, of Paris, France, have invented new and useful Improvements in Processes of Extinguishing Fires, which invention is fully set forth in the following specification.

This invention relates to a method of extinguishing fires, particularly extinguishing forest fires and resides in charging a fire extinguishing reservoir with water, aluminum nitrid and calcium cyanamid, holding in a separate reservoir a body of liquid nitrogen and carbon dioxid and expanding the liquefied gases and charging the gases into the liquid in the first reservoir to expel this liquid with its products of reaction onto the burning object whereby the incombustible gases act to smother the flame while the solid products of the reaction form a coating of incombustible oxids on the object and prevents further combustion therein. In the presence of water under the pressure of carbonic acid and nitrogen, the calcium cyanamid and aluminum nitrid yield calcium oxid and aluminum oxid and a certain quantity of ammonia and nitrogen. When this mixture is projected onto a burning object, it possesses the double capability of forming an atmosphere about the object which is incapable of supporting combustion and therefore capable of extinguishing flame and of coating the object with lime and alumina whereby the object is protected from reignition when this atmosphere is dissipated.

By way of illustrating suitable apparatus for carrying out this method or process reference is had to the accompanying drawing in which is shown a cylindrical reservoir A and bottle F mounted on a hand truck A'. The reservoir is provided with a manometer *b'* and two safety valves *c, c'* carried by a horizontal tube *c'* which opens into the reservoir and is secured thereto by a suitable connection *d*. Near the bottom of the reservoir is located a valved outlet E adapted to receive a hose C having a nozzle D. The bottle F which is adapted to hold the liquefied gases is provided with a reducing valve *i* of any approved design. This valve on its delivery side is connected by a flexible tube H to a pipe *b* leading to the bottom of the reservoir. A hand valve I' is provided for closing the pipe *b* when communication be-

tween bottle F and reservoir A is desired to be cut off.

To charge the apparatus, the reservoir A is nearly filled with water and a quantity of aluminum nitrid and calcium cyanamid added in the proportion of 10 liters of water to 500 grams of a mixture of 2 parts calcium cyanamid and 1 part of aluminum nitrid. The bottle F containing liquefied carbon dioxid and nitrogen in the proportion of 8 parts by weight of carbon dioxid and 2 parts by weight of nitrogen is connected with the valve controlled tube *b* and the apparatus is ready for use. These proportions may be varied within wide limits and are given by way of example only. On opening the reducing valve *i* and control valve I' nitrogen and carbon dioxid enter the reservoir A through pipe *b* at the bottom of the water which is now charged with these gases under heavy pressure. The space above the water in the reservoir is also filled with gas and serves to discharge the contents of the reservoir when valve E is opened. As above explained, the aluminum nitrid and calcium cyanamid react with the water in presence of the carbon-dioxid and nitrogen under pressure producing the oxids of aluminum and calcium together with some ammonia and nitrogen. This suspension of oxids heavily charged with incombustible gases, nitrogen, carbon-dioxid and ammonia when discharged on a burning area very effectively quenches flame and extinguishes burning coals and prevents rekindling of the same.

What I claim is:—

The method of extinguishing fires consisting in charging a fire extinguishing reservoir with water, aluminum nitrid and calcium cyanamid, holding a body of liquid carbonic acid and nitrogen in a separate reservoir and then expanding said nitrogen and carbonic acid into said liquid to impregnate the same and to expel the liquid with its products of reaction and directing the same onto the burning material.

In witness whereof I have hereunto signed my name this 15 day of September 1910, in the presence of two subscribing witnesses.

GUILLAUME LOUIS DANÉY.

Witnesses:

HENRY PHILLIPS,
A. LESSING.