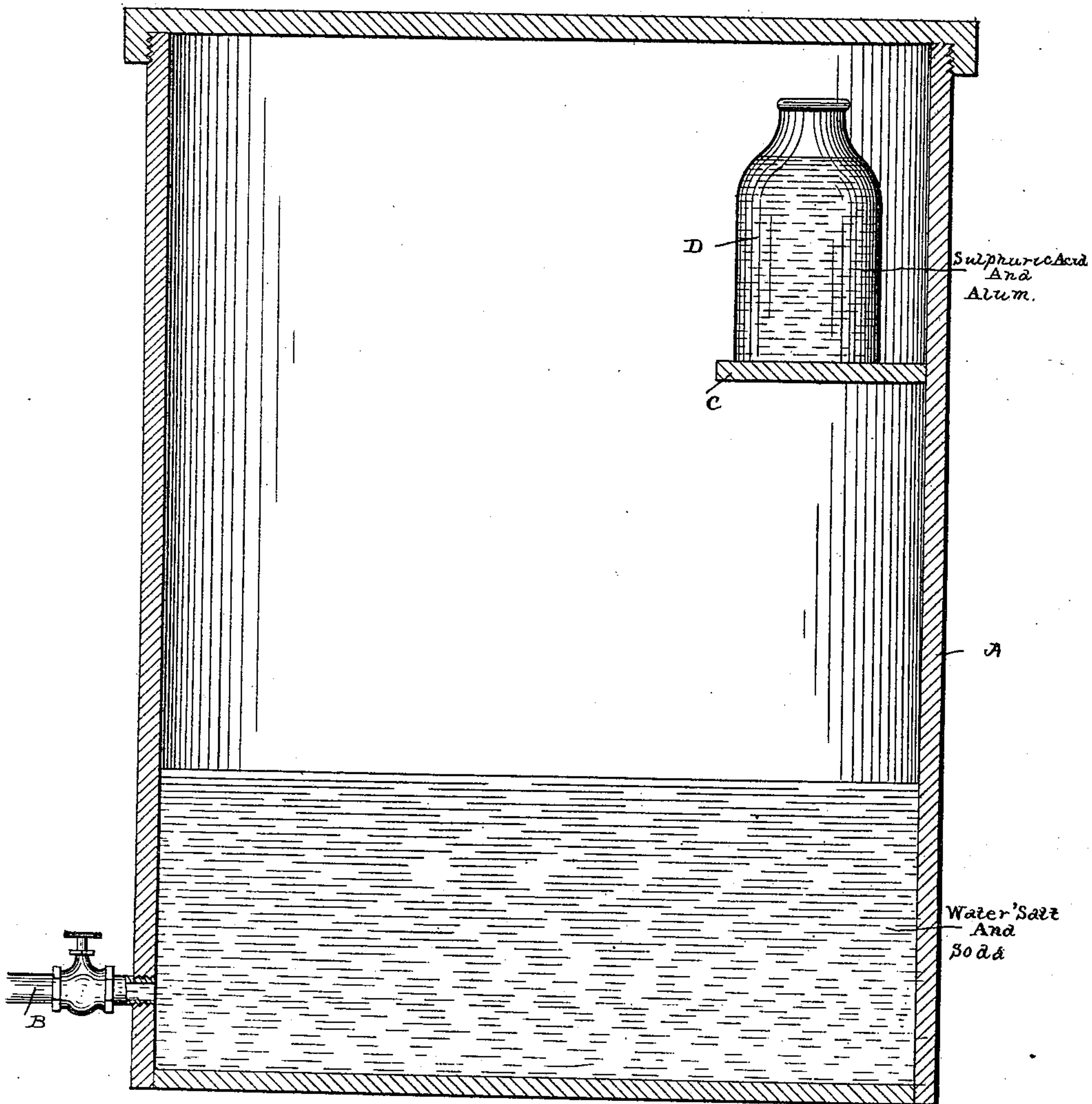


(No Model.)

H. S. MILLIS.  
PROCESS OF EXTINGUISHING FIRE.

No. 477,138.

Patented June 14, 1892.



Witnesses

*Chas. A. Ford.*

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# UNITED STATES PATENT OFFICE.

HIRAM S. MILLIS, OF DETROIT, TEXAS.

## PROCESS OF EXTINGUISHING FIRE.

SPECIFICATION forming part of Letters Patent No. 477,138, dated June 14, 1892.

Application filed June 9, 1891. Serial No. 395,710. (No specimens.)

*To all whom it may concern:*

Be it known that I, HIRAM S. MILLIS, a citizen of the United States, residing at Detroit, in the county of Red River and State of Texas, have invented a new and useful Fire-Extinguishing Compound, of which the following is a specification.

My invention relates to improvements in chemical fire-extinguishing compounds that are used in connection with the ordinary discharging apparatus; and it has for its object to provide a compound that will be powerful and effective in its operation as an extinguisher and that will tend to render the material upon which it is discharged fire-proof to a certain degree; and it consists of the use of certain chemicals combined in a manner in conjunction with a suitable discharge apparatus, as will be hereinafter fully stated and claimed.

In the accompanying drawing the figure represents a sectional view of an ordinary chemical fire-extinguishing tank provided with my chemicals placed in the position in which they are usually placed.

Referring to the drawing, A represents a strong iron tank provided with the usual bottom discharge-pipe B and an interior shelf C, situated near the top of said tank and upon which a portion of the compound is placed prior to its mixture with the rest of the compound to form the extinguisher. In the bottom of said tank I place a mixture of water, salt, and soda in the proportions hereinafter stated, while in a jar D, which is designed to be placed upon the shelf within the tank, I place an additional mixture, which is composed of sulphuric acid and alum. The acid and alum are designed to be thrown into the bottom of the vessel by tipping the same, and thereby placed in admixture with the com-

pound composed of the water, salt, and soda. Sufficient carbonic-acid gas is immediately generated to obtain a pressure that will be sufficient to eject the mixed ingredients upon the burning material and to extinguish the same. While the soda in solution of itself when combined with sulphuric acid would generate sufficient gas to eject the contents of the tank upon the fire, yet the generation would be so rapid as to leave a portion of the compound within the tank. Still to avoid this undesirable feature the addition of alum is made to the acid, which does not mix so rapidly as the acid itself, and besides obtaining the gas just as readily the alum furnishes a good head until the last of the compound is ejected, besides having the additional advantage, combined with the salt having similar properties of forming a fire-proof coating, of rendering the material upon which it is thrown to a certain extent fire-proof, as previously stated.

The proportions in which I use the ingredients making up this compound are as follows: water, one gallon; soda, one-half pint; salt, one-half pint; alum, one gill; sulphuric acid, eight drams.

Having thus described my invention, what I claim is—

In the process of extinguishing fire, the improvement which consists in introducing a solution of alum and sulphuric acid into a solution of common salt and soda, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

HIRAM S. MILLIS.

Witnesses:

F. H. ELMORE,  
C. A. MARTIN.