

1,265,614.

L. B. CONANT.
FIRE EXTINGUISHING-APPARATUS.
APPLICATION FILED APR. 7, 1917.

Patented May 7, 1918.
2 SHEETS—SHEET 1.

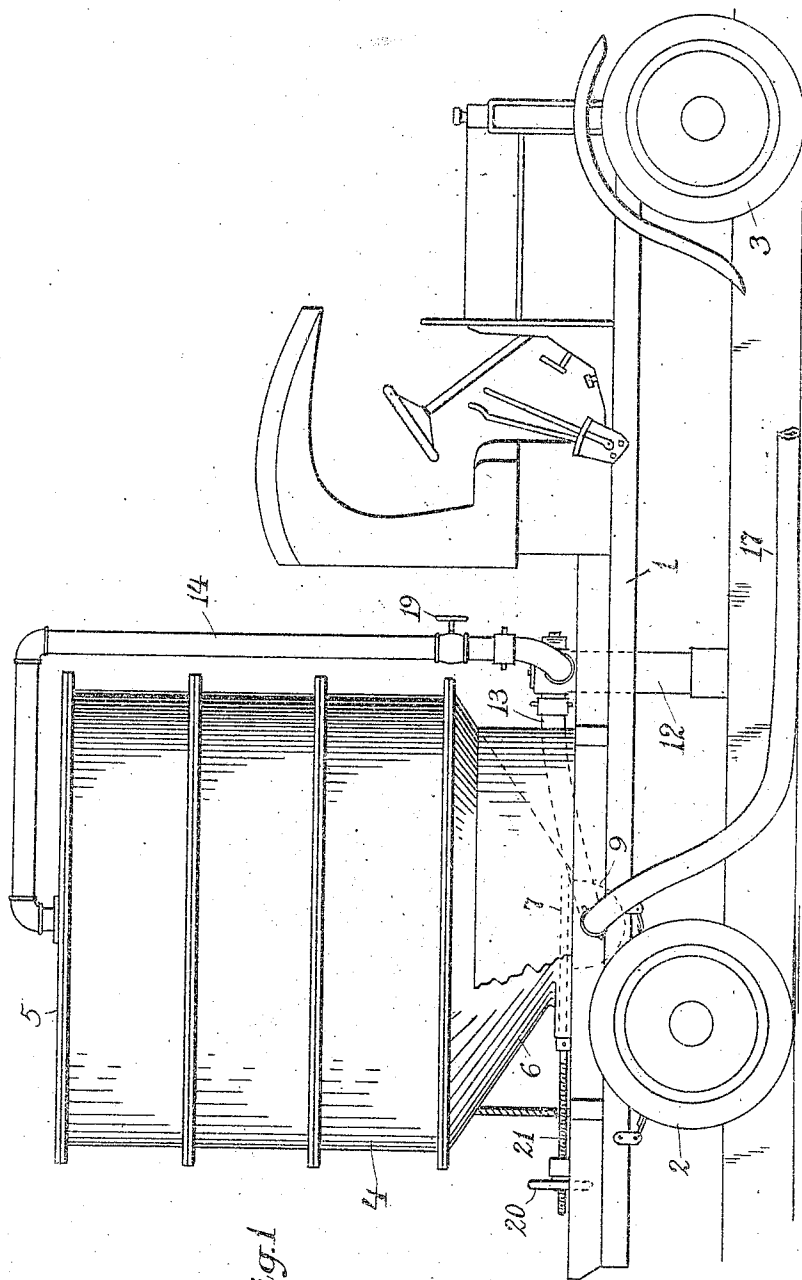


Fig. 1

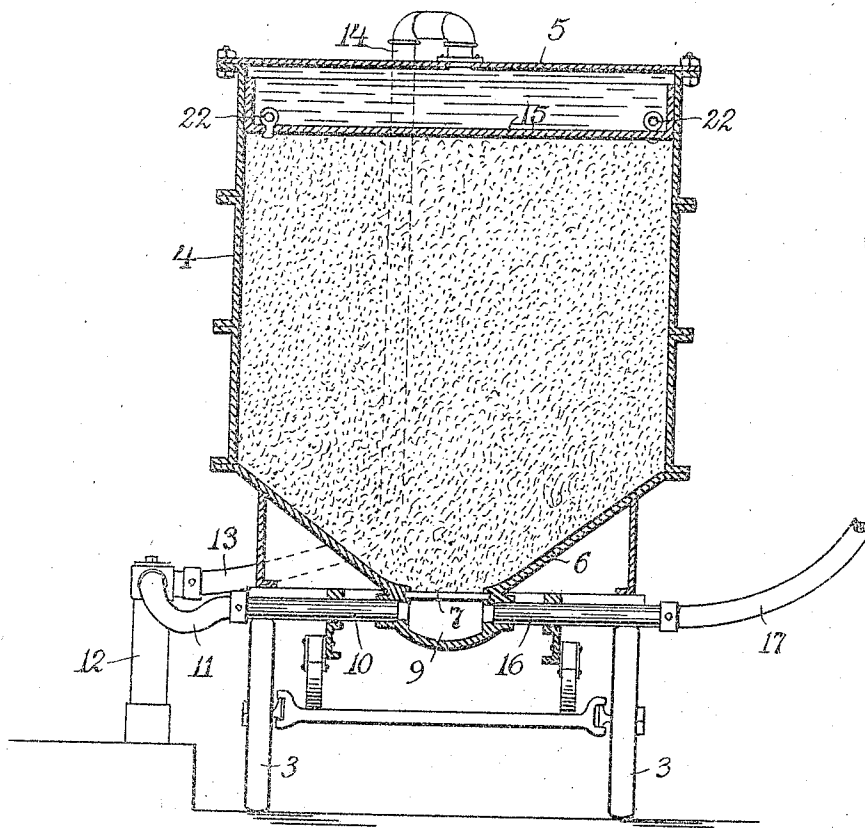
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2 SHEETS—SHEET 2.

Fig. 2



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UNITED STATES PATENT OFFICE.

LEON B. CONANT, OF BOSTON, MASSACHUSETTS.

FIRE-EXTINGUISHING APPARATUS.

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Specification of Letters Patent.

Patented May 7, 1918.

Application filed April 7, 1917. Serial No. 180,400.

To all whom it may concern:

Be it known that I, LEON B. CONANT, a citizen of the United States, and a resident of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Fire-Extinguishing Apparatus, of which the following is a full, clear, and exact specification.

The object of this invention is the effecting of comparatively inexpensive but convenient means for introducing fullers' earth or the like into the water being thrown upon a burning structure. In doing this, I prefer to provide apparatus adapted to be actuated in connection with a hydrant of well known form.

In the drawings forming part of this specification, Figure 1 is a side view of fire fighting apparatus made in accordance with my invention, a small section being represented as broken away. Fig. 2 is a sectional elevation of the same looking from the rear.

To adapt the apparatus to public fire fighting, I prefer to show it as mounted upon a transportation means, as the autotruck shown in the drawings, in which the reference numeral 1 designates the chassis; 2, the driving wheels, and 3, the front wheels. Upon the chassis 1 is mounted a large tank or receiver 4, having a removable top or cover 5, and a conical bottom 6 opening through a sliding gate 7 into a small mixing chamber 9.

To one side of this mixing chamber 9 is connected an end of a pipe 10, to whose outer end is coupled an end of a hose 11 for communicating with a hydrant 12; and from the same hydrant a section of hose 13 is joined to a pipe 14 whose upper end is attached to the top 5.

Within the cylindrical receiver 4 is slidably located a plunger 15, water-tight therein, and adapted to be forced downward toward the bottom of the receiver by the water entering above it through the hose-section 13 and pipe 14.

In this way, the water passing through the mixing chamber 9 from the pipe 10 to the pipe 16 and thence to the hose 17 by which it is delivered to the burning structure, has intermixed therewith the earthy or other material descending from the receiver 4, the plunger 15 acting to insure such descent, both by the pressure upon the

upper surface of said material and by taking the place of the material as it recedes from the top 5.

In other words, were no water pressure admitted to the upper part of the receiver 4, the earthy material within the same could only descend by virtue of its substitution either by air or water. Air cannot be admitted through a hole in the top 5, for then the water-pressure in the chamber 9 would force the material and itself out through such hole. Without such an inlet, the air and material in the receiver would act as a cushion against the water-pressure in the chamber to prevent the entrance of water into the receiver, and also to hold the material from descent into the mixing chamber.

But with the plunger or follower 15 steadily forced down upon the earthy material with a powerful pressure, the descent of the material into the mixing chamber is rendered certain and regular; the pressure being regulated and the proportion of the intermixed material being changed to suit by a valve 19 in the pipe 14 (Fig. 1).

The gate 7 is shown as closed in Fig. 2, which is preferably the case until the apparatus has been transported to the conflagration and suitably coupled up to the hydrant or other source of water under pressure. Otherwise, there is danger of the earthy material filling the mixing chamber 9 and being acted upon by the moisture therein to become more or less solidified and to clog up the pipe 16.

When, however, the apparatus has been coupled up and the water turned on, then the gate is opened, as by the hand-wheel 20 acting upon the threaded rod 21 connected with the sliding gate 7.

For refilling the receiver 4, its top 5 is removed, and a couple of ropes or chains attached to the eyes 22 for the withdrawal of the plunger or follower 15. The earthy material can then be dumped or shoveled into the receiver; the follower returned, and the top 5 re-applied.

I prefer to have the receiver 4 made large enough to hold several tons of the earthy material, and the material which I prefer to use is what is known as fullers' earth, although I do not restrict myself thereto, nor do I restrict myself to earthy materials of other kinds, inasmuch as the apparatus is equally well adapted for charging the water

with elements of any kind, whether liquid, gaseous, or solid matter in a pulverulent condition.

Fullers' earth is preferable both because of its cheapness and its efficiency as a resistant of combustion. For instance, I find that combustible material wet down with pure water and thereby made to resist fire for a certain length of time, will, when wet with water intermixed with fullers' earth, resist fire for several times as long; often enduring unattacked for ten times the period of the other. This is especially the case when the intermixed water is driven against the combustible object with considerable force, thereby injecting the earthy material into the pores and crevices thereof, as well as leaving a coating upon the remainder of the surfaces by which the oxygen of the air is kept from the same.

The reason why earthy material, and especially the fullers' earth, accomplishes the desired results is that in the extreme heat of a conflagration, the pure water cast upon exposed surfaces is dissipated almost immediately, leaving no permanent, or more than a moment's, shield against combustion; but when the earth-bearing water strikes a heat-receiving surface and is instantly evaporated, its earthy content remains thereon as a permanent shield.

Although I have described the apparatus as adapted for extinguishing fires, I also design to use the same for other purposes, such as coating objects with cement. For such purpose, the container 4 is filled with

the dry, pulverized cement, and the water pressure is made only enough to force the water and the contained cement against the object to be coated. It is coming to be more and more recognized that wooden buildings containing more than a single tenant are a great menace to the lives of the public, and that these should be in some way rendered fire-proof. With my apparatus, the outsides of wooden buildings, and, in fact, all exposed surfaces can be easily and inexpensively rendered fire resisting, if not absolutely fire-proof.

What I claim is:

A fire extinguisher comprising a portable container, a mixing chamber communicating with the bottom of the container, a sliding gate between the container and mixing chamber, means for opening and closing the gate, pipes projecting from and communicating with opposite sides of the mixing chamber, means for coupling hose to the outer ends of said pipes, a removable cover for the container, a pipe connected with said cover, a valve for the last-mentioned pipe, means for coupling a hose to the end of said pipe, whereby a hydrant can be connected with the pipe leading to the cover, and also to the mixing chamber, and a suitable discharge nozzle with the other side of the mixing chamber.

In testimony that I claim the foregoing invention, I have hereunto set my hand this 6th day of April, 1917.

LEON B. CONANT.