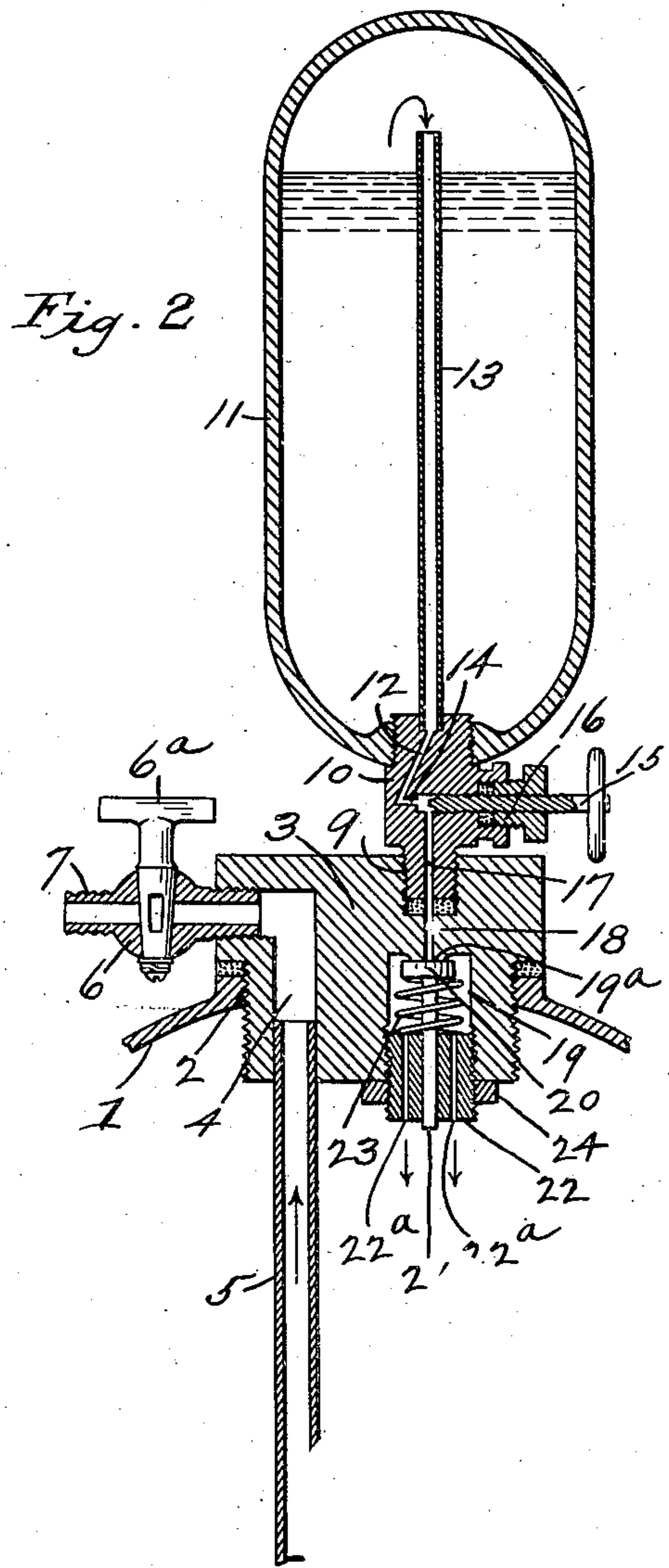
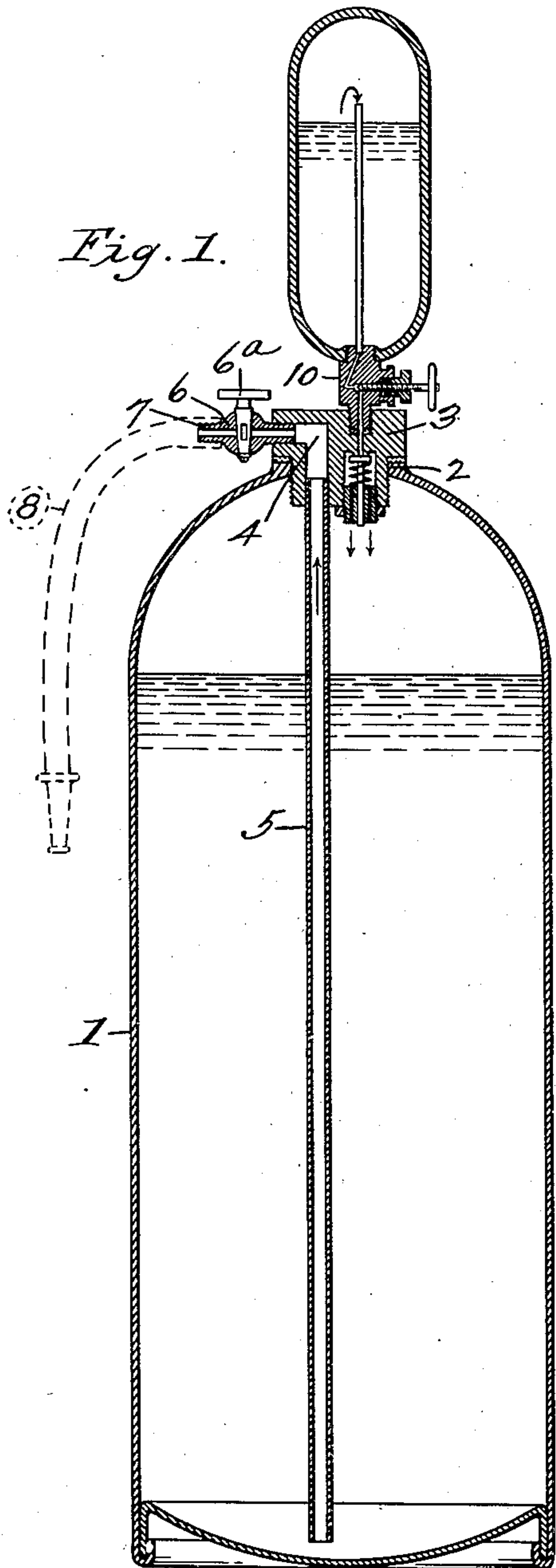


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FIRE EXTINGUISHER.
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968,736.

Patented Aug. 30, 1910.



Witnesses:

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FIRE-EXTINGUISHER.

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Specification of Letters Patent.

Patented Aug. 30, 1910.

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To all whom it may concern:

Be it known that I, CHARLES BRENT, residing at Brandon, in the Province of Manitoba, Canada, have invented a certain new and useful Improvement in Fire-Extinguishers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates generally to fire extinguishers but particularly to that class of such devices which are designed for hand use and while it possesses many independent features it is an improvement over my prior applications for fire extinguishers No. 268,871 filed August 22nd 1905 and No. 296,489 filed January 17th 1906. The first of these applications comprehends the using of gas, from a suitable container charged with liquefied carbonic acid gas, to saturate water, in a suitable tank, and thereby make such water more deadly to fire, and also to force the same out upon the flames, while the second covers suitable connections and arrangements of parts whereby the operator may discharge a mixture of gas and water or gas by itself from the extinguisher, together with suitable means for heating the valves and ports and preventing the freezing thereof.

Primarily the invention resides in the construction and arrangement of a device, of the character described in a manner such that it is ready at all times for immediate use, thus avoiding the loss of any time in preparing the machine for action and in bringing about this arrangement it is preferable to have the gas container in direct communication with the air space about the water in the tank with the outlet therefrom closed so that the water is always under pressure and is thoroughly saturated with the gas from the container.

More specifically this invention relates to a tank having a discharge and means at the top of the tank for receiving the gas container, for regulating the flow therefrom and for arranging the device in such a manner that the gas from the container may be shut off entirely.

It is also an important feature of this invention to arrange the gas container in such a way that the valve mechanism thereof may be shut off while the water tank is being filled or while the gas container itself is being applied to the water tank thus giving the

device a great range of operation by being able to readily replenish it with both gas and water when they are needed.

The device is provided as previously suggested with a regulating controlling valve of a construction such that the pressure upon the water is maintained at a predetermined point as long as there is sufficient charge in the gas container and this valve mechanism is in the nature of a spring actuated device which may be previously set so as to maintain a pressure in the water tank at any desired point.

The invention may be further briefly summarized as consisting in the construction and combination of parts hereinafter set forth in the following description, drawings and claims.

Referring to the drawings, Figure 1 is a vertical section through the tank showing all the parts in sections, and Fig. 2 is an enlarged detailed view of the valve mechanism and gas container.

In carrying out my invention any preferred form and construction of parts may be employed so long as they possess the necessary requirements of the invention, but I have shown one form in the drawings which meets the requirements very efficiently and in such embodiment 1 represents the tank of the usual form having a threaded opening 2, at the top thereof, for receiving the plug 3, which is used for filling and carrying the valve mechanism and the gas container to be described.

The filling plug 3, is provided with an outlet port 4, having a pipe 5, leading down from the same into the tank to a point near the bottom thereof. On the outside of the tank this port 4, receives a cock 6, which controls the flow of liquid from the tank and is provided with a nipple 7, for receiving a hose 8. The plug 6^a, of this cock 6, is normally closed when the extinguisher is not in use so that a discharge therefrom is prevented and whatever pressure there is in the tank will be maintained. The filling plug 3, is further provided with a threaded socket 9, which receives a gas container plug 10, to which is secured a gas container 11. This container plug 10, is provided with a port 12, which communicates with a vertical disposed container pipe 13, extending to a point near the top of the container. The port 12, communicates at

its lower end with a laterally disposed valve seat 14, which receives the valve 15, entering through a suitable stuffing box 16, in the container plug. By this valve mechanism just described the supply of gas from the container may be completely shut off so that it may be removed from the plug 3, and replaced by another container. An outlet port 17, is also arranged in the container plug 10, and it communicates with a port 18, in the filling plug 3. The filling plug 3, is still further provided with an opening 19, and a valve seat 19^a, about the port 18, and cooperating with valve seat 19^a, a valve 20, is provided, having a stem 21, guided through an adjusting plug 22, threaded into the plug 3, and having suitable ports 22^a, which permit the gas admitted to the opening 19, to pass down into the water tank. A spring 23, is arranged between the adjusting plug 22, and the valve 20, whereby the latter is held against its seat until the tension of the spring is overcome by the pressure of the gas in port 18. The tension of the spring 23, may be adjusted by the adjusting plug 22, and when so adjusted may be held in such position by a check nut 24, engaging the threads upon the plug.

It will be seen from the description of the parts just given that when the valve 15, is open and gas from the top of the container is permitted to flow down against the valve 20, the latter, if the tension of its spring and the pressure below the same are less than the pressure through the port 18, will be forced down and the gas will pass through the opening 19, and the ports 22, into the tank and upon the top of the water with the result that the gas will be dissolved in the water until the pressure in the water tank plus the tension of the spring 23, are sufficient to seat the valve 20, and prevent a further admission of gas from the container. The extinguisher is then ready for operation, and when the plug 6^a of the cock 6 is opened the water from the tank will rush out through the hose and the extinguisher will be in full operation. As the pressure in the water tank above the water is dissipated additional pressure is automatically supplied from the gas container by the valve mechanism already described.

I claim—

1. In a fire extinguisher, in combination, a tank for holding a quantity of water, suitable outlet means, a plug in top of said tank, a liquefied gas container mounted in an inverted position in said plug, and a gas container pipe extending from said plug to the upper part of such container for delivering gas alone to the water tank below.

2. In a fire extinguisher, in combination, a water tank, a plug in the upper end of said tank, a gas container removably secured in

said plug, a pipe within said container projecting to a point above the level of the liquid therein and suitable valve mechanism upon said container for controlling the flow of gas therefrom.

3. A liquefied gas container consisting of a tank, a plug in the end of said tank and having an outlet port, a discharge tube mounted in said plug and projecting to a point near the other end, and a valve mounted in said plug for controlling the passage of gas through said port.

4. In a fire extinguisher, in combination, a water tank having suitable discharge means, a plug mounted in the upper end of said tank and having a gas container socket and a valve opening communicating with said socket, a pressure reducing valve mounted in said valve opening, a liquefied gas container removably secured in its socket and having a gas outlet tube extending to a point near its upper end, and a valve carried by said container for controlling the discharge of gas therefrom.

5. In a fire extinguisher, in combination, a water tank, discharge means connected to said tank, a plug in the upper end of said tank and having a container socket and a valve opening communicating therewith, a valve seat within said valve opening, an adjusting plug mounted in said valve opening, a valve guided in said plug and cooperating with said valve seat, a spring between said valve and said adjusting plug, means for holding said plug in any adjusted position.

6. In a fire extinguisher, in combination, a water tank, a filling plug mounted therein and having a gas container socket and a valve opening communicating with each other by means of a suitable port, a valve seat about said port, an adjusting plug having suitable ports through the same and adapted to be shifted within said valve opening, a pressure reducing valve guided in said adjusting plug and cooperating with said valve seat, a spring between said adjusting plug and said valve, means for locking said adjusting plug in any adjusted position, a gas container removably mounted in said socket and having a gas discharge pipe extending to a point near the upper end thereof, a valve for controlling the discharge of gas from said container, a discharge pipe mounted in said filling plug extending to the bottom of the water tank, and a suitable valve for controlling the discharge from said discharge pipe.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES BRENT.

Witnesses:

GEORGE HERBERT DRAPER,
FRANK JAS. JOHN.