

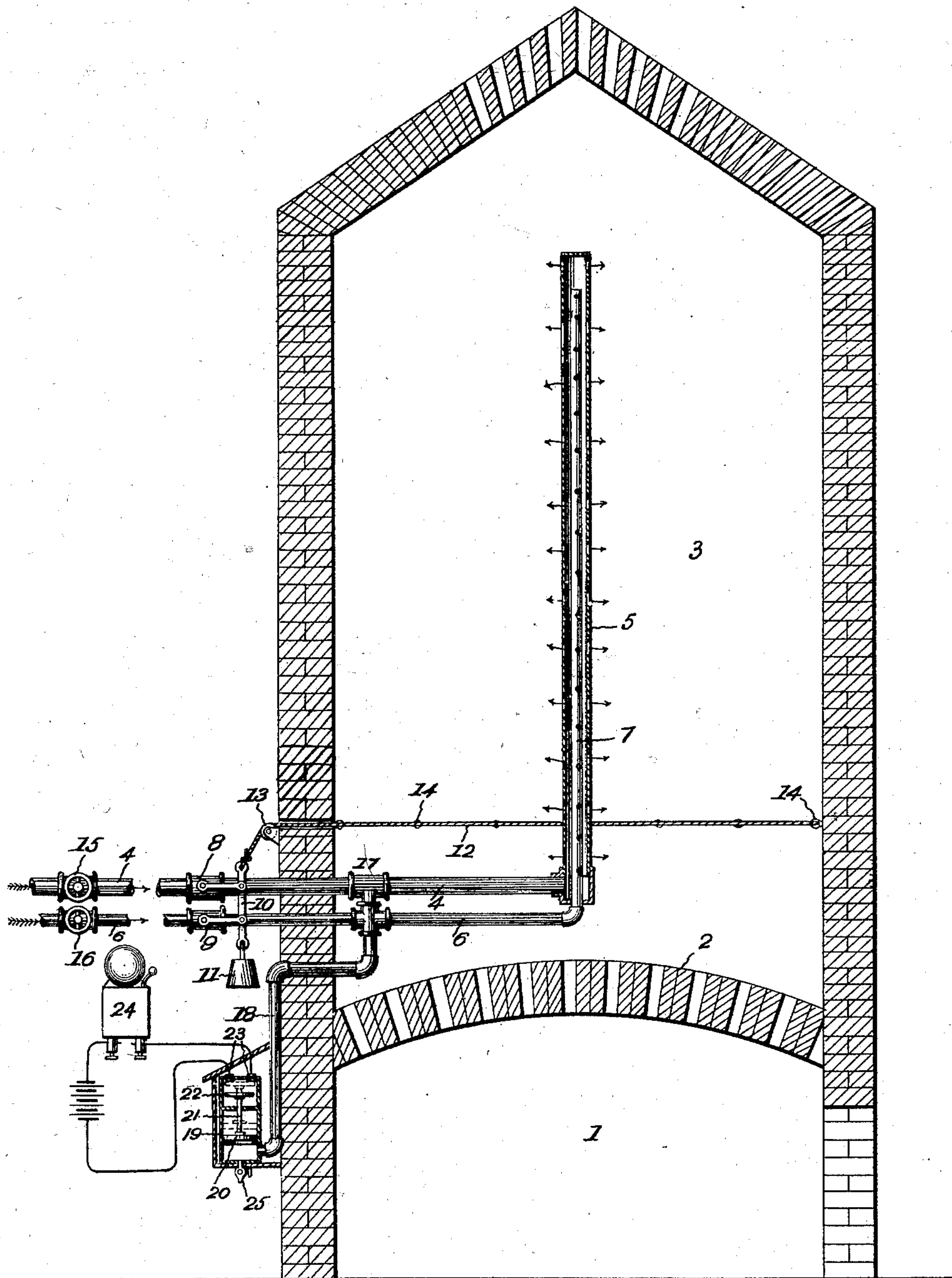
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A. D. LÖFFLER.
AUTOMATIC FIRE EXTINGUISHER AND ALARM.

APPLICATION FILED NOV. 20, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

ANDREW D. LÖFFLER, OF WASHINGTON, DISTRICT OF COLUMBIA.

AUTOMATIC FIRE EXTINGUISHER AND ALARM.

SPECIFICATION forming part of Letters Patent No. 719,946, dated February 3, 1903.

Application filed November 20, 1902. Serial No. 132,156. (No model.)

To all whom it may concern:

Be it known that I, ANDREW D. LÖFFLER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a certain new and useful Improvement in Automatic Fire Extinguishers and Alarms, of which the following is a full, clear, and exact description.

This invention relates to fire extinguishers and alarms; and the object of the invention is to provide an automatic fire extinguisher and alarm especially designed for use in smoke-houses for smoking meats, although the invention is applicable to other structures of a similar character.

The invention consists in the combination, with a smoke-house or other similar structure, of a steam-supply pipe, a perforated discharge-pipe connected with the steam-supply pipe, a water-supply pipe, a perforated discharge-pipe connected with the water-supply pipe and arranged within the perforated discharge-pipe of the steam-supply, valves in said steam and water supply pipes, means for opening said valves automatically, and stop-cocks in said supply-pipes between the supply and said valves; and the invention also consists in the combination, with such an apparatus, of an electric alarm mechanism including a fluid-pressure circuit-closer connected with one or both of the supply-pipes at a point between the perforated discharge-pipes and the valves, whereby the circuit-closer is operated and the alarm sounded when the valve or valves are opened, all as I will proceed now more particularly to set forth and finally claim.

In the accompanying drawing, illustrating my invention, I have shown the smoke-house in vertical section with my invention applied thereto, the perforated steam-discharge pipe and a portion of the fluid-pressure circuit-closer being in section and the other parts being shown in elevation.

The smoke-house may be of any usual or approved construction, and, as shown in the drawing, 1 is the furnace or fire-box, 2 is the arch, and 3 is the smoke-chamber.

I have omitted from the drawing the usual rafters of the smoke-house upon which the meats are hung to be smoked.

In carrying out my invention I provide a steam-supply pipe 4, adapted to be connected with any suitable steam-supply and extended through the wall of the smoke-chamber just above the arch 2 to a point about centrally of the smoke-chamber and connected with a perforated discharge-pipe 5, extended vertically within the chamber to within a short distance of the roof thereof.

6 is a water-pipe adapted to be connected with any suitable water-supply and arranged substantially parallel with the steam-supply pipe and extended through the wall of the smoke-chamber to a point about centrally of the chamber and provided with a perforated discharge-pipe 7, extended vertically within the perforated steam-discharge pipe 5. The perforated discharge-pipes 5 and 7 are closed at their upper ends to confine the pressure within the perforated walls thereof.

The steam and water supply pipes are provided with valves 8 and 9, respectively, and said valves are connected to be operated simultaneously by a rod or link 10, having a weight 11 attached to its lower end for a purpose presently appearing. To the upper end of the rod or link 10 is connected a cord 12, passing over a pulley 13, secured to the wall of the smoke-house, and then through an opening in the wall and extended and secured about the inner walls of the smoke-chamber. Eyes 14 or other suitable devices are employed for loosely engaging the cord and sustaining it in place. The steam and water supply pipes are also provided with stop-cocks 15 and 16, respectively, arranged between the valves 8 and 9 and the sources of supply for stopping the flow of steam and water through said pipes when desired.

Connected to and communicating with the steam and water pipes, or to either of them, as by a suitable coupling or union, as at 17, is a branch pipe 18, leading to the lower end of a cylinder 19 of a fluid-pressure circuit-closer. Arranged within the cylinder 19 is the piston 20, the rod or stem 21 of which carries at its upper end a metallic plate or disk 22, adapted to contact with the contacts 23, which are suitably insulated and connected with the terminals of an electric circuit, including a bell 24 or other suitable alarm, which may be

arranged in the room of an attendant or at any suitable place where it may be desired to sound an alarm upon the occurrence of fire.

The cylinder 19 is provided with a blow-off 25 for the purpose of relieving the pressure in the cylinder and permitting the piston and its attached contact-plate to return to their normal position by their own weight, and thus break the circuit and discontinue the sounding of the alarm.

The circuit-closer is preferably inclosed in a suitable case or box secured to the wall of the smoke-house or other structure.

As shown in the drawing, the parts are in the position for operation, the valves 8 and 9 being closed and the stop-cocks 15 and 16 opened, and should a fire occur (and in smoke-houses it has been found that a fire usually starts just above the arch, hence the arrangement of the cord 12 herein shown) the said cord will burn and release the weighted-rod 10, thus opening the valves 8 and 9 and permitting the flow of steam and water through pipes 4 and 6 into the perforated discharge-pipes 5 and 7, and the steam, before it passes through the perforations of its discharge-pipe will become thoroughly moistened, and in this moistened condition it is blown into the smoke-chamber and effectually smothers and extinguishes the fire.

When the valves 8 and 9 are opened, steam or water, or both, will enter the branch pipe 18 and thence flow into the cylinder 19 and force the piston 20 upwardly, as shown in dotted lines, thus causing the contact plate or disk 22 to engage the contacts 23 and complete the circuit, and thus sounding the alarm. The attendant or other person having been notified of the occurrence of fire hastens to the smoke-house, and finding the fire extinguished turns off the supply of steam and water by closing the stop-cocks 15 and 16, and thus prevents the further destruction by steam and water of what goods may be in the smoke-house or other structure. The blow-off 25 is then opened and the pressure in the cylinder relieved and the piston returns to its normal position, thereby breaking the circuit and discontinuing the alarm.

The apparatus may be reset for repeating its operation by simply providing a new cord for sustaining the weighted valves in their closed position and opening the stop-cocks 15 and 16.

I do not wish to be understood as limiting my invention to the exact details of construction and arrangement of parts herein shown and described, as the same may be altered in various particulars and still be within the scope of my invention.

What I claim is—

1. In a fire-extinguisher for smoke-houses and the like, a steam-supply pipe and a perforated discharge-pipe connected therewith, a water-supply pipe and a perforated discharge-pipe connected therewith and arranged within the perforated discharge-pipe of the steam-

supply, and means for controlling the supply of steam and water to said discharge-pipes.

2. In a fire-extinguisher for smoke-houses and the like, a steam-supply pipe and a perforated discharge-pipe connected therewith, a water-supply pipe and a perforated discharge-pipe connected therewith and arranged within the perforated discharge-pipe of the steam-supply, valves in said steam and water supply pipes, and means for automatically opening said valves.

3. In a fire-extinguisher for smoke-houses and the like, a steam-supply pipe and a perforated discharge-pipe connected therewith, a water-supply pipe and a perforated discharge-pipe connected therewith and arranged within the perforated discharge-pipe of the steam-supply, valves in said steam and water supply pipes, fusible means for sustaining said valves in closed position, and means for automatically opening said valves when released.

4. In a fire-extinguisher for smoke-houses and the like, a steam-supply pipe and a perforated discharge-pipe connected therewith, a water-supply pipe and a perforated discharge-pipe connected therewith and arranged within the perforated discharge-pipe of the steam-supply, valves in said steam and water supply pipes, a rod or link connecting said valves to be operated simultaneously, a cord or other fusible medium connected to said rod and arranged in the smoke-chamber to sustain the valves in closed condition, and a weight connected to said rod and adapted to open said valves when the cord or other fusible medium is ruptured.

5. In a fire-extinguisher for smoke-houses and the like, a steam-supply pipe and a perforated discharge-pipe connected therewith, a water-supply pipe and a perforated discharge-pipe connected therewith and arranged within the discharge-pipe of the steam-supply, valves in said steam and water supply pipes, a rod or link connecting said valves to be operated simultaneously, a cord or other fusible medium connected to said rod and arranged in the smoke-chamber to sustain the valves in closed condition, a weight connected to said rod and adapted to open said valves when the cord or other fusible medium is ruptured, and stop-cocks in said steam and water supply pipes between said valves and the sources of supply for cutting off the supply when desired.

6. In a fire-extinguisher for smoke-houses and the like, a steam-supply pipe extended through the wall of the house to a point about centrally of the smoke-chamber thereof, and a perforated discharge-pipe connected with said steam-supply pipe and arranged vertically within said chamber and having a closed upper end, a water-supply pipe also extended through the wall of the house to a point about centrally of the smoke-chamber and a perforated discharge-pipe connected therewith and extended vertically within the perforated

discharge-pipe of the steam-supply and having a closed upper end, valves in said steam and water supply pipes, a fusible medium connected to said valves and extending within
5 the smoke-chamber for sustaining the valves in a closed position, and a weight connected to said valves for opening the same when the fusible medium is ruptured.

7. In a fire extinguisher and alarm for
10 smoke-houses and the like, the combination with a steam-supply pipe and a perforated discharge-pipe connected therewith, a water-supply pipe and a perforated discharge-pipe connected therewith and arranged within the
15 perforated discharge-pipe of the steam-sup-

ply, valves in said steam and water supply pipes, and means for automatically opening said valves, of a branch pipe connected with said supply-pipes between said valves and the discharge-pipes, and an alarm connected
20 with said branch pipe and adapted to be operated when the valves are opened.

In testimony whereof I have hereunto set my hand, this 20th day of November, 1902, at Washington, District of Columbia.

ANDREW D. LÖFFLER.

Witnesses:

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