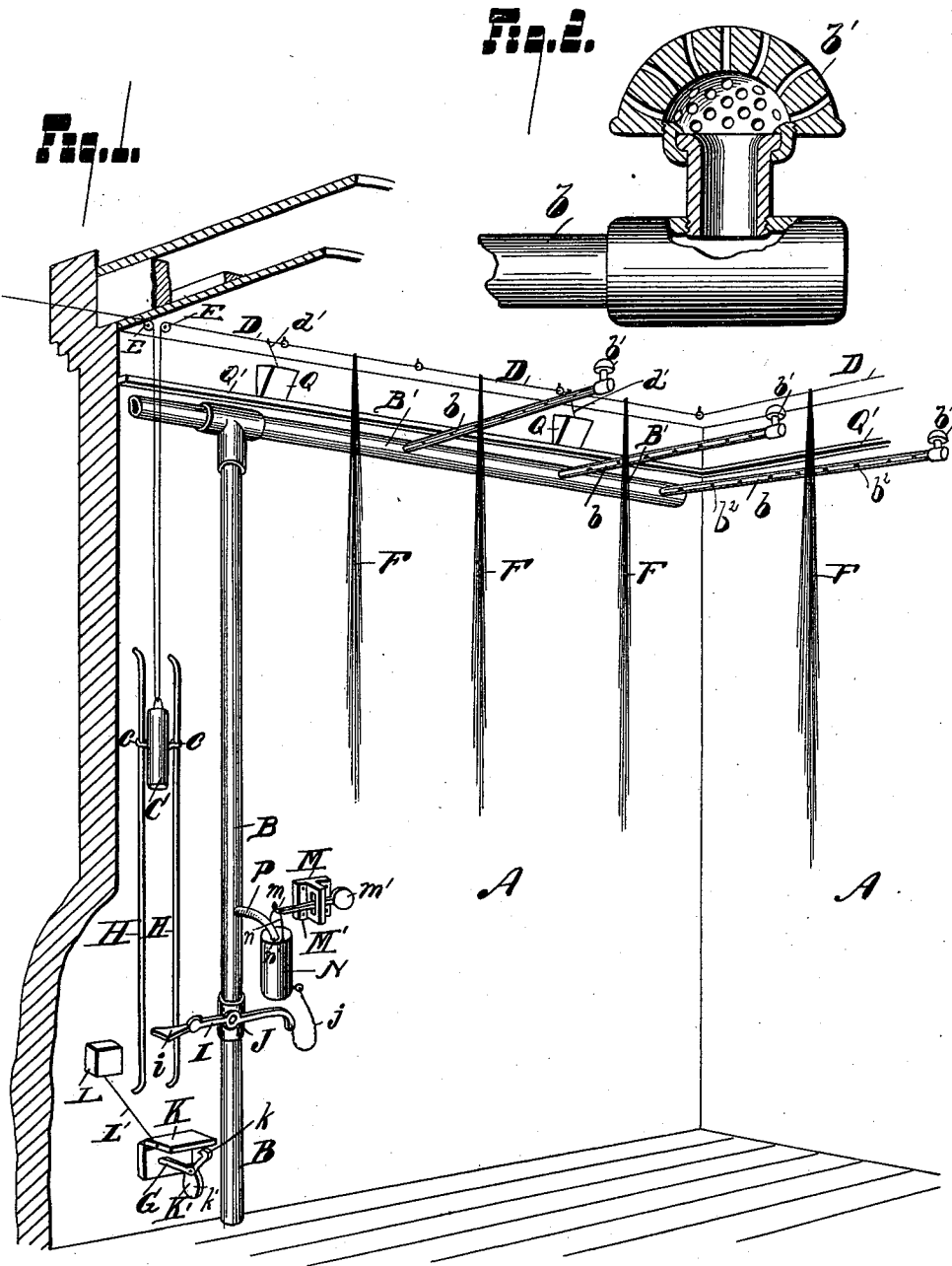


(No Model.)

C. G. SMITH.
FIRE EXTINGUISHER.

No. 539,553.

Patented May 21, 1895.



WITNESSES

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FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 539,553, dated May 21, 1895.

Application filed March 21, 1892. Serial No. 425,832. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. SMITH, a citizen of the United States, and a resident of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Fire-Extinguishers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

The nature of my invention relates to that class of stationary fire extinguishers, which are attached to the walls of the apartment in which they operate and are put in operation, to extinguish the fire in the apartment, by contact with the fire to be extinguished.

The objects of my invention are to provide means to support bombs containing a fire extinguishing gas in such manner that they may be released from their support by the action of the fire to be extinguished; to provide means to pull off the city fire alarm telegraph set in motion by the fire to be extinguished; to provide means to close the valve in the main connected with the distributing pipes within a given time after the city fire alarm telegraph has been pulled off, and to provide means to open the valve in the main connected with the distributing pipes by which water is thrown on the ceiling and over the room, set in motion by the fire to be extinguished; and it consists in the devices for supporting the bombs containing a fire extinguishing gas near the ceiling of the room with the means to release the bombs by the action of the fire to be extinguished; the means to pull off the city fire alarm telegraph set in motion by the fire to be extinguished; the devices to open the valve in the main connected with the distributing pipes set free by the severing of a cord by the fire to be extinguished so that the water is thrown on the ceiling and over the room; the devices for closing the valve in the main in a given time after the city fire alarm has been pulled off, and in the peculiar construction, arrangement, and combination of the several parts as hereinafter more particularly described and claimed.

Figure 1 is a perspective view of the apart-

ment in which my extinguisher is located, 50 showing the device in position. Fig. 2 shows a vertical section of one of the roses and the means for holding the rose in the position shown without being fastened permanently to the pipe so it will be revoluble.

In the drawings, A represents the walls of the apartment in which my device is located.

B is a pipe connecting the city water mains with the distributing pipes of my system.

B' B' are the distributing pipes which are located near the ceiling of the apartment, supported by brackets on the wall at convenient places.

b. b. are smaller distributing pipes which are located near the ceiling being suspended from it in any convenient manner. These distributing pipes are provided with perforations b^2 b^3 so as to throw the water over the room and support on their upper sides the revolving roses b' b' which throw the water upward on the ceiling of the apartment.

D is a strong cord, extending around the ceiling of the apartment, just above the cornice, resting on the pulley E. E. These pulleys are supported in brackets which are attached to the wall, and should be so covered or housed in, that the cord D can freely slide along over them, without entangling any of the pendent cords in the brackets or pulleys.

F. F. are light cords, saturated with some very inflammable substances, attached to the line D. at suitable points, and extending almost, if not quite, to the floor. The line D, at the point where the cords F F are connected with it is slightly untwisted and the loosened fiber is saturated with the same material as the cord F. to insure its speedy burning off, when the flame of the burning cord F reaches it.

C is a weight hung on the cord D, provided with the studs or wings c. c. which are grooved on their outer faces, or vertically perforated, so as to slide on the guides H. H. which are attached to the wall of the apartment, near the pipe B.

J. is a valve in the pipe B which governs the flow of the water from the city mains through the pipe B into the distributing pipes B'.

I is a lever, keyed on the valve J, by which it is opened and closed. The outer end of this lever extends under the guides or ways H H where it is flattened out to form the shelf 5 *i* against which the weight C strikes whenever it drops down.

The action of the above elements of my device is as follows: If a fire breaks out in any part of the apartment as soon as the flame 10 touches any of the cords F, it immediately catches fire, and almost instantaneously carries it up to the juncture with the cord D. This point of juncture having been loosened by untwisting, and saturated with the inflammable material is soon burned off, and the 15 cord D is severed. As soon as this occurs, the weight C drops down on the end *i* of the lever I and opens the valve J, allowing the water to pass into the distributing pipes 20 and be thrown on the fire. If the fire is a slight one the water thrown out of the distributing pipes will be sufficient to extinguish it. If it does not extinguish the fire, it will hold it in check until the other parts of my 25 device produce their effect.

When the weight C has opened the valve J by turning down the lever I, the weight is free to pass the end *i* of the lever and falls on the shelf K, immediately under the guides or 30 ways H H. The shelf is attached to the wall by proper hinges to allow it to drop down, when the weight C falls on it.

K' is a weighted lever, having the hook *k* at its upper end to engage with the shelf K 35 when it is forced down and the weight *k'* at its lower end to retain it in a vertical position, being pivoted in the bifurcated arm or bracket G, affixed to the wall below the shelf K.

L is a city fire alarm box, of the ordinary construction attached to the walls of the apartment near the shelf K, and connected by the 40 usual telegraph wires to the fire alarms of the various fire engine houses.

L' is wire connecting the pull of the fire alarm box with the shelf K and attached to 45 the shelf at such a point that the fall of the shelf will pull the fire alarm, and cause the proper signals for the box to be given. This part of my device gives the proper notice to 50 the fire department, that there is a fire in the building which needs attention.

The lever I extends in the opposite direction from the end *i* beyond the valve J, and has a downward curve at its end, to which the 55 cord *j* is attached in any suitable way.

M is a bracket attached to the wall of the apartment near the curved end of the lever I in which the lever M' is pivoted near its center. This lever is provided with the upwardly 60 turned hook *m* on its inner end, and the outer end is provided with the weight *m'* which should be nearly heavy enough to counterbalance the pail N when filled with water.

N is a covered pail or can, provided with the bail *n* by which it is suspended from the 65 hook *m* on the lever M'. The cover of the pail is perforated at *n'* for the admission of the end of the pipe P, by which it is filled with water. The pipe P leads from the pipe B to the 70 pail N, and should be of such a size that the pail would be filled with water in a certain time. This time should be long enough to allow the distributing pipes to throw sufficient 75 water on the fire to extinguish it, or to allow the fire department of the city time enough to reach the place and to begin to play on the fire. When the pail is filled with water it will 80 overbalance the weight *m'* on the outer end of the lever M, and the inner end of the lever will drop and the pail will fall off from the hook *m*. As it falls it draws on the cord *j* 85 which is attached to the outer end of the lever I and at the other to the bail *n* of the pail, and that draws down the outer end of the lever I and closes the valve J. This closing of the valve cuts off any further flow of 90 water into the distributing pipes and prevents any further damage to goods or furniture in the apartment by water from the pipes.

Q Q are glass bottles or bombs, containing 95 a fluid for extinguishing fires by expansion into a gas, resting partially on the ledge Q' and partly supported by the line *d'* but in such a manner, that when the tension of the line D is destroyed, the weight C draws the 100 cord D along over the pulleys on which it runs, and this motion of the cord throws the outer end of the bomb or bottle outward and the bottle or bomb Q will fall to the floor and be broken, and the gas to extinguish the fire 105 will be thrown out.

If my device is used where there are no city or municipal water works to connect with, or the buildings are too high, a tank can be 110 placed on the roof, and the water allowed to flow down through the proper pipe. In this case the valve J would have to be reversed in its action, so that the current of the water should be downward instead of upward.

What I claim as my invention is— 110

1. The combination of the cords supporting the weight, with the cords to conduct the fire to the cord supporting the weight, the weight to operate the lever, the lever to open the valve in the feed pipe, the valve in the pipe, 115 the distributing pipes, the shelf to receive the weight after it has opened the valve in the pipe, and the means to connect the shelf with the pull of the fire alarm, all substantially as described. 120

2. The combination of the cord supporting the weight, with the cords to conduct the fire to the cord supporting the weight, the weight to move the shelf, and the shelf to pull off the fire alarm, all substantially as described. 125

3. The combination of the cord supporting

the weight, with the cords to conduct fire to the cord supporting the weight, the bombs supported on the cord supporting the weight, the weight to move the shelf, the shelf to receive the weight, and the means connected to the shelf to release the fire alarm, all substantially as described.

5 4. The combination of the cord supporting the weight with the cord to communicate fire

to the cord supporting the weight, the weight to operate the valve in the main pipe, the shelf to receive the weight and pull off the fire alarm and the means to close the valve in the main pipe, all substantially as described.

CHARLES G. SMITH.

Witnesses:

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GEORGE GREEN.