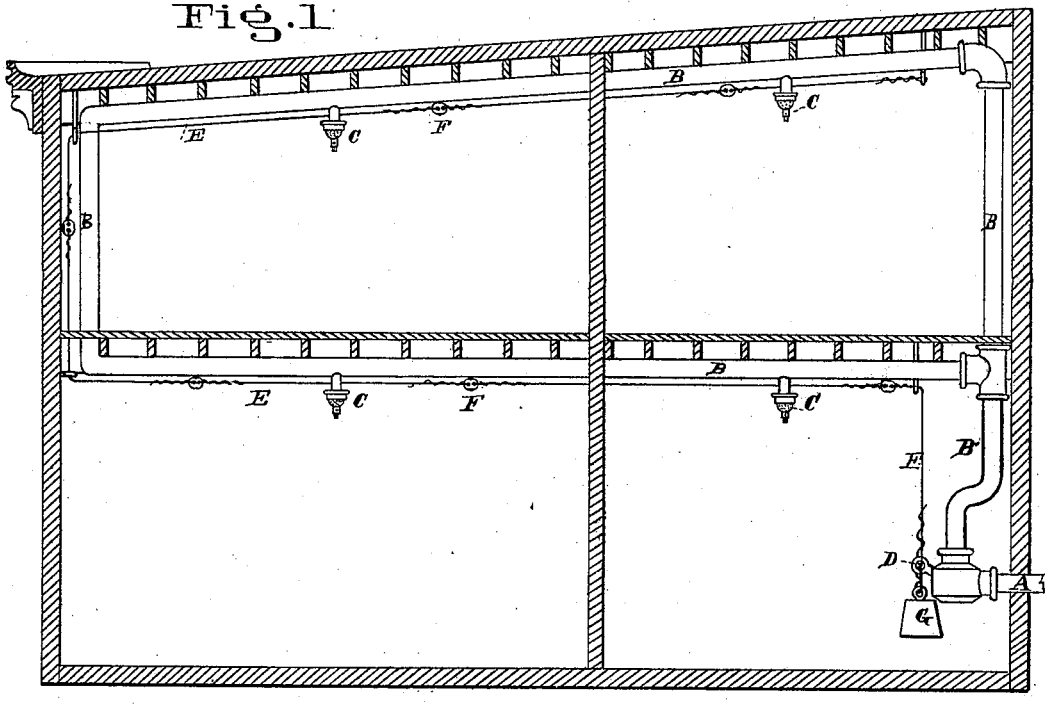
C. BARNES.

Means for Extinguishing Fires in Buildings.

No. 212,346. Patented Feb. 18, 1879.

Fig. 1



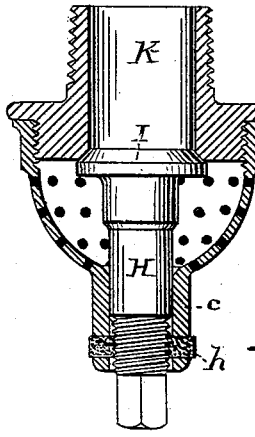


Fig. 2

Fig. 4

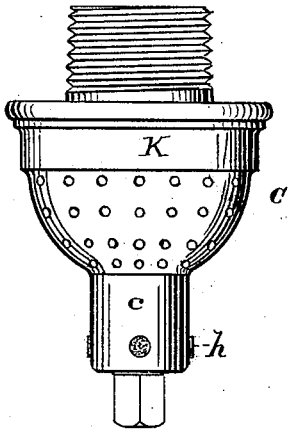


Fig. 3

Attest

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CHARLES BARNES, OF DAYTON, KENTUCKY.

IMPROVEMENT IN MEANS FOR EXTINGUISHING FIRES IN BUILDINGS.

Specification forming part of Letters Patent No. **212,346**, dated February 18, 1879; application filed January 15, 1879.

To all whom it may concern:

Be it known that I, CHARLES BARNES, of the city of Dayton, in the county of Campbell and State of Kentucky, have invented a new and Improved Means of Extinguishing Fires in Buildings, which improvement is fully set forth in the following specification.

This invention is an improved mode of extinguishing fires in buildings. Its object is to provide a means to automatically turn a flow of water from the cellar or basement of the building to the room or part of the building only where the fire occurs, and only at the time of its occurrence, so that the pipes throughout the building may remain empty until the flow of water is turned on by the fire, and thus all damage by bursting or leakage of the pipes from frost, settling of the building, or other cause is avoided.

The invention consists in locating the supply-valve in the cellar or basement of the building, suspending a weight to its actuating-lever, and retaining the valve in its closed position by a wire, which is carried through the different rooms, and secured near the upper ceiling or roof, the wire being provided with fusible connections in the various rooms and parts of the house, which will be melted by an increased temperature caused by fire, and thus release the weight, which, descending, will open the valve and cause a flow of water through the pipes.

It consists, also, of a peculiar rose-head, which is fitted with a valve, the stem of which is screw-threaded, and tapped through fusible metal, to enable it to be adjusted and held firmly to its seat until released by the heat, when the valve will be thrown open and a shower of water be discharged upon the fire.

A number of these sprinklers are dispersed in suitable locations in the different rooms and halls of the house.

In the accompanying drawings, in which similar letters of reference indicate like parts in the different figures, Figure 1 is a vertical section of a building fitted with my improvements. Fig. 2 is an axial section of my improved rose-head sprinkler. Fig. 3 is an elevation of the same, and Fig. 4 shows a form of fusible connection for the weight-sustaining wire.

Referring to the parts, A is the supply-pipe leading from the street-main to the cellar or basement of the building, where it is connected to a system of pipes, B, which are carried through the house. These pipes have rose-head sprinklers C depending from them in the various rooms and halls. D is the actuating-lever of a valve located at or near the junction of pipes A and B. This valve is held in its closed position by a wire, E, one end of which is secured to the end of lever D, and, after passing through the building, has its opposite end secured in one of the upper rooms. This wire E is united in the different rooms by fusible connections F.

Suspended upon the end of lever D is a weight, G, which will drop and open the valve so soon as any of the connections F are fused. These connections may be made in the form shown in Fig. 4, or the wire may be soldered at different parts of its length by fusible solder. The metal of which the connections are formed should be made so as to fuse at about 110° or 115° Fahrenheit, and in some locations at even a lower temperature.

The sprinkler consists of a perforated rose-head, C, which has a neck, *c*, projecting from it to receive the valve-stem H. The neck has transverse perforations to receive fusible solder plugs *h*, which are tapped to receive the threaded end of valve-stem H, to hold the valve I to its seat in the piece K.

The valve-stem has its upper part enlarged, and the edge of the enlarged part beveled to correspond with a beveled seat in the neck of the sprinkler, which prevents the valve I from dropping down so far as to close the lower apertures in the rose-head. The projecting end of the valve-stem is angular, to receive a key or wrench for the purpose of tightening the valve I against its seat.

The supply-valve should have a waste-cock, to discharge any water that might be carried into pipes B by leakage of the valve, and to empty the pipes when the valve has been closed after a flow had been turned into the pipes.

It will be seen that in case of fire in any part of the house a flow of water will be turned into the pipes by the weight G so soon as the heat has fused any of the connections F, and as the plugs *h* are of the same metal as the

buttons F they will be fused at the same time in the room where the fire occurs, the valve I forced down by the pressure of water upon it, and a shower turned upon the fire. As the valves I are firmly held to their seats until the metal plugs are fused, no injury from water could happen by the accidental breaking of wire E or the turning on of a flow of water from any cause except fire, and in case of fire the shower would only be turned on at the place needed. After a fire the rose-head C can be readily removed and refitted with fusible plugs *h*.

I claim—

1. In a fire-extinguisher for buildings, the combination of a system of pipes, B, fitted with suitable discharge-nozzles connected to the street-main in the basement of the building, and having a supply-valve near the junction of said pipes, the retaining-wire E, united by fusible connections F to hold said valve closed, and the weight G, suspended from the actuating-lever D of said valve, to open it when any of the buttons F are melted, substantially as specified.

2. A nozzle for fire-extinguishers, composed of seat-piece K, valve I, and rose-head C, said valve being held to its seat by its screw-threaded stem H, which is tapped through fusible plugs *h* in the neck *c* of rose-head C, the parts being constructed and combined to operate substantially as specified.

CHAS. BARNES.

Witnesses:

GEO. J. MURRAY,

JAMES HASLAM.