

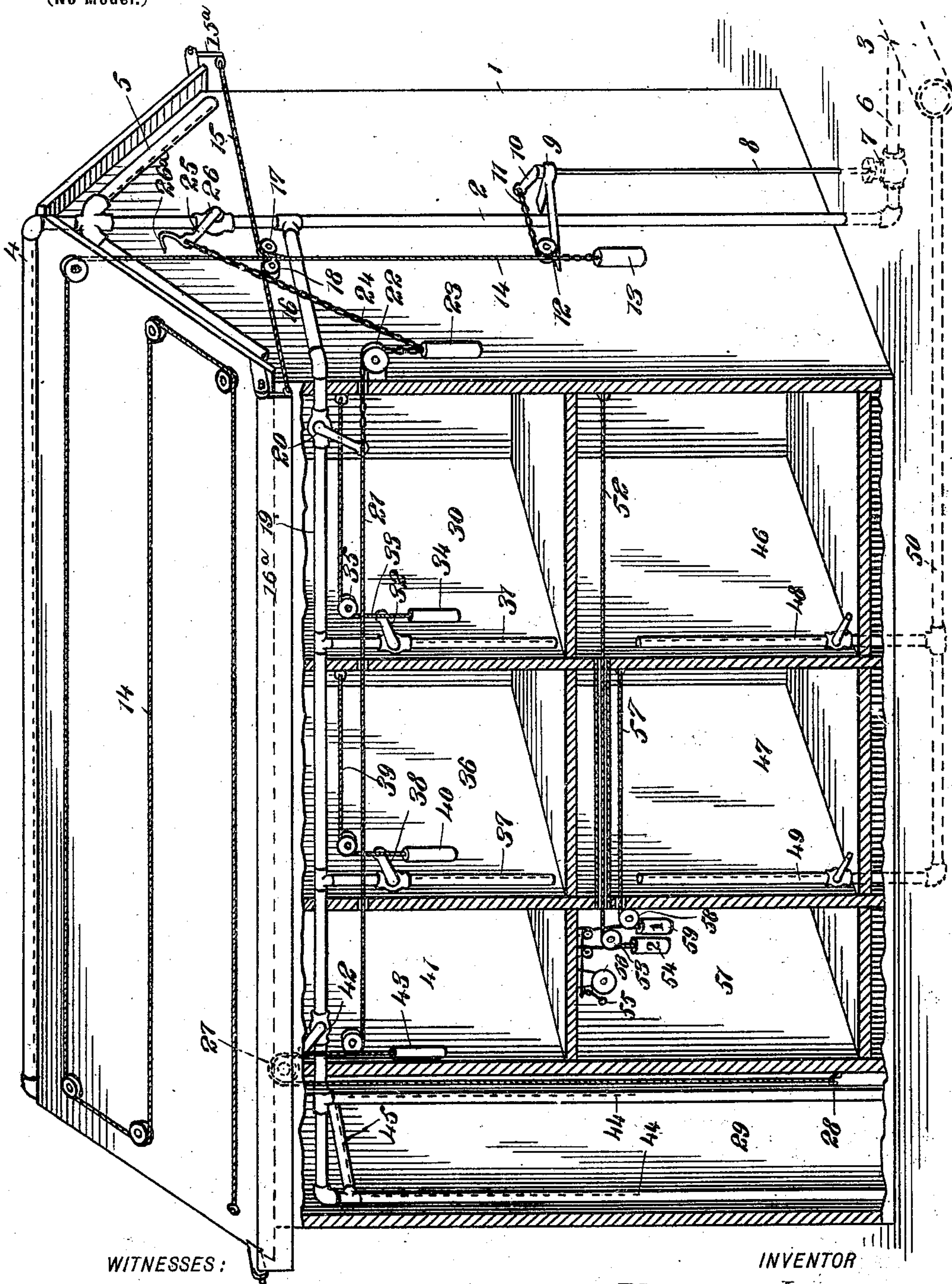
No. 684,072.

Patented Oct. 8, 1901.

A. LOGAN.
FIRE EXTINGUISHING APPARATUS.

(Application filed May 25, 1901.)

(No Model.)



WITNESSES:

Donn Twitchell
C. R. Ferguson

INVENTOR

Alexander Logan

BY

Mum
ATTORNEYS

UNITED STATES PATENT OFFICE.

ALEXANDER LOGAN, OF NORTH SYDNEY, CANADA.

FIRE-EXTINGUISHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 684,072, dated October 8, 1901.

Application filed May 25, 1901. Serial No. 61,889. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER LOGAN, a British subject, and a resident of North Sydney, in the county of Cape Breton, and Province of Nova Scotia, Dominion of Canada, have invented a new and Improved Fire-Extinguishing Apparatus, of which the following is a full, clear, and exact description.

This invention relates to improvements in apparatus for extinguishing fires in buildings; and the object is to provide in connection with a building a system of perforated pipes having valves adapted to be opened by weights or other pressure when released by the burning away of supporting cords or cables.

I will describe a fire-extinguishing apparatus embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawing, forming a part of this specification, in which similar characters of reference indicate corresponding parts in the figure, which is a sectional elevation of a building, showing my invention as applied thereto.

Referring to the drawing, 1 designates a building, and extended upward at one end of the building is a water-pipe 2, having connection with a main 3. This pipe 2 has a section 4 extended along the top of the roof, and this section 4 is provided with perforations through which water may pass to the roof, and at the ends of the building are branch pipes 5, which are also perforated. In a horizontal section 6 of the pipe 2, which is arranged in the ground, is a valve 7, from which an operating-rod 8 extends upward and has a bearing at its upper end in a bracket 9, attached to the building, and on this upper end is a crank 10, from which a chain 11 passes over a pulley 12 and has connected to its end a weight 13. From the weight 13 a rope 14 extends upward and passes back and forth along the roof, as clearly indicated in the drawing. This rope 14 passes over a series of pulleys on the roof and has its end secured to the roof. Ropes 15 and 16 connect with the rope 14, passing, respectively, over pulleys 17 and 18, and connect at their ends with supports secured to the eaves or to the lower edges of the roof. These supports are in the form of boards 15^a 16^a, mounted to swing at the edge of the roof and designed

when moved inward in case of fire to direct water to the sides of the building as it passes off the roof.

A main supply-pipe 19 extends through the several upper rooms of the house, and arranged in this pipe 19, within the building, is a valve 20. Also extended through the upper rooms of the building is a rope 21, which extends through an opening in the end of the building and over a pulley 22 and is connected to a weight 23. From this weight 23 a chain 24 extends to an arm 25, attached to the stem of a valve 26, arranged in the pipe 2 above its connection with the pipe 19. This arm 25 is provided at its end with a cutting-blade 26^a for a purpose to be hereinafter described. The rope 21 passes through openings in the several partitions of the upper rooms of the building, and thence over a pulley 27 and downward to a connection with a hook 28 at the lower portion of the wall of a shaft or hallway 29.

In the upper room 30 a perforated pipe 31 leads downward from the pipe 19, and connected to a valve in this pipe 31 is an arm 32, connected by a rope 33 with a weight 34. The said rope passes over a pulley 35 and extends along the ceiling of the room. In the room 36 a perforated pipe 37 extends downward from the pipe 19, and in this pipe 37 is a valve, the stem of which is connected to an arm 38, and suspended in the room by means of a rope 39 is a weight 40. As in the first instance, this rope 39 extends along the ceiling of the room. In the room 41 the pipe 19 is provided with a valve, on the stem of which is an arm 42, connected by a rope or cord with a weight 43.

Within the shaft or hallway 29 perforated pipes 44 lead downward from the pipe 19, and also communicating with said pipe 19 and extended across the upper portion of the shaft or hallway is a perforated pipe 45.

In the lower rooms 46 and 47 are perforated pipes 48 and 49, which are provided with valves and connect with a pipe 50, leading from the main 3. Extended through the rooms 46 and 47 and into the room 51 is a rope 52, which at its end within the room 51 passes over a pulley 53 and connects with a weight 54, and this weight has a connection with the hammer 55 of a bell 56. A rope 57

extends through the room 47 and into the room 51 over a pulley 58 to a connection with a weight 59, and this weight has a connection with the hammer 55.

5 In operation the valve 7 will be normally closed and the valve 26 normally open. Should a fire occur on the roof, the rope 14 will be burned away, permitting the weight 13 to fall, which will rotate the rod 8, opening said valve 7, so that water may pass from the main pipe through the pipe 2 and through the sections 4 and 5, from which it will pass through the perforations. Should a fire occur within the house or in the upper rooms thereof or the hallway, the rope 21 will be burned away, permitting the weight 23 to fall, which will close the valve 26, and during the closing of this valve the cutter 26^a will sever the rope 14, permitting the weight 13 to fall, and thus open the valve 7, as before described. If the fire is confined to one of the rooms—say the room 30—the rope 33 will be burned away, permitting the weight 34 to open the valve in the pipe 21, thus allowing the escape of water through the perforations in said pipe, and this same operation will take place in any one of the upper rooms or hallway. It is to be understood that the same system may be employed in the lower rooms.

30 In the alarm device should the rope 52 be burned away the weight 54 will fall, causing the hammer 55 to strike the bell 56. The same result will be obtained should the rope 57 be burned away.

35 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

40 1. In a fire-extinguishing apparatus, a pipe leading from a main and having a perforated portion extended along the roof of a building, a valve in said pipe, a rod extended from the

valve, a weight having connection with said rod, a rope or the like extended along the roof of the building and normally holding said weight suspended, swinging boards at the edge of the roof, and connections between said boards and the rope, substantially as specified. 45

2. In a fire-extinguishing apparatus, a pipe leading from a main and having a perforated portion extending along the roof of a building, a valve in said pipe, a rod extended from the valve, a weight having connection with said rod, a rope extended in a plurality of stretches along the roof of the building and normally holding said weight suspended, rollers on the roof over which said rope passes, swinging boards at the edges of the roof, and connections between said boards and said rope, substantially as specified. 50 55 60

3. In a fire-extinguishing apparatus, a pipe leading from a water-main, a valve in said pipe, a weight for opening said valve, a fusible support for said weight, a pipe leading through the building and extended from the first-named pipe, perforated pipes extended from said pipe within the building, valves in the perforated pipes, weights for opening said valves, ropes for suspending said weights, a rope extended through the building, a weight at the outer end of said rope, a valve in the first-named pipe above its connection with the pipe extended through the building, an arm on the stem of said valve having a cutter, and a connection between said weight and said arm, substantially as specified. 65 70 75

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALEXANDER LOGAN.

Witnesses:

JNO. A. McDONALD,
ROBERT H. BUTTS.