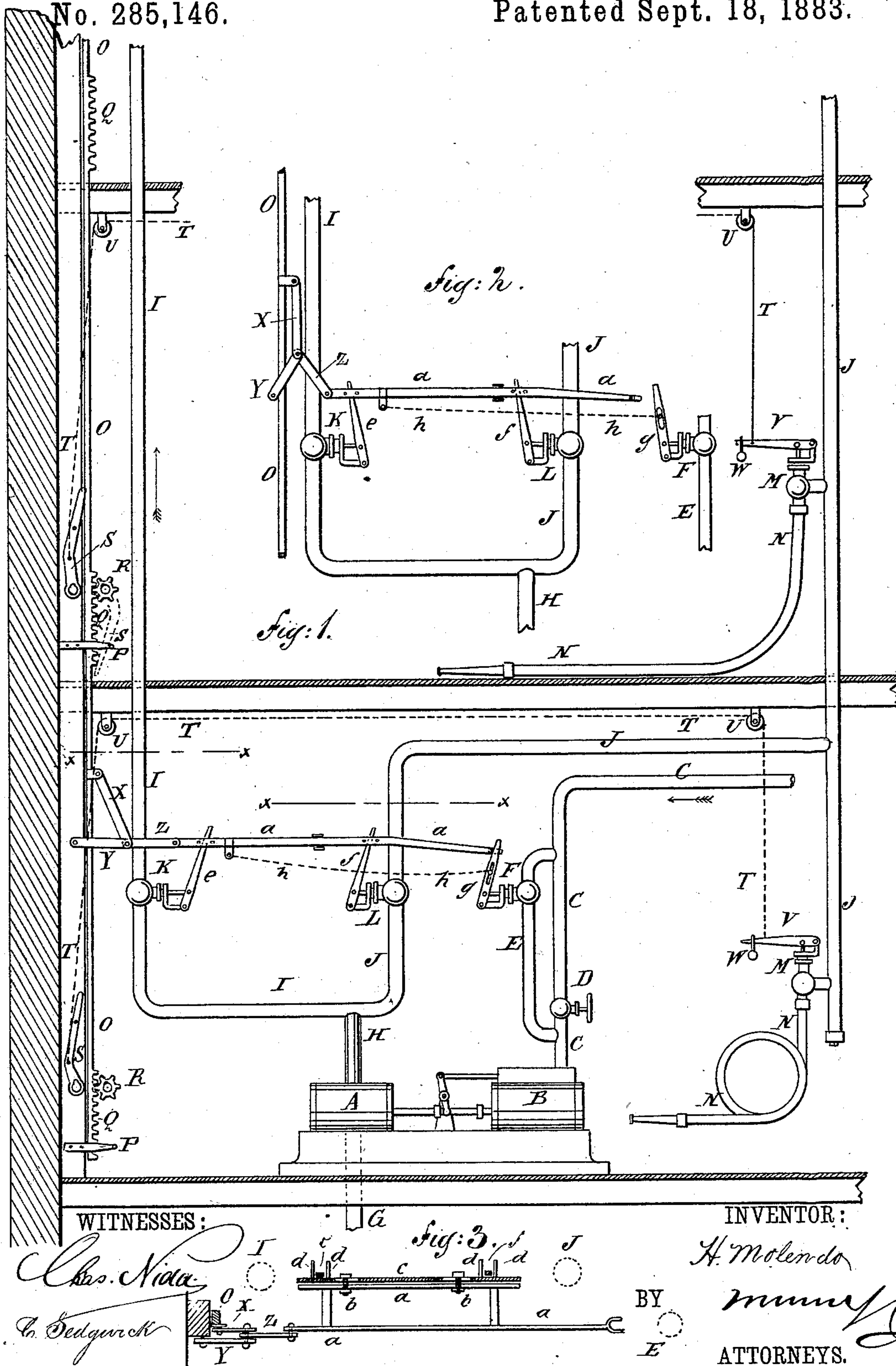


(No Model.)

H. MOLENDO.  
FIRE EXTINGUISHING APPARATUS.

Patented Sept. 18, 1883.

No. 285,146.





# UNITED STATES PATENT OFFICE.

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## FIRE-EXTINGUISHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 285,146, dated September 18, 1883.

Application filed April 27, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, HERMANN MOLENDO, of the city, county, and State of New York, have invented a new and Improved Fire-Extinguishing Apparatus, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my improvement shown as applied to a building. Fig. 2 is a front elevation of a part of the same shown in another position. Fig. 3 is a sectional plan view of a part of the same taken through the broken line *x x x x*, Fig. 1.

The object of this invention is to facilitate the extinguishing of fires in buildings.

A represents an ordinary pump, which is worked by an ordinary engine, B. The engine B receives steam through a pipe, C, from a boiler, which boiler is not shown in the drawings, as there is nothing new in its construction. The steam-pipe C is provided with a valve, D, for controlling the admission of steam to the engine, and with a branch pipe, E, the ends of which are connected with the said pipe C, upon the opposite sides of the valve D, so that the steam can be admitted to the engine B independently of the valve D. The branch pipe E is also provided with a valve, F.

G is the inlet or suction pipe of the pump, which is designed to be connected with a well, a water-main, or other water-supply.

H is the discharge-pipe of the pump, with which is connected a pipe, I, leading to a tank upon the roof or in the upper part of the building. With the discharge-pipe H is also connected a pipe, J, leading through the various stories of the building. The pipes I J are provided, respectively, with valves K L, so that the water can be directed through either pipe, as may be desired. The pipe J, upon each story of the building, is provided with a discharge-cock, M, and a hose, N, connected with the said cock M, as shown in Fig. 1.

O is a bar extending up through the various stories of the building, and which slides vertically in guides P, attached to the wall of the building or other suitable support.

Upon the bar O, on each story of the building, is formed or to it is attached a section of rack-teeth, Q, into which mesh the teeth of a small gear-wheel, R, journaled to a support attached to the wall of the building. One of the journals of the gear-wheel R projects, and is provided with a tongue to fit into a grooved hole in the end of a lever, S, so that the bar O Q can be raised and lowered by operating the said lever. The tongue upon the journal of the gear-wheel R and the groove in the lever prevent the possibility of placing the said lever upon the said journal in a wrong position, and prevent the said lever from turning upon the said journal. The levers S, when not in use, are hung upon nails or other supports attached to the wall of the building. To each lever S is attached the end of a cord or chain, T, which passes over guide-pulleys U, pivoted to supports attached to the ceiling of the room. The other end of each cord or chain T is attached to a lever, V, connected with the valve-stem of the cock M. With this construction, when one of the levers S is used to operate the gear-wheel R and raise the bar O, the movement of the said lever will operate the cord or chain T and the lever V to open the cock M upon that floor and allow water to pass from the pipe J into the hose N.

To the outer end of each lever V is attached a weight, W, of sufficient gravity to close the cock M when the cord or chain T is slackened and prevent any more water from entering the hose N.

To the lower part of the bar O is hinged the upper end of a short bar, X, the lower end of which is hinged to the adjacent ends of two short bars, Y Z. The outer end of the bar Y is hinged to the wall of the building, and the outer end of the bar Z is hinged to the end of a bar or frame, *a*, which is connected by two or more bolts, *b*, with a bar, *c*. The bar *c* has short slots formed in it to receive the bolts *b*, and to it are attached pairs of pins *d*, or other suitable keepers, to receive the ends of the levers *e f*, the other ends of which are pivoted to supports attached to the valves K L, which levers are also pivoted to the stems of the said valves. The other end of the bar or frame *a* projects, and is forked to engage with the lever *g*, which is pivoted to the stem of the valve F and to a support attached to the said valve, and



operates the said lever to close the said valve F. The bar or frame *a* is connected with the lever *g* by a small chain, *h*, which is made of such a length as to be slack when the bar or frame *a* is in position to close the said valve. 5 With this construction, when the rack-bar O is raised by the movement of a lever, S, in opening a valve, M, to admit water into a hose, N, it draws the bars *ac* outward, which closes the valve K in the water-pipe I, leading to the tank, 10 opens the valve L in the water-pipe J, leading through the building, and then opens the valve F to admit steam to the engine, the slackness of the chain *h* allowing the valves in the water-pipes to be adjusted before the valve in the steam-pipe is opened. When the rack-bar O is lowered into place, the movement of the bars *a b* opens the valve K, closes the valve L, and closes the valve F. 20 The operation is as follows: The valves L F being opened and the valve K closed by the operation of the bar O through the intervening mechanism, the steam passes through pipe E, setting the engine B and pump A in motion 25 and forcing the water through the open valve L and pipe J to the nozzle N. To make the device operative when steam cannot be furnished to the engine the tank at the top of the building is provided, so that there may be an elevated supply of water constantly on hand 30 in case of fire. This water flows to the nozzles through the pipe J. The bars *ac* being rigidly connected to the valves K L F, the valve K cannot be opened to admit water through the pipe I to supply the tank without shutting off the supply of steam to the engine and stopping the pump. The pipe C is therefore provided to admit steam to the pump at the time when the valve K is opened, so that the tank may be 35 supplied with water at the will of the operator. 40

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

1. The combination of the rack-bar O, having toothed sections, pinions, and chain-connected levers, with mechanism leading to the valves of hose-pipe, tank-pipe, distributing-pipe, and steam inlet-pipe, as and for the purpose specified. 45

2. In a fire-extinguishing apparatus, the combination, with the hose-pipe valves M, of the bar having rack-sections Q, the gear-wheels R, the separable levers S, the chains and pulleys T U, and the weighted levers V W, substantially as herein shown and described, whereby the hose-pipe valve upon any desired floor can be readily opened, as set forth. 55

3. In a fire-extinguishing apparatus, the combination, with valves K L F of the tank-pipe I, the distributing water-pipe J, and the steam-pipe C, of bar O, having rack-sections Q, the gear-wheels R, the separable levers S, the connecting-bars X Y Z, the bars *ac*, the levers *efg*, and the chain *h*, substantially as herein shown and described, whereby the said valves will be adjusted to control the water and steam by the movements of the said rack-bar, as set forth. 65

4. In a fire-extinguishing apparatus, the combination, with the valves M K L F of the hose-pipe, the tank-pipe, the distributing-pipe, and the steam-pipe, of the bar O, having rack-sections Q, the gear-wheels and levers R S, the chains, pulleys, and levers T U V, and the bars X Y Z *ac*, the levers *efg*, and the chain *h*, substantially as herein shown and described, whereby all the said valves can be adjusted by the movement of the said rack-bar, as set forth. 75

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Witnesses:

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