

W. H. DRAKE & A. W. HAMMETT.
Fire-Escape and Portable Water-Pipe.

No. 221,401.

Patented Nov. 11, 1879.

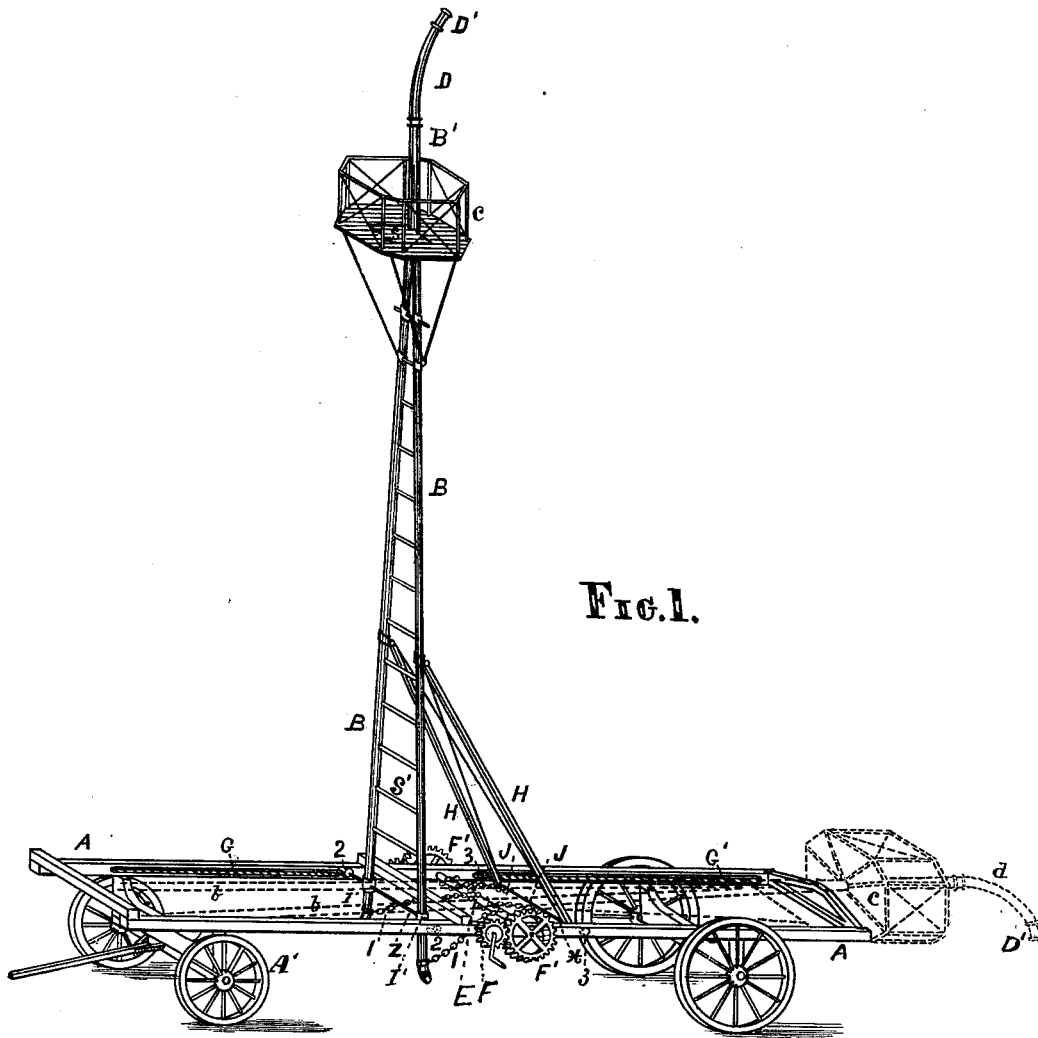


FIG. 1.

ATTEST.

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UNITED STATES PATENT OFFICE.

WILLIAM H. DRAKE AND ALLEN W. HAMMETT, OF CHICAGO, ILLINOIS

IMPROVEMENT IN FIRE-ESCAPES AND PORTABLE WATER-PIPES.

Specification forming part of Letters Patent No. **221,401**, dated November 11, 1879; application filed April 14, 1879.

To all whom it may concern:

Be it known that we, WILLIAM H. DRAKE and ALLEN W. HAMMETT, of the city of Chicago, county of Cook and State of Illinois, have invented new and useful Improvements in Fire-Escapes and Portable Water-Pipes; and we do hereby declare that the following is a full, complete, and exact description thereof, reference being had to the accompanying drawing, illustrating the improvement, of which—

Figure 1 is a perspective representation.

The object of the present invention is, in brief, to provide means for elevating water used to extinguish fires, which means shall be independent of the building on fire, and also be portable, so that the most advantageous position may be attained for the nozzle, and at the same time to combine with such means a fire-escape, and avoid the necessity of carrying hose into the windows or onto the roofs of buildings where, by kinks and sharp turns in the hose, or by the great height to be reached, the hose is unable to withstand the pressure. In brief, we accomplish this end by means of one or more forked or single stand-pipes, which are supported by a suitable truck either in an elevated or horizontal position, suitable mechanism being employed to manipulate the pipe or pipes. The lower end of the pipe is provided with mechanism for attaching the engine hose-pipe and the top end with a flexible section of hose, whereby a person standing in a cage at or near the top end of the pipe, can direct a stream of water which is driven by several fire-engines, so as to do good execution where hose directed from the ground could not throw a stream of such compactness as to check a fire in the higher stories of modern buildings in large towns or cities.

A A' represent a truck used in connection with our fire apparatus. Nothing new is claimed in the construction of the truck, except as to certain detail which adapts it to the mechanism hereinafter described. B B represent what we term "stand-pipes," which terminate in a single pipe, B', of double the area in cross-section of either of the pipes B. The double and single pipes reach to a height to where it is difficult or impossible for hose directed from the ground to reach with a stream of water to any great advantage.

The upper end of pipe B' is provided with a short hose, D, and nozzle D', and at a convenient distance below the hose D for a person to work is attached a cage, C, which is entered by a trap-door, S, by a person ascending the ladder S'.

The lower ends of the pipes B B are provided with suitable connections for attaching the engine-hose pipe; and on a level with the middle portion of the truck-frame is a strong shaft, Z, which is provided with collars I' I', through which the pipes B pass, and by which they receive a firm support. The ends of the shaft Z are provided with bearings, on which are placed pinions 2. These pinions mesh into racks G, which are formed in horizontal channels made in the inner sides of the frame-pieces A of the truck, so that the lower ends of the pipes B may be properly guided in their movement to the forward end of the truck during the process of lowering the pipes.

The object of using pinions on the ends of shaft Z to mesh in racks G, is that both branches of the pipes may move with equal velocity. If, however, the mechanism for moving the pipes should attain that end, then ordinary anti-friction rollers, or simple slides jointed to the ends of the shaft Z, and arranged to run in simple grooves in the sides of the frame-pieces A, would answer the purpose; but we find that the pinions and racks are the safest, inasmuch as any disarrangement of the parts is obviated, and in this apparatus the most complete means should be employed, that there be no uncertainty or delay in putting it in operation.

The truck is wide enough to give a suitable lateral support to the pipes and the man in the cage; but for greater steadiness it may be stayed by guy-ropes attached to their parts and anchored to the pavement or street.

H H is a braced frame pivoted or hinged so high up on the pipes B as to support them in any position they may occupy, except when lying flat on the truck. The lower ends of the frame H H are provided with the same kind and form of shaft, X, as the shaft Z, and on its ends are placed the same kind and form of pinions, 3, as the pinions 2, and they operate on the same form of rack, G', as the rack G, but move to the rear instead of to the forward end

of the truck when the pipes B B are being lowered; and the pinions and racks may be substituted by the same devices if they could be moved evenly to the rear of the truck.

C is a cage attached to the pipe B' for the convenience and safety of a person manipulating the hose D, and for the escape of persons who may reach it from a building. Where the device is used as an escape only, a short wire bridge may be hung to the cage and the outer end brought to the opening from which escape is to be made.

The means for elevating and depressing the pipes B B B' and cage C consist of a drum, E, and chains I I running therefrom and connecting with the pipes B B, and chains J also running from the drum E to the shaft X, and consists also in crank-gear F meshing into gear-wheels F' on the ends of the drum E. The turning of the crank-gear F in one direction will bring the lower end of the frame H H H and pipes B B toward each other, and by turning the gear in the opposite direction will allow the lower ends of the frame and pipes to recede from each other by their gravity and by the lowering of the pipes B acting on the top ends of the jointed frame H H, and, as a result of this latter movement, the pipes and cage will be brought flat on the truck, or so nearly so as will bring the top end

of the frame H H above the drum E, and sufficiently above the pinions 2 3 to prevent the frame H H and pipes B from acting as a strut as against the power of the gear or hoisting device. One stand-pipe may be employed instead of the two pipes B, but it will cost as much to hold it upright as it does the two pipes, including the cost of one pipe B, and then it is not so convenient to construct a ladder with one pipe as with two pipes.

We disclaim to have been the first inventors of elevating or lowering stand-pipes or pipe-ladder on trucks irrespective of the cog-gear for giving to the lower fork of the stand-pipe a uniform movement in the racks.

We claim and desire to secure by Letters Patent—

The stand-pipes B B and frame H H, attached to the traveling-shafts Z X, in combination with pinions 2 3, racks G G', recessed into the inside of the frame-pieces A, pipe B', and cage C, arranged on a truck, to operate as and for the purpose set forth.

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Witnesses:

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A. G. MOREY.