

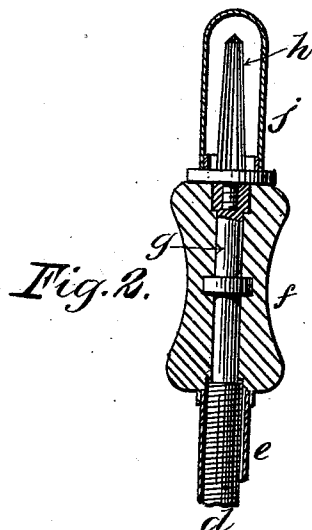
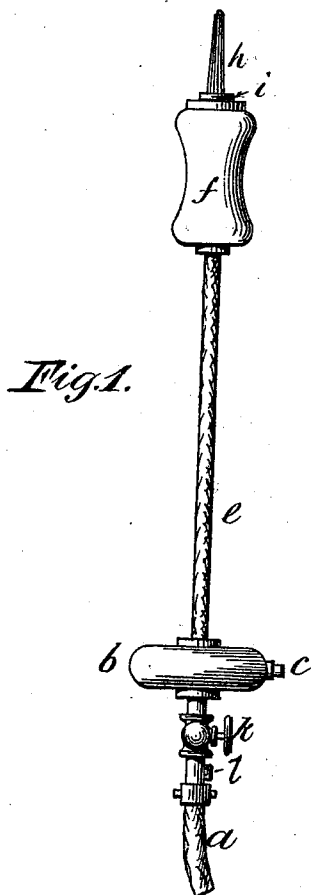
(No Model.)

J. G. VON HOFE.

METAL DRILLING ATTACHMENT FOR FIRE HOSE.

No. 518,814.

Patented Apr. 24, 1894.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN G. VON HOFE, OF NEW YORK, N. Y.

METAL-DRILLING ATTACHMENT FOR FIRE-HOSE.

SPECIFICATION forming part of Letters Patent No. 518,814, dated April 24, 1894.

Application filed July 6, 1893. Serial No. 479,765. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. VON HOFE, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Metal-Drilling Attachments for Fire-Hose, of which the following is a specification.

This invention relates to certain new and useful improvements in hose attachments, and is particularly designed for use by the fire department, as an auxiliary tool or appliance.

Where a building is provided with sheet-metal shutters, or with heavy bars, the firemen are at a great disadvantage in directing streams of water to the interior of the building, and to some desirable part thereof. The common practice in fighting fires in a warehouse or other building having such shutters, is to attempt to break the bolt holding the same, and to force or pry them open. If this is unsuccessful, the firemen are obliged to wait until said shutters become red hot, when a stream of water directed against them will cause them to warp or crack, and permit the opening thereof. While waiting for the shutters to become sufficiently heated, much valuable property is frequently destroyed, and it is therefore the object of my invention to sever one or more of the iron bars with which the building may be protected or to cut a hole through the shutters of sufficient size to permit the insertion of a hose nozzle, or to admit the hand to open the bolt thereof.

To these ends, therefore, my said invention consists in utilizing the pressure of water in a fire hose to revolve appropriate cutting mechanism, to effect the desired end.

Referring to the accompanying drawings, in the figures of which like parts are similarly designated, Figure 1, is an elevation showing one form of apparatus for practicing my invention; and Fig. 2, is an enlarged sectional view of the upper end thereof.

To the free end of a fire hose *a*, the opposite end of which is in communication with any suitable source of power, such as a fire engine, hydrant, &c., I attach a small but powerful water motor *b*, having the exhaust *c*, and from said motor I run a flexible shaft *d*, provided with the usual casing *e*, on the

opposite end of which is secured the handle or grasping device *f*, within which is located the drill, or other cutting tool spindle *g*.

h, is a drill, burr, or other appropriate cutting mechanism, preferably provided with the stop or shoulder *i*, and this tool, is secured to the end of spindle *g*, by screw-threads, a chuck or other holding mechanism. If desired, the cap *j*, may be placed over the cutting tool, when not in use, to prevent injury thereto or therefrom, and at some convenient point the perforated lug or eye *l*, may be located, through which the device may be strapped to a ladder and to prevent "kicking" by the pressure in the hose, and the rotation of the motor.

The operation of my invention will be apparent from the foregoing.

Upon reaching a fire, in a building protected by the metal bars or shutters aforesaid, the hose is run off and attached in the usual manner; the nozzle thereof is unscrewed, and the connection to water motor *b* inserted in its place. Upon pressure being allowed to flow to said motor, it will rapidly revolve, thereby rotating flexible shaft *d*, and cutting tool *h*, the point of which is held by the handle *f*, against the shutter or bar on the floor where it is desired to direct a stream, until an aperture or opening is made therein, and then said handle and tool are slowly moved about the aperture until the hole is of sufficient diameter, or the bar or bars have been severed.

If desired, a valve *k*, for regulating the pressure of water to the motor *b*, may be arranged between said motor and hose *a*, or said regulation may be made at the fire engine.

I do not desire to limit myself in any way to the particular mechanism here shown and described, nor to the details of construction thereof, as obviously, many other forms of apparatus may be used to carry my invention into practice, without departing from the principle and scope of the said invention, the gist of which lies in applying the pressure of water in a fire hose to rotate a water motor, which in turn, rotates a cutting tool.

Obviously, if desired, the connection between hose *a*, and motor *b*, may be shorter than that shown in Fig. 1, of the drawings,

and, as stated, valve *k*, may be omitted, while by a simple screw thread arrangement on the nozzle, the removal thereof from the hose, to attach said motor, may be dispensed with.

- 5 Again, the flexible shaft *l*, may, if desired, be entirely omitted, or may be of any construction and of any length desirable. The invention is also not limited to the particular style of cutting tool shown, as any appropriate arrangement of drill point and
10 teeth may be used, provided only that the same are powerful and rapid.

What I claim as new, and desire to secure by Letters Patent, is—

- 15 1. An apparatus for attacking metallic shutters, doors, and like guards for buildings in case of fire to enable firemen to gain access thereto from the outside, which consists of a water motor provided with a coupling
20 for connecting it with fire hose to receive the hydraulic pressure therefrom to drive it, a metal cutting tool and a driving shaft interposed between the cutting tool and the motor, substantially as described.
- 25 2. An apparatus for attacking metallic shutters, doors, and like guards for buildings in case of fire to enable firemen to gain ac-

cess thereto from the outside, which consists of a water motor provided with a coupling for connecting it with fire hose to receive the
30 hydraulic pressure therefrom to drive it, a metal cutting tool, a driving shaft interposed between the cutting tool and the motor, and a hand-piece next the cutting tool, substantially as described.

- 35 3. An apparatus for attacking metallic shutters, doors, and like guards for buildings in case of fire to enable firemen to gain access thereto from the outside, which consists of a water motor provided with a coupling
40 for connecting it with fire hose to receive the hydraulic pressure therefrom to drive it, an eye connected with some part of said motor by which it may be supported in position for operation, a metal cutting tool, and a driving
45 shaft interposed between the cutting tool and the motor, substantially as described.

Signed at New York, in the county of New York and State of New York, this 30th day of June, A. D. 1893.

JOHN G. VON HOFE.

Witnesses:

GEO. D. VON HOFE,
FREDERIC CARRAGAN.