2 Sheets—Sheet 1.

J. W. SUTTON.

Fire-Extinguisher.

No. 209,724. Patented Nov. 5, 1878.

Fig. 1.

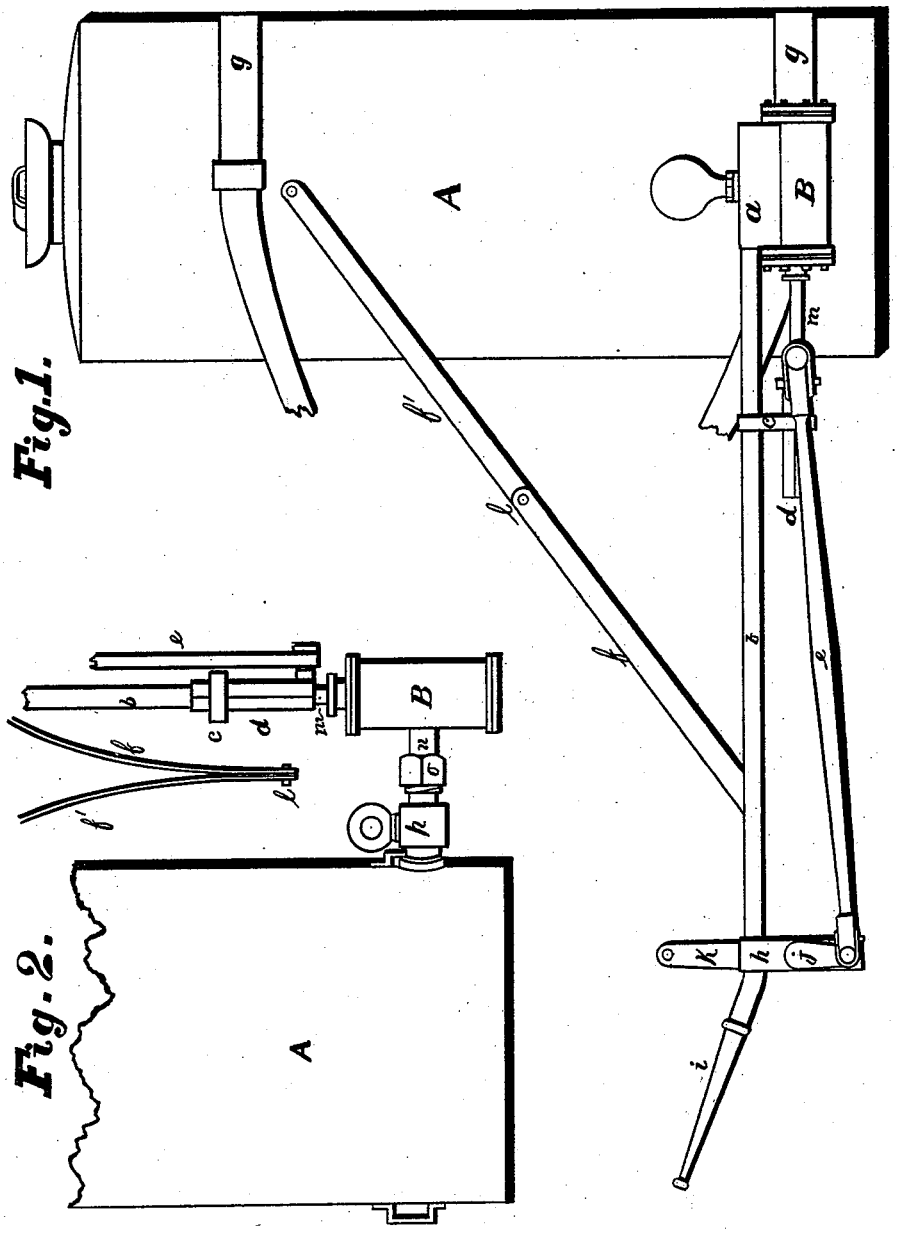

Fig. 2.

WITNESSES

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2 Sheets—Sheet 2.

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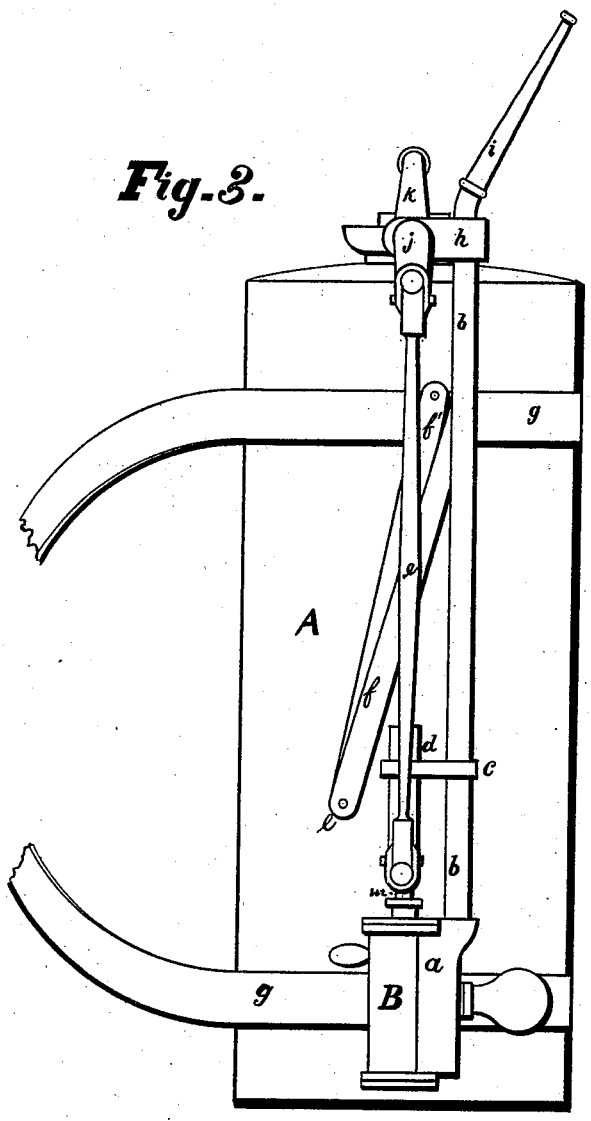
Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN W. SUTTON, OF NEW YORK, N. Y.

IMPROVEMENT IN FIRE-EXTINGUISHERS.

Specification forming part of Letters Patent No. **209,724**, dated November 5, 1878; application filed October 8, 1878.

To all whom it may concern:

Be it known that I, JOHN W. SUTTON, of the city, county, and State of New York, have invented a new and useful Improvement in Fire-Extinguishers; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification.

The object of my invention is to provide a means whereby water, or water charged with chemicals, can be thrown from a portable fire-extinguisher in a constant stream and with equal force at all times, or until the supply is exhausted, and also a means for replenishing said supply when required.

Figure 1 represents an elevation of my fire-extinguisher ready for action. Fig. 2 is an elevation of my invention taken at right angles with Fig. 1. Fig. 3 is an elevation of said invention, showing its position when not in use.

Like letters designate corresponding parts in all the figures.

In Figs. 1, 2, and 3, A represents the reservoir of a portable fire-extinguisher for holding chemically-prepared liquids or water. B represents a pump, single or double acting; *m*, a piston thereto. Said piston is connected to guide-rod *d*, while both are connected to and worked by connecting-rod *e*. Said rod is driven by crank *j*, which turns in pillow-block *h* by means of a hand-crank, *k*, upon the opposite side of said block. *b* is a metal or other suitable pipe connected with pump B, and passing through guide and pillow-block *c* and *h*. Said pipe is slightly bent upward at block *h*, and terminates in a nozzle, *i*. *f f'* are connecting-bars, jointed at *l*. The ends of said rod are connected to the reservoir A and pipe *b*. *p* represents a stop-cock between the reservoir and pump. *o* is a union connecting the pump with the reservoir. *g* is a strap for securing the apparatus to a person's back when in use.

My invention consists in applying a pump to a portable reservoir or fire-extinguisher, said pump being for the purpose of throwing the liquid from said reservoir instead of being forced therefrom by a force generated within the reservoir.

One important feature of my invention is the supporting-pipe *b*, which acts in the double capacity for conducting the liquid from the pump to the nozzle and to support the reciprocating parts of said pump. Another feature is the supporting-bar, which allows the extended portion to be turned up alongside of the reservoir when not in use, as shown in Fig. 3.

The following will describe the operation of my fire-extinguisher: In the first place, the reservoir is charged with liquid chemically prepared or otherwise. Then the arms are slipped through the straps *g*, so that the reservoir A will sit in an upright position on the back of the person carrying it. When ready for action pipe *b* is brought down to the limit of the folding bar *f f'*, turn the stop-cock, hold the nozzle in the left hand, and turn crank *k* with the right. The stream can be thrown to any point desired by guiding the nozzle and turning the body to the right or left. The distance and quantity thrown will depend upon the movement of the crank.

Fire-extinguishers are usually made to throw liquid by means of a gas derived from chemicals which are mixed with the liquid within the reservoir. Now the contents of said reservoir are thrown therefrom, and, on its coming in contact with the air, it expands and reaches the fire in a mixed condition of gas and liquid. The charge of chemicals being in the reservoir the power must decrease as the liquid diminishes; consequently the liquid will not be thrown as far at the last stage of the operation as at the first; and, when exhausted, the extinguisher is useless until again charged with chemicals and liquids.

Other fire-extinguishers are made with an air-pump attached thereto. Said pump is used to force air into the partly-filled reservoir until a sufficient power is obtained to force a stream the proper distance required. The power is constantly diminishing and requires to be increased by the action of said air-pump.

With my fire-extinguisher a double or single acting or rotary pump is employed to throw the contents of the reservoir by the power of the person carrying it. Said pump is attached to the left-hand side of the portable reservoir by a joint, which allows the pump and its attachments to be turned down in front of the

person carrying the apparatus, thus bringing the hand-crank in position to be turned by the right hand, while the stream is guided by the nozzle, which is held in the left. The reservoir may be filled with water charged with chemicals which do not produce a gas, or by water alone, while the chemicals, liquid or powdered, can be placed near by, ready for use as occasion requires. This apparatus can be used to wash windows, carriages, sprinkle streets, lawns, trees, flowers, &c., after which it can be replaced and filled with water, ready for use in case of fire.

One important advantage of my apparatus is that the reservoir can be refilled with water or chemically-prepared liquids from a pail or otherwise while upon the back of the carrier, and without stopping the stream while playing on the fire; and, also, the last quart of the liquid will be thrown as far as the first. Its advantages are that any one can use it without any previous knowledge.

The reservoir can be made of light material and with a large opening at the top, which is provided with a loose cover, that can be easily removed when a new charge of chemically-prepared liquid or water is required.

It is adapted to the strength of the person carrying it simply by adding more or less water or liquid. The nozzle can be changed to a rose-sprinkler or sprayer if desired.

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

1. The combination of the reservoir of a portable fire-extinguisher charged with water and chemical solutions, with a pump attached to said reservoir for throwing said solutions therefrom, and worked by a crank-movement, and operated by a person while carrying said extinguisher upon said person's back, for the purpose specified.

2. In combination with a reservoir and pump, the conducting and supporting pipe *b*, for the purposes set forth.

3. In combination with the reservoir A, pump B, and supporting-pipe *b*, the folding bar *f f'*, for the purpose specified.

JOHN W. SUTTON.

Witnesses:
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