

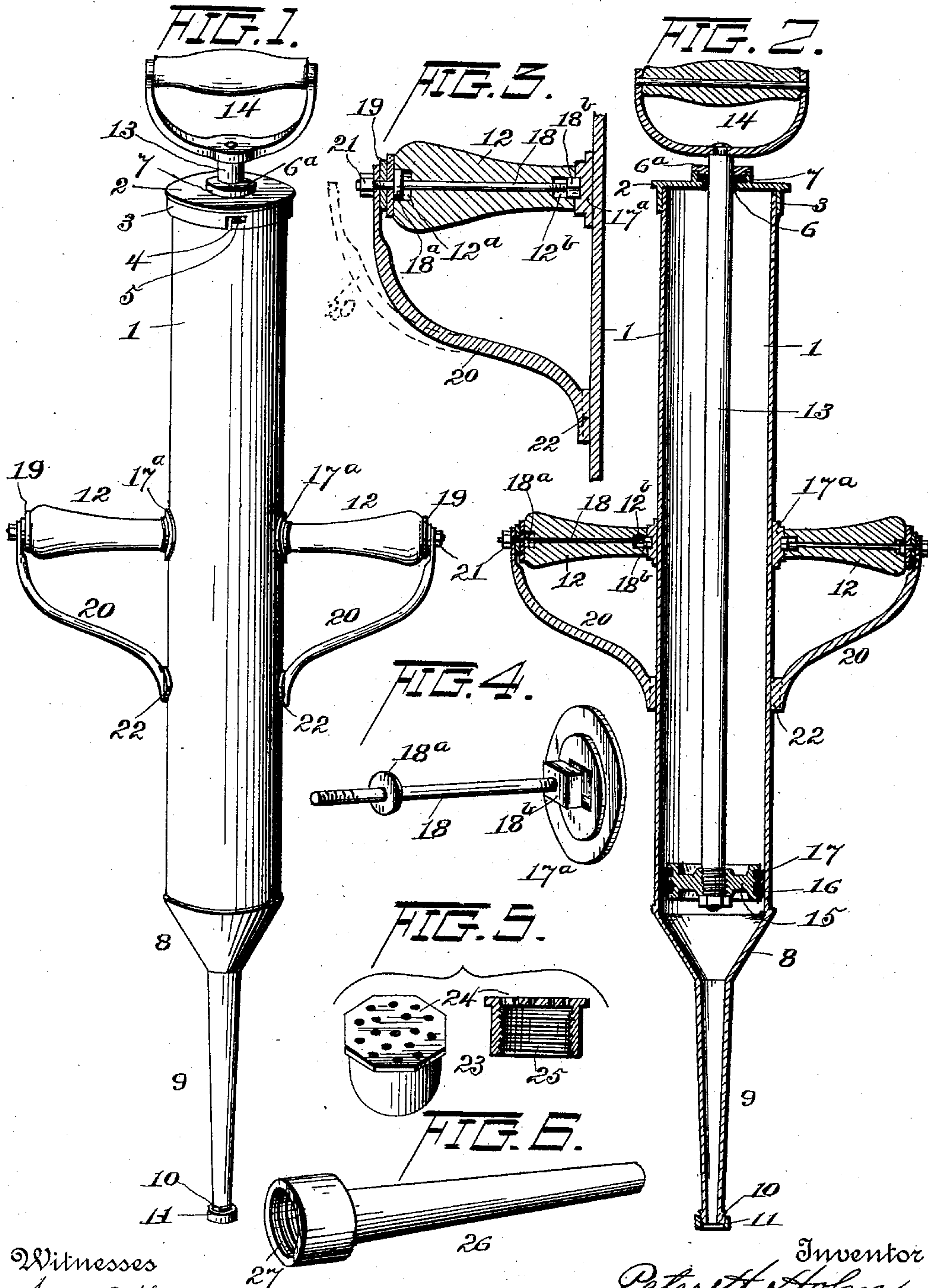
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P. H. HOLM.
FIRE EXTINGUISHING HAND PUMP.

(Application filed Mar. 7, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

PETER H. HOLM, OF WARREN, MINNESOTA.

FIRE-EXTINGUISHING HAND-PUMP.

SPECIFICATION forming part of Letters Patent No. 637,259, dated November 21, 1899.

Application filed March 7, 1899. Serial No. 708,104. (No model.)

To all whom it may concern:

Be it known that I, PETER H. HOLM, a citizen of the United States, residing at Warren, in the county of Marshall and State of Minnesota, have invented certain new and useful Improvements in Fire-Extinguishing Hand-Pumps, of which the following is a specification.

This invention relates to a hand-pump particularly adapted for use on farms, in country places, and other localities where water-pressure is not available; and the object of the invention is to provide an improved hand-pump comprising in its make-up a fire-extinguisher, vegetable or other sprinkler, and an article sprayer or washer.

A further object of the invention is to provide a hand-pump fire-extinguisher having side handles of peculiar construction and novel connection with the pump-cylinder.

In the accompanying drawings, forming part of this application, Figure 1 is a perspective view of the pump. Fig. 2 is a longitudinal section. Fig. 3 is an enlarged detail section of one of the cylinder-handles, showing means of attachment. Fig. 4 is a perspective view of a handle-bolt having a double-disk head. Fig. 5 is a sectional and perspective view of the sprinkler-cap. Fig. 6 is a perspective view of the sprayer attachment.

The same numeral references denote the same parts throughout the several figures of the drawings.

The pump-cylinder 1 has a removable cover 2 at one end, which is provided with a flange 3, having two L-shaped slots 4, engaged by projections 5 on the cylinder to hold the cover in place and to permit its removal without implements for the purpose of cleaning the interior of the cylinder and its contained parts and for the purpose of removing the piston therefrom. The said cover has a central hole lined with a leather packing 6 or other suitable material to prevent wear of the cover, and the latter has an exterior collar 7, having a packing-gland 6^a. The other end of the cylinder has a conical breast 8, the apex of which terminates in the large end of a nozzle 9, the latter being proportioned to about one-third the length of the cylinder and tapering to the discharge end, which is two-

thirds the size of the said large end and has an external screw-thread 10, covered by a protecting-ring 11. This special proportion of the nozzle to the cylinder, particularly with respect to the length and taper of the former, is exceedingly important in that the forced water is confined in an extended nozzle and discharged therefrom in a solid compact stream, giving the latter a long lead, and consequently the water is thrown to a much greater distance than in ordinary hand-pumps.

The exterior of the cylinder 1 is provided with two handles 12, having recessed ends 12^a and 12^b, secured about midway the length of the cylinder, opposite each other, and which location is about half the length of travel of the piston-rod 13 and its handle 14, thereby placing the cylinder-handles and the piston-handle about a space apart equal to the reach of an ordinary man's arms, so that the piston may be operated its full length and increase the driving or force of the water through the nozzle as well as to permit the cylinder to be entirely filled with water by the outward movement of the piston-rod and piston 15. The piston 15 has both faces concaved, and the periphery has a large circular groove containing a packing-ring 16 and a smaller circular groove containing a similar packing 17.

The means for detachably connecting the handles 12 to the cylinder 1 consists of a screw-bolt 18, having a shoulder 18^a and a screw-head 18^b, set into a double disk 17^a, concaved to fit the exterior of the cylinder and soldered to the latter, said bolt carrying the handle 12, the latter being kept on the bolt by a washer 19, which is engaged by the free end of a spring-keeper 20, said free end having a hole through which the outer end of the bolt extends when the said end is sprung down upon the washer 19 and is kept there by such spring tension and a nut 21. The other end of the keeper 20 terminates in a disk 22, soldered to the cylinder a sufficient distance below the handle to give the keeper a proper spring and to permit the hand to be passed between it and the handle. Should the nut become displaced, the free end of the spring-keeper will prevent the handle coming off, and when the handle is worn or otherwise disqualified for use it may be removed and a

new one substituted by simply removing the nut and springing the free end of the keeper from the end of the bolt, drawing the bolt out of its socket, and removing the head 18^b.

- 5 With two cylinder-handles one person can hold the pump and direct the stream and another person operate the piston-rod, or one person can hold the pump with one hand and operate the piston-rod with the other, or one
10 person can use both hands to hold the cylinder and work it back and forth by placing the piston-rod handle against his shoulder or breast. It is obvious, however, that the cylinder may have only one handle, which I prefer to use in small pumps.
15

When the pump is to be used as a vegetable or flower sprinkler, the ring 11 is removed and the cap 23 substituted. This cap consists of a perforated plate 24, the edge of which is
20 angular or in the shape of an octagonal nut, and projecting from said plate is an internally-screw-threaded flange 25, which is screwed to the outer end of the nozzle, thus forming a perforated cup-nut.

25 When it is desired to use the pump for washing windows, carriages, and wagons, the small nipple or sprayer 26, having an enlarged screw-threaded end 27, is attached to the nozzle and emits a very fine stream.

30 It is obvious that by inserting the nozzle into a body of water and drawing the piston

outward the cylinder is filled with water, and the pump in this condition may be carried up a ladder and to any part of a building in a most convenient manner.

Having thus described my invention, what I claim is— 35

1. The combination, with a portable hand-pump, of the handles, and means for attaching each handle, comprising a screw-bolt, a disk secured to the pump-cylinder, and in which the said bolt-head is set and a spring-keeper having one end secured to the cylinder, and the other end left free to be passed over the outer end of the said bolt and engage the outer end of each handle, as set forth. 40 45

2. The combination, with the cylinder, the socket-disk on the cylinder, and the spring-keeper having one end secured to the cylinder, of a handle having recessed ends, a bolt extending through the handle and the other end of the keeper, and having a shoulder operated in one of the said recesses, and a head fitting said disk-socket and operated in the other of said recesses, to disconnect the handle, bolt and disk, as set forth. 50 55

In witness whereof I hereunto set my hand in the presence of two witnesses.

PETER H. HOLM.

Witnesses:

A. B. NELSON,
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