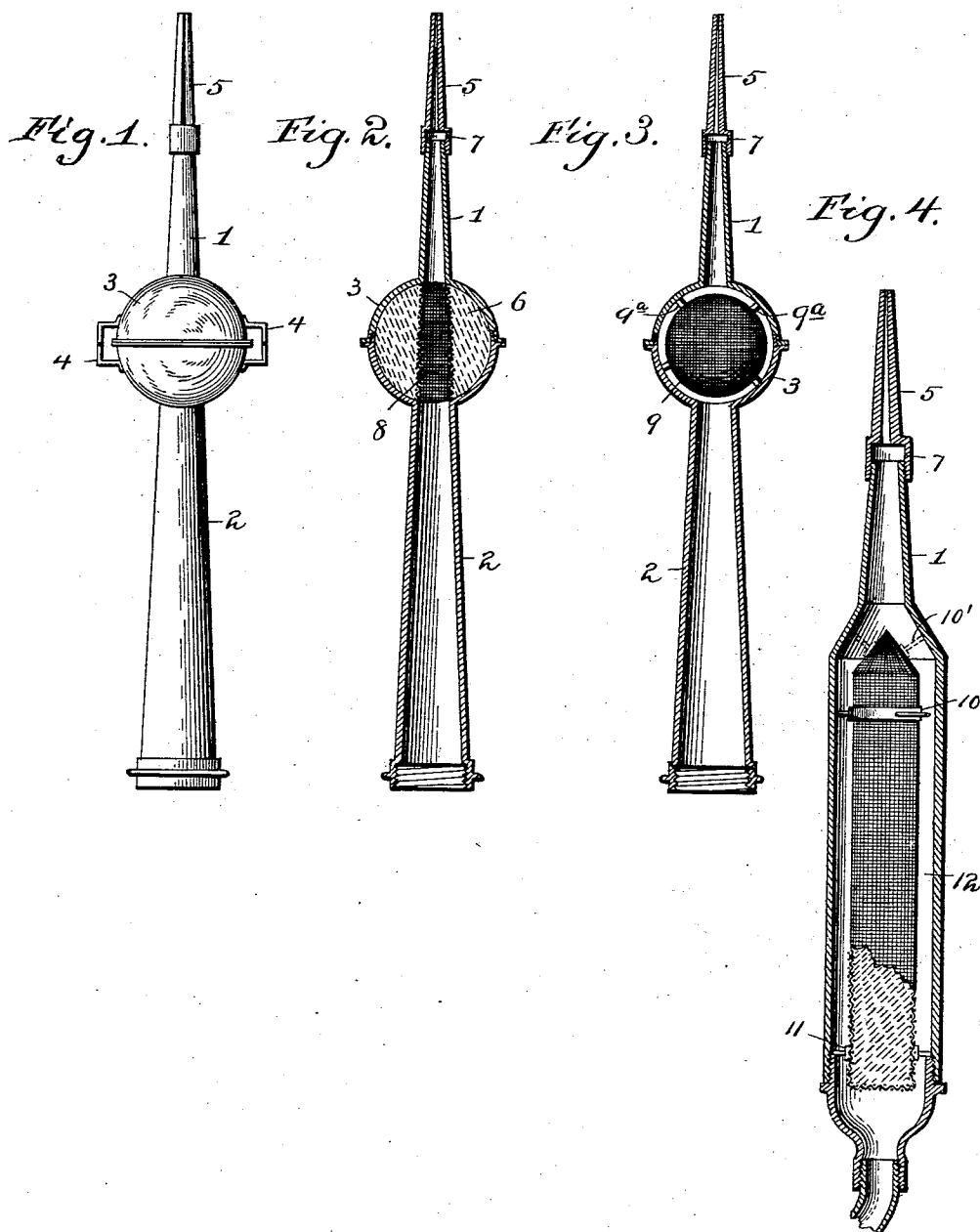


(No Model.)

T. F. HANDLY.
FIRE EXTINGUISHER.

No. 564,615.

Patented July 28, 1896.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS F. HANDLY, OF ALLEGHENY, PENNSYLVANIA.

FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 564,615, dated July 28, 1896.

Application filed July 27, 1895. Serial No. 557,346. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. HANDLY, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in fire-extinguishers, the object of which is to supply a chemical compound to the water while it is flowing through a hose-nozzle toward the discharge-
15 opening, and in providing novel means for increasing the flow of water after the chemical has been absorbed.

A further object of the invention is to make the parts strong, durable, and efficient, as well as comparatively inexpensive to produce and sustain.

A further object is to provide a chemically-charged nozzle having a supplemental open end which is designed to be broken when the
25 chemical is absorbed or when it is desired to have an increased volume of water.

With these and other objects in view the invention resides in the novel details of construction, arrangement, and combination of
30 parts to be hereinafter more fully set forth and specifically claimed.

In describing the invention in detail, reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals denote corresponding parts in the several views, in which—

Figure 1 is a view in side elevation. Fig. 2 is a central longitudinal sectional view of the same. Fig. 3 is a similar view of a modified construction. Fig. 4 is a similar view of a further modification.

In the drawings, 1 2 denote the sections of a nozzle having flared or cup-like connecting portions forming a casing or receptacle
45 3, said sections being disconnected when it is desired to renew the charge or gain access to the interior of the nozzle. Angular lugs 4 are arranged on the casing and are used for turning the sections when joining or disconnecting them. The lugs are so arranged as to form handles, which can be advantageously
50 used for supporting and manipulating the

nozzle. 5 is a supplemental nozzle, screw-threaded or otherwise joined to the main portion. The bore or aperture of this supplemental nozzle is smaller than that of the nozzle proper, and is adapted to be used in connection with the chemical. That is, when the water starts to flow it will act on the chemical charge 6, located in the nozzle, and in order to procure the best results and prolong the usefulness of a charge the stream is reduced by the supplemental nozzle, but when the chemical is exhausted, or when it appears advisable to deliver a larger stream, the supplemental nozzle is broken off, for in making the same I reduce the wall, as at 7, and by forming it of a brittle metal a blow on the ground or against an object will result in breaking it, when the stream will be increased to the size of the bore of the nozzle proper, as will be apparent.

Interiorly of the nozzle I arrange a chemical cartridge. As shown in Fig. 2, there is a cylindrical central opening 8, corresponding to the bore of the nozzle, surrounded by a chemical powder, which is taken up by the water in its course therethrough.

In Fig. 3 I show a gauze casing 9, supported by the arms 9^a, with a waterway between the casing and wall of the nozzle. The casing in this instance contains the chemical, and the water surrounding it is charged as it flows.

Fig. 4 illustrates a cigar-shaped casing supported by the spiders 10, 10', and 11, with a waterway between the casing and nozzle for the purpose explained.

In applying the invention to practical use I employ a powdered chemical, with which the cartridge is charged, although it will be found desirable at times to mold the compound in a predetermined solid shape and provide it with a central opening provided with a wire-gauze casing similar to that shown in Fig. 2. This last form, as well as all others, I provide with a gelatin coating, impervious to dampness or other atmospheric conditions which might cause a deterioration of the chemical properties.

It is well known that the gaseous charged liquid used at the present day gives off a portion of its gas while passing through the air, thereby impairing to a great extent its efficiency. It is my object to charge the water

with a chemical which will produce gas when it comes in contact with the flame or heat, thus conveying to the fire the full strength contained in any portion of the fire-destroying agent.

5 It is a well-known and established fact that in cases where the chemical forms a solution with the water and comes in contact constantly with the receptacle the tendency will
10 be that in course of time the receptacle and connections will become affected by the chemical action.

In view of the foregoing it will be obvious that this invention may be applied and the
15 spirit thereof carried out in a plurality of ways and that the proportions and other details of construction may be varied without departing from the spirit of my invention.

20 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A nozzle formed to produce a chamber, a chemical charge, coated to exclude moisture, arranged therein to come in contact with the
25 water and a supplemental nozzle having an open end arranged on the nozzle and adapted to be broken, for the purpose described.

2. A nozzle formed to produce a chamber,

a chemical charge arranged therein to come in contact with the water, a supplemental
30 nozzle having an open end and arranged on the nozzle and having the walls reduced to facilitate the fracture, as and for the purpose described.

3. A nozzle formed to produce a chamber, 35 a chemical charge arranged therein to come in contact with the water and a supplemental nozzle having an open end arranged on the nozzle and adapted to be broken and lugs on the sections of the nozzle so formed as to
40 produce a handle when the sections are screwed together.

4. A fire-extinguisher provided with a nozzle chemically charged, and a supplemental open end designed to be broken, for the pur- 45 pose described.

5. A nozzle formed in sections, angular lugs arranged on the sections for turning the same and forming handles when the sections are screwed together, for the purpose described. 50

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS F. HANDLY.

Witnesses:

HENRY C. EVERT,
SIMON KIRSCHLER.