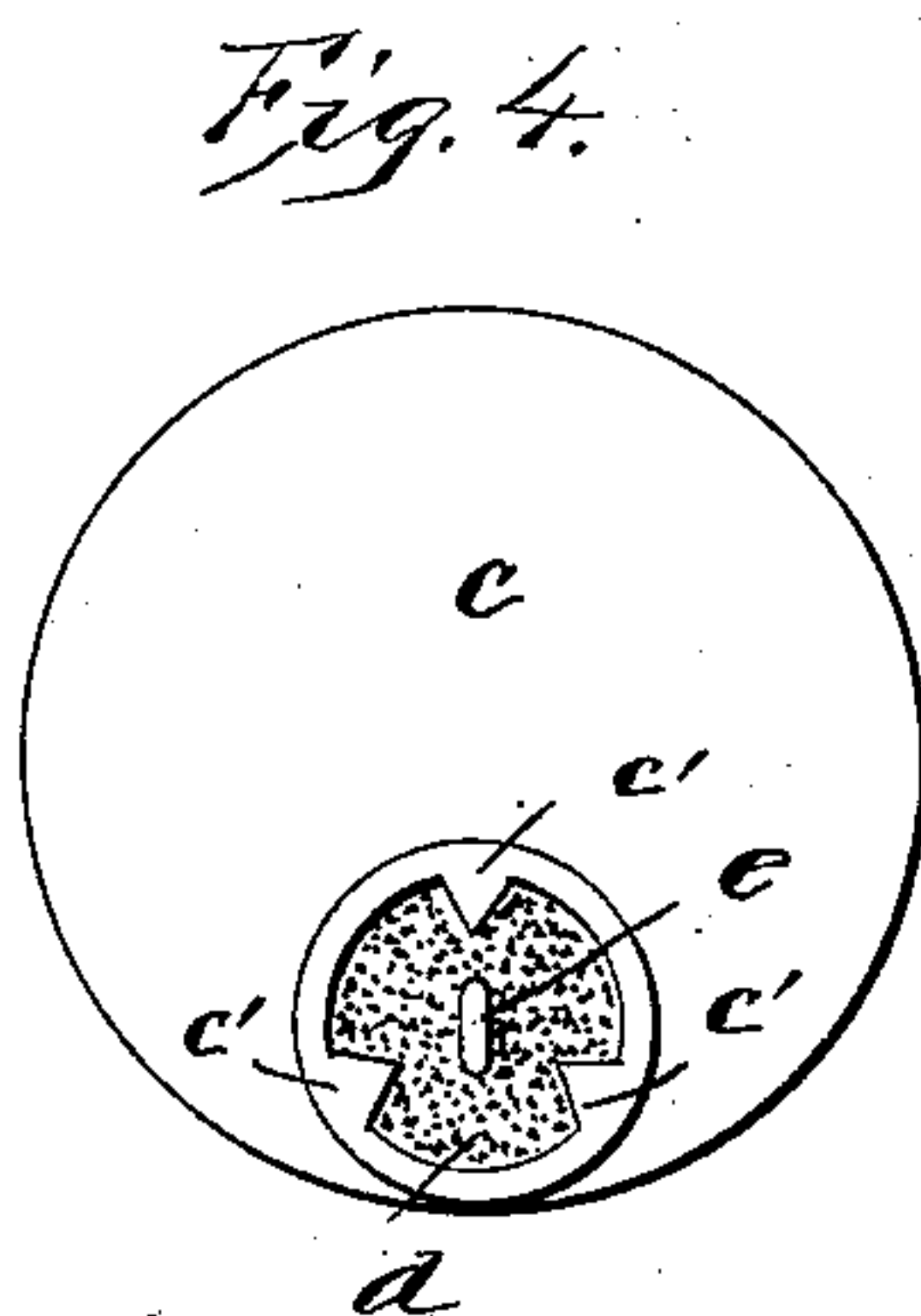
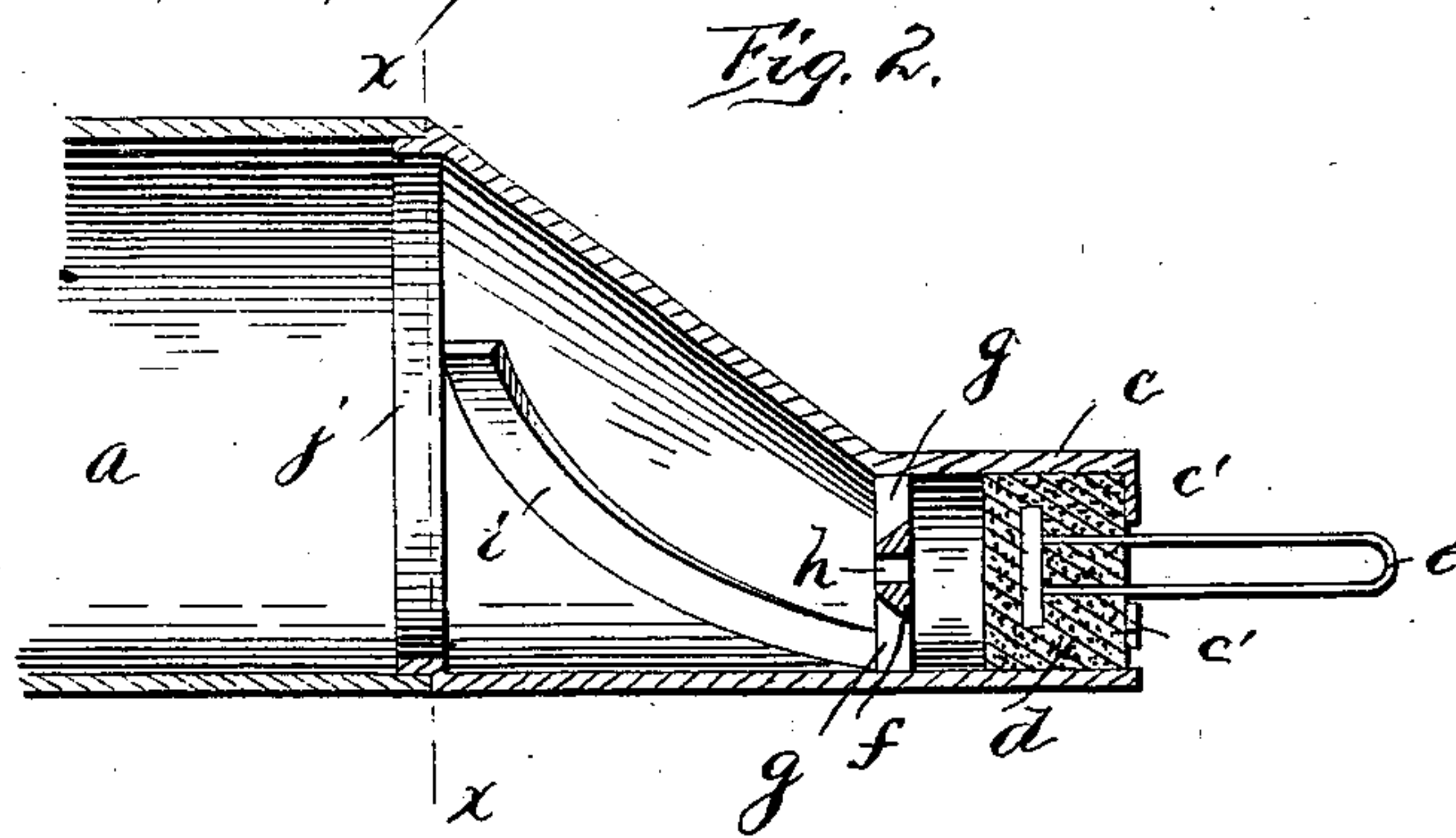
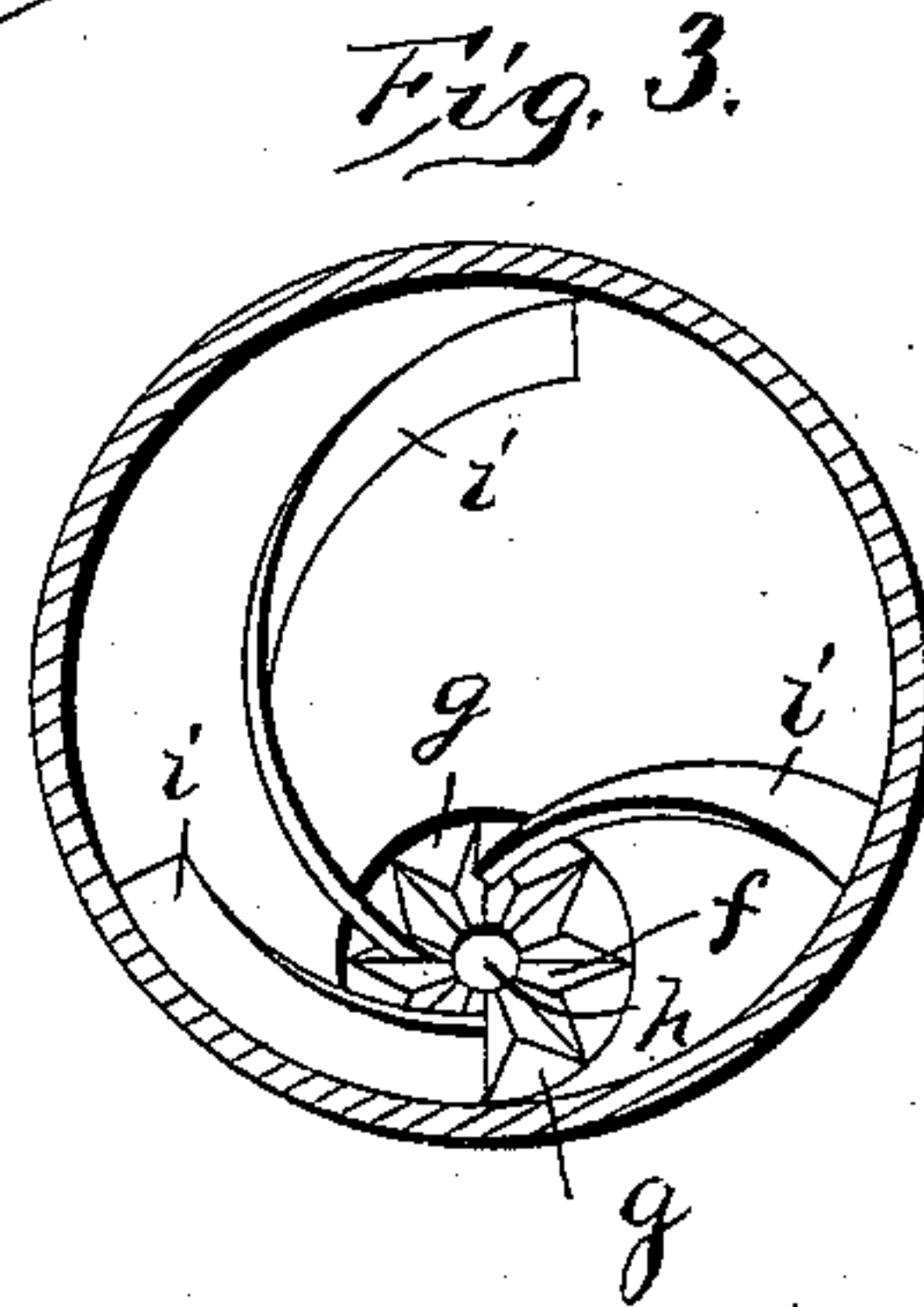
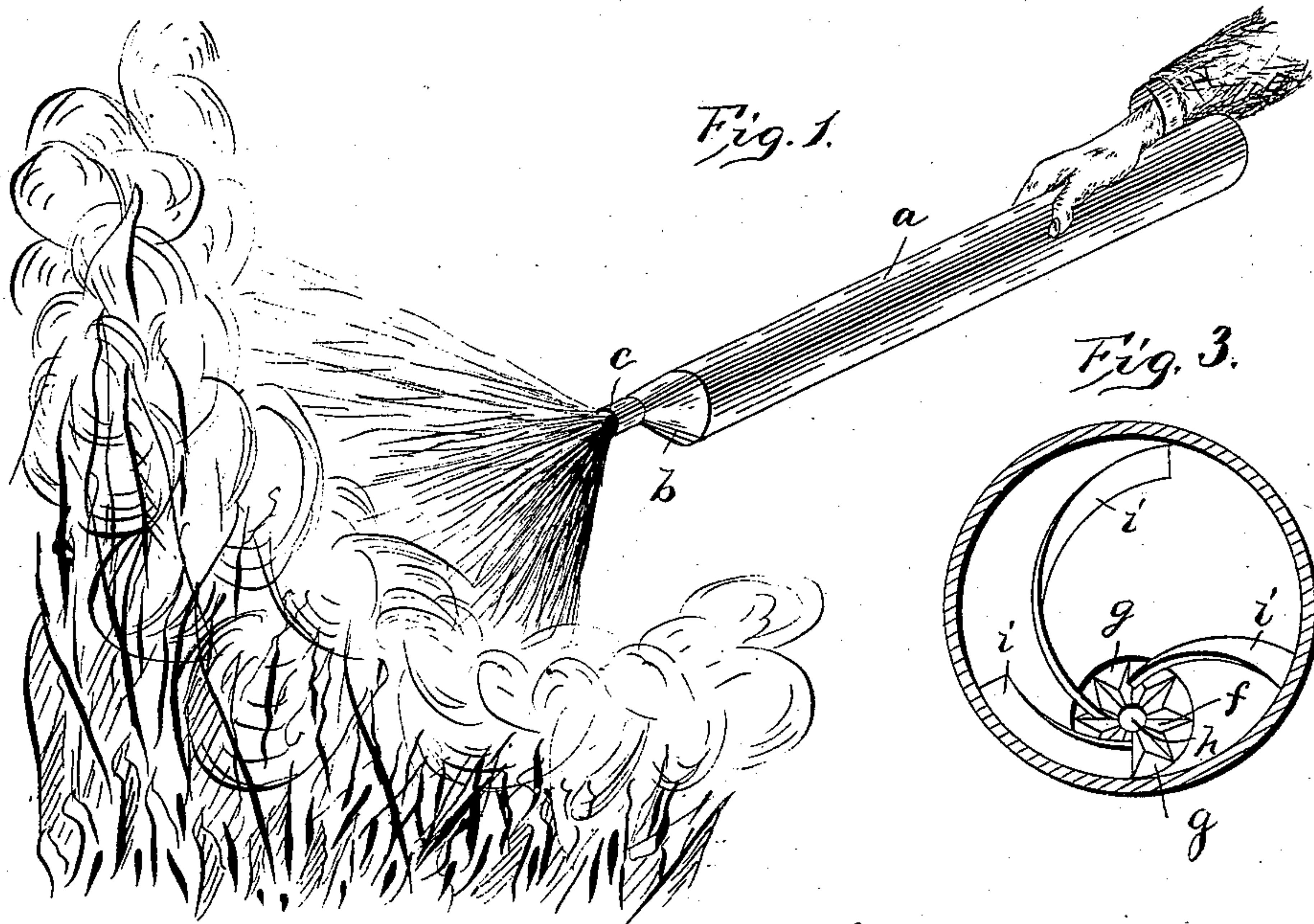


(No Model.)

S. M. STEVENS.
HAND FIRE EXTINGUISHER.

No. 534,182.

Patented Feb. 12, 1895.



WITNESSES:

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SAMUEL M. STEVENS, OF MANCHESTER, NEW HAMPSHIRE.

HAND FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 534,182, dated February 12, 1895.

Application filed February 17, 1894. Serial No. 500,453. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL M. STEVENS, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Hand Fire-Extinguishers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in hand fire extinguishers.

The invention consists in certain novel features of construction and in combination of parts more fully and particularly described hereinafter and pointed out in the claims.

Referring to the accompanying drawings:— Figure 1, is a perspective view of my invention in use. Fig. 2, is a longitudinal sectional view through one end of the extinguisher. Fig. 3, is a section on the line $x-x$ Fig. 2. Fig. 4, is an end view of the cap of the tube.

Like letters of reference indicate the same parts in the different views.

In the drawings a , indicates an enlarged tube permanently closed at one end and adapted to contain any suitable fire extinguishing liquid.

b , is the discharge nozzle of the tube preferably cast in one piece and rigidly secured to the open end of the tube proper by soldering or other means. This discharge end or nozzle is tapered on one side to form the discharge neck c . The outer end of the discharge neck c , can have the small inwardly projecting cork retaining spurs c' , to retain the stopper d .

The stopper is preferably composed of rubber, cast around the ends of a wire loop e , or the like to form the stopper extractor and means by which the tube can be suspended from a suitable support or bracket.

The discharge end or nozzle of the tube is inclined or tapered substantially as shown, with a straight side in continuation of the tube so as, to form a continuous even surface on one side of the tube and permit of its hanging plumb when the wire loop e , is suspended from a nail or the like; also in use

the tapered side will form a dam to retard the too rapid out rush of the contents of the tube; held in the position shown in Fig. 1. Then when the contents of the tube are about exhausted the tube can be turned to bring the straight side of the nozzle down and the remainder of the liquid will quickly run out.

Cast with or otherwise rigidly secured within the discharge end of the tube, a short distance in the rear of the stopper is a perforated plate f , to form a spraying device having the openings or perforations g, g . These perforations are arranged in any desired manner although I prefer to use them as shown in Figs. 2 and 3, in which the plate or spraying device is shown as being in the shape of a star, the points of the star being secured to the interior of the discharge end, and an opening h , extending through the center thereof, thereby forming a series of openings through which the liquid slowly discharges when the tube is being used; this plate therefore acting as a stop against the rapid outflow of the liquid when the extinguisher is in use.

Within the discharge end of the tube and preferably in the rear of the plate f , a series of spiral blades or webs i, i , are arranged. These blades are preferably located and partly encircle the interior of the discharge end of the tube, its ends bearing against the shoulder j , and the perforated plate f , thereby acting as a strengthening means for both. These blades or webs divide and conduct the liquid to the spraying plate f , with a spiral throw or twist which causes the said plate to finely divide and spray the liquid over an extended area.

In operation the stopper is withdrawn bending out the spurs c , and the liquid is shaken over the fire. The tube is so long that the liquid can be easily sprayed over the fire without danger to the operator as the operator grasping the closed end of the tube has a very long reach. By reason of the flanges and spraying plate within the nozzle the liquid is finely divided and sprayed over an extended area without out rushing in a body and consequent waste, the object being to so retard the flow and finely divide and spray the liquid that only the quantity necessary to extinguish the fire flows out; and the liq-

uid in the tube lasts a long time and can be used to extinguish a fire over an extended area as the liquid does not all rush out in a few seconds.

5 The tube can be made of any desired length and of any suitable metal and the part composing the discharge nozzle can be cast integral with the spiral webs or flanges and the spraying plate and the spurs c. Any suitable
10 bracket can be employed from which the tube can be suspended when not in use.

This device herein described is very simple and effective in operation and cheap to manufacture.

15 Various slight changes might be made in the forms, arrangements and constructions of the parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the exact construction herein set forth, but consider myself
20 entitled to all such changes as fall within the spirit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by
25 Letters Patent of the United States, is—

1. The herein described fire extinguisher consisting of the tube having a discharge end, flat on one side a series of blades or webs within said discharge end, a perforated plate in

front of said blades, and a stopper provided 30 with an extractor, for the purpose described.

2. A fire extinguisher comprising the tube, having a discharge end, a series of spiral blades within said discharge end, a perforated plate in front of said spiral blades, a stopper 35 for the discharge opening provided with suspending and extracting means as described, and lugs for retaining the stopper, substantially as described.

3. The herein described fire extinguisher 40 composed of the elongated tube closed at one end and having the reduced end discharge nozzle at the opposite extremity, said nozzle tapering on one side to an end mouth and straight on the other side in direct continua- 45 tion of the tube proper as shown and described so that said tapered side forms a dam, and the tube can rest flat against a wall to its mouth, a stopper in said mouth provided with suspending and extracting means, substan- 50 tially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

SAMUEL M. STEVENS.

Witnesses:

CHAS. H. NUDD,

WALTER L. PALMER.