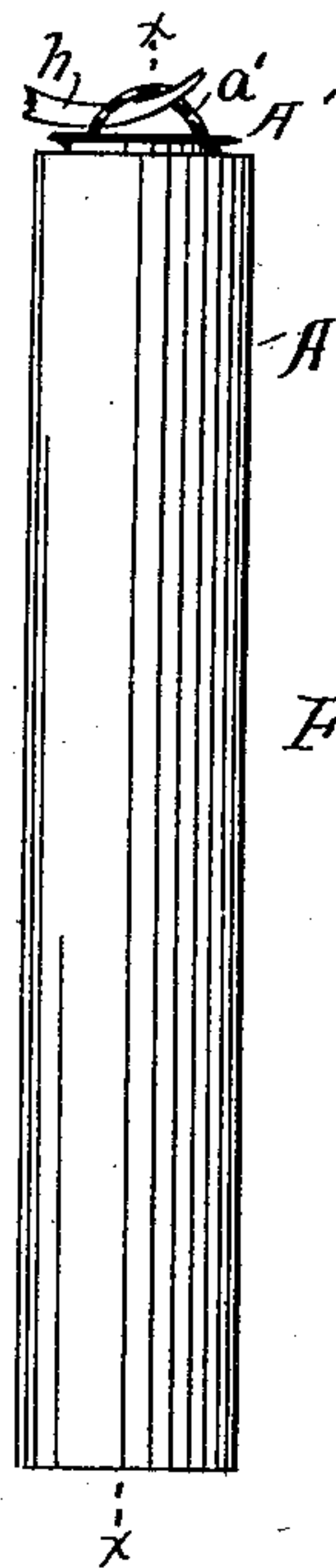
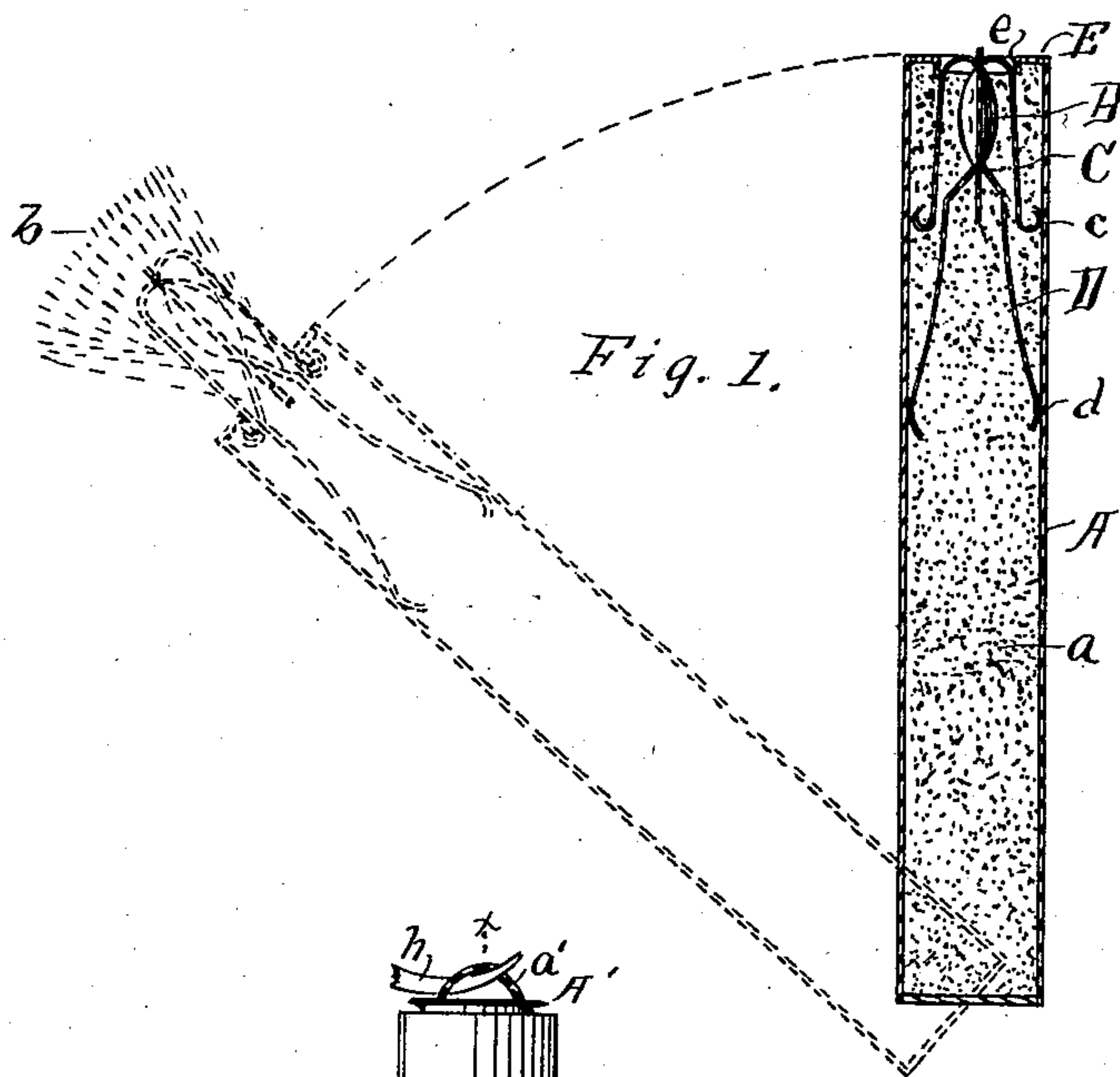


No. 856,050.

PATENTED JUNE 4, 1907.

H. M. GILLETT.  
FIRE EXTINGUISHER.

APPLICATION FILED JULY 21, 1904. RENEWED NOV. 9, 1906.



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# UNITED STATES PATENT OFFICE.

HENRY M. GILLET, OF GRAND RAPIDS, MICHIGAN.

## FIRE-EXTINGUISHER.

No. 856,050.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed July 21, 1904. Renewed November 9, 1906. Serial No. 342,703.

*To all whom it may concern:*

Be it known that I, HENRY M. GILLET, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification.

My invention relates to improvements in dry powder fire extinguishers and its object is to provide an automatically adjusted sprayer for diffusing the powder as it escapes, forcibly, from the containing tube. I attain this object by the mechanism illustrated in the accompanying drawing in which

Figure 1 is a vertical section of the tube on the line  $x x$  of Fig. 2, showing the diffuser embedded in the powder, and an outline of the diffuser thrown to position to open the end of the tube and diffuse the powder, and Fig. 2 is an elevation of the tube complete.

Similar letters refer to similar parts throughout the several views:

A represents the tube which is filled with a fine powder  $a$ , and is closed with a cap  $A'$  which is provided with a ring  $a'$  that is engaged by a hook  $h$  for hanging it up, the object being to have the hook strong enough so that a sudden jerk upon the tube A will jerk the cap  $A'$  out and leave the end of the tube open so that the powder may be carried out by centrifugal force as the tube is thrown from a vertical, toward a horizontal position, as indicated in Fig. 1. Thus far the action is that of an ordinary dry powder tube, in a practically straight direction with little or no diffusion sidewise, which renders it somewhat inefficient for putting out fires. I overcome this inefficiency by placing a diffusing device, consisting of a conical or biconical weight B having wires passing through it longitudinally and projecting some distance each way from the weight; the ends D, projecting from the upper end of the weight, and bent back and project a little below the lower end of the weight where a hook  $c$  is formed at the ends which acts a double purpose, first, to bear against the sides of the tube A, and, with the ends of the wires D, to form guides holding the weight in position so that, if sliding, its motion will be directly parallel with the walls of the tube, and, second, to catch upon the rim  $a'$  of the top  $A'$  and prevent the diffuser from being thrown out of the tube.

The lower ends D of the wires are sprung out so that they will bear quite heavily against the walls of the tube and are slightly

bent at  $d$  so that they will not catch into or scratch the tube, and they act with the wires C to guide the diffuser into or out of the tube. Normally, this diffuser stands embedded in the powder,  $a$ , within the tube, but when the cap  $A'$  is removed and the tube thrown suddenly over toward a parallel position as indicated by the dotted lines in Fig. 1 the diffuser is carried out, by centrifugal force, to the position indicated by its dotted lines and the powder in passing out of the tube, comes in contact with the lower, conical end of the weight B and is diffused, sidewise, as indicated by the dotted spray line  $b$ . This diffuser acts another very important purpose, namely, as it is carried forcibly out of the end of the tube the wire arms C and D, as they are drawn through the powder  $a$ , loosens the powder and draws it toward the end of the tube so that a much more effective quantity of the powder is carried out of the tube, with the same centrifugal force, than would be possible with no wires passing through. In fact it may often be necessary, with the powder a little packed in the tube, to strike the end of the tube sharply against some solid object before the powder can be thrown out by centrifugal force, which is likely to waste a quantity before it can be made effective, but with this sliding diffuser and its radiating arms, no action is necessary to eject the powder except the natural swinging motion indicated in Fig. 1.

Another very desirable object attained by the use of the small spring wire arms for this diffuser is that while they hold the diffuser positively in place they leave the opening in the end of the tube free and clear for the escape of the powder and, being of a strong steel temper may be pressed together for easily inserting or removing the diffuser, and are absolutely safe from being thrown out clear of the tube by any ordinary force.

The hooks  $c$  at the ends of the arms C should be carried far enough around toward a circle so that the ends cannot come in contact with the walls of the tube, and, by scratching into it, retard the motion of the diffuser. Another advantageous feature of this diffuser is the placing of a weight in the upper end of the tube, which greatly assists in swinging the tube to expel the powder, and if the ring  $s'$  should pull off without drawing the cap  $A'$  the force of the weight B against the inner surface of the cap will force the cap out and open the can, while without the



weight the cap, could only be removed by prying it out, which is likely to consume considerable valuable time at a critical moment.

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

1. In combination with a dry powder fire extinguishing tube and powder, a diffuser  
10 consisting of a weight smaller diametrically than the opening in the end of the tube, arms radiating from the upper end of the weight, bent back and having hooks formed at the ends, and arms projecting down from  
15 the lower end of the weight and curved, substantially as and for the purpose set forth.

2. In combination with a dry powder fire extinguisher tube and powder, a diffuser  
20 consisting of a conical weight having spring arms bent back and provided with hooks at the lower ends, and spring arms extend-

ing down from the lower end and pressing outward, substantially as and for the purpose set forth.

3. In combination with the tube of a dry  
25 powder fire extinguisher, one end of the tube having a central opening and the walls bent down around the opening forming an inwardly projecting flange *e*; a weight having  
30 radiating spring-wire arms bent back and hooks formed at the ends, and spring-wire arms projecting down from the lower end of the weight and pressing against the walls of the tube, substantially as and for the purpose  
35 set forth.

Signed at Grand Rapids Michigan July 14, 1904.

HENRY M. GILLETT.

In presence of—

ANDREW ALLGIER,  
ITHIEL J. CILLEY.