

H. C. SANDERS.
 DEVICE FOR SPRINKLING POWDER AND OTHER MATERIALS.
 APPLICATION FILED AUG. 15, 1904.

Fig. 1.

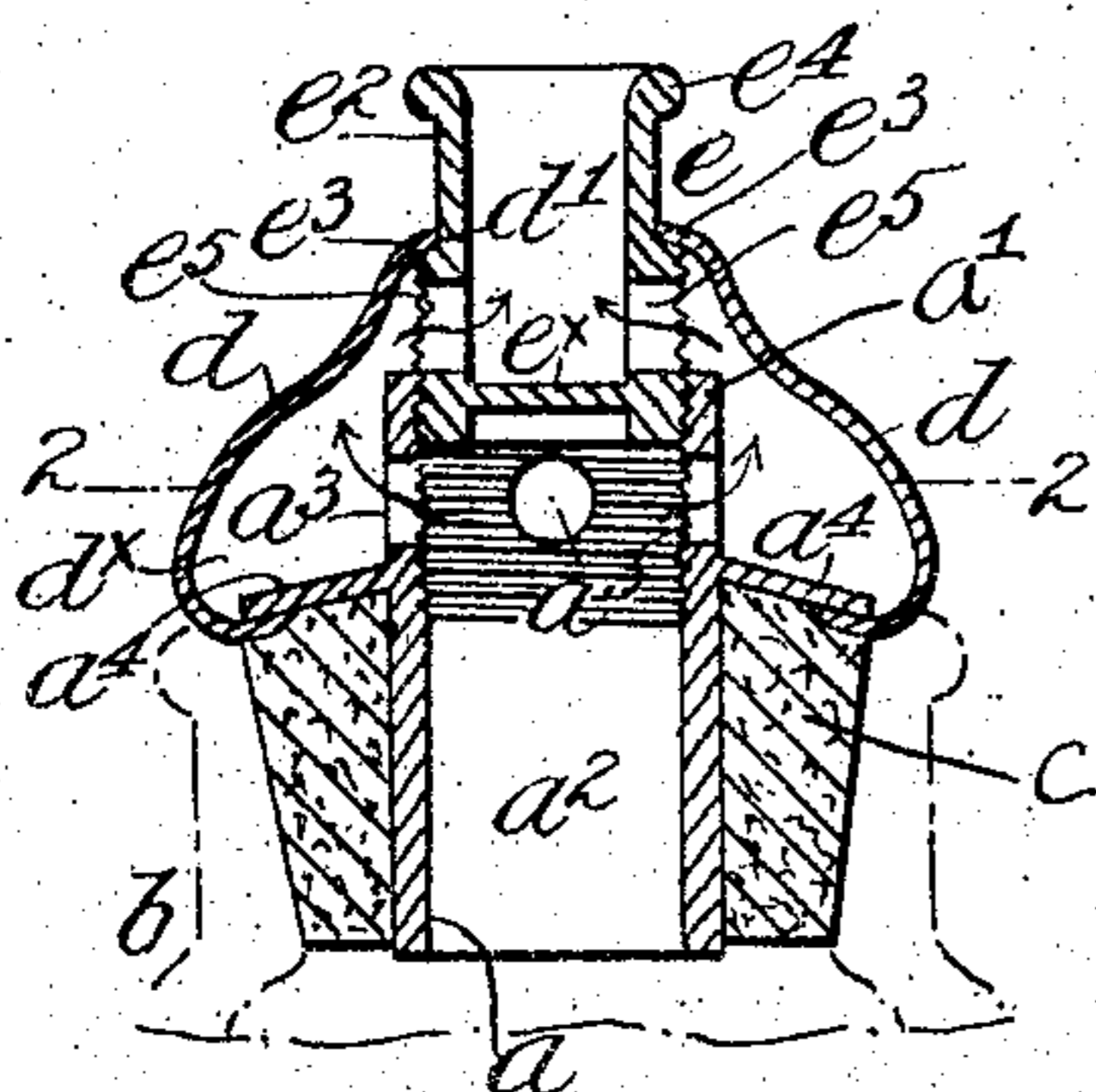


Fig. 3.

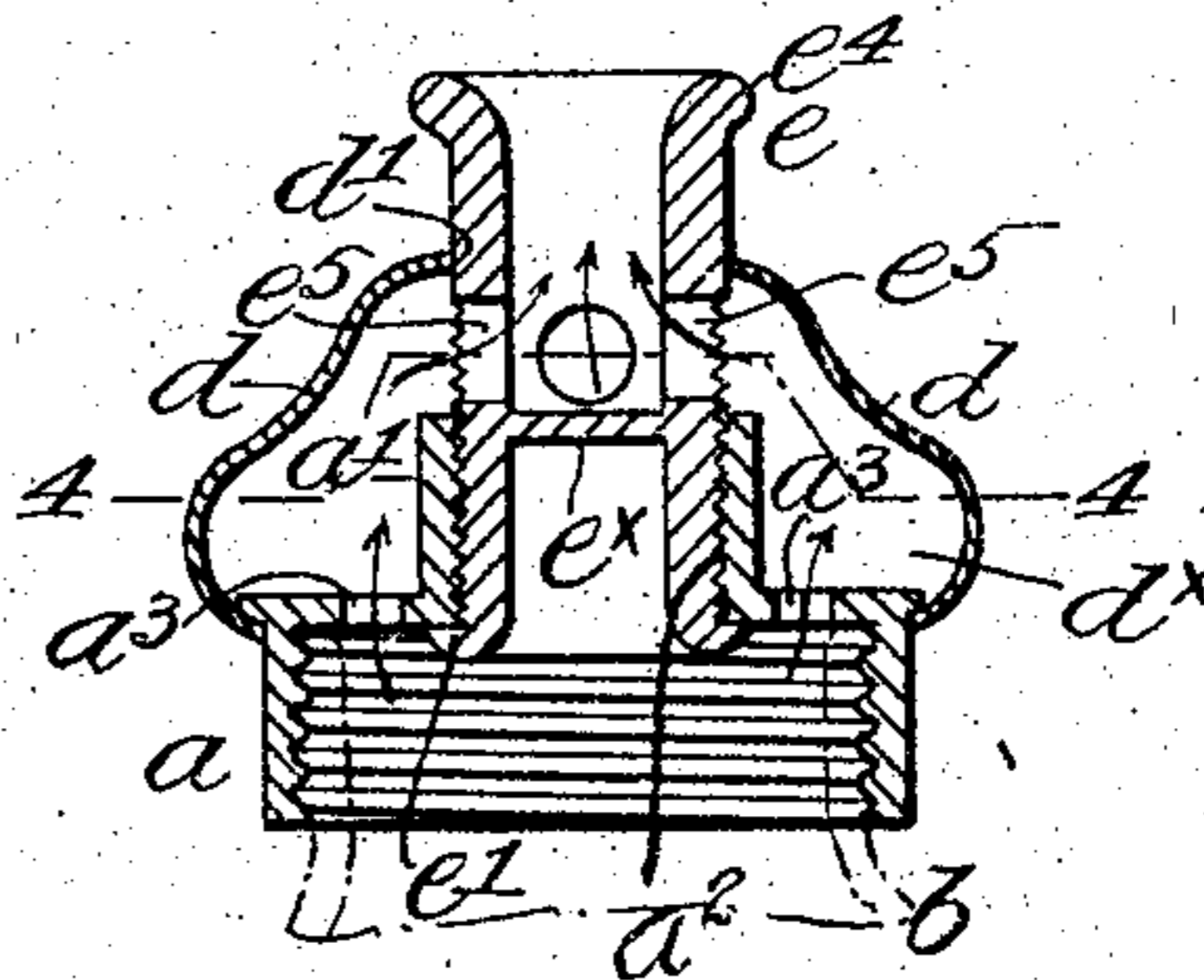


Fig. 2.

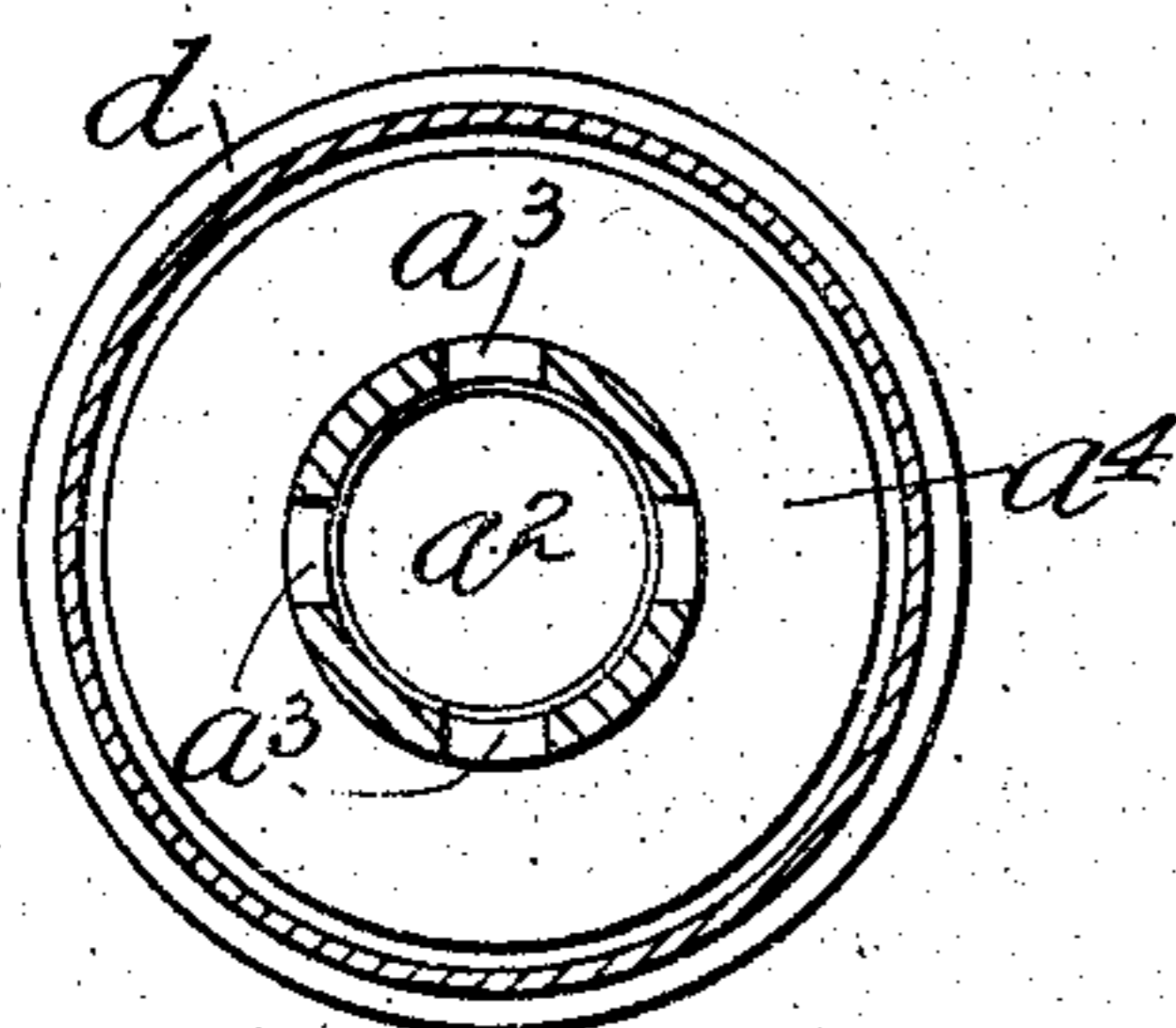


Fig. 4.

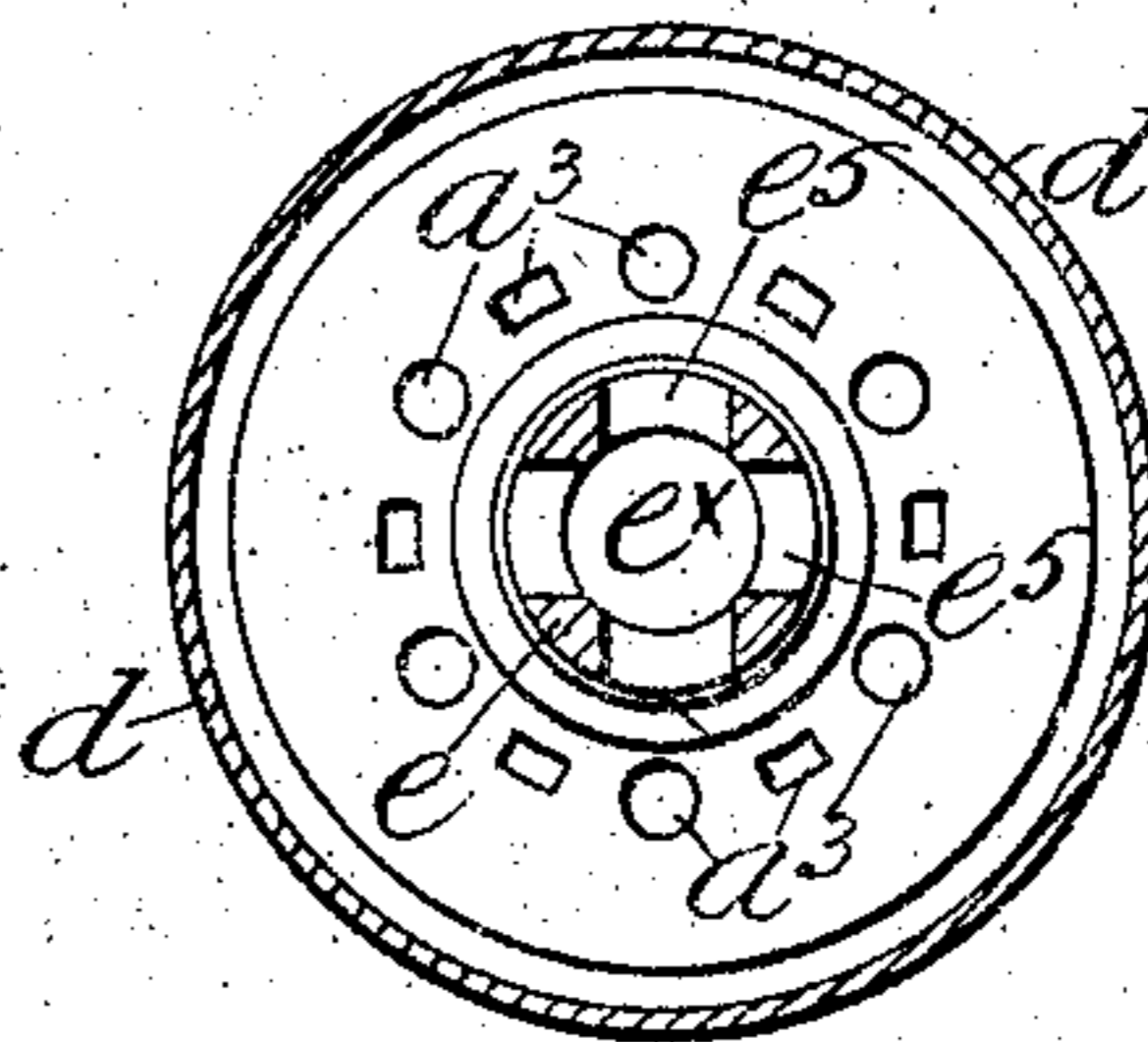


Fig. 5.

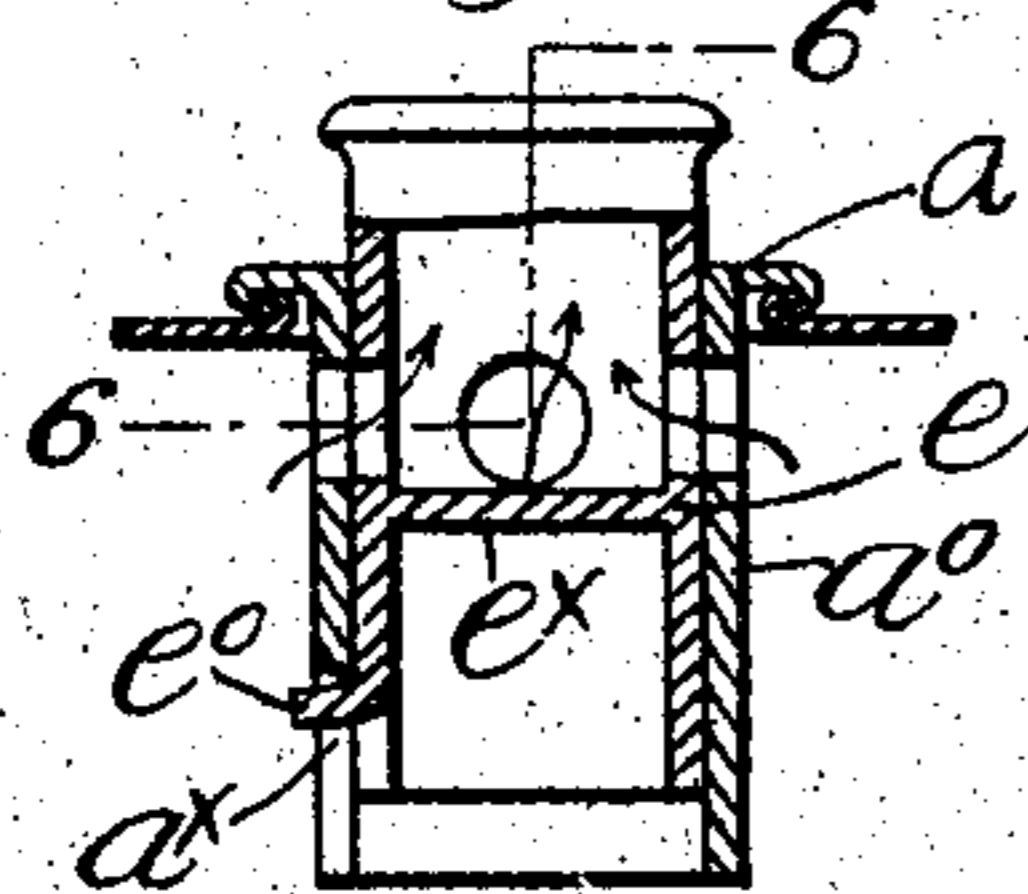


Fig. 6.

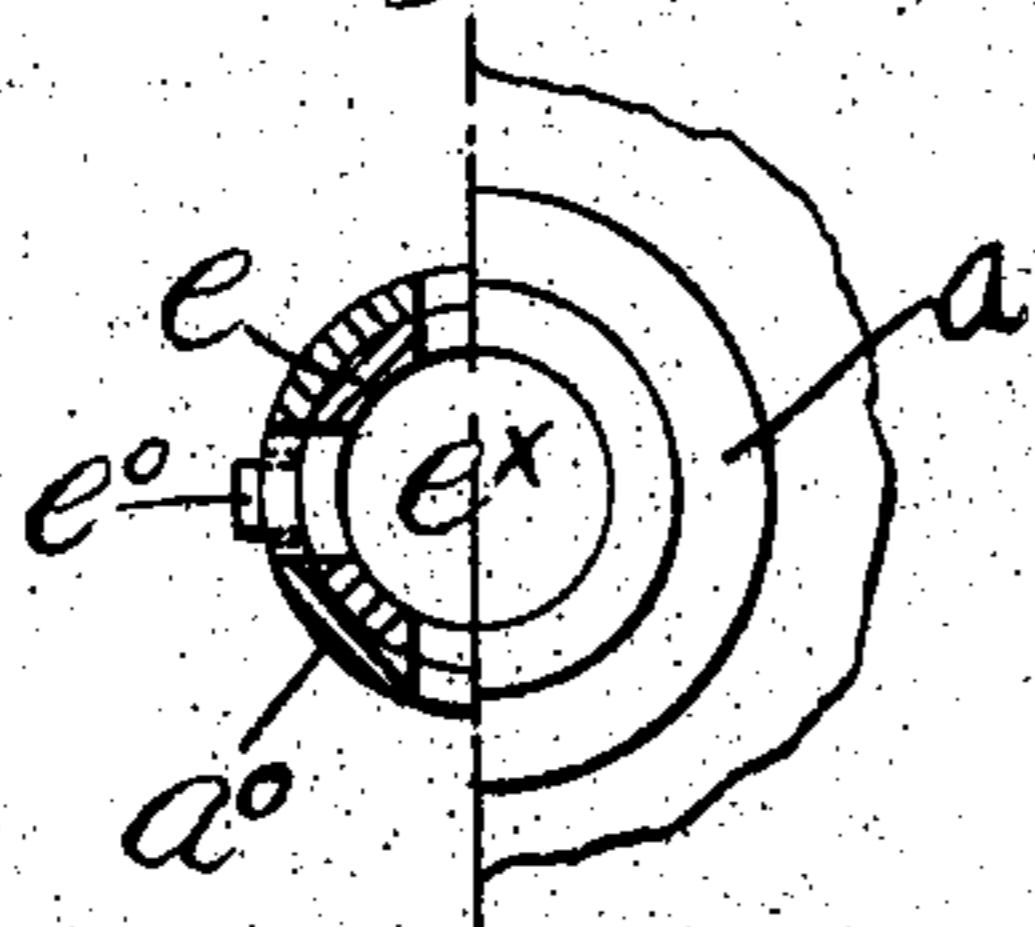
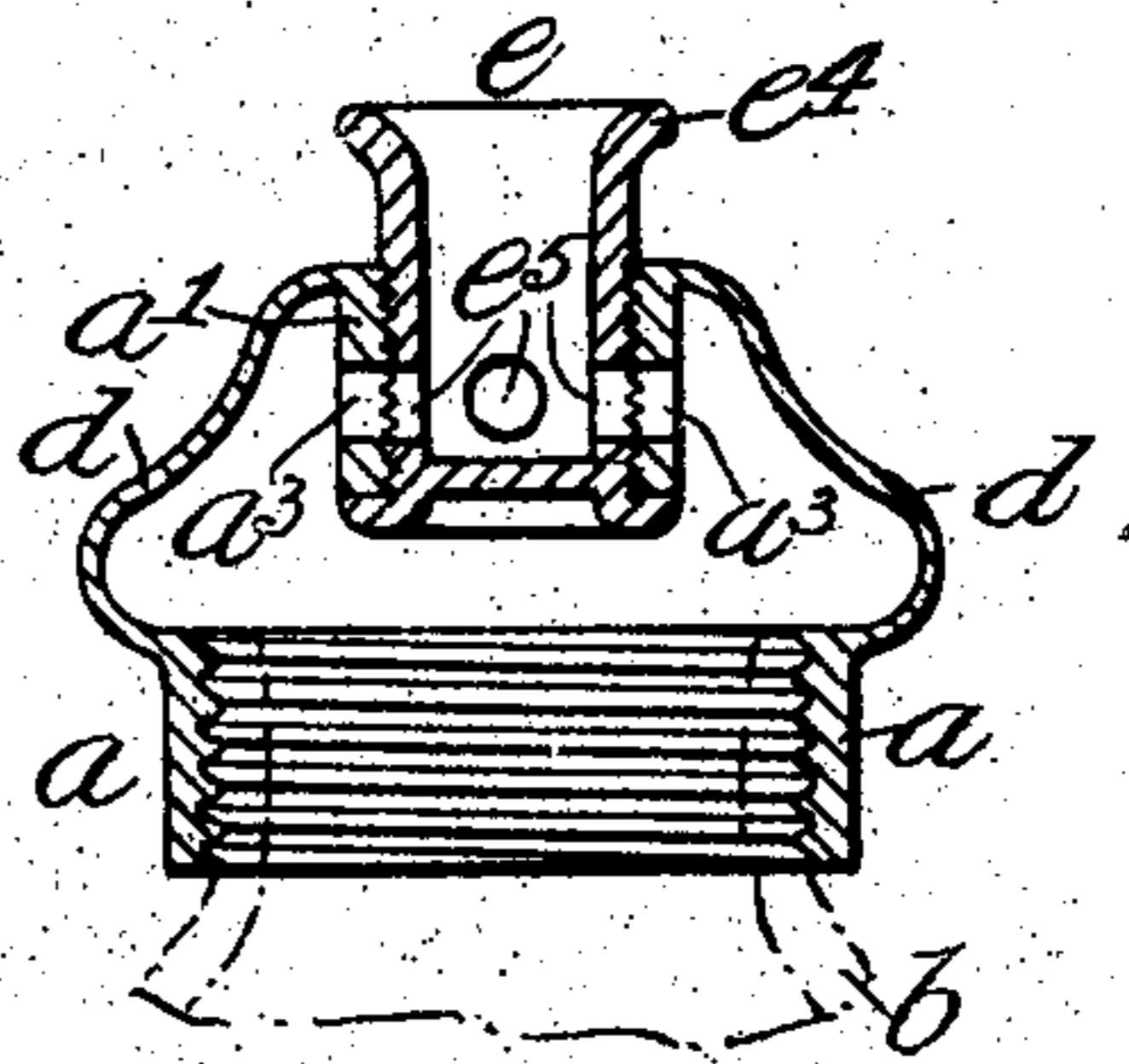


Fig. 7.



Witnesses,
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 O. Knight.

Inventor
 Henry Conrad Sanders
 By *Knight Bros*
 attys.

UNITED STATES PATENT OFFICE.

HENRY CONRAD SANDERS, OF EALING, ENGLAND.

DEVICE FOR SPRINKLING POWDER AND OTHER MATERIALS.

No. 796,256.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed August 15, 1904. Serial No. 220,836.

To all whom it may concern:

Be it known that I, HENRY CONRAD SANDERS, engineer, a subject of the King of Great Britain, residing at 16 Haven Green, Ealing, in the county of Middlesex, England, have invented certain new and useful Improvements Relating to Devices for Sprinkling Powder and Other Materials, of which the following is a specification.

This invention relates to devices for use in sprinkling various materials, the objects being to insure a directional flow of the contents of the vessel or receptacle, to prevent waste, to simplify the construction of the apparatus, and to reduce the cost of manufacture.

The essential feature of the present invention consists in providing a sprinkler with a central discharge through which the flow may be regulated or shut off at will by means of valved openings, the sprinkler and the means for shutting off the flow being self-contained and the latter of a practically non-detachable character.

In order that the said invention may be clearly understood and readily carried into effect, I will proceed to describe the same with reference to the accompanying drawings, in which the views are somewhat enlarged, and in which—

Figure 1 represents in vertical section a sprinkling device adapted for use with a bottle or other receptacle, in the mouth of which it is held by means of a cork stopper. Fig. 2 is a horizontal section taken along the line 2 2 in Fig. 1. Fig. 3 is a section of a sprinkling device adapted for being screwed upon a bottle or other receptacle. Fig. 4 is a horizontal section taken along the line 4 4 in Fig. 3. Fig. 5 is a section illustrating a mode of applying the invention to a box, flask, or the like. Fig. 6 is a partial horizontal section taken along the line 6 6 in Fig. 5, and a plan. Fig. 7 is a section of a modified construction of sprinkler.

A sprinkler constructed according to this invention and adapted to effect the objects hereinbefore referred to may comprise a body or socket a , capable of application to the exit-aperture of the vessel or receptacle b by an external or internal screw or by other suitable means, a cork stopper c being shown in Fig. 1. The said body or socket a may be formed or provided with a central projecting or depending nipple a' , having a screw-threaded perforation a^2 . Around the nipple the body may be provided with a number of slots

or perforations a^3 . The body or socket may be formed with a peripheral lip or flange a^4 , adapted to receive and hold a shield or cover d , which may be formed with a central aperture d' coinciding with the aforesaid nipple. Through the nipple is screwed a tube e , of which the inner extremity is closed by a diaphragm e^x and flanged, as shown at e' , Fig. 3, so as to serve as a stop to limit the outward movement of the said tube e , or the said tube e may be reduced in diameter at its upper part, as shown at e^2 , Fig. 1, and the shoulder e^3 , adapted to form a stop, the outer extremity of the tube e being extended through the aperture d' in the shield d and flared or expanded, as indicated at e^4 , so as to form a discharge-mouth as also a stop for limiting the inward movement of the tube e when the latter is screwed into the nipple a' , the said flared or expanded extremity being adapted to engage the shield d around the aperture d' therein.

The tube e is formed with lateral perforations e^5 , arranged in such a manner that when the tube is screwed home the said perforations enter the nipple a' and communication is closed with the chamber d^x , formed by the shield or cover d ; but when the tube is unscrewed communication is again opened with the said chamber, the latter being in communication with the vessel by way of the slots or perforations a^3 in the body or socket.

Assuming the valve or tube to be unscrewed, the contents of the receptacle may be shaken into the chamber d^x by way of the perforations surrounding the nipple and thence through the lateral perforations e^5 in the tube or valve e , the contents being then sprinkled through the central discharge-aperture formed by the aforesaid tube. Having obtained the requisite quantity of powdered or other material from the receptacle, the discharge therefrom may be arrested by screwing home the tube e , and thereby closing communication with the vessel.

According to a modified construction the body or socket may be adapted for being screwed or otherwise applied to the vessel, as shown in Fig. 3. The said body or socket in some cases—as, for example, in the construction illustrated in Fig. 7—may also serve as a shield and have a central perforation, which may be screw-threaded for the reception of the laterally-perforated screwed valve e , hereinbefore referred to. In this arrangement the shield or cover may be formed with a

boss or an inwardly projecting or depending nipple a' for the valve to work through, perforations a^3 being formed in the said boss or nipple so as to register with the perforations e^5 in the tube or valve.

Instead of the tube or valve being arranged to screw into the body or socket or the shield or cover it may be made plain and adapted to slide therein, a suitably-arranged pin and slot serving to guide the same and to prevent turning, or any other convenient means may be employed for guiding the valve. Such an arrangement is illustrated in Figs. 5 and 6, applied, by way of example, to a powder-box. In this instance the body or socket a may be formed or provided with a depending hollow portion a^0 , adapted to receive the tube or valve e and to allow of the latter being operated therein. For this purpose the said valve is formed with a tongue e^0 , which projects through a slot a^x , formed in the portion a^0 . The attachment of the body or socket to the box may be effected as shown or in any other desired manner.

By the use of sprinklers arranged as hereinbefore described undue waste of the contents of the vessel may be prevented, while the inconvenience arising from the use of loose caps such as ordinarily employed will be avoided. The flow from the vessel may also be regulated to a high degree of nicety, so that only the required quantity may be sprinkled. The tendency to clog is also obviated when the device is used as a powder-sprinkler.

The improved device is specially designed for use in connection with pulverulent materials—such, for example, as tooth-powder; but it will be readily apparent that it may be applied to other uses or preparations.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A sprinkler comprising a body portion and a piston-valve, the body portion having a central delivery or discharge orifice, and the body portion and the valve having perforations through which communication is opened and closed to the central orifice by the piston-valve.

2. A sprinkler comprising a body portion provided with perforations and a valve having a central delivery-orifice and lateral perfora-

tions adapted, when the valve is moved longitudinally, to open and close communication with the perforations in the sprinkler.

3. A sprinkler comprising a body portion having perforations and a valve of the piston type having a central delivery-orifice and lateral perforations, the said lateral perforations being adapted for opening and closing communication with the aforesaid central delivery-orifice by a longitudinal movement of the valve.

4. A sprinkler having perforations and a piston-valve formed with a central delivery-orifice and lateral perforations, and adapted to open and close communication with the said central delivery-orifice by a longitudinal movement of the said valve in an outward and inward direction respectively and by way of said lateral perforations.

5. A sprinkler having perforations and a non-detachable piston-valve formed with a central delivery-orifice and lateral perforations and adapted to open and close communication with the said central delivery-orifice by a longitudinal movement of the said valve in an outward and inward direction respectively and by way of said lateral perforations.

6. A sprinkler having a central delivery-orifice, a shield or cover and a valve for opening and closing communication with the said orifice and the receptacle.

7. A sprinkler comprising a socket portion, a shield and a tube adapted to work in said shield.

8. A sprinkler comprising a socket portion, a shield, a laterally-perforated tube, a nipple for said tube and stops on said tube for preventing its detachment.

9. A sprinkler comprising a socket portion, a shield, a tube, a nipple for said tube and perforations in the tube and in the nipple adapted in a certain relative position of said tube and nipple to coincide and effect communication between the orifice and the receptacle.

In testimony whereof I have hereunto set my hand, in presence of two subscribing witnesses, this 2d day of August, 1904.

HENRY CONRAD SANDERS.

Witnesses:

T. SELBY WARDE,

WALTER J. SKERTEN.