

J. J. CASSIDY.
Apparatus for Distributing Powder.

No. 197,601.

Patented Nov. 27, 1877.

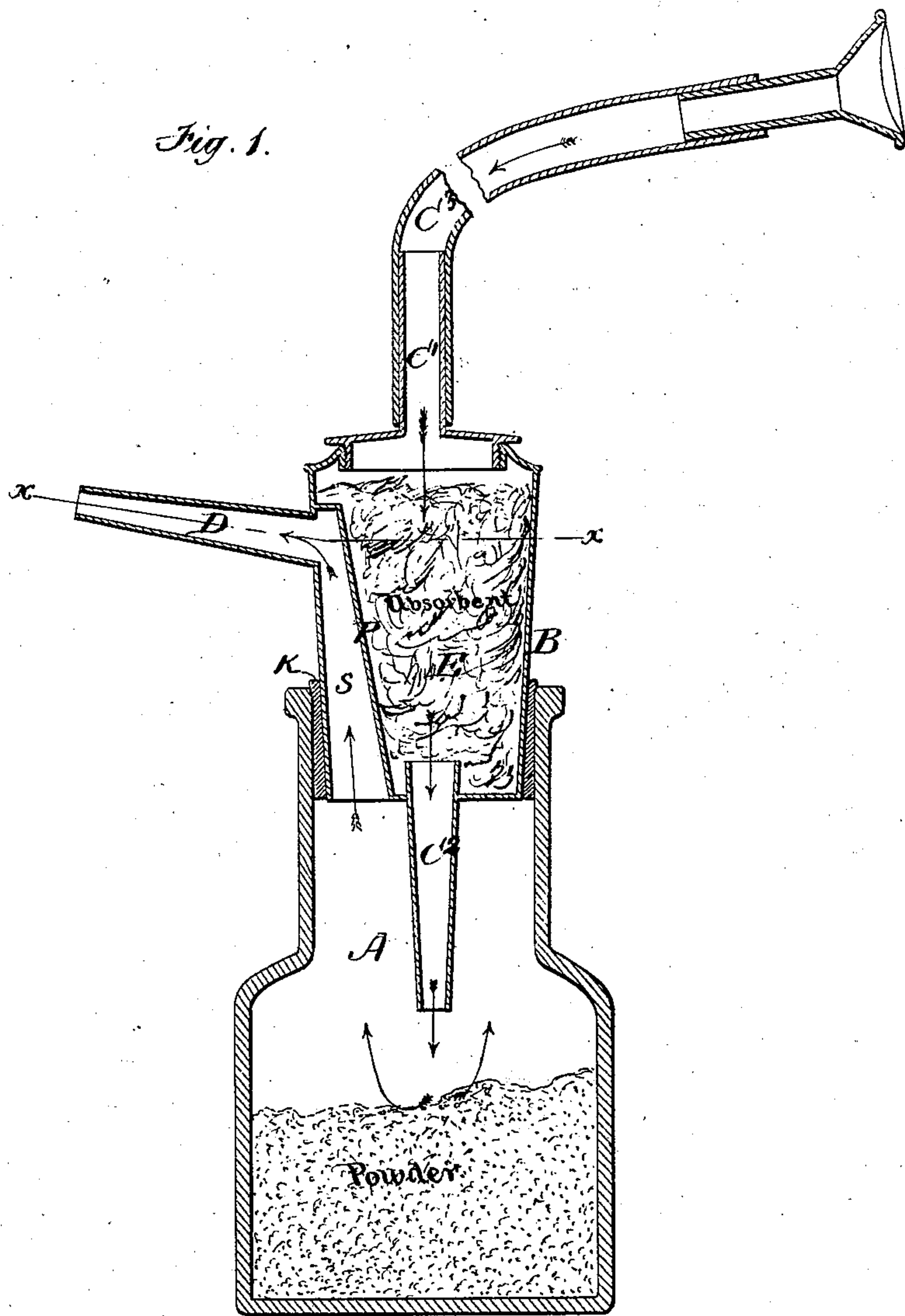
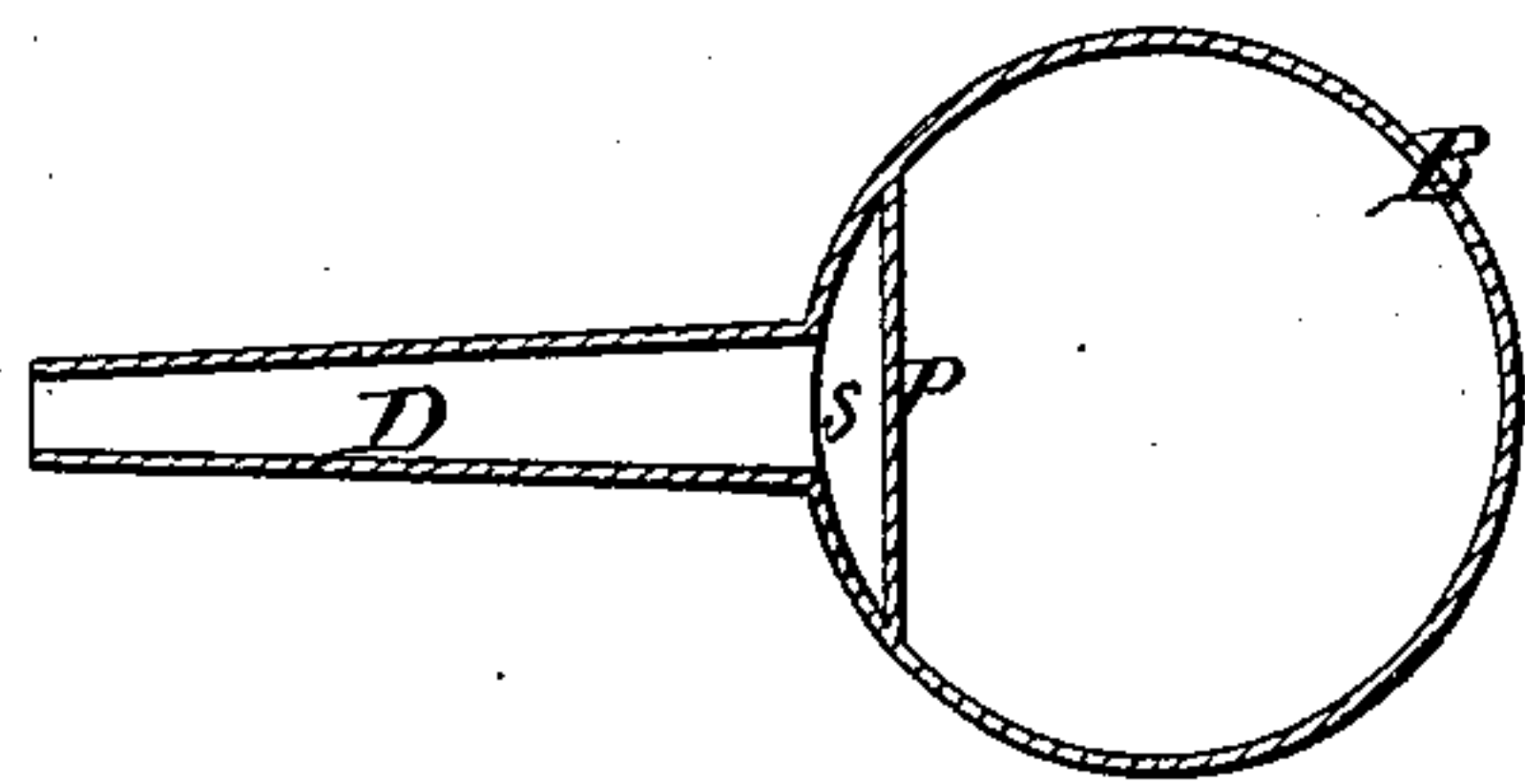


Fig. 2.



Witnesses,
W. E. Brown
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UNITED STATES PATENT OFFICE.

JAMES J. CASSIDY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN APPARATUS FOR DISTRIBUTING POWDER.

Specification forming part of Letters Patent No. **197,601**, dated November 27, 1877; application filed April 10, 1877.

To all whom it may concern:

Be it known that I, JAMES J. CASSIDY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Apparatus for Distributing Powder, of which the following is a specification:

In the accompanying drawing, forming a part of this specification, Figure 1 represents a vertical section of an apparatus embodying my invention. Fig. 2 represents a section on the line *x x*, Fig. 1.

This invention has for its object to provide means for expelling any finely-pulverized material or powder from the receptacle in which it is contained, and projecting said powder with a considerable degree of force from the receptacle by a blast of air, the invention being intended, mainly, for distributing insect-destroying powder.

It consists, essentially, in the combination, with a receptacle for powder or pulverized material, of an induction-tube adapted to admit a current or blast of air into the receptacle in such manner as to cause a violent agitation of the powder, and an eduction tube or passage adapted to permit the escape of the air and the powder with which it is laden.

The invention also consists in the details of construction of an apparatus embodying the above combination, and in the provision of an absorbent in the induction passage or tube to arrest the moisture of the breath when the blast of air is supplied by the lungs, and prevent the powder from being unduly moistened, all of which I will now proceed to describe.

In the drawings, A represents a receptacle adapted to hold a powdered mixture or material. This receptacle may be of any desired form and size. I prefer to make it in the form of a can or jar having a large neck or mouth, which is provided with a stopper, B.

C¹ represents the upper section of the induction-pipe, which enters the upper end of the receptacle A, and extends downwardly into said receptacle, this pipe being adapted to direct a current of air downwardly into or against the powder in the receptacle.

D represents the eduction-pipe, which constitutes a passage from the upper portion of

the interior of the receptacle A to the external air, and projects from the receptacle as far as is desired. When the apparatus is in working order the receptacle is air-tight at all points excepting where the pipes enter.

When a blast of air is forced through the pipe C² it agitates and becomes charged or laden with the powder, and, in its escape from the receptacle, carries the powder with which it is laden through the pipe D, and projects it in a stream or jet from the receptacle a distance equal or proportioned to the power of the blast. The jet or cloud of powder thus produced may be allowed to fall on plants or forced into crevices or holes, for the purpose of destroying insects or vermin, a suitable destructive powder being employed.

If desired, the apparatus may be employed for propelling sand against an adhesive surface, as in the ornamentation or sanding of walls.

The induction-pipe sections C¹ C² and the eduction-pipe D may be applied to the receptacle A in any desired manner, the chief requisites being that both pipes shall be connected with the upper part of the receptacle, so that the induction-pipe shall direct the blast downwardly into or upon the powder, and the pipe D shall allow the ready escape of the powder-laden air, and that the receptacle shall be otherwise without communication with the outside air.

In the present instance I have shown the apparatus as adapted to be used on a small scale, the blast being furnished by the lungs. For this purpose I provide the pipe C¹ with a flexible extension, C³, of any desired length, its outer end being provided with a suitable mouth-piece. I make the stopper B hollow, and thus create a chamber or an enlargement of the induction-pipe, the latter being made in two sections, C¹ C², one of which is applied to the upper end of the hollow stopper, and the other to the lower end, as shown in Fig. 1. Between these two sections I place an absorbent, E, of cotton or any material which will permit the passage of air, but will absorb and arrest the greater part of the moisture contained in air expelled from the lungs, thus preventing the powder in the receptacle from becoming unduly moistened. The lower sec-

tion C² projects above the bottom of the hollow stopper, and thus converts the latter into a drip-cup which accumulates the moisture collected by the absorbent.

P represents a partition in the hollow stopper, forming a space, S, in the side of the stopper, which space is entirely distinct from the chamber of the stopper, and communicates at its lower end with the receptacle A, and at its upper end with the eduction-tube D. The partition P is preferably inclined, so as to give the space S a tapering form, and the tube D is preferably tapered, as shown in Fig. 1. This form causes the powder-charged air to escape with greater force, and to be projected farther from the receptacle than if the pipe D and space S were of uniform diameter.

The upper section C¹ of the induction-pipe is attached to a screw-cap, which is adapted to be detached from the stopper B.

The stopper may be secured to the receptacle A by a suitable locking device, if desired. In the present case I provide a compressible packing, K, which is interposed between the stopper and the mouth of the receptacle, and holds the stopper in place, and causes it to fit tightly.

This apparatus is especially valuable for throwing or distributing insect-destroying powder, and with it a person can easily blow the powder several feet from the receptacle. The stopper B, having induction-pipes C¹ C² and eduction-pipe D permanently attached to it, enables these pipes to be readily and conveniently applied to the receptacle. If de-

sired, this stopper may be made without the chamber and the space S, the induction and eduction pipes being conducted directly through it.

The apparatus may be made on a large scale, and adapted to be used for the wholesale destruction of potato-bugs, &c. In such case it would be desirable to supply the blast by a portable blower or bellows, and to provide several eduction-tubes.

I claim as my invention—

1. An apparatus for distributing pulverized material or powder, consisting of the hollow or chambered stopper B, having induction-pipes C¹ C², absorbent E, and eduction-pipe D, in combination with the receptacle A, as set forth.

2. The stopper B, having the induction-pipes C¹ C², in combination with the absorbent E, as set forth.

3. The hollow or chambered stopper, having the pipes C¹ C², absorbent E, space S, and pipe D, as set forth.

4. The hollow or chambered stopper, having an absorbent, E, combined with the section C² of the induction-pipe, said section projecting above the bottom of the stopper, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES J. CASSIDY.

Witnesses:

WM. S. B. MAINE,
C. F. BROWN.