(No Model.)

J. JONES.

ADJUSTABLE FUNNEL.

No. 427,874. Patented May 13, 1890.

Fig. 1

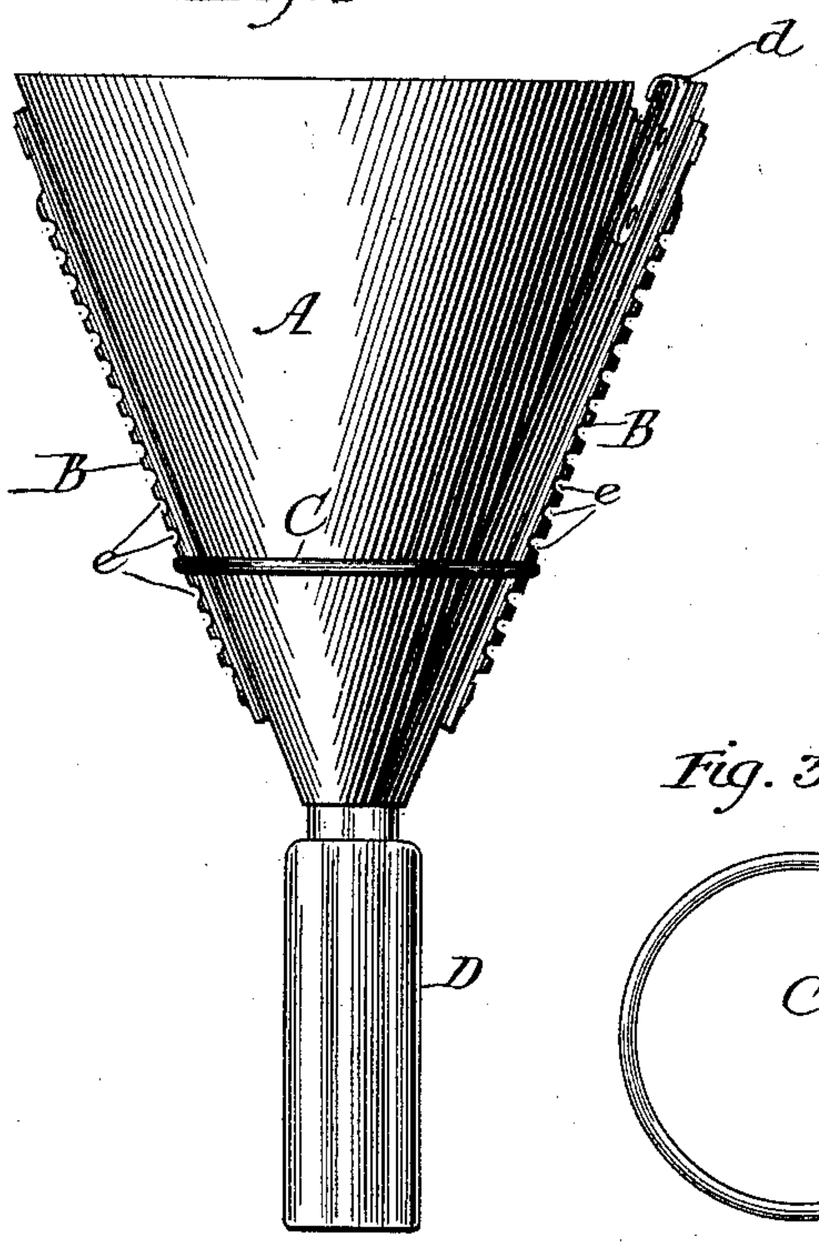


Fig. 2.

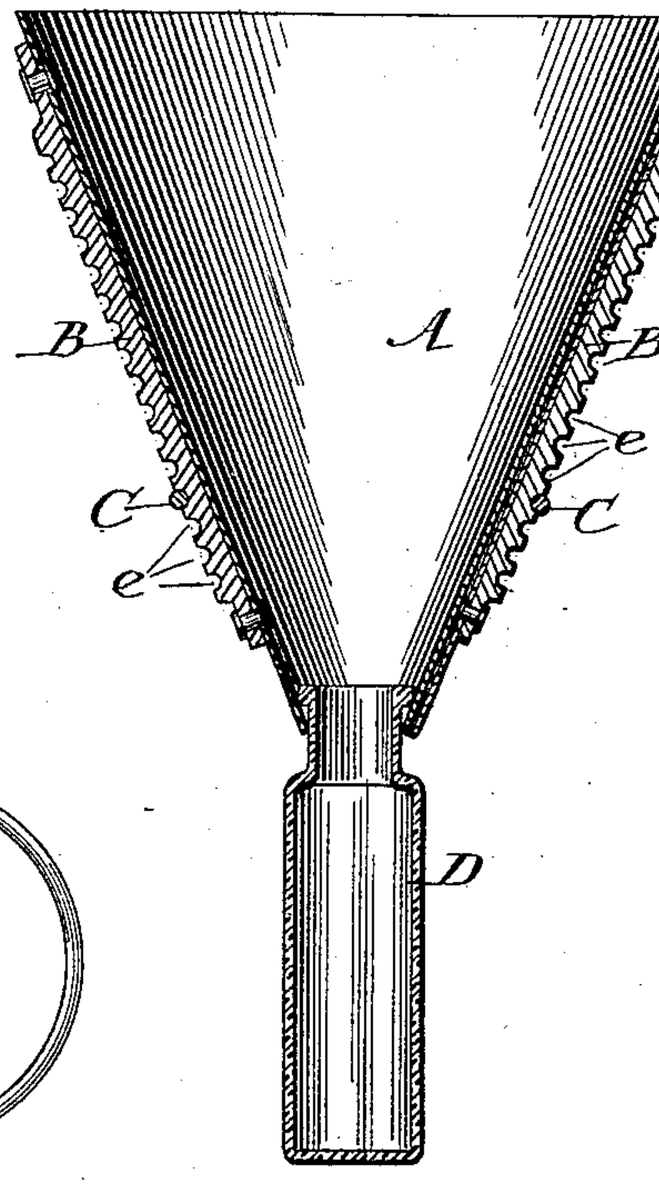
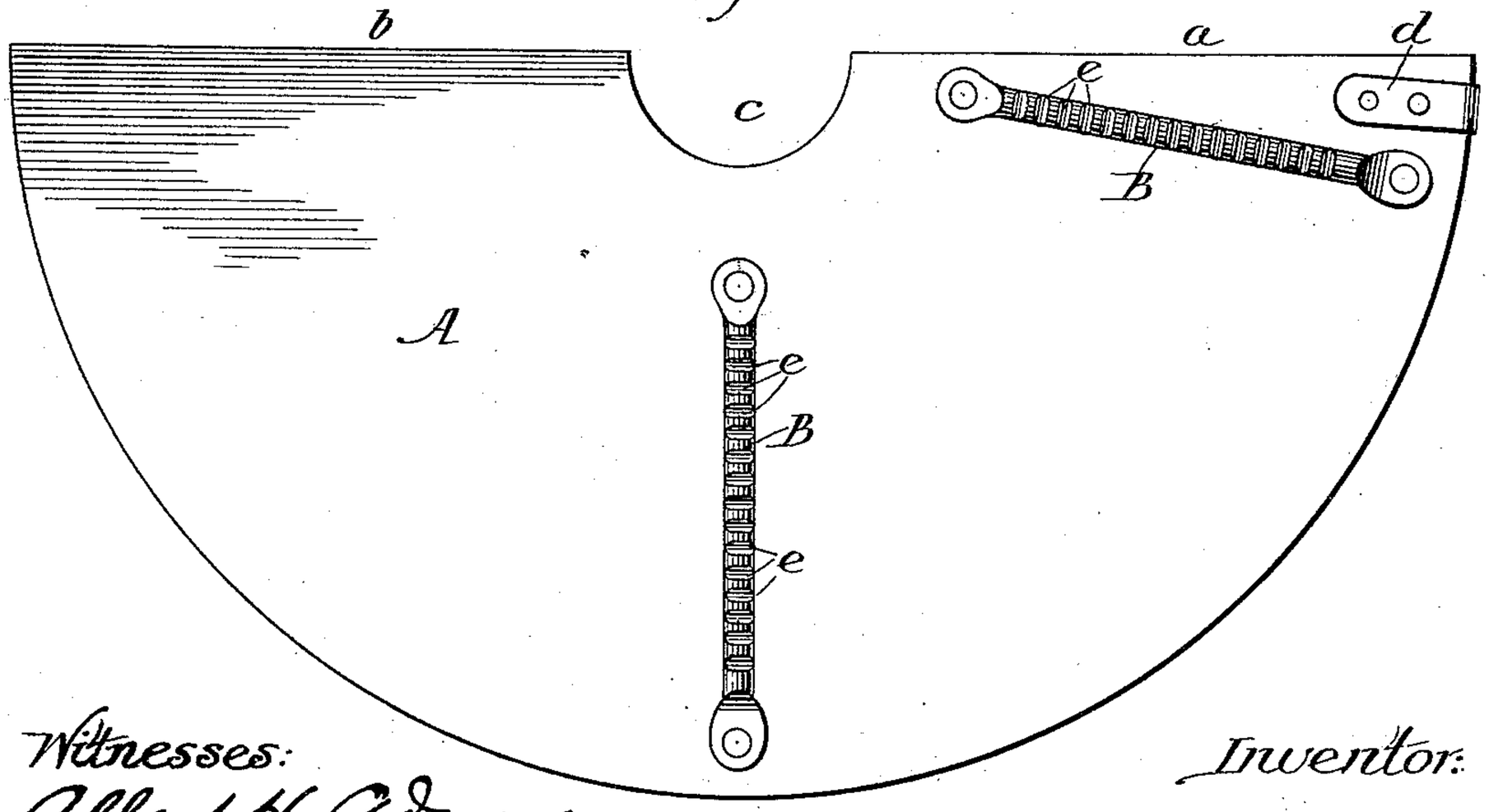


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSHUA JONES, OF AUBURN PARK, ILLINOIS.

ADJUSTABLE FUNNEL.

SPECIFICATION forming part of Letters Patent No. 427,874, dated May 13, 1890.

Application filed July 2, 1889. Serial No. 316,354. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA JONES, residing at Auburn Park, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Adjustable Funnels, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved funnel, showing also a vial attached to the funnel in position to be filled. Fig. 2 is a vertical section of the parts shown in Fig. 1. Fig. 3 is a top view of the retaining-ring. Fig. 4 is a view of the blank from which the funnel is formed, showing also secured thereto the notched strips which hold the ring, and the hook for retaining the upper edges of the overlapping portions of the funnel in contact with each other.

This invention relates to funnels used for filling small vials or bottles with powders, and has for its object to provide an adjustable funnel that can be used with vials or bottles of various sizes and in all cases leave the mouth of the bottle entirely unobstructed, so that the bottle can be quickly and readily filled; and its nature consists in forming the body of the funnel of a single piece of thin sheet metal or other suitable material bent over and its edges lapped but not soldered, and in providing a holding-ring which is slipped over the smaller end of the device and held in position by notches formed in strips attached to the outside of the funnel, as illustrated in the drawings and hereinafter fully described.

That which I claim as new will be pointed out in the claims.

In the drawings, A represents the body of the funnel, which is to be formed of thin sheet brass or steel or other suitable material. It is to be cut or stamped in substantially the form shown in Fig. 4, so that when bent into funnel shape the edge *a* will lap over the edge *b*, and the notch *c* (shown in said Fig. 4) will form the discharge-opening of the funnel.

B are strips of metal suitably secured by rivets or otherwise to the outer surface of the funnel A, as shown. They are to be so located as to be opposite to each other, or nearly so, when the funnel is ready for use. Each strip is provided with a number of notches *e*, as shown.

C is a metal ring of suitable size to encircle the lower portion of the funnel-body A.

d is a flat hook suitably secured to the funnel-body A in such position that the hook will project over the upper edge of the funnel, the hook end being wide enough to permit it to engage two thicknesses of the material from which the funnel-body is made.

To form the funnel the blank shown in Fig. 4, with the strips B B and hook *d* thereon, is bent over and the edge *a* lapped over the edge *b*, and the upper edge of the under portion caught under the hook *d*, which holds the lapping portions in close contact with each other. The ring C is to be then slipped on from the lower end and caught in a notch *e* of each strip B, which will retain the body A in funnel form.

In use the discharge-opening is to be left large enough for the neck of a bottle to be inserted therein. After it is inserted the body A is to be compressed, so that the edge of the discharge-opening is pressed tightly against the neck of the vial. The ring C is to be raised while the body A is still compressed and placed in such of the notches *e* as will retain the body A in the position into which it has been compressed by hand. The vial will be prevented from slipping out by the contact of its lip with the inside of the funnel. The powder intended to be placed in the vial can then be poured into the funnel, from whence it will pass to the vial without any obstruction in the neck of the vial. After the vial has been filled the funnel can be detached therefrom by slightly compressing the funnel where it is encircled by the ring C, when such ring can be placed in some of the lower notches, which will allow the body A to spring enough to enlarge the discharge end and release the vial.

By means of the ring C the size of the body of the funnel can be increased or decreased whenever desired in order to adapt its discharge end to fit different sizes of vials, and in all cases a close fit is effected between such discharge end and the vial to be filled, and the interior of the funnel is kept smooth, as the hook *d*, projecting over the upper edge of the interior lapping portion, keeps such

interior lapping portion in close contact with the other lapping portion.

By slightly compressing the funnel, as before described, the ring C can be readily slipped off, which will allow the body A to straighten out or spread open, in which position it can be more readily cleansed and polished than when in the funnel form.

The funnels ordinarily employed for filling vials are provided with spouts, which are inserted in the necks of the vials, and thus narrow the space in the neck, which is an objection in very small vials. By the use of my improved funnel this objection is entirely overcome, as there is no obstruction whatever placed in the neck.

The funnel can be used without the ring, then being held in contact with the lip of the bottle by the hand.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. A funnel consisting of a single piece of sheet metal or other suitable material, the edges of which are overlapped but not joined, in combination with notched strips B, adapted to retain a ring C, substantially as and for the purpose specified.

2. A funnel consisting of a single piece of sheet metal or other suitable material, the edges of which are overlapped but not joined, in combination with notched strips B, adapted to retain a ring C, and a hook *d*, substantially as and for the purposes specified.

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