

C. A. TATUM.
ADJUSTABLE SPRAY TIP FOR ATOMIZERS AND THE LIKE.
APPLICATION FILED NOV. 25, 1913.

1,120,760.

Patented Dec. 15, 1914.

Fig. 1.

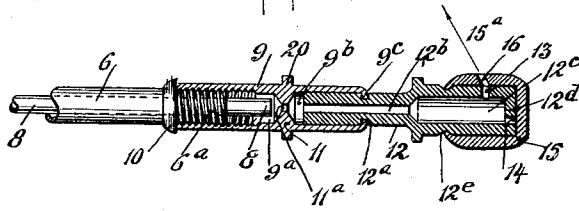


Fig. 2.

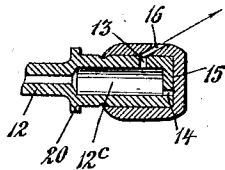


Fig. 3.

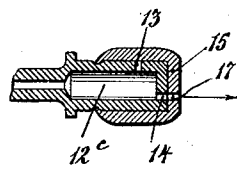


Fig. 4.

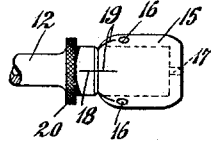


Fig. 5.

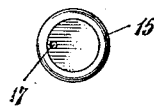
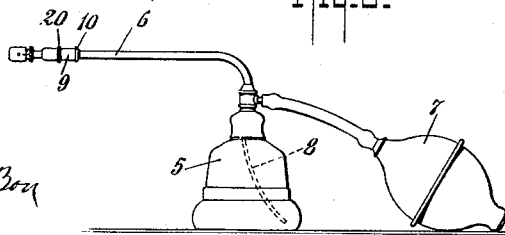


Fig. 6.



WITNESSES

George Du Bon
John A. H. H. H.

INVENTOR

CHARLES A. TATUM

BY

Brisson Knauth
ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES A. TATUM, OF MIDDLETOWN, NEW JERSEY, ASSIGNOR TO WHITALL TATUM COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

ADJUSTABLE SPRAY-TIP FOR ATOMIZERS AND THE LIKE.

1,120,760.

Specification of Letters Patent.

Patented Dec. 15, 1914.

Application filed November 25, 1913. Serial No. 302,853.

To all whom it may concern:

Be it known that I, CHARLES A. TATUM, a citizen of the United States, and a resident of Middletown, county of Monmouth, State of New Jersey, have invented certain new and useful Improvements in Adjustable Spray-Tips for Atomizers and the like, of which the following is a specification.

My invention relates to spray tips for atomizers and the like and has for its object to provide tips of this character which may be adjusted to throw the spray in a plurality of different directions and at different angles according to adjustment.

My improvement will be fully described hereinafter and the features of novelty will be pointed out in the appended claims.

Reference is to be had to the accompanying drawings in which—

Figures 1, 2 and 3 are detail sectional views illustrating my improved tip adjusted to different positions; Fig. 4 is an exterior view of said tip; Fig. 5 is an end view thereof and Fig. 6 is a side elevation of an atomizer showing my improved tip applied thereto.

In the drawing my improved tip is shown applied to an atomizer of any ordinary construction which as usual comprises a receptacle 5 for the medicinal fluid or the like, the usual air tube 6 and bulb 7 being connected with said receptacle in any customary manner. The usual fluid conducting tube 8 extends through the air tube 6 and together therewith forms a spraying tube in the well known way. In the illustration the free end of the tube 6 is screw-threaded as indicated at 6^a to detachably receive the spray tip or nozzle. As shown in the drawings the said tip or nozzle comprises an internally screw-threaded sleeve 9 adapted to be screwed upon the screw-threaded portion 6^a, an annular shoulder or the like 10 on the tube 6 serving to limit the movement of said sleeve 9 upon the portion 6^a.

A partition 11 is located in the sleeve 9 intermediate of its ends and divides the same into two compartments 9^a and 9^b, the tubes 6 and 8 extending into the chamber 9^a which is connected with the chamber 9^b by means of a channel 11^a formed in the partition 11 as clearly shown in Fig. 1. A tubular section 12 extends into the chamber 9^b and is preferably rotatable therein, any

suitable means being provided to prevent relative movement between the sleeve 9 and section 12 in an axial direction. For instance an annular groove 12^a may be formed on the section 12 and the end of the sleeve may be turned or bent inwardly to form an annular flange 9^c extending into said groove, as illustrated in Fig. 1. The section 12 is provided with an axial channel 12^b which communicates at one end with the chamber 9^b of the sleeve 9 and at its opposite end is connected with a chamber 12^c formed in the head of the section 12 and closed by means of an end wall 12^d. In the form of my invention as illustrated, the chamber 12^c has two outlets 13 and 14, the outlet 13 being located in the circumferential wall and extending in a radial direction from said chamber, while the outlet 14 extends in an axial direction therefrom and is eccentrically located in the end wall 12^d. A cap 15 is rotatably mounted on the section 12 so as to extend over the free end thereof and is maintained against removal from the section 12 in axial direction in any suitable manner as by turning the end of said cap 15 inwardly to form an annular flange 15^a adapted to extend into an annular groove 12^e located on the section 12. The cap 15 is provided in its circumferential wall with a plurality of apertures 16 extending for instance in opposite directions and at different angles to the axis of the cap 15 and each adapted to be brought into registry with the outlet 13 as the said cap 15 is rotated upon the section 12. The cap 15 is further provided with an aperture 17 located eccentrically in the end wall 15^a thereof and arranged to be brought into registry with the outlet 14 of the chamber 12^c through a proper manipulation of said cap 15. In order that it may be at once and readily apparent when one of the apertures 16 is in proper registry with the outlet 13 or when the aperture 17 registers with the outlet 14 I provide indications 18 and 19 located respectively on the section 12 adjacent to the flange 15^a and on the cap 15 at the flanged end thereof as shown in Fig. 4, it being understood that one indication 19 for each aperture 17 is provided on said cap 15. It may be found, after the sleeve 9 has been completely screwed upon the tube 6 that the indication 18 of the section 15 is located at a point difficult of ready

observation, a condition which may be readily remedied by simply rotating the section 12 in the sleeve 9 until the said indication 18 is in a position where it is easily visible. To facilitate this rotation of the section 12 relatively to the sleeve 9 I may provide said section 12 with an annular flange 20 having its peripheral edge milled or otherwise roughened as shown in Fig. 4. With this construction the position of the indication 18 may be independently adjusted so as to be readily visible and awkward manipulation of the atomizer or other device with which my improved tip is used is done away with.

It will be readily apparent that by simply rotating the cap 15 upon the section 12 to bring any one of the apertures 16 into registry with the outlet 13, the spray may be thrown at various and different angles to the axis of the said cap 15 and in opposite directions either toward or away from the receptacle 5 and by bringing the aperture 17 into line with the outlet 14 that the spray may be thrown forward in a direction parallel with the axis of the cap 15. The indications 19 in each instance cooperating with the indication 18 will quickly inform the user when the desired aperture is in proper registry with either the outlet 13 or 14. The spray tip is thus easily and quickly adjusted to throw the spray in the particular direction most effective in each instance and does away with the necessity for substituting a different, specially constructed tip or nozzle each time a particular direction of spray is desired. The field of usefulness for instance of a given atomizer is thus materially increased and the necessary manipulation thereof is reduced to a minimum.

It will of course be obvious that the outlets 13 and 14 and the apertures 16 and 17 cooperating therewith may be arranged otherwise than as shown and that the chamber 12^c may be provided with more than two outlets or that some of the apertures in the cap 15 may be omitted if desired. It is also to be understood that in some cases the outlet 13 may be brought into registry with an aperture 16 at the same time that the aperture 17 is in registry with the outlet

14 so that two sprays are simultaneously thrown in two directions at an angle to each other. Furthermore if the chamber 12^c is provided with two radially extending outlets both of these may be caused to concurrently register with two different apertures 16. In addition to the above, various other changes may be made in the forms shown and described within the scope of the claims without departing from the spirit of my invention.

I claim:

1. A spray tip for atomizers and the like comprising a head provided with a radially disposed outlet and an axially disposed outlet located eccentrically in the end wall of said head, a cap rotatably mounted on said head and having a plurality of differently disposed apertures adapted to register with said radial outlet and a single aperture adapted to register with said axial outlet whereby the direction of spray is varied and means for indicating when the outlets and apertures are in registry with each other.

2. A spray tip for atomizers or the like comprising a sleeve adapted to be detachably secured to an atomizer or the like, a section rotatably mounted in said sleeve and having an internal chamber communicating with said sleeve, said chamber having a radially extending outlet and an axially extending eccentrically located outlet, a cap provided with differently disposed apertures adapted to register with said radial outlet and an eccentrically located aperture adapted to register with said axial outlet whereby the direction of spray is varied, an indication on said rotatable section and a plurality of indications on said cap corresponding to said apertures and adapted to cooperate with said first named indication to indicate a proper registration of said outlets and said apertures.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES A. TATUM.

Witnesses:

HORACE H. REDDY,
HENRY L. CONKLIN.