

No. 712,214.

Patented Oct. 28, 1902.

C. A. TATUM.  
ATOMIZER.

(Application filed Dec. 16, 1901.)

(No Model.)

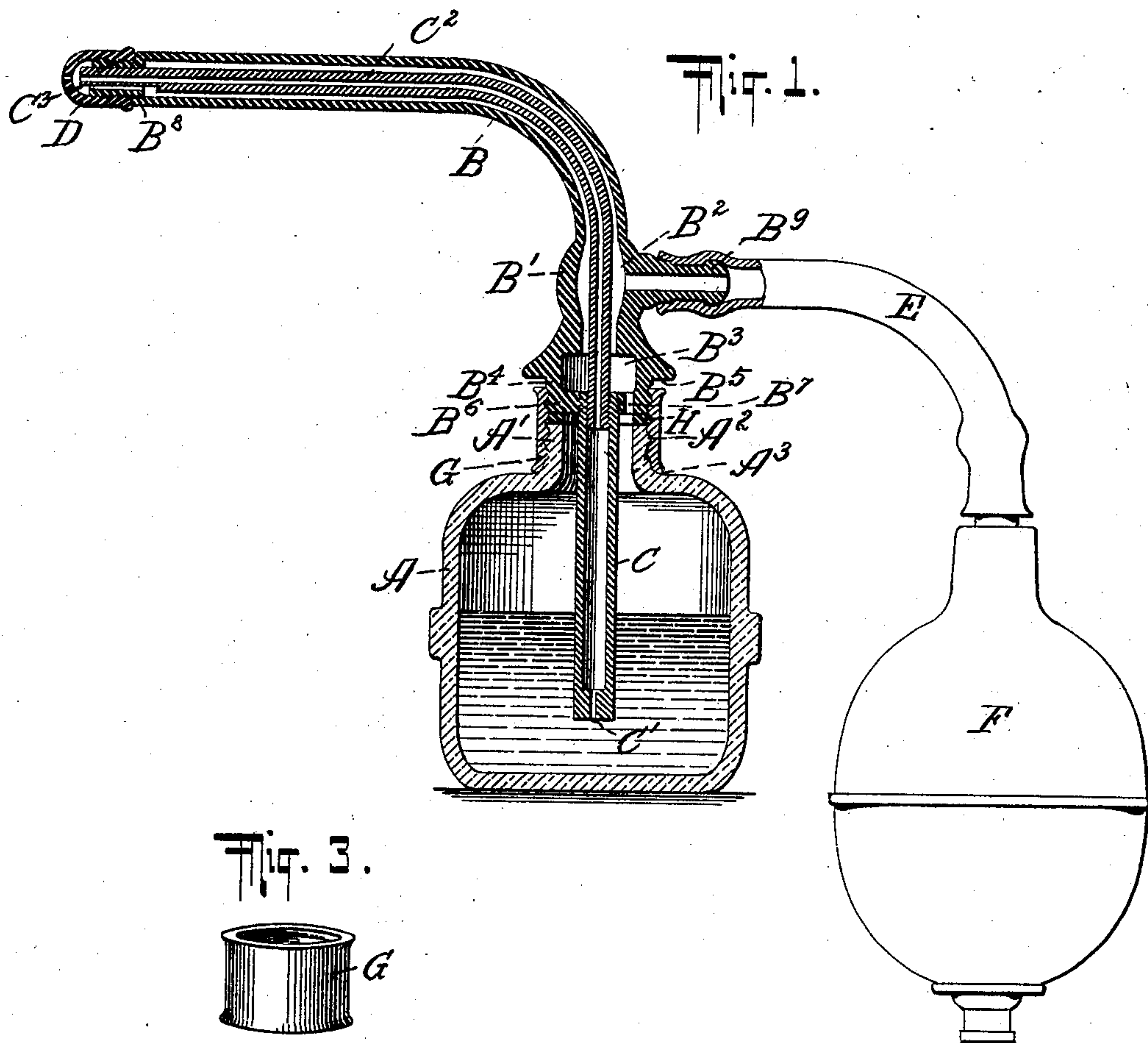


Fig. 3.

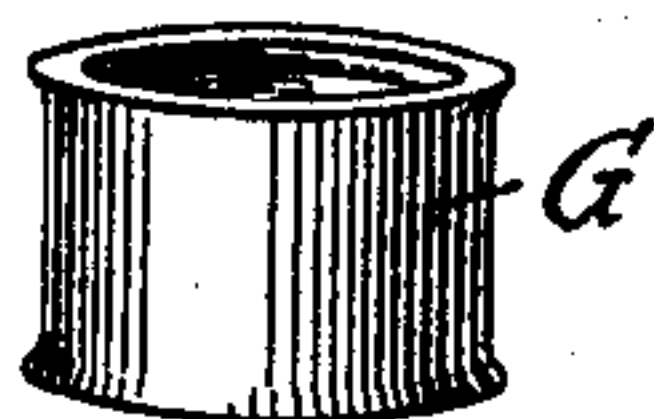
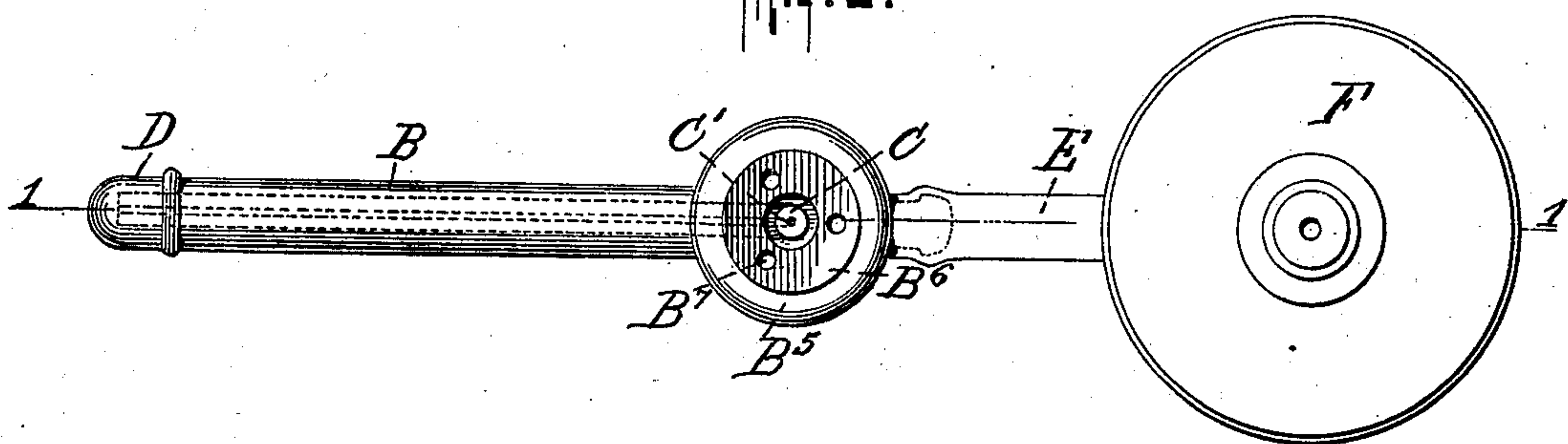


Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 712,214, dated October 28, 1902.

Application filed December 16, 1901. Serial No. 86,073. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. TATUM, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Atomizers, of which the following is a specification.

My invention relates to atomizers, and has for its object to improve particularly the connection of the atomizer proper with the bottle adapted to contain the liquid to be atomized.

The invention will be fully described hereinafter, and the features of novelty pointed out in the appended claims.

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

Figure 1 is a central sectional elevation of an atomizer embodying my invention. Fig. 2 is a plan thereof, and Fig. 3 is a detail perspective view of a thimble forming part of my invention.

A designates the bottle or other receptacle having a neck A', provided with an external screw-thread A<sup>2</sup>. The atomizer proper comprises an outer tube or air-tube B, at the lower end of which is formed a casing B', containing communicating chambers B<sup>2</sup> B<sup>3</sup>. From this casing projects downwardly a central hollow plug B<sup>4</sup>, screw-threaded externally to aline with the screw-thread A<sup>2</sup> on the bottle-neck. A shoulder B<sup>5</sup> is formed at the junction of the casing B' with the plug B<sup>4</sup>. The bottom of the hollow plug B<sup>4</sup> is formed by a wall B<sup>6</sup>, provided with one or more eccentric apertures B<sup>7</sup>, by which the chambers B<sup>2</sup> B<sup>3</sup> communicate with the interior of the bottle A, and the bottom B<sup>6</sup> further has a central screw-threaded aperture. Into this aperture screws the upper end of the lower portion C of the liquid-conveying tube, this portion having one or more apertures C', through which it may receive the liquid from the bottle A. The upper end of the tube portion C is also screw-threaded internally to receive the lower end of the upper portion C<sup>2</sup> of the liquid-conveying tube. This tube extends within the air-tube B and is supported at the delivery end thereof by a contracted portion B<sup>8</sup> of the outer tube. On this portion B<sup>8</sup> screws a perforated cap D, through

which the atomized liquid is ejected. The portion C<sup>2</sup> has a flat side C<sup>3</sup> to allow air to pass into the cap D.

The casing B' is provided with a tubular projection B<sup>9</sup>, adapted for connection with a flexible tube E, leading from an air-compressing bulb F.

As above stated, the outer screw-threaded surface of the bottle-neck A' and of the plug B<sup>4</sup> aline or are flush with each other, and these surfaces are engaged by a thimble G, which may be smooth upon its outer surface, as shown. The lower edge of the thimble is adapted to engage the shoulder A<sup>3</sup> at the junction of the neck A' with the body of the bottle A, while the upper end of the thimble is adapted to engage the shoulder B<sup>5</sup> of the casing B'. Between the bottom B<sup>6</sup> of the plug B<sup>4</sup> and the mouth of the bottle A, I interpose a compressible washer H.

The thimble G not only gives a neat finish to the connection of the atomizer proper with the bottle, but permits of adjusting the parts according to varying lengths of the neck A'. I may either first screw the thimble on the bottle-neck until it touches the shoulder A<sup>3</sup> and then insert the plug B<sup>4</sup>, or I may first screw the plug into the thimble and then apply the thimble with the plug upon the neck of the bottle. The relative dimensions of the parts may be such that it will be impossible for the end of the plug to exert too great a pressure on the mouth of the bottle, as the shoulder B<sup>5</sup> can be arranged to engage the thimble G before the washer H is compressed too much.

I have described the liquid-conveying tube as made of two portions C C<sup>2</sup>, and these portions are shown in the drawings as separate pieces connected by a screw-joint. I desire it to be understood, however, that the two portions of the liquid-conveying tube may form a single piece.

I desire it to be understood that while in the drawings I have shown that form of my invention which I believe to be simplest and best, I do not restrict myself to this particular construction, since changes and modifications may be made without departing from the spirit of my invention.

Having thus described my invention, I de-

clare that what I claim, and desire to secure by Letters Patent, is—

1. The combination of a bottle or receptacle, with an atomizer comprising a hollow plug having a central screw-threaded aperture in its horizontal bottom and a lateral aperture in said bottom, an air-tube connected with the interior of the plug and provided with means for forcing air into said plug and into the bottle, a liquid-tube arranged to extend into the bottle and to screw into the central aperture of the plug, and means for connecting the plug with the bottle.

2. The combination with a bottle having a screw-threaded neck and a shoulder adjacent thereto, of a chambered plug having a screw-threaded portion, and a projection or flange above said screw-threaded portion, a thimble arranged to fit on the bottle-neck and on the said plug between the shoulder of the bottle and the flange of the plug, and atomizing means connected with the said plug.

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Witnesses:

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