

(No Model.)

I. Q. GURNEE.
COMBINED ATOMIZER AND SYRINGE.

No. 601,564.

Patented Mar. 29, 1898.

Fig. 1

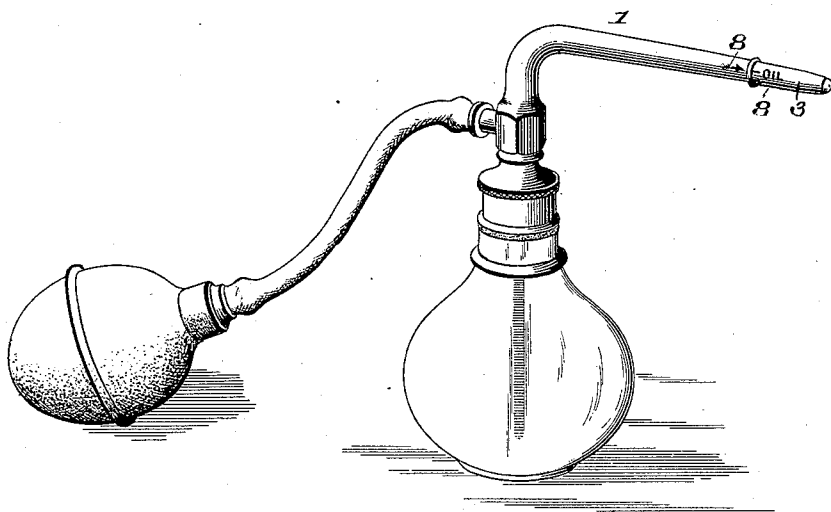


Fig. 2.

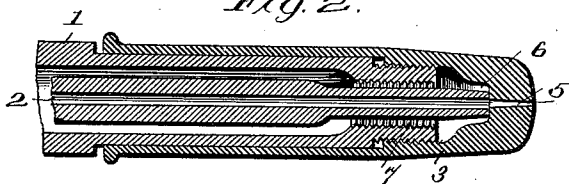


Fig. 3.

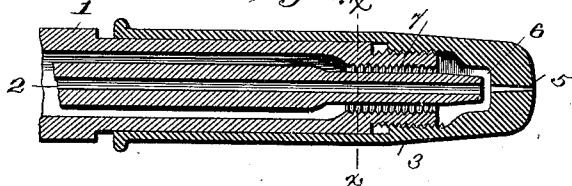
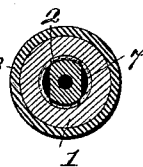


Fig. 4.

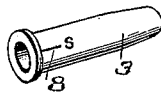


WITNESSES:

Jos. C. Stack.

Edwin H. Lindy.

Fig. 5.



INVENTOR.

Isaac G. Gurnee

BY

Paulon & Mock

ATTORNEY.

UNITED STATES PATENT OFFICE.

ISAAC Q. GURNEE, OF BUTLER, NEW JERSEY, ASSIGNOR TO THE BUTLER
HARD RUBBER COMPANY, OF NEW YORK, N. Y.

COMBINED ATOMIZER AND SYRINGE.

SPECIFICATION forming part of Letters Patent No. 601,564, dated March 29, 1898.

Application filed October 12, 1897. Serial No. 654,973. (No model.)

To all whom it may concern:

Be it known that I, ISAAC Q. GURNEE, of Butler, county of Morris, and State of New Jersey, have invented a new and useful Improvement in a Combined Atomizer and Syringe; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the figures marked on the accompanying drawings, which form a part of this specification.

Figure 1 is a perspective view of an atomizer to which my invention has been applied.

Fig. 2 is a central longitudinal section of the same. Fig. 3 is a similar section to that shown in Fig. 2, with the tip moved outwardly on the tube. Fig. 4 is a cross-section taken on the line *xx* of Fig. 3. Fig. 5 is a perspective view of the tip.

The object of my invention is to provide a cheap, simple, and efficient device located at the tip of an atomizer for converting the atomizer readily into a syringe whenever desired.

For these purposes my invention consists of the following construction and combination of parts, the details of which will first be described and the novel features then set forth and claimed.

In the drawings, 1 represents the usual exterior pipe or tube of an atomizer, which generally serves as an air-tube, and the usual inner liquid pipe or tube 2 for conveying the liquid. These tubes 1 and 2 may be variously formed and are of many designs, the principle being the same in each instance. Generally these tubes are concentric one within the other, but they may be placed side by side.

3 is the tip, threaded at 4 upon the atomizer-pipe. 5 is the discharge-orifice in the tip.

By screwing the tip upon the thread 4 the inner end of the orifice 5 can be brought into close liquid-tight contact with the end of the liquid-tube 2, or it can be caused to recede therefrom, so as to leave an annular air chamber or space 6 between the end of the liquid-tube and the discharge-orifice 5 in the tip.

The outer end of the outer or air tube is

preferably formed as shown in the drawings, and the outer end of the inner or liquid tube 2 is preferably screwed into the outer end of the air-tube 1 and opposite flattened portions 7 formed on the liquid-tube to permit the passage of air between the tubes 1 and 2.

It will be seen that when the parts are in the position shown in Fig. 3 the air and liquid under pressure commingle in the chamber 6 and the usual spraying action results and is discharged through the orifice in the tip.

By screwing the tip 3 so as to bring the inner end of the orifice 5 in contact with the inner end of the liquid-tube 2, with which it is adapted to register, the supply of air through the pipe 1 is cut off and the atomizer is converted into a syringe and delivers a solid stream of liquid.

I have shown on the exterior of the tip and on the atomizer-pipe certain gage-marks 8, by means of which it can be ascertained at a glance when the device will operate as a syringe and when as an atomizer.

The particular forms of tip and air and liquid pipes hereshown are mere exemplifications of my invention. Different styles of tubes and tips may be used, the essential feature of my invention being a movable tip adapted to register with the liquid-pipe and exclude the air-supply or to be moved away from contact with the liquid-pipe and permit the usual atomizing action.

Having described my invention, what I claim is—

In a combined atomizer and syringe, the combination with the reservoir, of an air-tube, a separate liquid-tube having imperforate side walls, a longitudinally-movable tip surrounding the ends of both tubes, and adapted to be moved against the liquid-tube to cut off the air from the tip, and to be moved away from the liquid-tube to act as an atomizer, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

ISAAC Q. GURNEE.

Witnesses:

GEO. A. GUENTER,
JOS. F. MCLEAN.