No. 814,820. PATENTED MAR. 13, 1906.

W. H. WOOD.

ATOMIZER.

APPLICATION FILED MAR. 28, 1905.

Fig. 1.

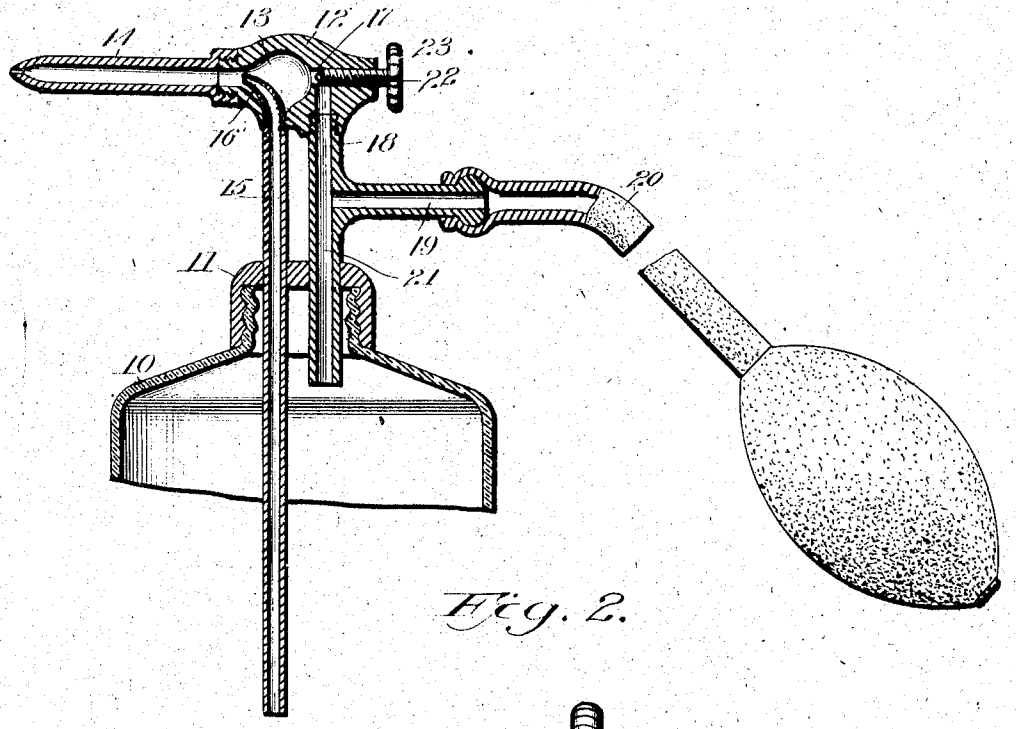
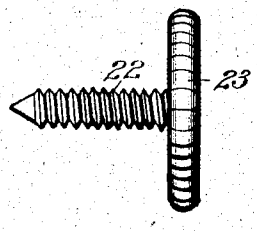


Fig. 2.



Witnesses

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WILLIAM H. WOOD, OF CLEVELAND, OHIO.

ATOMIZER.

No. 814,820. Specification of Letters Patent. Patented March 13, 1906.

Application filed March 28, 1905. Serial No. 252,521.

To all whom it may concern:

Be it known that I, WILLIAM H. WOOD, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Atomizers; and I do hereby 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.

This invention relates to certain new and useful improvements in atomizers.

The invention has for its object the production of means whereby the relative proportions of air and liquid may be regulated, whereby the same atomizer may be used for liquids of different specific gravities and any consistency.

To this end the invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional view illustrating my invention. Fig. 2 is a detail.

Referring to the drawings, 10 designates the usual liquid-receptacle, in which the atomizer is supported by means of a stopper 11. The atomizer comprises a horizontally-arranged casing 12, provided with a mixing-chamber 13, from which leads the outlet or spray pipe 14, the latter being detachably connected by means of a threaded coupling. Said chamber is also provided with a lower threaded opening through which the depending liquid-tube 15 projects, the upper end of said tube being tapered and curved, as indicated at 16, to allow compressed air to act thereon from all sides. The rear end of casing 12 is thickened and provided with an angular passage-way or opening 17, which communicates with one channel 18 of the air-tube, said latter being detachably connected to casing 12 and depending therefrom. The air-tube is provided with a nipple 19, connected by a tube 20 with any suitable air-compressing device, a channel 21 being provided, whereby the air from said compressor enters the receptacle 10 to act upon the surface of the liquid therein contained. In order to vary the proportions of air and liquid, I provide a regulating-valve 22, which is illustrated as a threaded plug provided with a milled head 23, whereby the same may be readily manipulated. Said valve is located just back of the opening 17 and arranged to close the channel 18.

In practice air from the air-compressor enters nipple 19 and divides, one portion passing upward through channel 18 and the other passing downward through channel 21, whereby the air within receptacle 10 is compressed. The effect of this is to force liquid through the tube 15 into the discharge or spray pipe 14, the air from channel 18 passing into chamber 13, thereby causing said liquid at the discharge-point to assume the condition of a spray. It will be readily observed that the condition of the spray may be varied by regulating the quantity of air which is allowed to pass valve 22. Thus by closing the valve 22 to reduce the amount of air passing through the chamber 13 the quantity of air admitted to the receptacle 10 is increased, resulting in a corresponding increase in the pressure upon the liquid.

The advantages of my improved atomizer will be at once apparent to those skilled in the art to which it appertains. It will be particularly noted that the same is exceedingly simple in construction and that the parts may be readily separated for repairs or replacement. A further and most important advantage is that I am enabled to regulate the relative proportions of air and liquid, whereby the same atomizer may be used for liquids of different specific gravities and consistencies, thus accomplishing in one device what has heretofore required a separate device for each liquid employed.

I claim as my invention—

1. An atomizer comprising a casing having a mixing-chamber and a transversely-arranged bore communicating with the latter, said casing being also provided with a vertical air-channel intersecting said bore, a threaded valve working in said bore, the forward end of said valve being extended transversely across the top of said air-channel, and a liquid-tube communicating with said chamber.

2. An atomizer comprising a casing having a mixing-chamber the rear wall of which is provided with a transversely-arranged bore communicating with said chamber, said wall being also provided with a vertical air-channel intersecting said bore near the forward end of the latter, a threaded valve working in said bore, the forward end of said valve being

extended transversely across the top of said air-channel, and a liquid-tube communicating with said chamber.

3. An atomizer comprising a casing having a mixing-chamber the front wall of which is provided with a horizontally-arranged outlet-tube, the rear wall of said chamber being provided with a horizontal bore in line with said outlet-tube, and a vertical air-channel intersecting said bore, a threaded valve working in said bore, the forward end of said valve being extended transversely across the top of said air-channel, and a liquid-tube communicating with said chamber.

4. An atomizer comprising a casing provided with a forwardly-arranged mixing-chamber and a thickened rear wall, said chamber having an outlet-opening, said rear wall being provided with an air-channel communicating with said chamber, a threaded valve working in said wall and controlling said air-channel, a liquid-tube communicating with the bottom of said chamber, an air-tube communicating with said air-channel and provided with a branch pipe, and means for supplying compressed air through said branch pipe.

5. An atomizer comprising a casing provided with a forwardly-arranged mixing-chamber and a thickened rear wall, said wall being provided with an air-channel communicating with said chamber, a detachable outlet-pipe leading from said chamber, a liquid-tube detachably secured to said casing and projecting into said chamber, an air-tube detachably connected to said casing and leading to said air-channel, means for supplying compressed air to said air-tube, and means for varying the volume of air passing from said air-tube to said chamber.

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

WILLIAM H. WOOD.

Witnesses:
JESSE A. FENNER,
CHARLES L. STOCKER.