Feb. 18, 1936. C. W. JOHNSON 2,031,164

AIR PURIFYING DEVICE

Filed March 28, 1935

Fig. 1

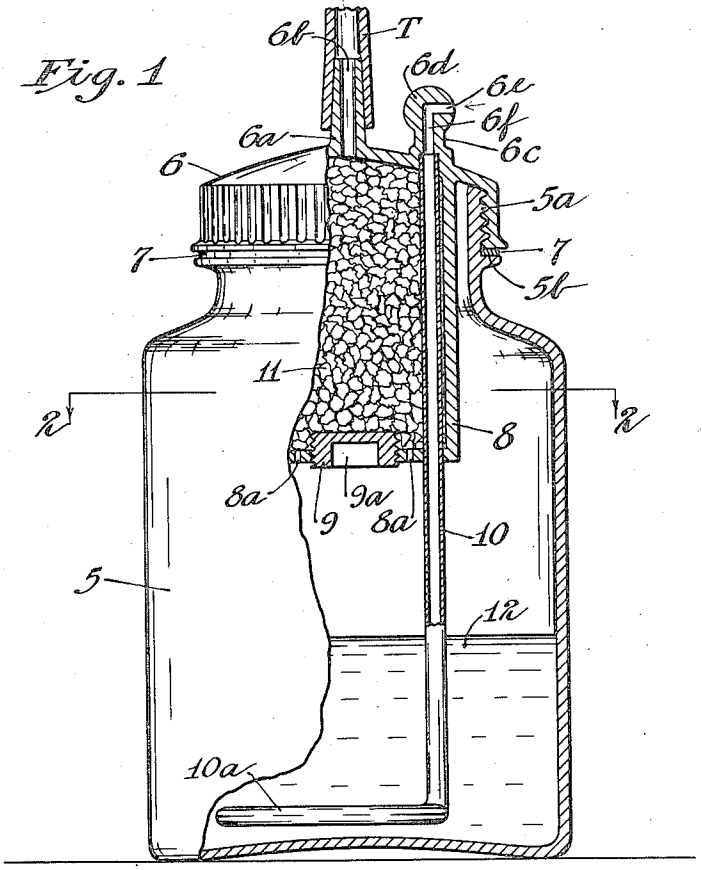
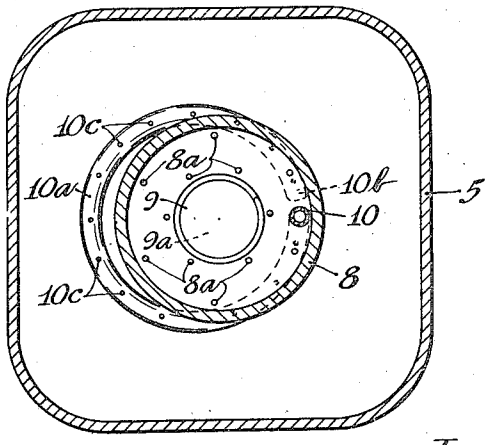


Fig. 2



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AIR PURIFYING DEVICE

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1 Claim. (Cl. 183—15)

My invention relates to air purifying devices and particularly to combination air washing and deodorizing apparatus.

Air compressors are quite commonly used in connection with beer dispensing apparatus and the air received and compressed by such compressors is commonly drawn from the surrounding atmosphere. In many locations the atmosphere from which the air is drawn is more or less permeated with tobacco smoke and other impurities which are transmitted through the compressor and dispensing apparatus to the beer dispensed.

It is an object of my invention to provide simple, rugged, compact and inexpensive apparatus for both washing and deodorizing air received by air compressors or other apparatus.

These and other objects and advantages of the present invention will more fully appear from the following description, made in connection with the accompanying drawing, wherein like reference characters refer to the same or similar parts throughout the various views, and, in which,

Fig. 1 is a side view of my device broken away in portions to show the internal parts in vertical section; and

Fig. 2 is a horizontal sectional view taken along the line 2—2 of Fig. 1 as indicated by the arrows.

Referring to the drawing, a receptacle or jar 5, preferably formed of glass, has an externally screw-threaded neck portion 5*a* and a sealing ring abutting shoulder 5*b* immediately below the neck portion.

An internally screw-threaded cap 6 is fitted on the neck 5*a* of the jar 6 with a sealing ring 7 of rubber or other suitable material interposed between the lower edge of the cap 6 and the sealing shoulder 5*b* of the jar. The jar 5 and cap 6 obviously define a closed chamber.

A hollow cylindrical body 8 is formed integrally with and in depending relation to the cap 6 so as to project downwardly into the interior of the jar 5. The bottom wall of the body 8 is provided with an internally screw-threaded centrally located apertured portion, the aperture of which is closed by an externally screw-threaded plug 9 having a polygonal wrench-receiving recess or socket 9*a* in its lower side. The remaining portion of the bottom wall of the body 8 is provided with a plurality of spaced apertures 8*a* comprising restricted ports.

The central portion of the cap 6 comprises the top wall of the chamber provided within the hollow body 8 and has an integral boss 6*a* projecting a substantial distance upwardly therefrom in a central location to form a connection element on which the end of a conduit such as a rubber tube or the like may be placed. The bossed portion of the cap 6 is provided with an aperture 6*b* communicating with the hollow interior of the body 8.

A neck 6*c* surmounted by an enlarged member or knob 6*d* is formed integrally with the cap 6 to project upwardly from an eccentrically located part of the central portion of the cap 6 as shown. The knob 6*c* has an aperture 6*e* therein extending radially and horizontally outwardly from the center of the knob and at its inner end joining the upper end of an aperture 6*f* disposed axially of the neck 6*c* and through the cap 6. The lower portion of the aperture 6*f* is of increased diameter and the upper end of a tube 10 is secured in this portion of increased diameter.

The tube 10 extends downwardly from its point of attachment with the cap 6 through a suitable aperture in the bottom wall of the body 8 and continues downwardly to a point a short distance above the bottom of the jar 5 whereat the tube 10 is bent to form a single-turn, horizontally disposed circular coil 10*a*. The end 10*b* of the coil 10*a* is closed and the upper side of the circular coil 10*a* is provided with a series of spaced apertures 10*c* comprising restricted ports.

In normal use of my air purifying device the connection element 6*a* is connected to the air inlet port of an air compressor (not shown) by means of a suitable conduit such as a rubber tube T and the apertured knob 6*d* serves as an inlet for air from the surrounding atmosphere. The chamber within the body 8 comprises a deodorizing chamber and is filled with odor-absorbing material 11 such as charcoal. The lower portion of the jar 5 comprises an air washing chamber and is filled with water 12 up to a level intermediate between the coil 10*a* and the lower end of the body 8.

Suction created by the air compressor previously mentioned causes air to enter the apertures 6*e* and 6*f* in the knob 6*d* and neck 6*c*, travel downwardly through the tube 10 and emerge from the coil 10*a* through the apertures 10*c* into the water in the lower portion of the jar 5. The air, after emerging from the apertures 10*c*, travels upwardly through the water in the form of streams of very small bubbles and, during this travel, is thoroughly washed and moistened by intimate contact with the water. The air liberated from the bubbles upon reaching the surface of the water is drawn upwardly and through

the apertures 8a into the material filled interior of the hollow body 8. Here, the air travels through restricted tortuous paths between the various particles of odor-absorbing material within the body 8 and during this travel is deodorized due to intimate contact with the deodorizing material. The air, after being washed and deodorized in my device, issues from the connection element 6a of the device and is drawn into the compressor through a suitable conduit T connected as previously explained.

It should be obvious that the interior portions of my device are readily accessible for placing fresh supplies of water and deodorizing material therein and for cleaning purposes.

It is apparent that I have invented a novel, improved, simple, rugged, inexpensive and effective combination air washing and deodorizing device.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of the present invention.

What is claimed is:—

In an air purifying device, an open topped chamber, a closure cap closing the top of said chamber, a second chamber formed integrally with said cap and depending therefrom a moderate distance into said first mentioned chamber, the upper wall of said second chamber and the central portion of said cap being common, the lower wall of said second chamber having restricted ports therein, said cap being provided with an air outlet communicating with the upper portion of said second chamber, said second chamber being at least partially filled with pieces of odor-absorbing material, said first chamber being adapted for filling thereof with an air washing liquid up to a level somewhat below the bottom of said second chamber, an air inlet in said cap, an air containing element disposed below the surface of liquid placed in said lower portion and being provided with restricted ports, and a conduit supported by said cap and connecting said air inlet to said air containing element.

CARL W. JOHNSON.