Nov. 4, 1930. F. R. HALL 1,780,156

APPARATUS FOR EXTRACTING MOISTURE FROM AIR

Filed Oct. 10, 1928

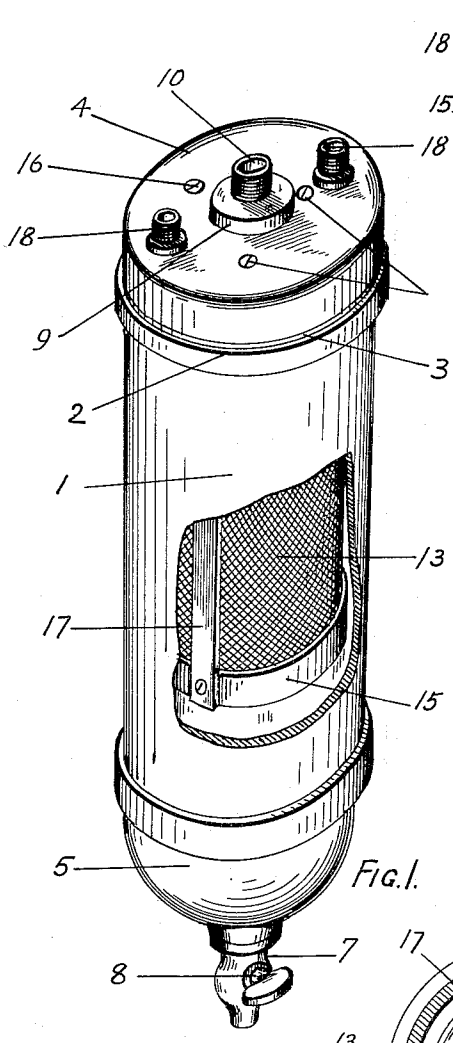


FIG. 1.

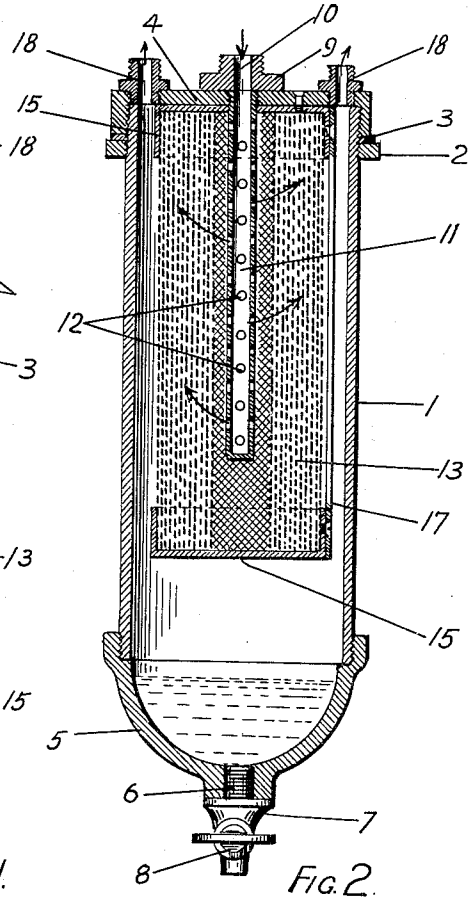


FIG. 2.

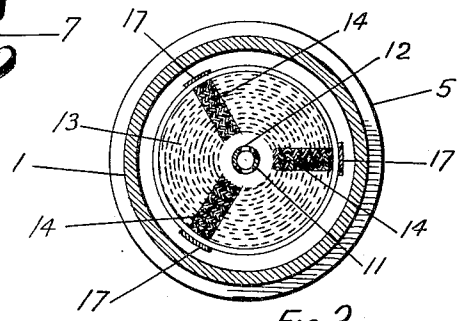


FIG. 3.

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UNITED STATES PATENT OFFICE

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APPARATUS FOR EXTRACTING MOISTURE FROM AIR

Application filed October 10, 1928, Serial No. 311,689, and in Australia November 10, 1927.

This invention relates to apparatus for removing moisture from air. Its object is to provide apparatus which is of simple and cheap construction, readily assembled and disassembled, and effective for the purpose for which it has been designed.

Referring to the accompanying drawings, Fig. 1 is a broken perspective view; Fig. 2 longitudinal sectional elevation; and Fig. 3 cross-sectional plan view.

A container 1 of suitable shape is provided; it is preferably screw-threaded at its opposite ends. About the head of the container 1 is a flange 2. To such flange is adapted to be fitted a packing washer 3 whereby when a cover 4 is screwed to the head of the container 1 the latter will be air tight at the joints between the cover 4 and the container 1. The foot of the container 1 is adapted to have screwed thereto a sloping bottom 5 and at the centre of the latter is an opening 6 communicating with a drain cock 7 for water, the said drain cock being furnished with a control valve 8.

Centrally of the cover 4 is an opening 10 about which is situated a flanged union 9; the cover 4 is adapted to hold a moist air admission receptacle 11 within the container 1, the receptacle 11 being preferably screwed to the cover 4. The receptacle 11 has a series of openings 12 in its side walls.

Surrounding the perforated air admission receptacle 11 is a strainer 13 consisting preferably of a piece of wire gauze of appropriate gauge and of spiral form with distance pieces 14 between each of said spiral or coils. At the head and foot respectively of the strainer 13 is a cup 15. The head cup 15 may be attached to the cover 4 for the container 1 by means of screws 16 and the bottom cup 15 may be connected to the head cup 15 by stays 17. Said strainer 13 is carried within the said cups 15.

Outlets 18 are provided in the cover 4 of the container 1 through which air which has been deprived of moisture or water may pass to a service connection.

In operation, air containing moisture or water is led to the air admission receptacle 11 within the container 1; such air passes through the perforations 12 in such receptacle and through the wire gauze strainer 13 surrounding the receptacle 11. In its passage through the strainer 13 moisture or water is extracted from the air and such moisture is collected in the bottom cup 15 and overflows therefrom to the sloping bottom 5 of the container 1 from whence it may be withdrawn at will through the drain cock 7.

The dry air in the container 1 may pass therefrom through the outlets 18 in the cover 4 to a suitable service connection.

What I claim as my invention and desire to secure by Letters Patent is:—

1. Apparatus for extracting moisture from air comprising a container, an air tight cover connected thereto and provided with a central threaded opening and with an opposed threaded opening near the outer edge thereof, a moist air inlet in communication with the central opening in said cover, a perforated moist air admission receptacle having one end threaded and engaged in the central opening and arranged within the container, a strainer consisting of a piece of wire gauze of spiral form within the container and surrounding the said receptacle, means associated with the container for the passage of water therefrom, and threaded nipple outlets engaged in the other openings in the cover for the passage of dry air from the container.

2. Apparatus for extracting moisture from air comprising a container, an air tight cover connected thereto, a moist air inlet in said cover, a perforated moist air admission receptacle within the container, a strainer consisting of a piece of wire gauze of spiral form surrounding the receptacle, head and foot cups within the container for accommodating the upper and lower edges of the strainer, the head cup being secured to the cover, stays for connecting the foot cup to the head cup, distance pieces arranged between the separate spiral coils of the spring, means operably connected with the container for the passage of water therefrom, and means connected with the containers for the passage of dry air therefrom.

In testimony whereof I affix my signature.

FREDERICK ROBERT HALL.