Nov. 8, 1932. M. S. MARTINSON 1,887,242

AIR PURIFIER FOR FURNACES

Filed March 11, 1929

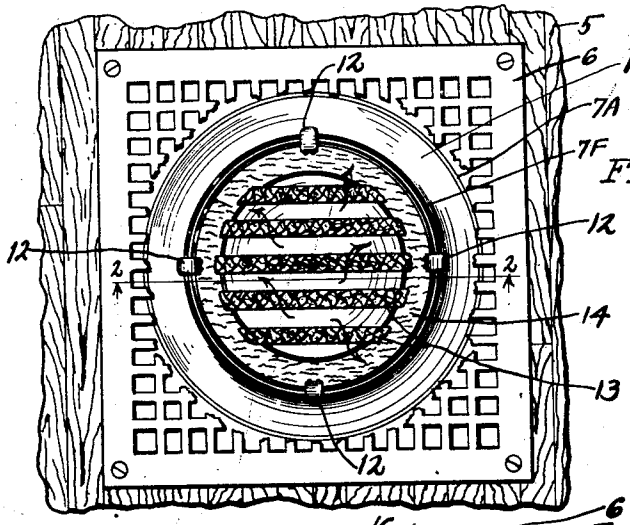


FIG. 1.

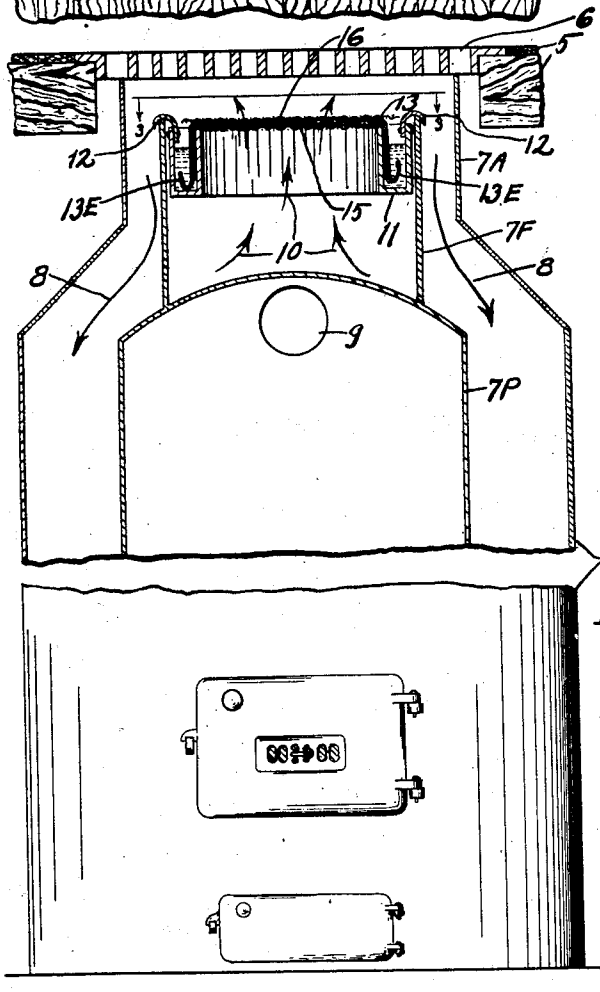


FIG. 2.

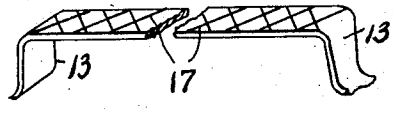


FIG. 3.

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UNITED STATES PATENT OFFICE

MARVIN S. MARTINSON, OF GOODHUE, MINNESOTA

AIR PURIFIER FOR FURNACES

Application filed March 11, 1929. Serial No. 346,034.

My invention relates to an air-purifying device for furnaces and the main object is to provide a simple, inexpensive and highly efficient device particularly adaptable for use in combination with a so-called single register hot air furnace, though in modified form the device may be used in each of any number of registers where heated air is admitted to various rooms.

The preferred construction of my device, its operation and mounting are hereinafter fully set forth, reference being had to the accompanying drawing in which,—

Fig. 1 is a top or plan view of a floor register, partly cut away, and showing my improved air purifying device in position below the register.

Fig. 2 is a sectional elevation about as on line 2—2 in Fig. 1, showing the position of a furnace relative to the register also additionally a pair of screens 15—16, and, the lower part of the furnace being shown in full.

Fig. 3 is an enlarged perspective view of one of the wicks 13.

Referring to the drawing by reference numerals, 5 designates a floor in which is suitably fixed a hot-air admitting grate 6, shown quadrangular, and through the openings of which heated air travels upwardly from the outlet flue 7F of a hot air furnace 7. 7A is a larger concentric flue of the furnace between which and the flue 7F cool air circulates downwardly into the furnace to be reheated, the direction of said cool air being indicated by arrows 8.

7P designates the heating chamber of the furnace having a smoke flue or outlet 9, heated air above said chamber traveling up into a room as indicated by arrows 10.

My device comprises a full circular upwardly opening tank 11 (Figs. 1 and 2) the same being suspended from opposite upper rim parts of flue 7F by means of hooks 12. There is ample room within the circular tank for free upward circulation of heated air. Said opening is spanned by a number of parallel wicks 13 of absorbent material, each wick long enough to have its opposite ends 13E (Fig. 2) submerged in water 14 in the tank 11.

In Fig. 2 the wicks are shown resting on a screen 15 spanning the opening and resting on the inner edges of tank 11 and, 16 of an upper screen lying on the wicks, thus insuring that the wicks will lie flat and in proper parallel relation. The moist areas of the wick thus exposed to the heated air currents passing by them, causes a proper air-moistening in the room or rooms heated by the furnace.

I have illustrated my device applied directly over a furnace and under a grate of the single or one-grate type of heating apparatus. Obviously the moistening device shown may represent humidifying means applied to a hot air outlet grate one of a number of hot air-pipe outlets for the type of furnace having a plurality of hot air conductors.

The wicks 13, where they span a hot air outlet may be reenforced by suitable wires 17 arranged criss-cross or otherwise (see Fig. 3) to hold the wick rigid, in which case no screen members such as 15 and 16 are needed.

The principle of my device and its operation have now been fully disclosed. It is obvious that the tanks or reservoirs 11—11A may readily be kept filled with water by either removing the grate or using a funnel inserted through the grate and pouring water into the reservoirs, as needed. Likewise the device is readily accessible for removal and replacement of wicks, or for repairing or replacing the reservoir means.

I claim:

An air purifying device for heating apparatus having an upwardly opening circular hot-air outlet, said device comprising a circular ring-like reservoir opening upwardly and adapted to be removably suspended concentrically of and snugly fitting within said heater outlet, a plurality of wicks arranged parallel to each other and in chordwise relation to the opening of said reservoir and across said opening, bracing means stiffening said wicks each throughout its span, the ends of said wicks adapted to be suspended and submerged in said reservoir.

In testimony whereof I affix my signature.

MARVIN S. MARTINSON.