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L. MARKS

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DUST COLLECTOR FOR HOT AIR REGISTERS OR RADIATORS

Filed Feb. 23, 1923

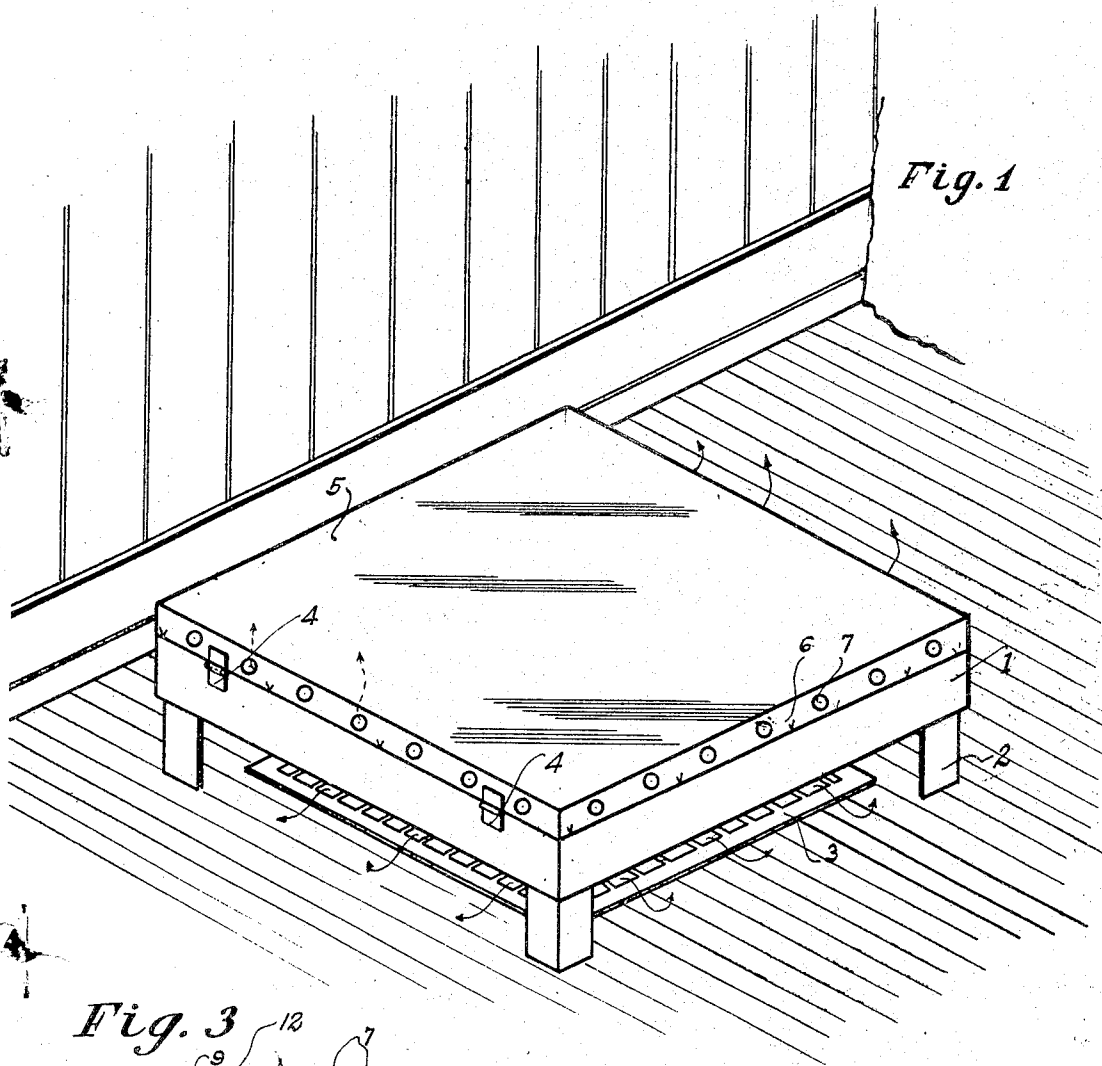


Fig. 1

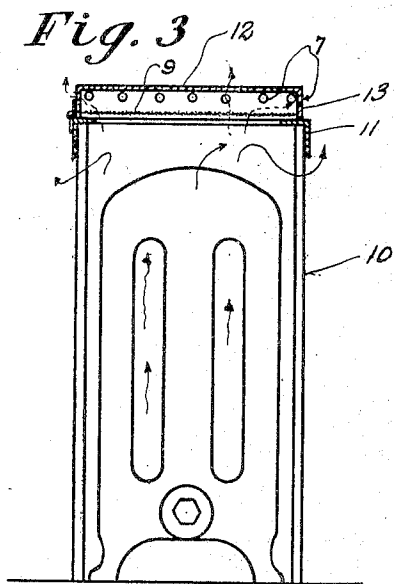


Fig. 3

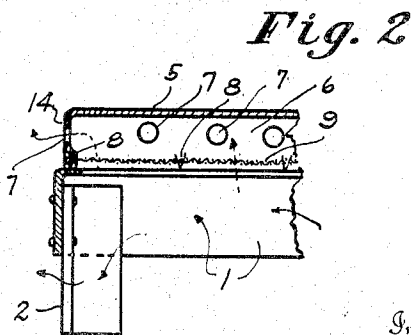


Fig. 2

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UNITED STATES PATENT OFFICE.

LEOPOLD MARKS, OF BIRMINGHAM, ALABAMA.

DUST COLLECTOR FOR HOT-AIR REGISTERS OR RADIATORS.

Application filed February 23, 1923. Serial No. 620,841.

To all whom it may concern:

Be it known that I, LEOPOLD MARKS, a citizen of the United States of America, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Dust Collectors for Hot-Air Registers or Radiators, of which the following is a specification.

10 My invention relates to an improvement in dust collecting covers for hot air registers or radiators, which shall be simple in construction, pleasing in appearance and which shall be capable of efficiently collect-
15 ing from the hot air rising from the register or radiator the maximum amount of dust and dirt, so as to keep it off the walls and out of the room.

More particularly, my invention comprises
20 a frame adapted to surround the hot air register or radiator and rising to a height above the same sufficient to permit the free escape laterally under its sides of the hot air rising from the register or radiator. To
25 this frame is hinged a metal cover adapted to close the top opening of the frame and having means to mount across the frame opening a dust collecting fabric layer readily accessible by opening the cover for removal
30 and replacement.

A further distinctive feature of my invention is the provision of a shallow chamber above the fabric having only marginal apertures which are sufficient to allow a restricted
35 outflow of that part of the hot air which passes through the fabric layer, the rest being deflected outwardly with a right angle swirl which will throw dust and dirt therein outwardly against the deflecting fabric
40 layer. The apertures are designed to permit just enough of the hot air to pass upwardly through the fabric layer into said chamber to collect on and hold in the fabric the dust and dirt from all the hot air and
45 this can be accomplished by a chamber so shallow that it need not exceed an inch above the fabric layer, thereby making it possible to produce the register or radiator cover in very compact form which will not
50 be in the way in the room.

My invention also comprises the novel details of construction and arrangements of parts which are hereinafter more particularly described and claimed, reference being

had to the accompanying drawings which 55 illustrate the invention in its preferred embodiment, and in which:—

Fig. 1 is a perspective view showing my dust collecting cover in place over a hot air 60 register.

Fig. 2 is a detail partial cross-sectional view showing the cover and frame made of metal and illustrating the means for attaching the fabric in place.

Fig. 3 is a cross-sectional view through 65 my improved dust collector as applied to a radiator.

Similar reference numerals refer to similar parts throughout the drawings.

As illustrated in Figs. 1 and 2, I show a 70 marginal frame 1 formed of wood, pressed metal or any suitable material, and preferably supported by legs 2 at just sufficient height above the hot air register 3 to permit the free lateral escape of the hot air under 75 the frame. I connect to the top of the frame at one side by hinges 4 an imperforate top or cover 5 formed of any suitable material, but preferably of metal, and which with the frame 1 and legs 2 can be painted to match 80 the woodwork or furniture in the room. This metal cover plate is shown formed with a downturned marginal flange 6 to which the hinges are connected and which is provided with a series of apertures 7 to provide for 85 a restricted outflow of hot air through said openings from the shallow chamber formed in the cover top. The flange 6 carries a number of downturned tongues or points 8 which are adapted to receive and hold in po- 90 sition a filtering layer 9 preferably of open mesh fabric, which when the top 5 is closed covers the top opening in the frame 1 at a level immediately below the outlet ports 7 in the top chamber. The outlet apertures 7 95 are distributed about the top and given a total cross-sectional area sufficient only to permit a limited portion of the hot air, which filters through the layer 9, to pass out through said apertures, thereby inducing 100 just sufficient of an updraft through the filter to collect and hold thereon the particles of dust and dirt which are in the air filtering therethrough and also which are centrifugally thrown to the upper or fabric 105 engaging stratum of air that is deflected laterally by the fabric layer. The major portion of the hot air is deflected by the fabric

layer and given a whirl or right angled turn before passing out under the frame 1 into the room, and the dust and dirt in this air whirl will come into contact with the fabric and be held thereon. This enables me to obtain an effective cleaning of the air with a minimum disturbance of the flow of the heated air and by means of an apparatus which is exceedingly compact in size and inexpensive in its construction. It is only necessary from time to time to raise the top 5, apply a clean filtering layer 9 and remove the soiled one, this operation being accomplished with a minimum of trouble and inconvenience.

In Fig. 3 I show a view of my invention as applied to a steam or hot water radiator. Here the legs 10 support an elongated frame 11 which surrounds the radiator and has an imperforate top 12, similar to 5 having a marginal flange 13 in which are formed the apertures 7 and the pins 8 for supporting the fabric layer 9. The operation here is as above described.

Though I have described with great particularity the details of the embodiment of the invention herein shown, it is not to be construed that I am limited thereto, as changes in arrangement and substitution of

equivalents may be made by those skilled in the art without departing from the invention as defined in the appended claims.

What I claim as new and desire to secure by Letters Patent, is:—

1. A dust-collecting radiator cover, comprising a shallow marginal frame adapted to surround the radiator and having supports to raise it sufficiently above the floor level for the free lateral escape of the hot air under the marginal edges of the frame, an imperforate top covering the shallow marginal frame, and a transverse fabric dust collector transposed across the frame below said top and slightly spaced therefrom.

2. A dust collecting radiator cover in accordance with claim 1, in which the top is hinged to swing upwardly and expose the dust collecting fabric.

3. A dust collecting radiator cover in accordance with claim 1, in which the hinged top carries a downturned marginal flange adapted to seat on the frame, said flange carrying attaching means for the dust collecting fabric.

In testimony whereof I affix my signature.
LEOPOLD MARKS.

Witness:

NOMIE WELSH.