Sept. 10, 1929. E. A. STEUER 1,728,140

DUST ELIMINATOR FOR HOT AIR FURNACES

Filed Aug. 25, 1926

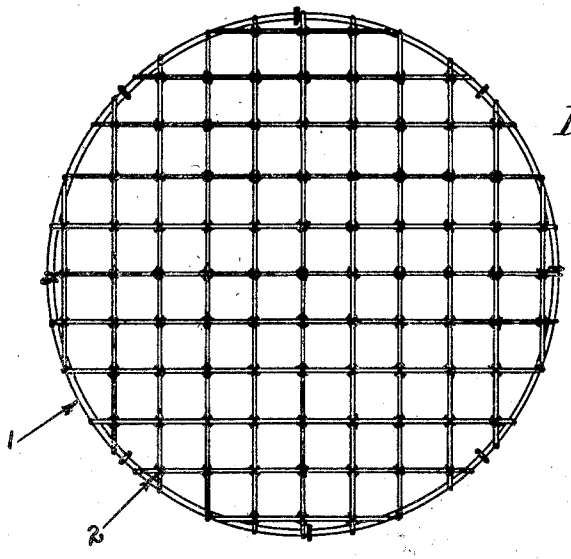


Fig. 1.

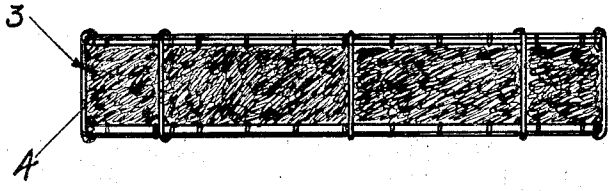


Fig. 2.

Fig. 3.

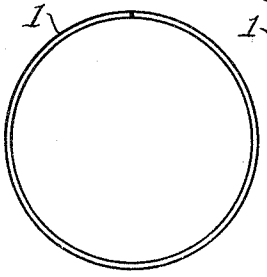


Fig. 4.



Fig. 5.

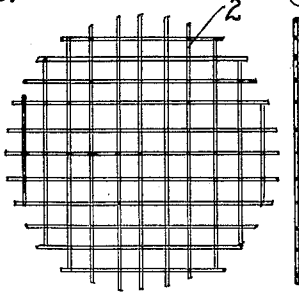


Fig. 6.

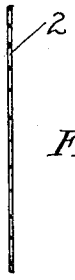


Fig. 7.

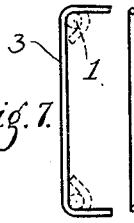


Fig. 8.



INVENTOR.

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Patented Sept. 10, 1929. 1,728,140

UNITED STATES PATENT OFFICE.

EDWARD A. STEUER, OF CINCINNATI, OHIO.

DUST ELIMINATOR FOR HOT-AIR FURNACES.

Application filed August 25, 1926. Serial No. 131,519.

The invention relates to the elimination of dust in hot air furnaces and the objects of the invention are; first, to prevent dust, smoke, soot and any other particles or fine bits of earth passing from the furnace to the room through the registers; second, it prevents any sweepings or particles of dirt, or dust falling into the registers and lodging in the hot air pipes, many times causing fires from these settlings; third, it acts as a labor saving device.

In the drawing, for the purpose of illustration I have disclosed a preferred embodiment of my invention,

Figure 1 is a top plan view,

Figure 2 is a view in side elevation,

Figures 3 and 4 are details of a wire mesh attaching ring,

Figures 5 and 6 are details of the sections of wire mesh and

Figures 7 and 8 are details of the wire mesh spacing clamp.

Referring to the drawings in detail, the invention comprises a pair of ring members 1, each forming a frame for attaching the edges of a section of wire mesh shown at 2, the ends of the wire of the mesh being bent about the respective rings, substantially in the manner of clinching whereby to securely attach the mesh and ring to each other. The rings with the wire mesh attached thereto are disposed in spaced relation by means of a plurality of spacing flanges arranged at spaced intervals about the edges of the rings, said clamping member being composed of relatively short wire sections having their opposite ends bent about the respective ring members 1.

Between the spaced sections of the wire mesh is arranged a quantity of steel wool 4, loosely packed between said sections of wire mesh, the wool being prevented from displacement at the sides thereof by reason of the spacing clamp 3. When assembled in the manner as indicated above, and as clearly indicated in the drawings, the device may be spaced transversely in the hot air pipe of a furnace leading to a floor register or the like, whereby it will be apparent that the steel wool will act as a filter for preventing dust, smoke, soot or other particles of material from passing into the room from the furnace and also to prevent sweepings from the floor of the room from falling into the furnace through the floor register. In practice the device is intended to be made of a size substantially equal to the size of a pipe within which the same is fitted whereby to provide a snug fit between the edges of the device and the wall of the pipe so as to frictionally retain the same in a fixed position therein.

The device may be periodically cleaned merely by removing the same from the pipe and placing it under running water so as to wash all loose particles of dust and other material collected by the wool therefrom.

The dust eliminator can be used in all sizes and styles of hot air furnaces, and while the accompanying illustrations show the device in a position in a floor register, it is entirely feasible to place it elsewhere, as for instance in the wall registers, and can be produced for any position in the pipes of homes, schools, churches or any buildings heated with hot air.

I claim:—

A dust collector for the hot air pipe of a furnace comprising a pair of wire ring members, each having a section of wire mesh secured thereto by bending the wire ends of the mesh about said rings and a plurality of spacing clamps, each composed of a relatively short section of wire having its opposite ends bent about the respective ring members, said spacing clamps being disposed at regularly spaced intervals about the surface of said ring members and cooperating with the wire mesh to retain a quantity of filtering material therebetween and providing means for supporting the material transversely of the pipe whereby to prevent the passage of dust and other particles of solid material therethrough.

In witness whereof, I hereunto subscribe my name this 5th day of May, A. D. 1927.

EDWARD A. STEUER.