

J. W. YOUNG.
DUST CATCHER FOR AIR PIPES.
APPLICATION FILED FEB. 5, 1914.

1,111,633.

Patented Sept. 22, 1914.

Fig. 1.

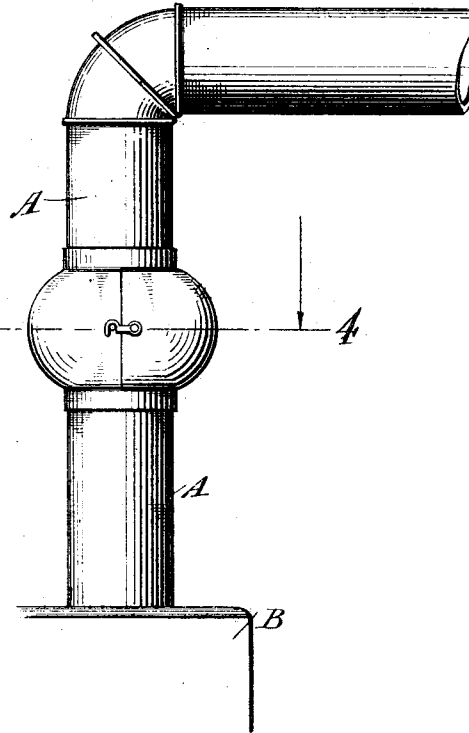


Fig. 2.

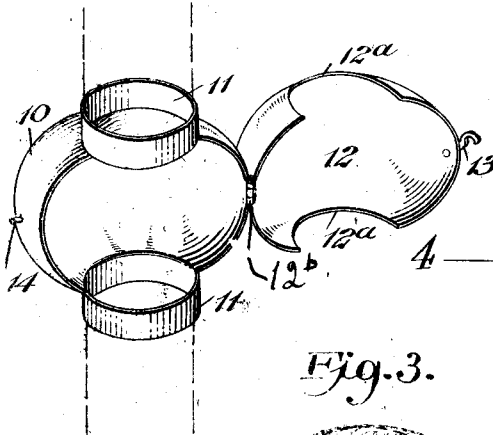


Fig. 3.

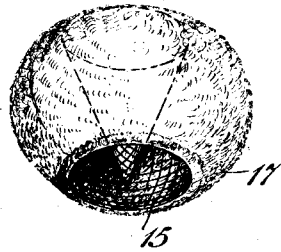


Fig. 4.

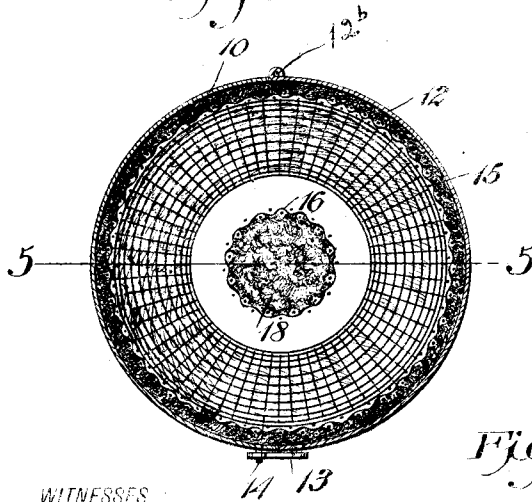
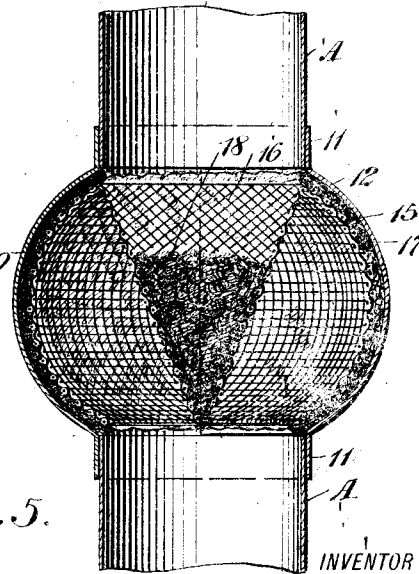


Fig. 5.



WITNESSES

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DUST-CATCHER FOR AIR-PIPES.

1,111,633.

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To all whom it may concern:

Be it known that I, JOHN W. YOUNG, a citizen of the United States, and a resident of Memphis, in the county of Shelby and State of Tennessee, have invented a new and Improved Dust-Catcher for Air-Pipes, of which the following is a full, clear, and exact description.

My invention relates to a dust catcher especially adapted to be interposed in an air conductor pipe of a hot air furnace at any point between the furnace and register.

An object of the invention is to provide an efficient dust-catcher of the indicated character, of simple construction and adapted to be conveniently placed in position in a way to be readily accessible for the changing of the dust-catching material when desired.

The invention will be particularly explained in the specific description following.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a dust catcher embodying my invention, showing the same applied; Fig. 2 is a perspective view of the drum or outer casing of the device; Fig. 3 is a perspective view of a removable holder adapted to be received within the drum and to hold cotton or other dust-catching material; Fig. 4 is a cross section on the line 4-4 of Fig. 1, on a larger scale; and Fig. 5 is a vertical section on the line 5-5 of Fig. 4.

In constructing a practical embodiment of my invention a drum is provided, adapted to be interposed in an air conductor pipe, the drum being of any desired contour, here shown as of general globular form in the body 10 thereof. The said body is provided with registering necks 11 adapted to fit stove pipe sections A, leading from any furnace B. A side door 12 is provided, hinged at one side to the body 10, as at 12^b; the said door forming approximately one half the body. Any suitable fastener may be provided for the door, as for instance, a pivoted latch hook 13 adapted to engage a pin 14 on the fixed portion of the body.

Within the drum is a separate, removable holder for the dust-catching material. Said holder comprises an outer bulging wall 15 conforming in general to the interior of the

drum and having inlet and outlet ends for the air, in register with the necks 11 of the drum. Within the outer walls 15 of the holder a cone 16 is provided, the base of the cone being connected with the bulging wall adjacent to the outlet end thereof and the apex of the cone being disposed in the direction of the opposite inlet end of the holder. The wall 15 and cone 16 are formed of reticulated material, that is to say, any suitable material having numerous openings therethrough, wire mesh being preferably employed. Both the outer wall and the cone of the holder are adapted to contain cotton or equivalent dust-catching material. In the example shown, a layer 17 of such material is applied at the exterior of the wall 15, between the same and the outer drum, so that the said material is exposed through the meshes of the holder. The dust-catching material 18 employed in connection with the cone 16, may be placed within the latter, as indicated clearly in Figs. 4 and 5, leaving the base of the cone without the material so as to afford an outlet for the air through the cone adjacent to the base.

By the described construction when the holder is in position in the drum, the air entering the inlet end of the drum will pass to the interior of the outer wall 15, and will be deflected by the cone so that the air will contact with the cone and with the opposed inner surface of the wall 15 in passing toward the outlet end at the base of the cone, the cotton or other material serving to catch the particles of dust.

It will be seen that the holder is removable laterally from the drum by opening the side door or hinged section 12 of the drum. It will be observed also that the registering necks 11 are carried by the body 10 and that the door or hinged side 12 is formed with corresponding concave recesses 12^a to conform to said necks.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:

1. A dust catcher, comprising an outer drum having necks at opposite ends to fit stove pipe sections and having a bulging body provided with a side door; and an inner, hollow holder for dust catching material, said holder being formed with inlet and outlet ends registering with the necks of the drum and having an outer bulging

5 wall conforming generally to the body of the drum, and a cone within the said wall and united to the latter at the base of the cone adjacent to the outlet end of the holder, the apex of the cone being disposed in the direction of the opposite open end of the holder.

10 2. A dust catcher, comprising an outer drum formed at the opposite ends to fit stove pipe sections and having an enlarged body provided with a side door; and a removable hollow holder of reticulated material within said drum, said holder comprising an outer bulging wall, and a cone within the said wall, said wall conforming generally to the drum body and having an inlet end and an outlet end adjacent to the ends of the drum, the reticulated cone being united at its base to the reticulated wall adjacent to the outlet end, the apex of the cone being disposed in the direction of the inlet end, and a dust-catching material held by said cone and wall.

25 3. A dust catcher, comprising an outer drum having necks at the opposite ends to fit stove pipe sections, and a bulging body provided with a side door; a separate hollow holder receivable within the drum through the said side door, said holder comprising an outer wall conforming generally to the drum body, and a cone within said wall, said holder having inlet and outlet ends adjacent to the necks of the drum, the cone being united at its base to the wall of the holder adjacent to the outlet end, the apex of the cone being disposed in the direc-

tion of the inlet end, and dust catching material held by said wall and cone.

4. A dust collector comprising a drum having inlet and outlet necks at opposite ends to fit pipe sections and having a body of increased diameter between the necks, an inner hollow holder for dust catching material, said holder being formed with inlet and outlet ends registering with the necks of the drum, and having an outer foraminous wall of increased diameter between the said inlets and outlets, to conform generally to the body of the drum, the holder having also a foraminous cone supported within and spaced from said wall, the tapering end of the cone being disposed in the direction of the inlet of the holder; dust catching material in said cone, and dust-catching material between the foraminous wall and the drum.

55 5. In a dust catcher, a dust-collecting device consisting of an outer wall of foraminous material, and an axially disposed inner cone of foraminous material connecting at its base with the adjacent end of the outer wall, and dust-collecting material on said cone and the wall.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN W YOUNG.

Witnesses:

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