

Oct. 13, 1936.

P. GERARD

2,057,568

DUST ARRESTER

Filed March 24, 1936

Fig. 1.

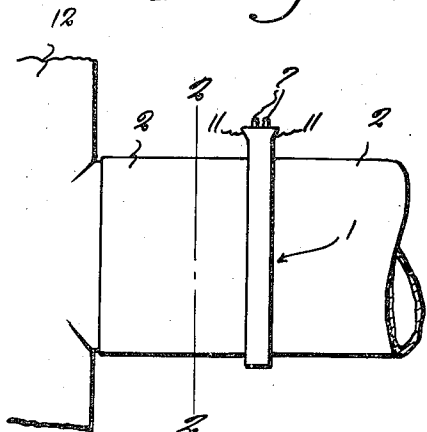


Fig. 2.

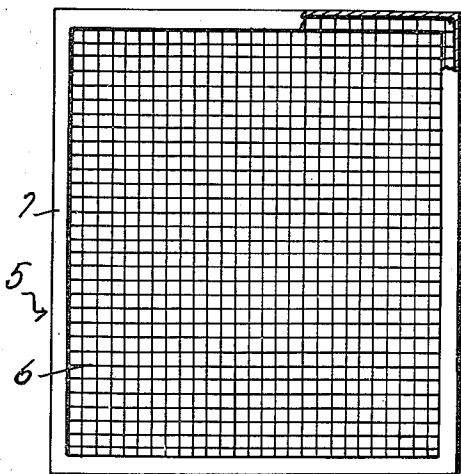
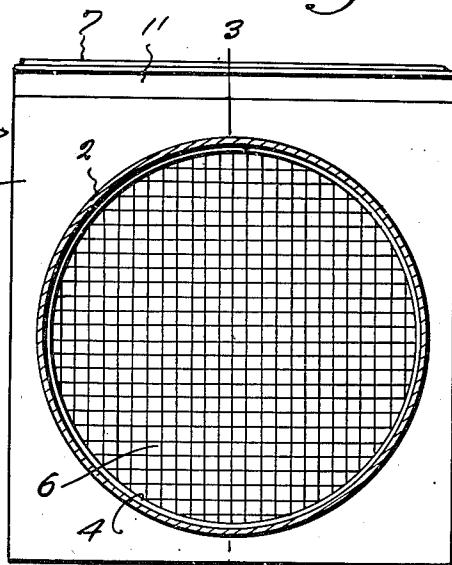


Fig. 4.

Fig. 3.

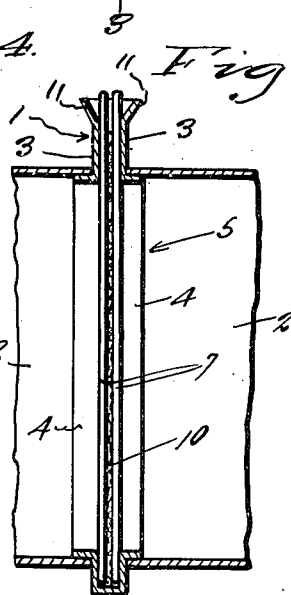
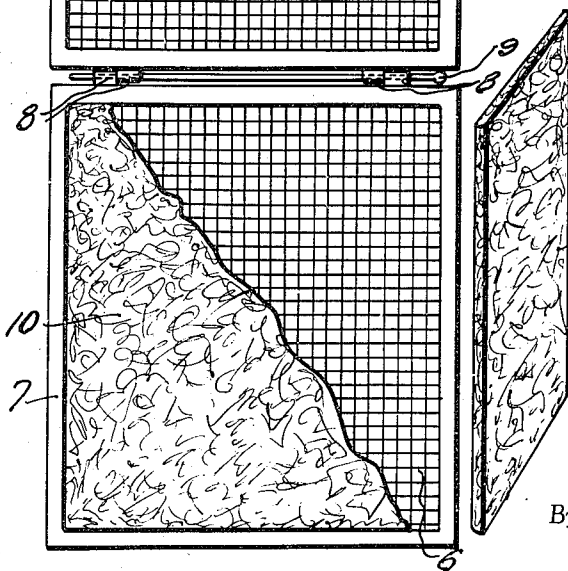


Fig. 5.



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UNITED STATES PATENT OFFICE

2,057,568

DUST ARRESTER

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Application March 24, 1936, Serial No. 70,655

2 Claims. (Cl. 183—49)

The present invention relates to new and useful improvements in dust arresters particularly for the pipes of hot air furnaces but it will be understood, of course, that an arrester in accordance with the present invention may be used for any purpose for which it may be adapted and desirable.

An important object of the invention is to provide, in a manner as hereinafter set forth, a dust arrester which may be expeditiously interposed in a hot air furnace pipe or other duct in a comparatively short time and with a minimum of labor.

Another very important object of the invention is to provide a dust arrester of the aforementioned character embodying a filtering unit which may be easily removed when desired for cleaning or other purposes.

Other objects of the invention are to provide a dust arrester of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing wherein like characters of reference designate corresponding parts throughout the several views, and wherein:—

Figure 1 is a view in side elevation, showing a dust arrester constructed in accordance with the present invention interposed in a hot air furnace pipe.

Figure 2 is a cross sectional view, taken substantially on the line 2—2 of Figure 1.

Figure 3 is a vertical sectional view, taken substantially on the line 3—3 of Figure 2.

Figure 4 is an elevational view of the filtering unit, showing the hingedly connected screens swung to open position, a portion of the filtering medium being broken away and a portion of one of the screen frames being broken away in section.

Figure 5 is a detail view in perspective of the filtering medium.

Referring to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a substantially flat, square casing which is designated generally by the reference numeral 1 and which is adapted to be interposed between the sections 2 of a hot air furnace pipe or other duct. The metallic casing 1 includes opposed walls 3 hav-

ing aligned circular openings therein from which annular flanges 4 project in opposite directions. The flanges 4 are engageable in the adjacent end portions of the pipe sections 2 for securing the casing 1 in position therebetween.

The substantially flat casing 1 is open at one edge for the reception of a removable filtering unit which is designated generally by the reference numeral 5. The unit 5 comprises a pair of screens 6 of suitable mesh the marginal portions of which are enclosed in metallic bindings or frames 7. The frames 7 are hingedly connected through the medium of aligned eyes 8 through which a pin 9 is inserted. The reference numeral 10 designates a non-inflammable filtering medium of suitable material, such as steel wool, asbestos fiber, etc. which is clamped between the hingedly connected screens 6. At the opening in the casing 1 which is provided for the insertion and removal of the filtering unit 5 of the walls 3 of said casing are flared, as at 11 (see Figure 3) to facilitate inserting and removing said filtering unit.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. As the dust laden air from the hot air furnace 12 or any other source passes through the filtering unit 5 the dust is separated from said air and retained by the medium or element 10. The unit 5 may be expeditiously removed from the casing 1 for cleaning or replacing the filtering medium 10. If desired, suitable means may be provided for securing the hinged screens 6 in folded or closed position with the filtering medium 10 clamped therebetween. While in the drawing the casing 1 has been shown with the opening therein which receives the unit 5 uppermost, said casing may obviously be positioned between the pipe sections 2 with the aforementioned opening therein on one side or at any other point to receive said unit 5.

It is believed that the many advantages of a dust arrester constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:—

1. A dust arrester comprising a casing adapted to be interposed in an air duct, said casing having aligned opening therein and annular flanges projecting therefrom and engageable in the air

- duct, said casing further having a flared opening in one side thereof, and a removable filtering unit slidably insertable in the casing through the last-named opening, said filtering unit including
- 5 a pair of opposed, hingedly connected screens, having a removable filtering element mounted between said screens and said casing further including an internal channel within which the edges of the screen are seated.
- 10 2. A dust arrester of the class described comprising a substantially flat, polygonal casing adapted to be interposed between a pair of air duct sections, said casing including opposed walls having aligned openings therein for establishing
- 15 communication between the air duct sections, annular flanges projecting outwardly from said walls and engageable in the air duct sections, said casing further having a flared lateral opening therein exteriorly of the air duct sections, and a removable filtering unit slidably insertable in the casing through the last-named opening and snugly fitted between the walls of the casing, said unit including a pair of screens, frames enclosing the marginal portions of said screens, aligned eyes on said frames, a pin extending through the eyes for hingedly connecting the frames together, and a removable filtering medium mounted between the screens.
- PETER GERARD. 15