

No. 741,210.

PATENTED OCT. 13, 1903.

L. D. YOUNG.  
DUST ARRESTER.

APPLICATION FILED MAY 5, 1903.

NO MODEL.

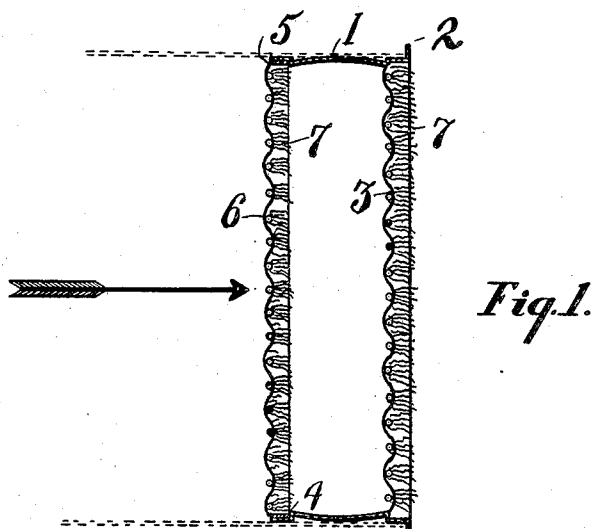


*Fig. 1.*

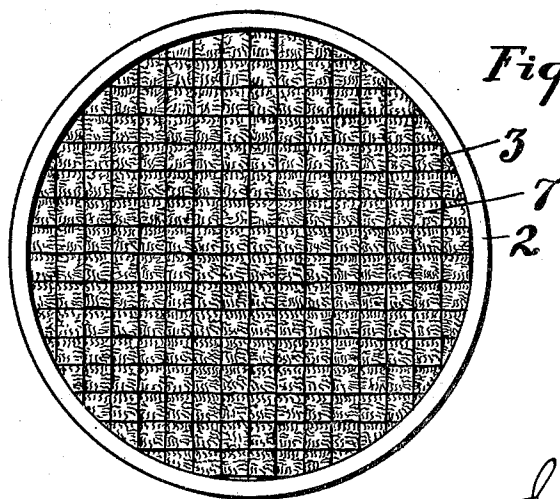


*Fig. 2.*

Witnesses:  
Maudie Grissler,  
Walter Bowman.

x →

Inventor:  
Laura D. Young,  
By C. E. Humphrey,  
Attorney.

# UNITED STATES PATENT OFFICE.

LAURA D. YOUNG, OF AKRON, OHIO.

## DUST-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 741,210, dated October 13, 1903.

Application filed May 5, 1903. Serial No. 155,781. (No model.)

*To all whom it may concern:*

Be it known that I, LAURA D. YOUNG, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Dust-Arresters, of which the following is a complete specification.

My invention has relation to devices to be placed in the air-conducting pipes with a view to cleansing the air delivered through the pipes from particles of dust and other matter deleterious to health and cleanliness.

The objects of my invention are to provide a simple and effective device arranged to be placed within pipes which will remove substantially all the dust and fine particles of solid matter floating or suspended in the current of air inclosed by the pipe and to so construct said device that it can be readily cleansed and renewed as needed and which will be so effective as to substantially remove from the air all impurities and solid matter without impairing the volume thereof delivered.

For the accomplishment of the aforesaid objects I employ certain mechanism, a description of one form of which follows hereinafter, reference being had to the drawings forming a part hereof.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different figures, Figure 1 is a section at the line *x* of Fig. 2, and Fig. 2 a front elevation of my improved device.

In the drawings, 1 represents a short casing of sheet metal having at one end a flange 2, the internal diameter of the casing 1 being substantially equivalent to the interior of the air-flue into which it is to be introduced, and the flange 2 is larger and prevents the casing 1 from entering completely therein.

Extending across the entire interior of the casing 1 is a coarse network 3 of wires, the mesh of which will be decided by the requirements of each particular case. The rear end of the casing 1, opposite that on which is placed the flange 2, is provided with a shoulder 4, for a purpose to be stated. Into this end, opposite to that on which is placed the flange 2, is inserted a ring 5, across which extends a network of wires 6, the mesh of which is determined by the use to which the device

is intended; but it is ordinarily substantially of an equal mesh with the network 3. To each of the networks 3 and 6 is attached by a cement a film or thread-like fluffy coating of fleecy asbestos 7, the grain or line of which projects from the network in a direction similar to that of the current of air passing through the flue in which the device is placed, the direction of the current of air being indicated by the arrow in Fig. 1. This fluffy or thread-like mass of asbestos is attached to the network or wire-cloth by a cement which is not affected by the heat within hot-air pipes in which it may be used, and it projects forward and extending as it does from its support substantially completely covers the exit of the air as it passes through the wire network, and as the fuzzy threads of asbestos will float or waver in the current of air passing between them they tend to collect and catch the fine particles of dust and similar articles held in suspension by the current of air passing through the pipe.

It has been found where a stratum of fluffy asbestos is held across the exit of air-pipes supplying an apartment that the asbestos gradually settles to the lower portion of the space inclosed by the wire-netting and so densely packs together that air will not pass therethrough, but it will offer such an obstruction thereto as to cause a decided diminution of the volume of air furnished to an apartment; but with this device the asbestos is sustained and held in a definite position by the layer of wire-cloth, to which it adheres, and its long tail-like ends are permitted to wave in the current of air and thereby encounter and practically capture the suspended particles of solid matter in the air furnished from the furnace to the apartment.

Should it be necessary at any time to cleanse the asbestos from particles of dust, the entire device is removed from the pipe and the ring 5 removed and the asbestos adhering to the wire-netting 6 cleansed, either by washing or by means of a brush, and the same treatment may be administered to the wire-netting 3, which is originally contained within the casing 1.

The main object sought by this invention is to substantially cover the entire exit of the furnace-heated air with a constantly-waver-

ing film of floating threads with their minute branches, so that any particles suspended therein or carried thereby will encounter and be retained by the asbestos.

5 What I claim, and desire to secure by Letters Patent, is—

1. A network suitably supported arranged to be placed in the pipe through which is arranged to pass a current of air, said network  
10 being provided with an adhering mass of fluffy thread-like asbestos the ends whereof are free to wave in the current of air to substantially screen said air passing there-  
through.

15 2. A supporting medium to which is attached a mass of fluffy thread-like asbestos the ends whereof are free to wave in a current of air yet capable of permitting the free passage of air therethrough and means for sus-  
20 taining said medium.

3. Means to be placed in a pipe designed to convey a current of air provided with a net having fastened thereto a body of fleecy thread-like asbestos of such density as to per-  
25 mit the passage of air therethrough the ends whereof are free to wave in said current of

air and to arrest particles of foreign matter carried by said current of air.

4. A dust-arrester consisting of means arranged to be placed in position to receive a  
30 current of air, a net or its equivalent extending across said means, a mass of fleecy thread-like asbestos adherent to said net the ends whereof are free to wave in said current of air.

5. A dust-arrester consisting of means to  
35 be inserted in a pipe or flue designed to convey a current of air, a net extending across said means, a mass of fleecy thread-like asbestos adherent to said net, a ring arranged to sustain a stratum of wire-cloth capable of  
40 fitting in said means, and a mass of fleecy thread-like asbestos adherent to the wire-cloth in said ring, the ends of said asbestos being free to wave in the current of air passing through said dust-arrester.

45 In testimony that I claim the above I hereunto set my hand in the presence of two subscribing witnesses.

LAURA D. YOUNG.

In presence of—

C. E. HUMPHREY,  
MAUDE ZWISLER.