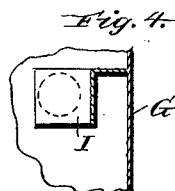
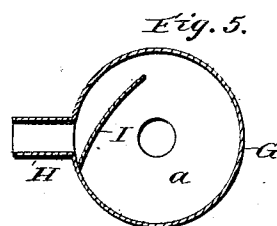
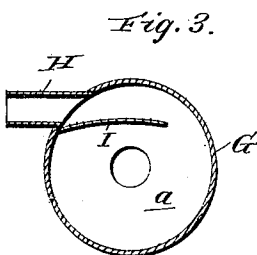
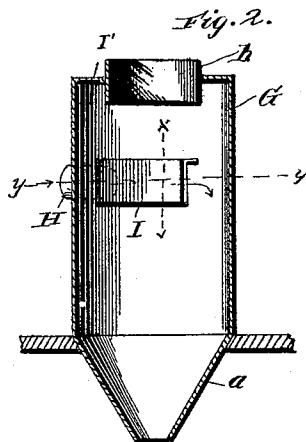
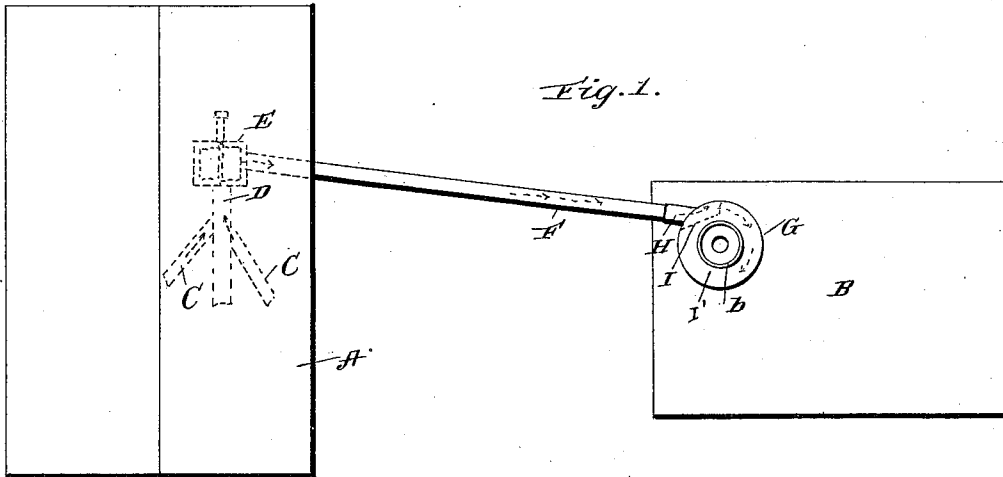


(No Model.)

H. W. PETERSEN.
DUST ARRESTER.

No. 463,689.

Patented Nov. 24, 1891.



Witnesses:
C. A. Raeder
H. T. Matthews

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UNITED STATES PATENT OFFICE.

HENRY W. PETERSEN, OF APPLETON, WISCONSIN.

DUST-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 463,689, dated November 24, 1891.

Application filed April 30, 1891. Serial No. 391,069. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. PETERSEN, a citizen of the United States, residing at Appleton, in the county of Outagamie and State of Wisconsin, have invented certain new and useful Improvements in Dust-Arresters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to improvements in dust-arresters, such as employed in saw-mills, planing-mills, and other wood-working establishments, for separating chips, dust, and other refuse from the draft or blast of air employed to blow the refuse from the mill to a boiler-house or other point of discharge; and the novelty will be fully understood from the following description and claim, when taken in connection with the accompanying drawings, in which—

Figure 1 is a diagrammatic view illustrating the position of my improved device with respect to the tubes or conveyers leading to the casing of the blast-fan, and the conveyer leading from said casing and discharging into my improved device. Fig. 2 is a vertical diametrical section of my improved dust-arrester, illustrating its position with respect to the roof of a boiler-house or other point of discharge. Fig. 3 is a transverse section taken in the plane indicated by the line *yy* on Fig. 2. Fig. 4 is a detail vertical section taken in the plane indicated by the line *xx* on Fig. 2; and Fig. 5 is a transverse section of the arrester, illustrating the conveyer-receiving sleeve as extending radially from the periphery thereof.

In the said drawings similar letters designate corresponding parts throughout the several views, referring to which—

A indicates the mill, and B the boiler-house, of a wood-working establishment. Leading from a point adjacent the saw and planing-machines are branch conveyers C, which discharge into a conveyer D, which leads to a fan-casing E, in which is mounted a blast-fan of suitable construction. Leading from the fan-casing E is a conveyer F, which discharges into my improved dust-arrester, which I will now proceed to describe.

G indicates the cylindrical casing of my im-

proved arrester, which is provided at its lower end with a depending funnel portion *a*, which, when the arrester is mounted, is designed to take through the roof of a boiler-house or other place for the discharge of the chips and refuse. At its upper end the casing G is provided with an annular opening for the discharge of the air blast or draft created by the fan, and this opening is surrounded by a collar *b*, which extends below and above the top, and is designed to receive an uptake or pipe at its upper end for carrying off the blast or draft of air. Leading to the casing G, about midway the length thereof and preferably off the center, is a sleeve H, which is designed to receive or be received by the conveyer F, leading from the blast-fan casing.

Suitably attached to the inside of the casing G, adjacent to the inner side of the sleeve H, is the vertically-disposed curved wall of the deflector I, which is also provided with a top wall or plate I', as better shown in Fig. 4 of the drawings, but is open at its bottom to prevent chips and other refuse from clogging, and to allow the same to fall; and by the situation of the deflector below the top of the casing it will be readily perceived that the dust, chips, &c., will be discharged into the middle of the casing, when the dust, by reason of its lightness, takes up above the deflector and out of the draft, and thence up through the opening at the top of the casing.

In operation it will be seen that as soon as the chips, dust, and draft or blast of air reaches the deflector I they are whirled around therein, when the chips, dust, and other refuse, by reason of their weight, gradually fall into and through the funnel, while the wind takes up through the opening at the top of the casing.

In Fig. 5 of the drawings I illustrate the sleeve H as taking radially from the periphery of the casing; but in practice I prefer to place the sleeve as illustrated in Fig. 3.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

In a dust-arrester, the combination, with a cylindrical casing open at its upper and lower ends and provided in its vertical wall intermediate the length thereof with an induction-opening, an annular collar surrounding the

opening at the top of the casing and extending above and below the top, and a funnel depending from the lower end of the casing, of a tubular sleeve leading to the induction-
5 opening in the periphery of the casing, and a deflector comprising a vertically-disposed curved wall, and a flat top so arranged within the casing with respect to the induction-opening in the wall thereof as to receive the dust

and chips from said opening, substantially as 10 specified.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY W. PETERSEN.

Witnesses:

SAM RYAN,

H. J. MULHOLLAND.