

(No Model.)

L. W. HOLLOWAY.

DUST ARRESTER.

Patented Feb. 16, 1886.

No. 336,238.

Fig. 1.

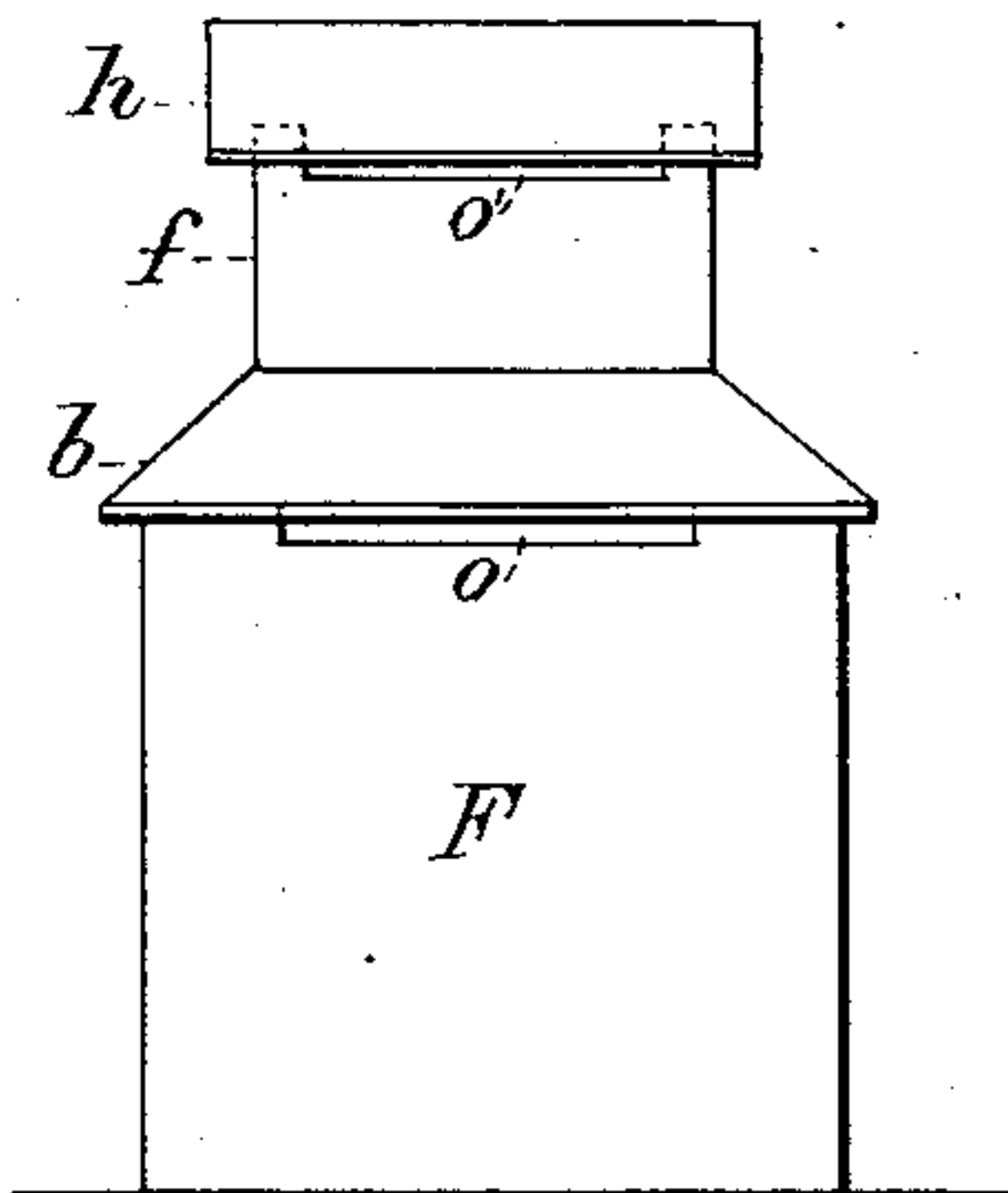


Fig. 2.

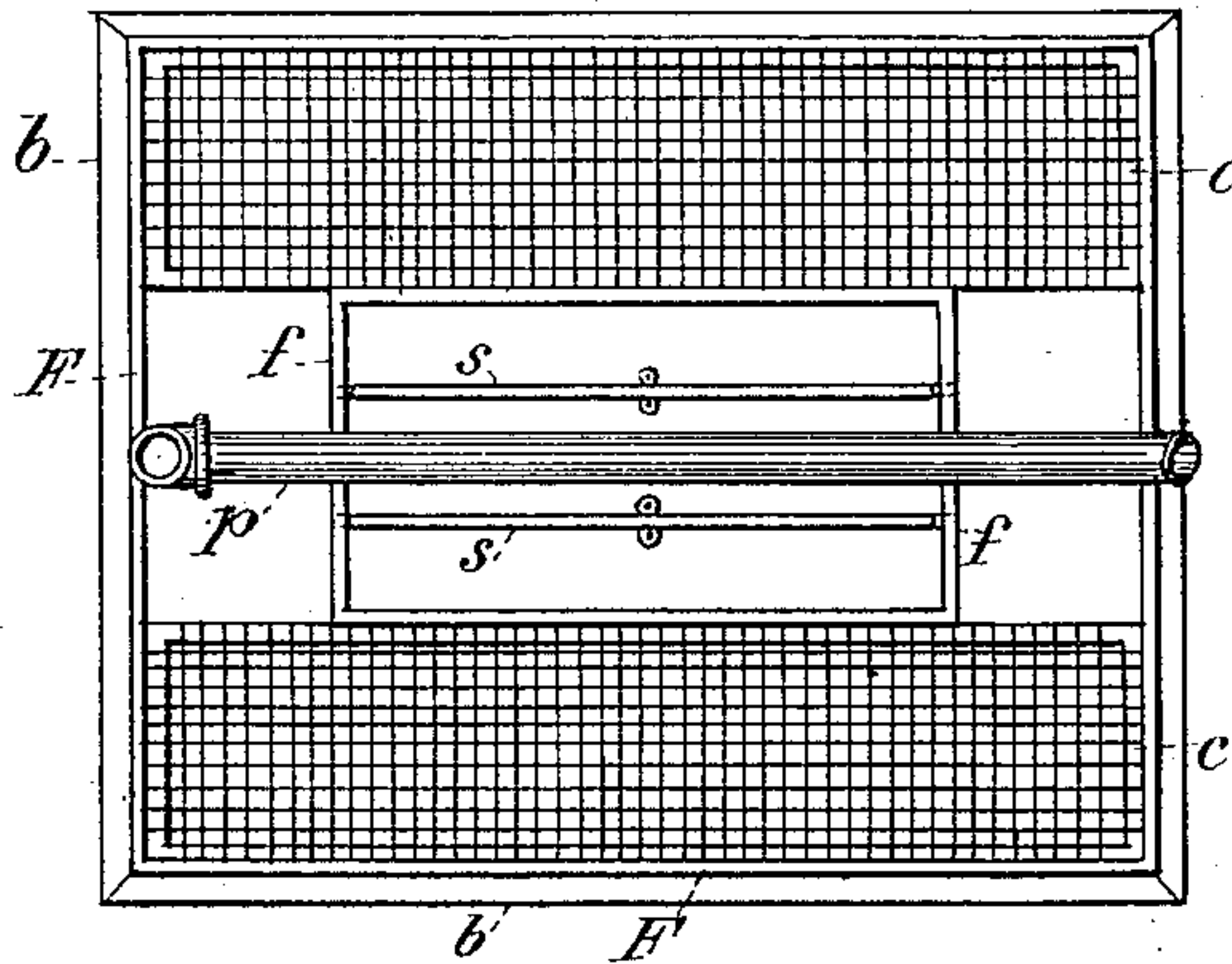


Fig. 3.

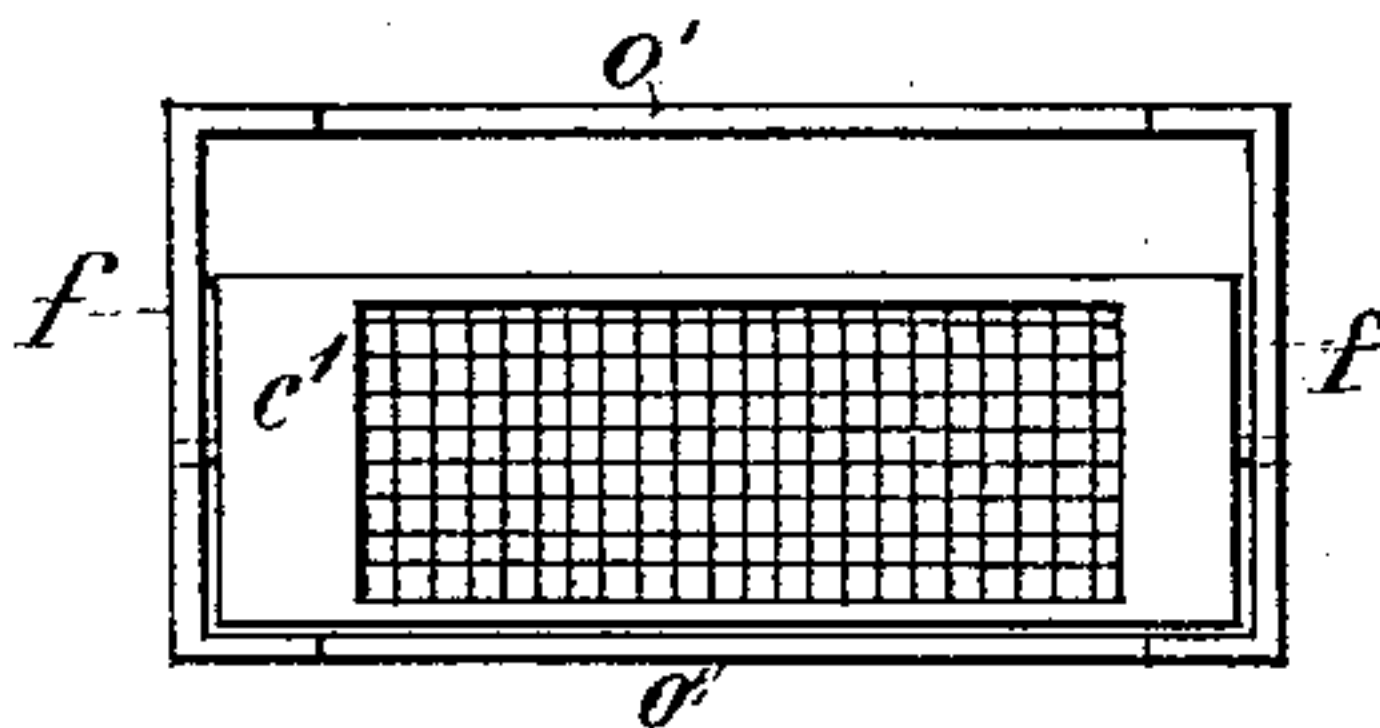
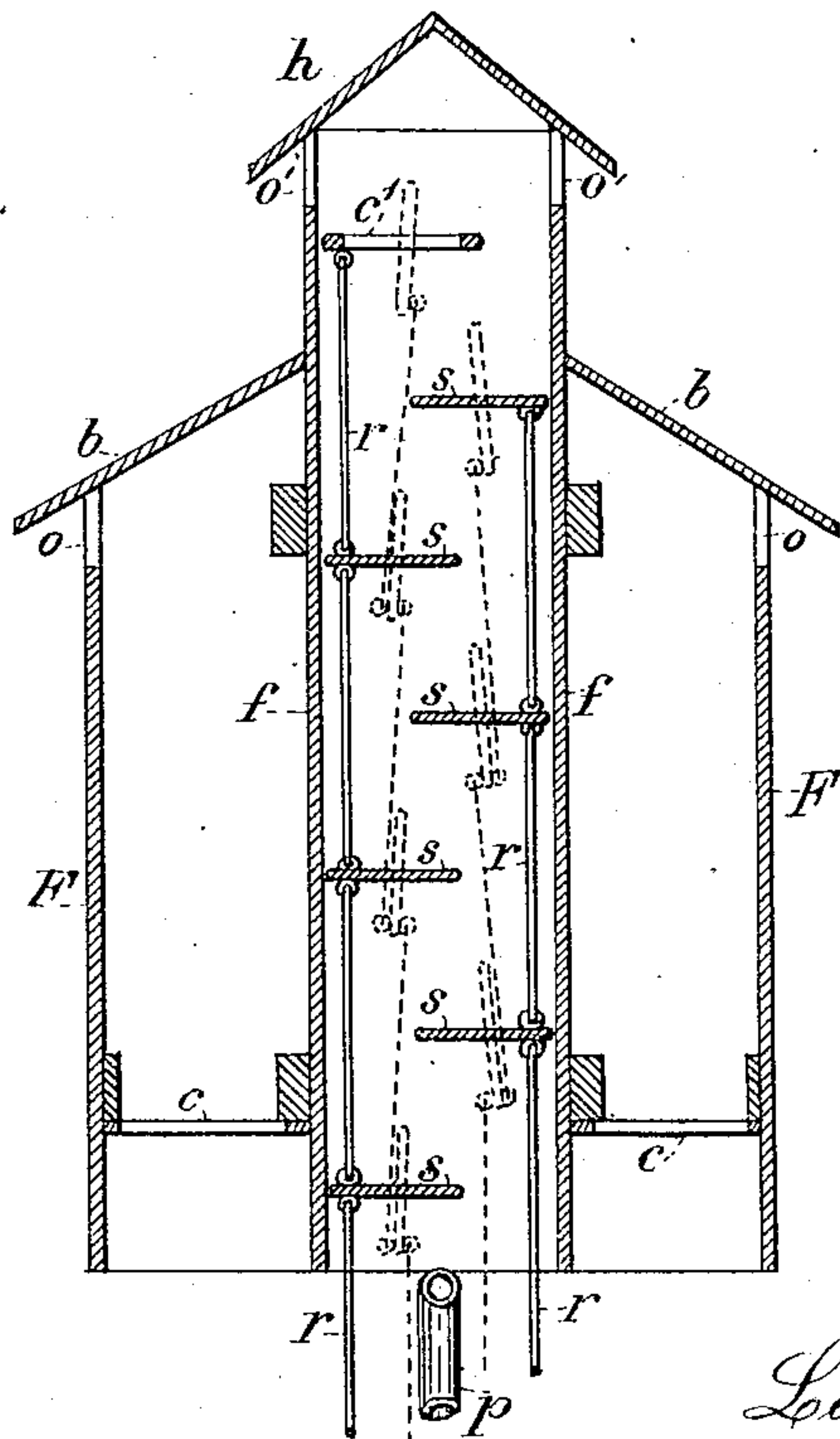


Fig. 4.



WITNESSES.

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## DUST-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 336,238, dated February 16, 1886.

Application filed November 23, 1885. Serial No. 183,589. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS W. HOLLOWAY, a resident of Indianapolis, Indiana, have made certain new and useful Improvements in Dust-  
5 Arresters, a description of which is set forth in the following specification, reference being made to the accompanying drawings, in the several figures of which like letters indicate like parts.

10 My invention relates to improvements in the construction of devices by which the dust from shaving-rooms in manufactories is carried up through a flue above the roof and into the open air, and will be understood from the  
15 following description and drawings.

Figure 1 represents a side view of my device; Fig. 2, a bottom view of the same; Fig. 3, a view looking down the flue from above, the hood being removed. Fig. 4 is a vertical section through my device, showing the interior  
20 arrangement of the parts.

In detail, F is the shell or frame the sides of which have openings *o*, at the top, which are covered by inclined boards *b*, the other  
25 end of which rests against the upwardly-projecting portion of the flue *f*. This flue, as will be seen from Fig. 4, passes up through inside of the frame-work, and extends some distance above the roof thereof, and its top is  
30 covered by a hood, *h*, beneath the inclined sides of which are formed draft-openings *o'*. This flue is preferably made of iron, so as to be incombustible, and is secured within the frame-work by means of cross pieces or stays,  
35 which are seen on either side in cross-section in Fig. 4. On either side of this flue, and in the bottom thereof, between the sides of the flue and the sides of the frame, are left recesses the tops of which are formed of pieces of cloth  
40 *c*, which stop the movement of dust up into the frame-work, while at the same time these pieces *c*, being formed of some elastic or flexible material—such as cloth—allow some little expansion to the pressure of the currents of air  
45 which pass up on either side of the flue. Across the bottom of the flue is fixed a steam-pipe, *p*, which is connected with the exhaust-pipe of an engine, and small openings or holes are made on the upper side of this pipe, so that  
50 jets of steam will be discharged through these openings into the open mouth of the flue. This steam does not interfere, but to some ex-

tent aids in the draft, while at the same time it moistens the dust that passes up through the flue, making it heavy, so that it will be  
55 deposited on the slats or shutters *s*. These shutters are fixed upon rods *r*, the sides of the shutters being journaled in the sides of the flue so as to allow the shutters to be turned in the manner of blind-slats by means of the  
60 rods *r*.

The dotted lines in Fig. 4 indicate different positions the slats may be made to assume when it is desired to dislodge the dust that  
65 has settled upon them.

The machine operates as follows: The shavings and dust are carried away from the planers by means of a fan forcing them by its blast through a pipe, which conducts them upward and deposits them into a room set  
70 apart for that purpose. When forced into this room, the heavier portions of the shavings will fall by their own gravity to the floor, while the lighter portions and dust are carried on upward by the blast through a ventilator  
75 fixed in the roof having openings which permit the dust to be carried into the open air. This is the ordinary method of constructing these devices. The difficulty is that the dust thus carried out the ventilator is deposited over the  
80 roof of the building and accumulates in large quantities thereon, and, being inflammable when dry and heavy when wet, is unsafe and dangerous to the roof. I prevent this accumulation on the roof by stopping it in the flue,  
85 and it is for this purpose that the slats *s* are arranged alternately on each side of the flue, as shown in Fig. 4. The dust and fine particles of matter, instead of being carried out into the open air, are deposited upon the slats,  
90 and, being wetted by the steam from the pipe *p*, acquire specific gravity enough to fall and lodge upon the several slats. When these slats, which are made of any suitable size or shape, and in any desired number, and arranged alternately within the flue, or the sides  
95 thereof, become loaded with dust, by moving the rods *r* the slats may be thrown up into a vertical position, swinging on their hinges, taking the position shown by the dotted lines  
100 in Fig. 4, and the dust and accumulation of matter will then fall off the slats and through the flue and into the room below. By this means very little, if any, of the dust or fine



particles of matter are carried out through the openings into the air or fall upon the roof. The openings in the sides of the frame F directly under the eaves *b* provide means for the  
 5 escape of air or any small particles of matter which pass through the covers *c* into the inside of the frame.

If desired, instead of making the slats solid, any one or all of them may be made of a flexible  
 10 fibrous material, and such a method of construction is shown in the top slat of the series of Fig. 4 and illustrated in detail in Fig. 3.

What I claim, and desire to secure by Letters Patent, is the following:

15 1. In a dust-arrester, an outer frame having an interior flue provided with a hood, and having openings on either side near the top, and oscillating slats secured in the sides for arresting and lodging the matter passing up  
 20 through the flue, with rods connected to such slats for moving the same so as to dislodge the matter deposited thereon, all combined substantially as described.

25 2. In a dust-arrester, the frame F, provided with roofing-boards *b*, with openings *o* on the sides, the flue *f*, passing up through the frame F and its roof, the hood *h*, the openings in the sides of the flue beneath the hood, the slats *s*, journaled in the sides of the flue, the rods con-  
 30 nected therewith for oscillating the slats, all combined substantially as described.

3. In a dust-arrester, the frame F, the flue *f*, passing up through such frame and out beyond its roof, and provided with a hood, and openings *o'* in the sides of the flue below such  
 35 hood, the slats *s*, adapted to oscillate upon bearings in the sides of the flue, the rods *r*, connected to such slats for rotating them, the steam-pipe *p*, secured across the bottom of the flue *f*, and connected with the exhaust-pipe of  
 40 the engine, all combined substantially as described.

4. A dust-arrester composed of a flue leading from the interior of the building to the open air above the roof, provided with a series  
 45 of slats journaled in the sides of the flue, and arranged alternately the one above the other, as shown, connected with rods for moving the slats to dislodge the dust that collects thereon, in combination with a steam-pipe for injecting  
 50 steam into the flue for wetting the dust so that it will be deposited upon such slats instead of being carried into the open air, all combined substantially as described.

In witness whereof I have set my hand this  
 55 20th day of November, 1885.

LEWIS W. HOLLOWAY.

Witnesses:

C. P. JACOBS,  
 G. W. LUTZ.