

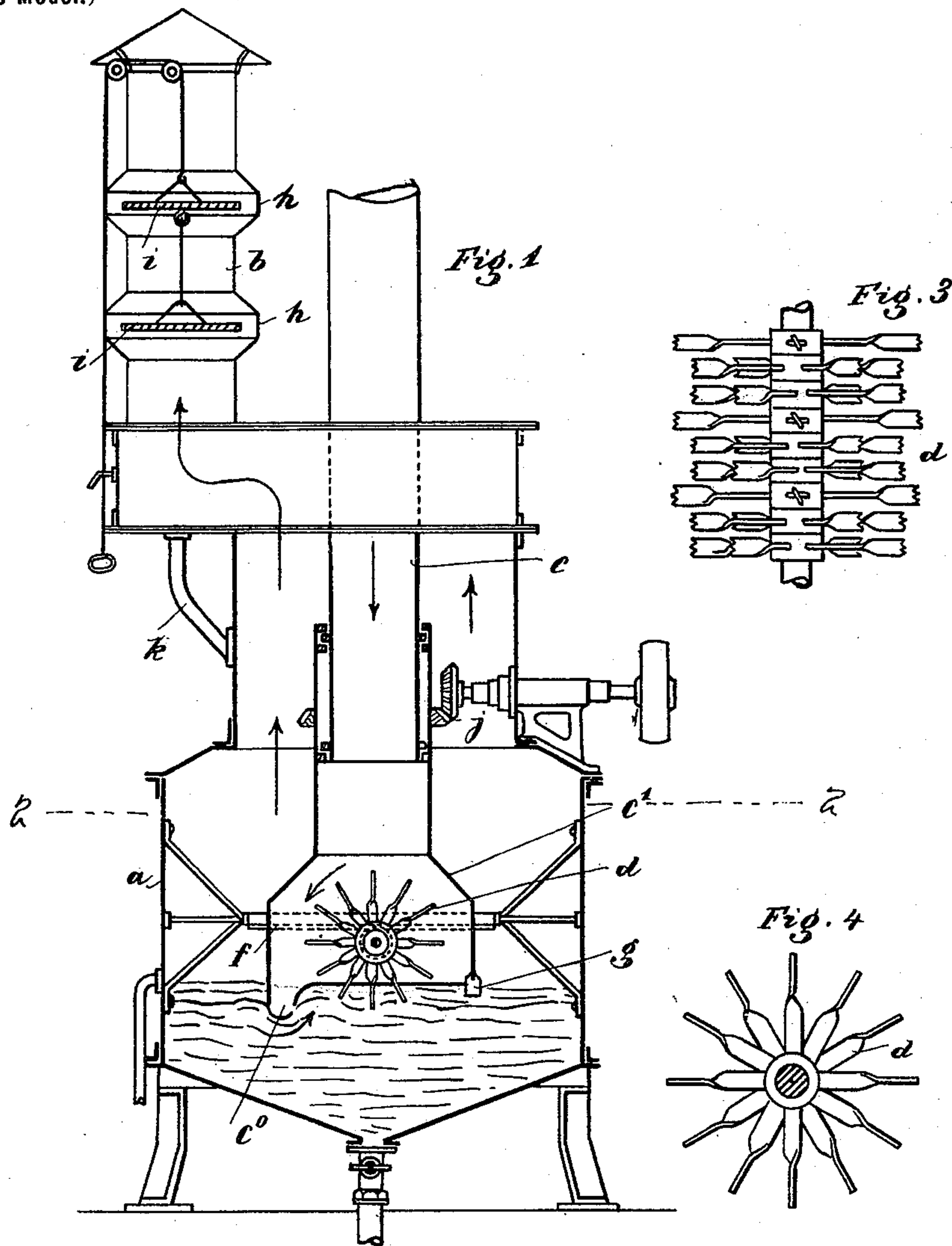
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L. RÖSSLER.
DUST ARRESTER.

(Application filed June 17, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

LUDWIG RÖSSLER, OF MUNICH, GERMANY.

DUST-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 632,370, dated September 5, 1899.

Application filed June 17, 1898. Serial No. 683,679. (No model.)

To all whom it may concern:

Be it known that I, LUDWIG RÖSSLER, a subject of the Emperor of Germany, residing at Munich, German Empire, have invented certain new and useful Improvements in Dust-Arresters, of which the following is a full, clear, and exact description.

The subject of the present invention is a dust-arresting apparatus in which the dust is exhausted by a ventilator from places where much dust prevails and is led to a liquid and is made harmless by atomization of that liquid.

This device is shown in the drawings in Figure 1 in vertical section, and in Fig. 2 in horizontal section on line 2 2 of Fig. 1. Fig. 3 is a plan view of the atomizing-wheel, and Fig. 4 is a side view of the same.

a is a reservoir for the liquid. An air-flue or exhaust-shaft *b* is eccentrically arranged in relation to said reservoir. The dust exhausted by the ventilator is conducted through a pipe *c* into this reservoir or receptacle. The pipe *c* extends to near the water-level and is there widened out in cap shape. This lower part *c'* of the pipe, which is open at its lower end, is swiveled on the upper part *c*, and its revolution is caused by a gear connection *j*.

In the cap or hood-shaped part *c'* of the pipe a water-atomizing wheel *d* is set. The revolution of this wheel occurs automatically, as a cog-wheel *e* is fixed outside on the arbor of the wheel *d* and is rotated by engaging a stationary spur *f* in the revolution of the cap *c'*.

The atomizing-wheel *d* consists of a shaft, on which radial arms of wrought-iron are arranged, Figs. 3 and 4. The extremities of these arms are toothed in order to enhance the effect of atomization. This wheel atomizes the liquid in the space *c'*, and the water and dust are carried as a moist mist into the receptacle *a*. In the space *c'* the finer parts of the dust entered at *c* mix with the atomized liquid produced there. The coarser particles of the dust are worked by the wheel *d* into the water under the water-level. Finer dust particles escaping from *c'* which may endeavor to escape through the receptacle are saturated in the receptacle by the mist in

the same, and thus settle automatically on the liquid.

In order to bring the coarser dust particles which are not worked into the liquid by the wheel *d*, but swim on the surface of the same, under this liquid as well and to mix them with it, the cap is provided with a beak-like extension *c''*, which dips into the liquid at the side where the blades of the wheel dip into the water or other liquid. In the measure as the blades in the cap or hood draw the water, &c., away from said beak it will flow from the outside under the beak *c''* to the inside, (arrow direction,) and thereby the dust swimming at the outside is washed under the hood *c'* and the wheel and so mixed with the liquid.

In order to drive the dust floating around the hood gradually under the wheel and from there under the water or other liquid, the revolution of the hood *c'* and the wheel *d* above referred to takes place in the arrow direction, Fig. 2, by means of the gear *j*. The atomization of the water and the working of the dust floating outside into the water can be made more intense and active by arranging radial blades *g* at the rim of the hood, which strongly agitate the water at the revolution of the hood.

The air sucked into the hood and there saturated with dust and liquid is led out through the receptacle *a* and the air-shaft *b*. The shaft or flue *b* has one or more enlargements *h*, having conical surfaces in which plates *i* or bells are hung, and the draft of air in the flue can be regulated by adjusting these plates or bells in a higher or lower position.

The water or other moisture rising with the air in the shaft by evaporation in the reservoir *a* in hot season will condense at the plates *i* and at the enlargements and walls of the shaft and run back into the reservoir *a* through a connecting-pipe *k*.

I claim—

1. A dust-arresting apparatus comprising liquid-chamber, an inlet-pipe having a revolving head extending into the liquid-chamber, an agitator carried by said head with means for rotating it and a suitable outlet.

2. In combination, a liquid-chamber, an

