

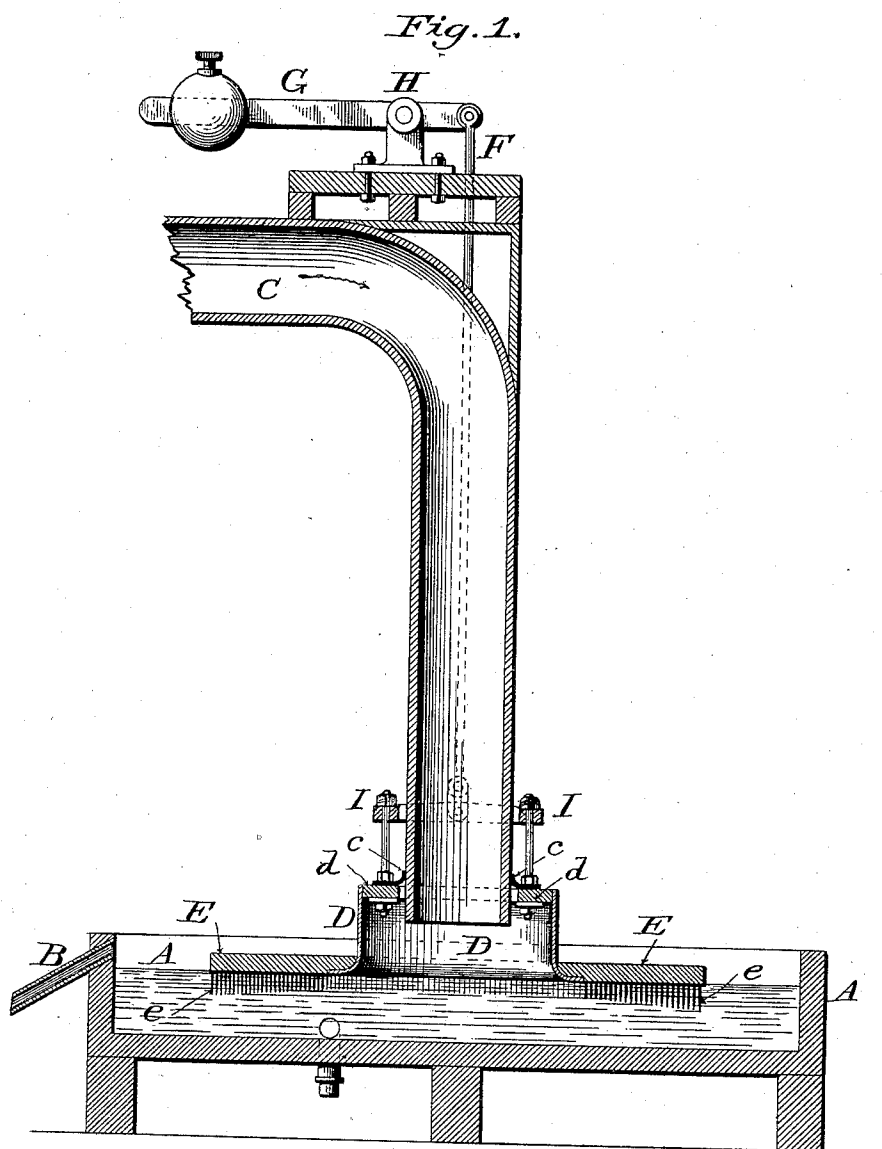
(No Model.)

2 Sheets—Sheet 1.

P. VAN GELDER.
DUST SEPARATING MACHINE.

No. 314,498.

Patented Mar. 24, 1885.



Witnesses:

Jas. F. O'Hamel
Walter J. Dodge

Inventor:

PIETER VAN GELDER,

BY *Dodger*

ATTYS.

(No Model.)

2 Sheets—Sheet 2.

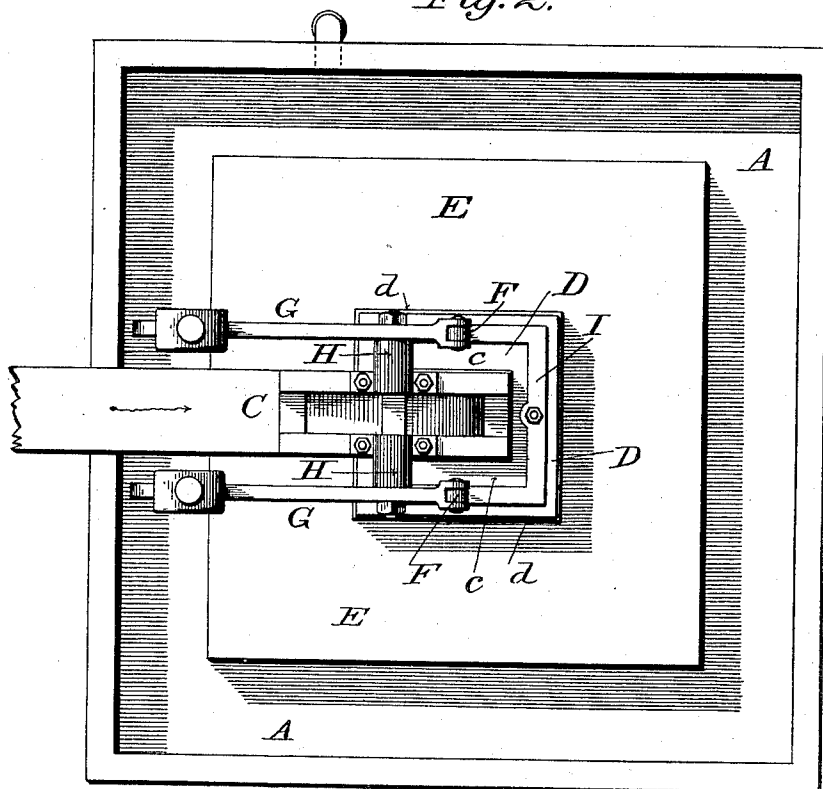
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Fig. 2.



Witnesses

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Walter C. Dodge

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BY Dodget Son

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UNITED STATES PATENT OFFICE.

PIETER VAN GELDER, OF SOWERBY BRIDGE, COUNTY OF YORK, ENGLAND.

DUST-SEPARATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 314,498, dated March 24, 1885.

Application filed December 9, 1884. (No model.) Patented in England February 28, 1883, No. 1,033; in France August 28, 1883, No. 157,277; in Belgium August 29, 1883, No. 62,443, and in Italy September 3, 1883, No. 15,841.

To all whom it may concern:

Be it known that I, PIETER VAN GELDER, of Sowerby Bridge, in the county of York, in the Kingdom of England, have invented certain new and useful Improvements in Dust-Separating Machines, (for which I have received Letters Patent in England dated February 28, 1883, No. 1,083; in France dated August 28, 1883, No. 157,277; in Belgium dated August 29, 1883, No. 62,443, and in Italy dated September 3, 1883, and numbered 15,841,) of which the following is a specification.

My invention relates to an improved apparatus for separating dust from the air in flour-mills; and it consists in a novel construction of the same, as hereinafter fully set forth and claimed. It is well illustrated by aid of the accompanying drawings, in which—

Figure 1 is a sectional elevation, and Fig. 2 a plan view, of the apparatus.

In these, A is a tank to hold the water, with preferably a constant stream of water running through, which overflows through the pipe B.

C is a pipe or conduit which conveys the dust-laden air from the source where it is charged to the tank. The end of this pipe approaches within a short distance of the surface of the water in the tank.

D is a box or casing into which the end of the pipe C projects. In the top *d* of this casing is cut a hole corresponding in contour with the cross-section of the pipe C, and which, though free to move up and down on the pipe, fits it practically air-tight, so as to prevent escape of any of the air or dust.

e is an india-rubber or leather washer attached to *d* for the purpose.

E is a broad flange secured to the bottom of the casing D. The flange E may be made of wood or other light material, so as to float on the surface of the water. The under surface of the flange E is furnished with a series of pins, *e*, which prevent the air forming bubbles with the water, and thus carrying through with it the dry dust. These pins are preferably arranged as shown, being made of greater length toward the outside than nearer the center. The casing D is suspended from above by two rods, F, which are pivoted to the counterweighted levers G, carried in bear-

ings H, mounted in any suitable position above or in connection with the pipe C. The lower ends of the rods F are connected to the casing D by means of a frame-work, I, the casing being pivoted thereto, the whole forming a universal joint, allowing the casing D to freely swing, as if on gimbals, as the air passes through it and escapes under the flange E. The form of the pipe C in cross section is immaterial, as it may be cylindrical, as in Fig. 1, or rectangular, as in Fig. 2, and it is likewise apparent that the shape or configuration of the box D and float E may be varied as desired.

What I claim is—

1. The herein-described dust-collector, comprising tube C, box or casing D, carrying float E, and tank A, filled with water or other liquid, as and for the purpose set forth.

2. In combination with tank A, containing water or other liquid, a discharge-pipe for dusty air extending nearly to the surface of the liquid, and a casing encircling the lower end of the pipe and resting upon the liquid, as and for the purpose set forth.

3. In combination with a tank containing water or other liquid, a discharge-pipe for dusty air extending nearly to the surface of the liquid, and a casing encircling the lower end of the pipe and provided with a float, substantially as shown and described.

4. In combination with a tank containing water or other liquid, a discharge-pipe for dusty air extending nearly to the surface of the liquid, a casing encircling the lower end of the pipe, and a float attached to the casing and provided with pins or teeth, as and for the purpose described.

5. In combination with a tank containing water or other liquid, a discharge-pipe for dusty air extending nearly to the surface of the liquid, a casing encircling the lower end of the pipe, and a float attached to the casing and provided with teeth or pins increasing in length toward the periphery of the float, as shown and described.

6. In combination with a tank containing water or other liquid, a stationary discharge-pipe for dusty air extending nearly to the surface of the liquid, a counterweighted casing

encircling the lower end of the pipe and provided with a float.

7. In combination with a tank containing water or other liquid, dusty-air-discharge pipe
5 C, casing D, float E, provided with pins *e*, and washer *e*, all arranged and operating substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PIETER VAN GELDER.

Witnesses:

W. P. THOMPSON,

I. OWDEN O'BRIEN.