(No Model.)

J. T. BRIGGS.

VENTILATING HOOD FOR DUST COLLECTORS.

No. 428,067. Patented May 20, 1890.

Fig. 1.

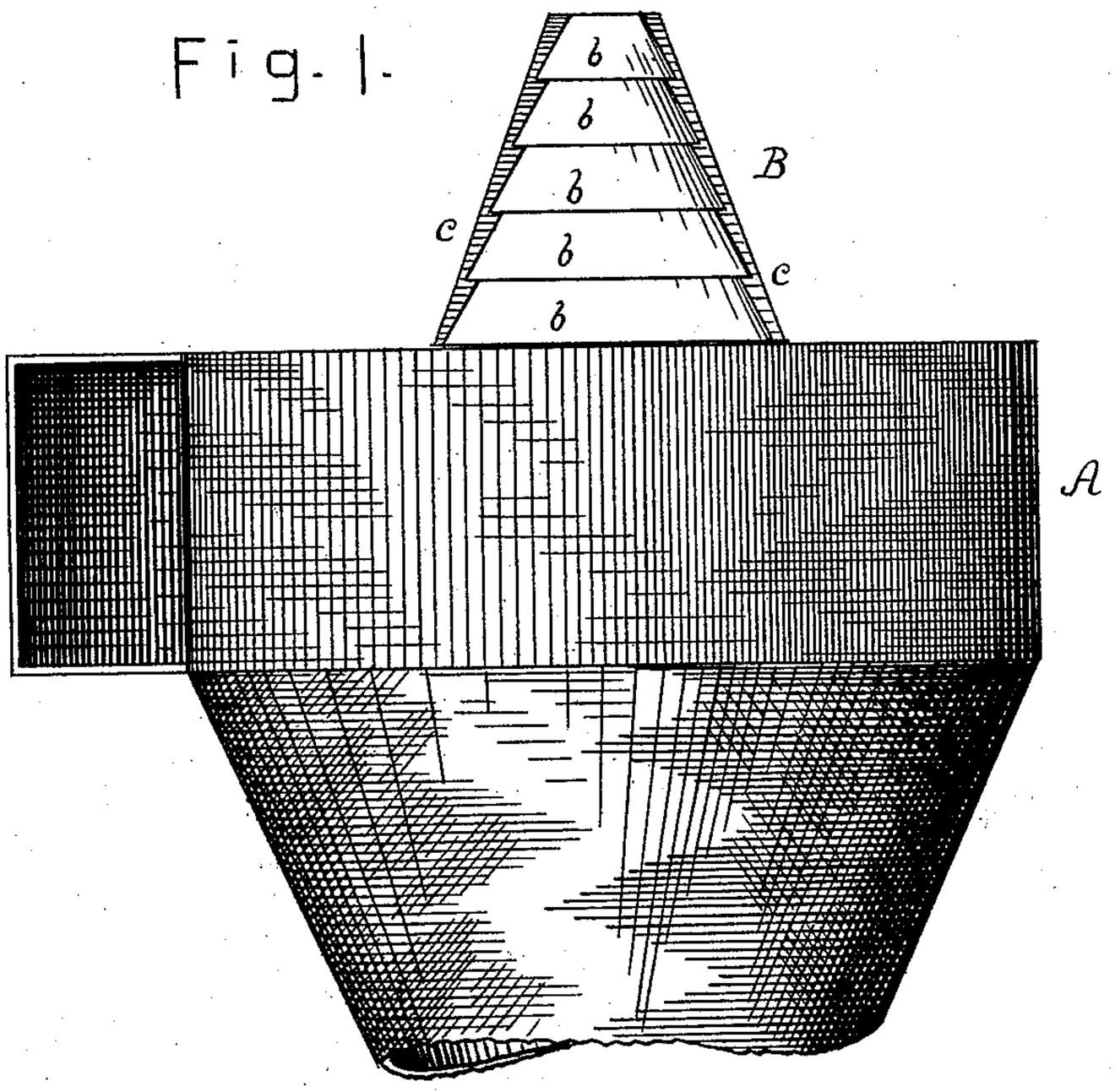
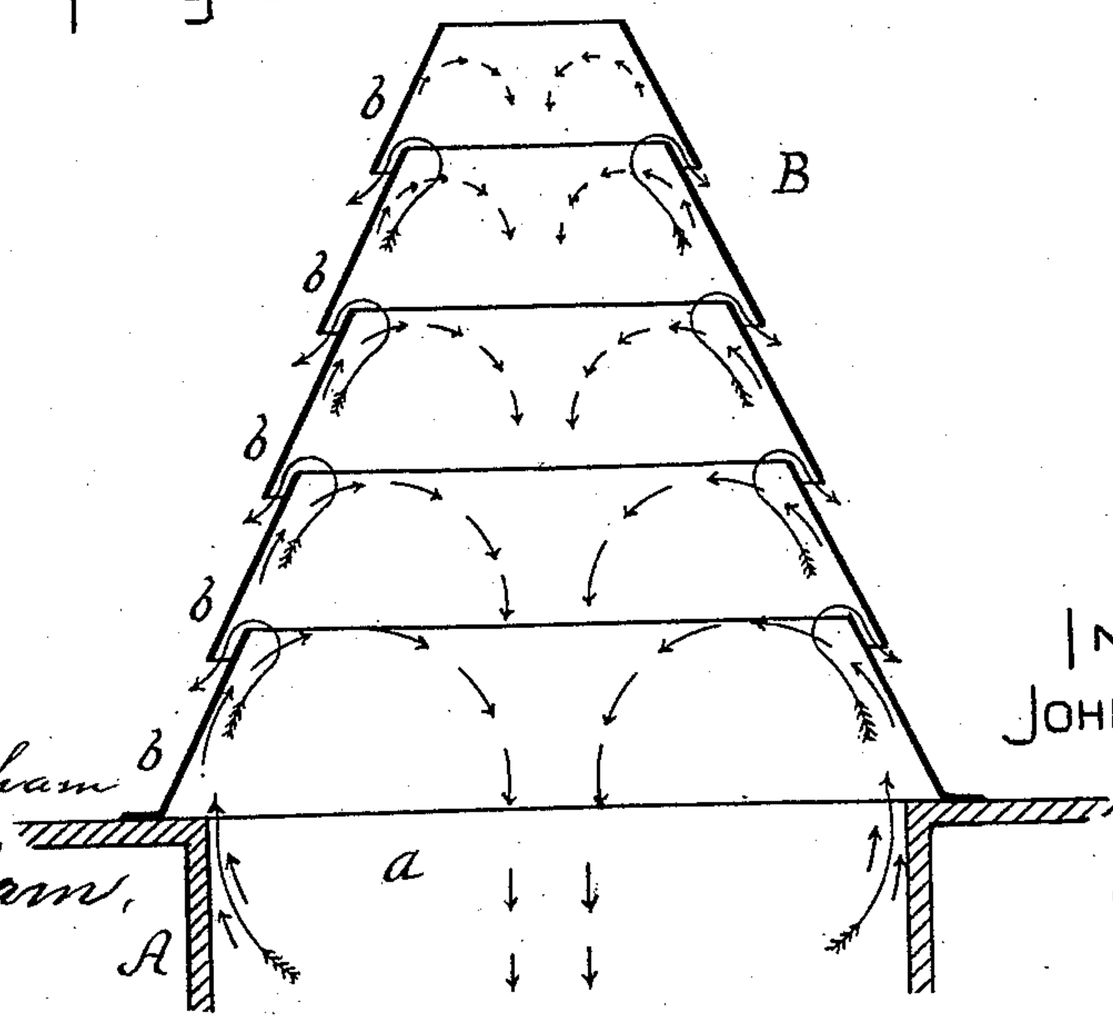


Fig. 2.



ATTEST

Helen Graham

W. W. Graham,

INVENTOR

JOHN T. BRIGGS.

By

L. P. Graham

his attorney.

UNITED STATES PATENT OFFICE.

JOHN T. BRIGGS, OF DECATUR, ILLINOIS.

VENTILATING-HOOD FOR DUST-COLLECTORS.

SPECIFICATION forming part of Letters Patent No. 428,067, dated May 20, 1890.

Application filed February 1, 1890. Serial No. 338,841. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. BRIGGS, of the city of Decatur, county of Macon, and State of Illinois, have invented a certain Ventilating-Hood for Dust-Collectors, of which the following is a specification.

My invention relates to dust-collectors in which the dust-laden air forms a vortex; and it consists in certain details of construction and combinations of parts, as hereinafter set forth and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is an elevation of the upper portion of a dust-collector with my device attached, and Fig. 2 is a central vertical section through my device and through the air-outlet of the dust-collector.

The collector A is of the inverted-cone class, and it has the customary air-outlet *a*, as seen in Fig. 2. The hood B is composed of a set of hollow-cone sections *b*, arranged one above the other in a constantly-decreasing ratio, the lowest section being secured to the collector concentric with the air-outlet thereof, and each other section overlapping the one next below in a manner to form intervening spaces. The sections are held in position by strips *c c* or other analogous and readily-obvious means, the object being to insure sufficient stability without unnecessarily obstructing the air-spaces.

The air escaping from outlet *a* carries more or less dust with it. Its motion is spirally upward, and it continues in the hood the vortex developed in the collector.

In Fig. 2 the feathered arrows represent the motion of the air, and the featherless arrows represent the motion of the dust contained in the escaping air. The whirling dust-laden air leaves the collector as indicated, striking the inclined inner surface of the lowest cone-section, shooting a portion of the dust into the vortex, and permitting a portion of the purified air to escape between the two lower sections. The remaining air continues upward into the constantly-diminishing space, subjecting the dust to the centrally-tending influence of the inclines and permitting the lateral escape of the air through the annular spaces, as explained.

The size, number, inclination, and relative arrangement of the sections are not arbitrary, though the hood, as an entirety, should bear a definite and reasonably-regular relation to the air-outlet, and the combined outlets of the hood should be proportionate to the capacity of the fan of the collector in order to prevent the dust-laden air from being in part forced through the apex of the hood. A proportion of about two to one between the discharging capacity of the hood and the forcing capacity of the fan will ordinarily be satisfactory.

I lay no claim to the construction of the collector, either generally or specifically, nor do I restrict myself in the use of my hood to a collector of any particular make or pattern, except as herein provided.

I claim—

In combination with a vortex-forming dust-collector, a structure in the form of a conical frustum, having its base fitted over the air-outlet of the collector, such structure being composed of a series of hollow cone-sections, each overlapping the next lower in a manner to form intervening spaces, and each having its base presented toward the air-outlet, as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

JOHN T. BRIGGS.

Attest:

WM. L. SHELLABARGER,

L. C. SHELLABARGER.