

No. 652,463.

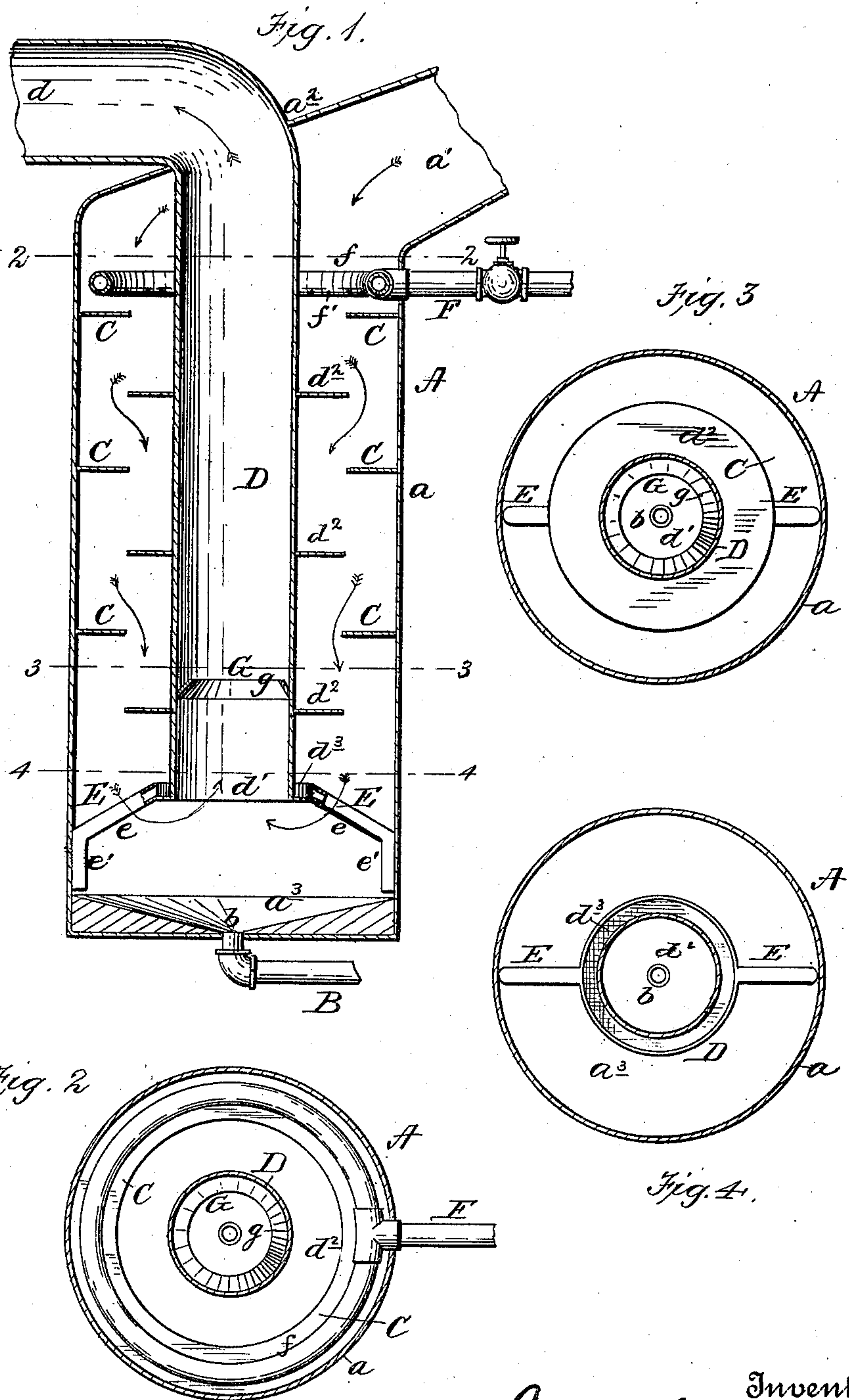
Patented June 26, 1900.

J. McCREERY.

AIR CLEANSING AND COOLING DEVICE.

(Application filed Feb. 5, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH MCCREERY, OF TOLEDO, OHIO.

AIR CLEANSING AND COOLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 652,463, dated June 26, 1900.

Application filed February 5, 1900. Serial No. 4,002. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MCCREERY, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Air Cleansing and Cooling Devices; and I do hereby 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.

This invention relates to a new and useful improvement in air cleansing and cooling devices; and it consists in the construction hereinafter described.

In the drawings, Figure 1 represents a vertical longitudinal section of the device. Fig. 2 represents a horizontal section on the line 2 2, Fig. 1, looking downward. Fig. 3 represents a similar view on the line 3 3, Fig. 1. Fig. 4 represents a similar view on the line 4 4, Fig. 1.

In the drawings, the letter A represents a case, preferably circular, having a main body portion a , at the top an air-inlet a' , and at the bottom a drain or water-outlet B. Within the case and secured to the walls of the body A are a number of annular shelves or baffle-plates C. Passing down from an opening a^2 of the case A is a central hollow shaft or air-uptake D, having the air-outlet d and a lower end or air-intake d' , which terminates somewhat near the bottom a^3 of the case A. Surrounding and secured by a close joint to the outside of the uptake D is a number of circular shelves or baffle-plates d^2 , alternating in position with the baffle-plates C on the inside of the case A, the edges of the two series of baffle-plates preferably overlapping. At the bottom of its lower end the uptake D is provided on the outside with a circumferential channel d^3 , from which there extends to the wall of the case A the drain-pipes E, which also form stays or legs for supporting the lower end of the uptake D. These drain-pipes E, of which there may be any number, extend downwardly, as at e , from the uptake D to the wall of the case A and then in vertical portions e' down the wall of the case A to near its bottom a^3 . This bottom a^3 is pref-

erably made inclined from the wall of the case A to the opening b of the water-outlet or drain B. Near the top of the case A a water or steam pipe F enters the case and has an annular portion f , which surrounds the upper end of the uptake D and is provided with perforations f' . Within the uptake D, near its bottom, is placed an annulus G, the bottom edge of which is held by a close joint to the inner wall of the uptake D, and the upper edge g of this annulus G is flared away from the wall of the uptake D, so that this annulus G has an upward flare from the wall of the uptake D.

In use the air-outlet d of the uptake D is to be connected with any suitable blower, the air-inlet a' of the case A with any suitable supply of air, and the pipe F with any suitable supply of water or steam. Air entering the inlet a' and water through the holes f' of the pipe F pass downward into the body a of the case A between the two series of baffle-plates C and d^2 and are thoroughly commingled, the air being cleansed and cooled. As the air and water reach the bottom of the case the water containing the heat and dirt withdrawn from the air falls upon the bottom of the case A and passes off through the drain or water-outlet B. The air passes off through the air-uptake D and out through the air-outlet d . As the water and air pass down to the bottom of the uptake D a portion of the water collects in the channel d^3 , and such portion being thus separated from the water passes down through the drain E to the bottom of the case A. As the air is drawn upward through the uptake D the gravity of the water being greater than that of the air would tend of itself to separate from the air any water which may be in the body of air above the bottom of the case A. Any water which, however, might be drawn upward with the air will strike against the upwardly-flaring annulus G and running backward down the inner surface of this annulus would run down along the inner wall of the uptake D and fall to the bottom of the case. Also water collecting on the outside of the uptake D below the lowest baffle-plate d^2 would run off through the channel d^3 and

drains E instead of dripping off from the bottom of the uptake D, where it would be drawn up into the uptake.

Having thus described my invention, what I claim is—

1. The combination of the case, A, having the air-induct, a' , at the top thereof, and water-outlet, B; the air-uptake, D, within the case, A, and having the air-outlet, d , and air-intake, d' ; the two series of alternating baffle-plates, C and d^2 , secured to the inside of the case, A, and outside of the uptake, D; and the perforated water-pipe, F, below said induct a' and delivering over said baffle-plates leading into the case, A, as set forth.

2. The combination of the case, A, having the air-induct, a' , and water-outlet, B; the

air-uptake, D, within the case, A, and having the air-outlet, d , and air-intake, d' ; the circumferential channel, d^3 , around the outside of the lower end, d' , of the uptake, D; the drain-pipes, E, leading from the channel, d^3 , and connected to both the uptake and case; the two series of alternating baffle-plates, C and d^2 , secured to the inside of the case, A, and outside of the uptake, D; and the water-pipe, F, leading into the case, A, as set forth.

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

JOSEPH MCCREERY.

Witnesses:

E. F. CAVERLY,
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