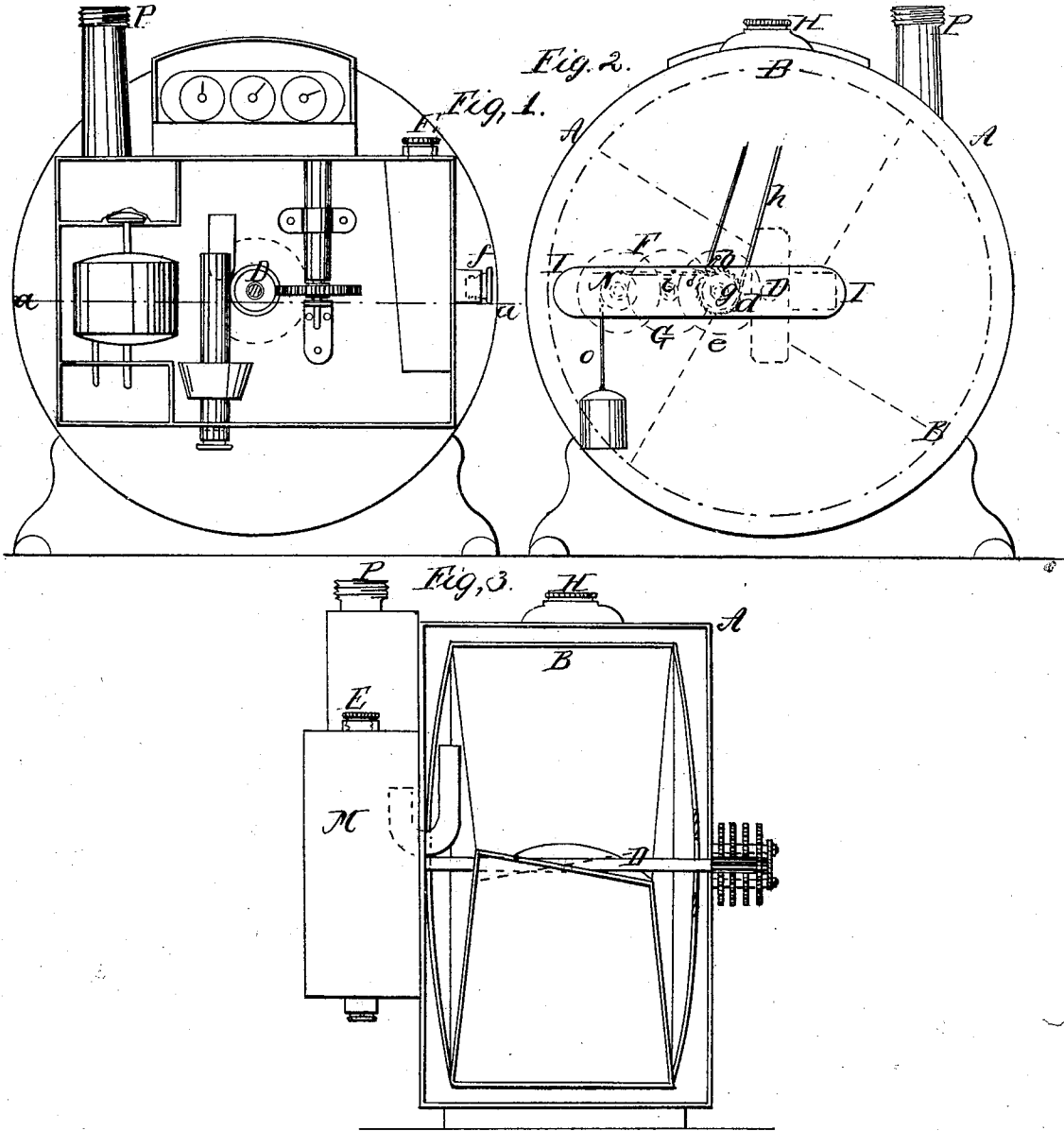


*H. W. Adams.*

*Air Suppliers.*

*N<sup>o</sup> 110,414.*

*Patented Dec. 27, 1870.*



*Witnesses,  
N. Imbule  
J. Mcaputa*

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# UNITED STATES PATENT OFFICE.

HENRY W. ADAMS, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN APPARATUS FOR SUPPLYING AIR.

Specification forming part of Letters Patent No. 110,414, dated December 27, 1870.

*To all whom it may concern:*

Be it known that I, HENRY W. ADAMS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Air-Suppliers for Collecting and Supplying Air to Air-Holders, or being passed through any volatile hydrocarbon to burners for producing artificial light, or for furnaces or other heating apparatus; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part thereof, in which—

Figure 1 represents an end view. Fig. 2 represents a section vertically through the cylinder and reservoir, leaving the shaft and pulley in elevation.

The nature of my invention consists in rotating the compartments of a cylinder constructed and arranged similar to the ordinary gas-meter by any first-motive power, for the purpose of drawing in, collecting, and forcing out air, which may be used (after being carbonized) for producing artificial light, or for furnace, or for any other preparatory apparatus for heating or burning purposes.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawing.

I take a hollow cylinder case, A, within which a wheel, B, constructed similar to a gas-meter wheel, is placed, and supported in a shaft, D.

A tank or water-chamber, M, open at the top, is affixed to the side of the case A, as seen in the drawing, the shaft D being made to extend into said tank M through an opening made through the side of case A, and through which same opening the branch pipe *f* also extends.

The said branch-pipe *f* leads out of a vertical conducting-pipe, E, which is placed within tank M, said pipe E being open at its top and closed at its bottom.

The upper ends of both of the pipes E and *f* are made to extend above the level *a a* of the top surface of the water within the tank M, the chambers between the inner and outer cylinder and wheel B, as seen in Fig. 2.

Geared to the shaft D is a pulley, N, around which passes a chain or cord, *o*, with a weight attached, which is arranged upon a shaft having its bearings in the frame I of the machine.

Upon the shaft *i* is also arranged a spur-

wheel, G, which gears into a cog-wheel, *g*, upon the shaft *e*, also bearing in the frame I of the machine, and upon said shaft *e* is arranged a drum, (shown by dotted lines in Fig. 1,) around which is wound a cord, *h*, which said cord may pass over a pulley arranged in any convenient position above the machine, and should be furnished with a weight, which, in falling, would be sufficient to rotate the wheel B.

On the end of the drum on the shaft *e* is arranged a circular rack, *d*, into which plays a pawl, *c*, which is firmly held in place by a spring, *b*.

This arrangement is for the purpose of applying a key or crank to the end of the shaft *e*, for the purpose of winding up the cord *o* onto the drum, in doing which the pawl slips over the rack, and when wound up will commence rotating the wheel B, through the wheel F, cord or band *o*, and pulley N, on the shaft geared to the shaft D, as above described.

H is a pipe, opening into the air-chamber, and through which the air may be conveyed to any apparatus where it is desirable to use it.

I have described an apparatus driven simply by a weight running over a pulley. I do not intend to confine myself to the use of the weight above, but intend to drive the air-wheel by any suitable power, as steam, water, &c.

When the machine is in operation the air is drawn in through the pipe P and is carried by the action of the water through the compartments of the wheel B into the chamber between the cylinder A and wheel B, from whence it may be conveyed to any desirable apparatus or place to be used through the pipe H.

Having thus fully described my invention, what I claim therein as new is—

The combination and arrangement of the wheel B, provided with compartments in the case A, pipes P, E, H, and *f*, gearing G *g i*, pulley N, cord *o*, and frame I, all constructed and operating as shown and described, as and for the purpose set forth.

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

HENRY W. ADAMS.

Witnesses:

WM. S. HOLLIDAY,  
CHAS. G. FISHER.