A. M. JOHNSON.

BLOWER CLEANER.

APPLICATION FILED MAR. 21, 1914.

1,140,462. Patented May 25, 1915.

Fig. 1.

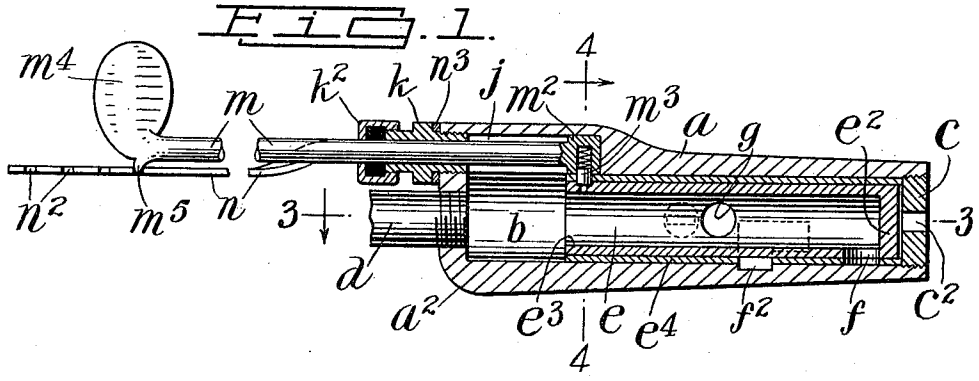


Fig. 2.

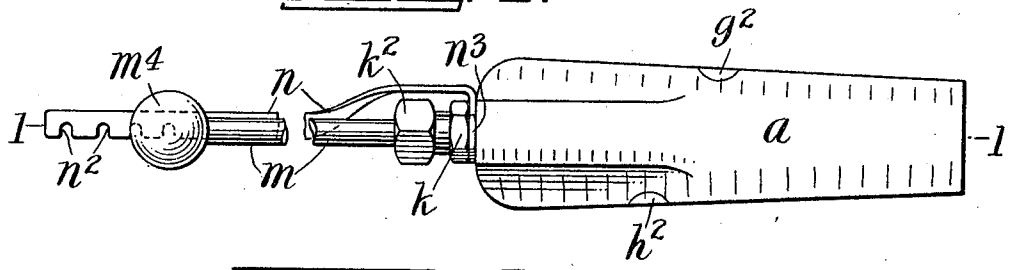


Fig. 3.

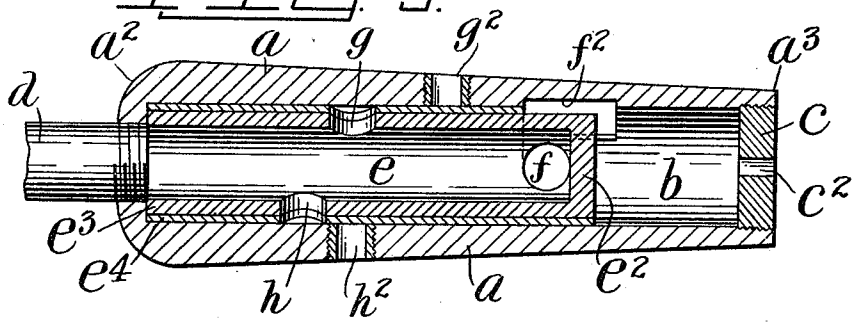


Fig. 4.

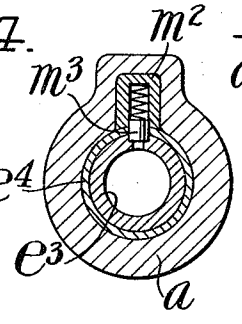


Fig. 5.

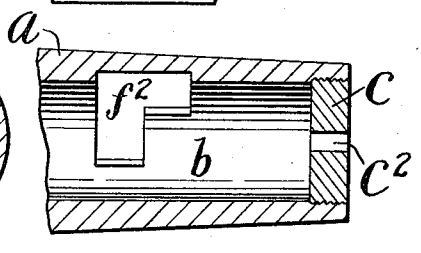
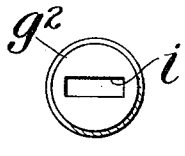


Fig. 6.



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BLOWER-CLEANER.

1,140,462. Specification of Letters Patent. Patented May 25, 1915.

Application filed March 21, 1914. Serial No. 826,186.

To all whom it may concern:

Be it known that I, AUGUSTUS M. JOHNSON, a citizen of the United States, and residing at Jamaica, L. I., in the county of Queens and State of New York, have invented certain new and useful Improvements in Blower-Cleaners, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to blower cleaners, and the object thereof is to provide an improved device of this class particularly designed for use in removing soot and other substances from water heating or steam generating boilers composed of tubes or coils of tubes around which the products of combustion from the furnace circulate or pass; a further object being to provide a device of the class specified which may be used for removing dust, dirt and other substances from various other articles or devices.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which;—

Figure 1 is a central longitudinal section of a device of the class specified involving my invention, and taken on the line 1—1 of Fig. 2;—Fig. 2 a plan view of the device, as shown in Fig. 1;—Fig. 3 a section on the line 3—3 of Fig. 1, and on an enlarged scale;—Fig. 4 a section on the line 4—4 of Fig. 1, and on an enlarged scale;—Fig. 5 a sectional detail view and on an enlarged scale; and;—Fig. 6 a face or end view of a discharge port plug which I employ, and also on an enlarged scale.

My improved blower cleaner comprises a body or barrel member a having a central longitudinal bore b one end of which is closed by a detachable threaded plug c having a central discharge port c^2.

The end a^2 of the body or barrel member a is preferably larger than the other end and provided with a coupling pipe d in line with the bore b and communicating therewith and adapted to serve as a connection for the hose through which air under pressure or steam may be supplied.

Placed in and movable longitudinally of the barrel or body a is a sleeve valve e the end e^2 of which is closed and the other end open, and said sleeve valve is preferably composed of an inner part e^3 of any suitable metal and an outer part e^4 preferably of copper or brass, and said sleeve valve is also provided adjacent to the closed end thereof with a port f adapted to communicate with an L-shaped chamber f^2 in the inner wall of the bore b, and said sleeve valve is also provided with two other ports g and h in the opposite sides thereof and arranged at different points longitudinally thereof, and the ports g and h are adapted to communicate with, or register with, corresponding ports g^2 and h^2 in the barrel or body a.

The ports g^2 and h^2 consist, in the form of construction shown, of threaded plugs screwed into the opposite sides of the barrel or body a and provided with angular passages i, said passages being oblong and rectangular in cross section, but my invention is not limited to the exact form of the ports at g^2 and h^2, and any suitable devices of this class may be employed.

At one side of the end a^2 of the barrel or body a is a longitudinal off-set in which is a longitudinal chamber j communicating with the bore b at its inner end and the outer end of which is closed by a threaded sleeve k provided at its outer end with a stuffing box k^2, and passing through the stuffing box k^2 and sleeve k is a handle rod m provided at its inner end with a head m^2 in which is mounted a spring operated plug m^3 adapted to enter a corresponding recess in the open end portion of the sleeve valve e, and by manipulating the rod m, said sleeve valve may be moved longitudinally of the barrel or body a, and the ports f—g and h therein may be caused to register respectively with the L-shaped chamber f^2 in the inner walls of the barrel or body a and with the ports g^2 and h^2 in the side walls of said barrel or body, and it will be understood that air or steam discharged through the port f will be discharged into the chamber f^2 from which it passes into the larger end of the bore b, from which it will be discharged through the port c^2, and when the port g registers with the port g^2 the other ports f and h will be closed and air or steam will be discharged through the ports g and g^2, and when the port h registers with the port h^2, the ports f and g will be closed and air or steam will be discharged through the ports h and h^2, and in this way, air or steam may be discharged centrally and axially of the end a^3 of the barrel or body a, or radially

through the opposite sides thereof, as will be readily understood.

The handle rod m is provided at its outer end with a head m^4 at the back of which is a projecting spur m^5, and secured to the end a^2 of the barrel or body is a spring arm n which projects longitudinally of the handle arm m and is provided with notches or recesses n^2 adapted to receive the spur m^5, and the notches or recesses n^2 are so arranged that the sleeve valve e may be locked in any desired position. In the position of said valve, as shown in Fig. 1, all the discharge ports are closed, but in the position shown in Fig. 3, the discharge port c^2 is open and the sleeve valve may be manipulated so as to open either of the discharge ports g^2 and h^2 whenever desired.

In the form of construction shown, the spring arm n is provided with a head n^3, and said arm is secured to the barrel or body a by passing the sleeve k therethrough, but said arm may be connected with said barrel or body in any desired manner.

This device may be conveniently manipulated by hand and the handle rod m may also be conveniently manipulated in the same manner, and the arrangement of the discharge ports on opposite sides of the barrel or on different sides thereof, facilitates the use of the device, and the tubes, or coils, of a water heater or steam generator may be quickly cleaned of any soot or other substances that may collect thereon, and it will also be understood, that my improved blower cleaner may also be used for various other purposes, as for instance, in removing dust and dirt from the walls of apartments, in which operation compressed air would be used, and for washing or cleaning both the outer and inner walls of buildings of various kinds and classes, in which operation steam may be used, or both steam and air, as may be desired.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is;—

1. A device of the class described, comprising a barrel having a longitudinal bore one end of which is provided with a discharge port and the other end with a hose coupling attachment which communicates with said bore, said barrel being also provided in its sides with a plurality of lateral discharge ports, a sleeve valve movable longitudinally in said barrel and provided in its sides with ports adapted to register with the lateral discharge ports in the barrel, and means independent of the hose coupling for moving said sleeve valve longitudinally.

2. A device of the class described, comprising a barrel having a longitudinal bore one end of which is provided with a discharge port and the other end with a hose coupling attachment which communicates with said bore, said barrel being also provided in its sides with a plurality of lateral discharge ports, a sleeve valve movable longitudinally in said barrel and provided in its sides with ports adapted to register with the lateral discharge ports in the barrel, and means independent of the hose coupling for moving said sleeve valve longitudinally, said barrel being also provided in the inner walls thereof and adjacent to the end thereof having a discharge port with an L-shaped chamber or recess with which one of the ports in the valve is adapted to communicate.

3. A device of the class described, comprising a barrel having a longitudinal bore in which is mounted a longitudinally movable sleeve valve, said barrel and valve being provided with discharge ports and said barrel being provided at one end with a hose coupling which communicates with said bore, said barrel being also provided at said end with a longitudinal off-set, a handle rod movable longitudinally in said off-set and connected with said valve, and by means of which said valve may be moved longitudinally in said barrel.

4. A device of the class described, comprising a barrel having a longitudinal bore in which is mounted a longitudinally movable sleeve valve, said barrel and valve being provided with discharge ports and said barrel being provided at one end with a hose coupling which communicates with said bore, said barrel being also provided at said end with a longitudinal off-set, a handle rod movable longitudinally in said off-set and connected with said valve, and by means of which said valve may be moved longitudinally in said barrel, and means connected with said barrel and operating in connection with the handle rod for locking it in any desired position.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 19th day of March 1914.

AUGUSTUS M. JOHNSON.

Witnesses:
C. MULREANY,
S. ANDREWS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."