

(No Model.)

J. E. DAME.

GAS BURNER AND MEANS FOR ADMITTING GAS AND AIR THERETO.

No. 579.318.

Patented Mar. 23, 1897.

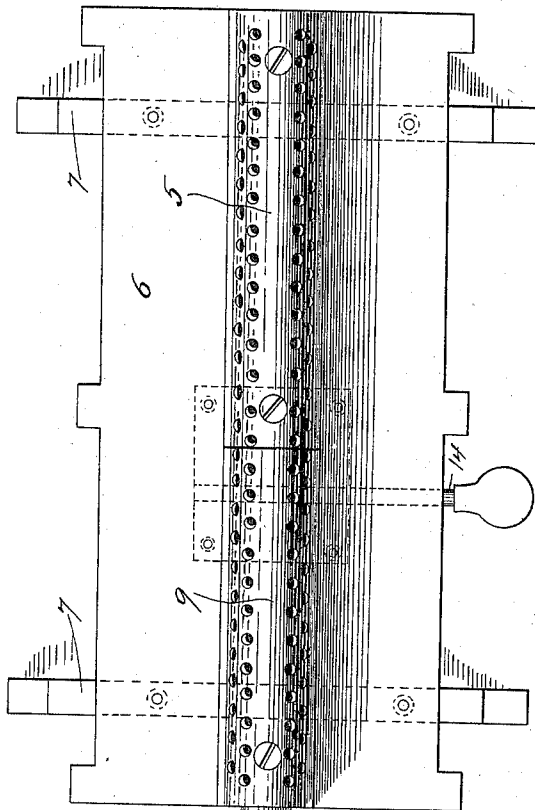
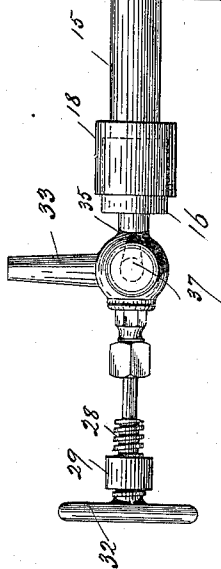


Fig. 1.



WITNESS:

C. Nordfor
C. Gers

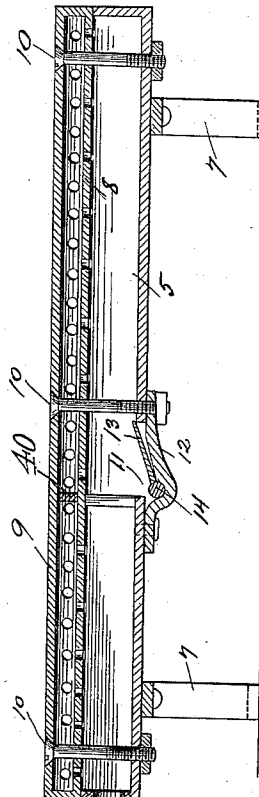
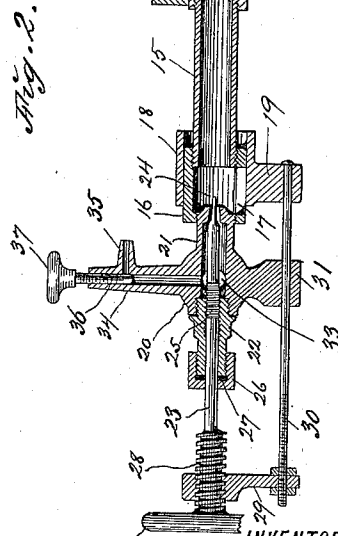


Fig. 2.



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GAS-BURNER AND MEANS FOR ADMITTING GAS AND AIR THERETO.

SPECIFICATION forming part of Letters Patent No. 579,318, dated March 23, 1897.

Application filed May 23, 1896. Serial No. 592,815. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. DAME, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Gas-Burners and Means for Admitting Gas and Air Thereto, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar numerals of reference indicate corresponding parts.

This invention relates to gas and air burners for stoves, furnaces, and other heating apparatus; and the object thereof is to provide an improved burner of this class and also improved means for supplying gas and air thereto; and with these and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a plan view of my improved burner and the gas and air supply device connected therewith, and Fig. 2 is a central longitudinal vertical section thereof.

In the practice of my invention I provide a burner head or tube, which is designated by the reference-numeral 5, and which is preferably provided with a base-plate 6, which is secured thereto or formed on the bottom thereof, and said base-plate is provided with transverse supports 7, and said burner tube or head is preferably provided with a longitudinal partition-plate 8, which is perforated throughout its length and above which is the burner proper, which consists of the casing 9, which is also perforated throughout its length, as shown in Figs. 1 and 2, and said casing 9, which is segmental or semicircular in form in cross-section, and the partition-plate 8 are secured together and to the main or body portion of the burner tube or head by bolts 10, which are passed therethrough. I also provide means for cutting out a portion of the burner tube or head when only a short part thereof is required for use, and in doing this I form in the bottom of the perforated tube or head 5 an opening 11, which is closed by a plate 12, which is of the form shown in Fig.

2, and in which is placed a cut-off or damper 13, which is mounted on a shaft 14, and between the plate 8 and the casing 9 is placed a partition 40, and by means of this device all that portion of the burner head or tube to the right of the cut-off or damper may be closed whenever necessary and only that part thereof at the left of said cut-off or damper will be in use.

The device for mingling the gas and the air consists of a tube 15, which communicates with one end of the burner head or tube 5, and on the other end of which is mounted an enlarged tube 16, in the lower side of which is a slot or opening 17, and mounted on said tube 16 is a sleeve 18, which is provided at its lower side with a shoulder or projection 19; and I also provide a coupling-head 20, which is provided at one side with a tube 21, which communicates with the tube 16, and with the opposite side of which is connected a screw-threaded plug 22, provided with a central port, through which passes a needle valve-rod 23, which is also passed through the coupling-head 20, and which is provided at its inner end with a pointed valve 24, which is adapted to close a similar opening in the inner end of the tube 21, and said rod 23 is provided centrally with a fine screw-thread 25, which is adapted to operate in connection with a corresponding screw-thread in the plug 22, and mounted on the outer end of the plug 22 is a cap 26, in which is placed packing material 27.

The outer end of the rod 23 is enlarged and provided with a screw-thread, as shown at 28, and this screw-thread is the same as that formed on the central portion of said rod at 25, but of greater pitch, and mounted on said screw-threaded portion 28 is an arm 29, through the lower end of which passes a screw-threaded rod 30, which also passes through an arm 31, secured to or formed on the coupling-head 20, and the inner end thereof is connected with the shoulder or projection 19 on the sleeve 18.

The outer end of the rod 23 is provided with a wheel or cross-bar 32, by which said rod is operated, and the cross-head 20 is provided at one side with a tubular extension 33, which is designed to serve as a suitable connection for a gas-pipe, and said cross-head is provided on its upper side with a vertical tube

34, on the inner side of which is a nozzle 35, which is designed to serve as a connection for a pilot-pipe, with which a small igniting jet of gas may be carried to the burner, and the vertical tube 34 is provided with a valve-rod 36, having a knob or head 37, and the valve-rod 36 is adapted to control the passage through the nozzle 35.

By turning the rod 23 in one direction the passage or port at the inner end of the tube 21 will be opened, and at the same time the sleeve 18 will be moved inwardly by the rod 30 and the arm 29, thus opening the slot 17 in the bottom of the tube 16, and by turning the rod 23 in the opposite direction the port or passage in the inner end of the tube 21 will be closed, as will also the slot or opening 17, and it will be understood that the gas passes through the tube 21 into the tube 15 and that air passes through the slot or opening 17 into said tube, and said tube forms a mixing-chamber for said gas and air, and the amount of the gas and air admitted may be regulated to any desired degree of nicety by simply turning the rod 23.

This device is simple in construction and operation and perfectly adapted to accomplish the result for which it is intended, and it will be understood that my improved device for supplying gas and air may be used in connection with any desired form of burner, and that my improved burner may also be used in connection with any desired form of heating apparatus.

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

1. The combination with a gas-burner, for stoves, furnaces and other heating apparatus, of a device for supplying gas and air thereto, consisting of a tube which communicates with one end thereof, on the outer end of which is mounted a short tube, having a slot or opening in one side thereof, a sleeve mounted on said short tube, and provided with a shoulder or projection at one side thereof, a coupling-head connected with the opposite end of said short tube, and provided with a port or passage which communicates therewith, a needle valve-rod, which passes through said coupling-head, and which is adapted at its inner end to close said port or passage, said valve-rod being provided centrally with a screw-thread, and at its outer end with an enlarged section on which is formed a screw-thread, of greater pitch than that at the central portion of the rod, and an arm mounted on said outer screw-thread, and connected by means of a rod, with said sliding sleeve or the shoulder or projection formed thereon, substantially as shown and described.

2. The combination with a gas-burner, for stoves, furnaces, and other heating apparatus, of a device for supplying gas and air thereto, consisting of a tube which communicates with one end thereof, on the outer end of which is mounted a short tube having

a slot or opening in one side thereof, a sleeve mounted on said short tube, and provided with a shoulder or projection at one side thereof, a coupling-head connected with the opposite end of said short tube, and provided with a port or passage which communicates therewith, a corresponding valve-rod which passes through said coupling-head, and which is adapted at its inner end to close said port or passage, said rod being provided centrally with a screw-thread, and at its outer end with an enlarged section, on which is formed a screw-thread, of greater pitch than that at the central portion of the rod, and an arm mounted on said outer screw-thread, and connected by means of a rod with said sliding sleeve or the shoulder or projection formed thereon, said coupling-head being also provided with means for admitting gas thereto, substantially as shown and described.

3. A burner head or tube for burning gas and air in furnaces, stoves and other heating apparatus, consisting of a tubular body portion, provided with a longitudinal perforated plate, over which is placed a longitudinal removable perforated cap or cover, which is circular or segmental in cross-section, said body portion and said perforated plate and cap or cover being bolted together, and the bottom of said body portion being provided with a hinged damper or cut-off which is adapted to close a portion thereof, and the space between the longitudinal perforated plate, and the cap or cover being also provided with a cut-off or partition, directly over said damper or cut-off in the body portion, substantially as shown and described.

4. The combination with a burner of a device for supplying gas and air thereto, said device, consisting of a suitable coupling-head through which passes a screw-threaded needle valve-rod, and which is provided with means for admitting gas thereto, a short tube connected with said coupling-head and communicating with the burner, and having a slot or opening in one side thereof, a sliding sleeve mounted thereon, and connected with said valve-rod, whereby when the valve-rod is turned in one direction, the port or passage for admitting gas will be closed as will also the slot or opening in said tube, and when the valve-rod is turned in the opposite direction, said port or passage, and said slot or opening will be opened, substantially as shown and described.

5. The combination with a burner, of a device for supplying gas and air thereto, said device consisting of a suitable coupling-head through which passes a screw-threaded needle valve-rod, and which is provided with means for admitting gas thereto, a short tube connected with said coupling-head and communicating with the burner, and having a slot or opening in one side thereof, a sliding sleeve mounted thereon, and connected with said valve-rod, whereby when the valve is turned in one direction, the port or passage

for admitting gas will be closed as will also the slot or opening in said tube, and when the valve-rod is turned in the opposite direction, said port or passage, and said slot or opening will be opened, and said coupling-head being also provided with means for supplying gas to a pilot-burner, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 20th day of May, 1896.

JOHN E. DAME.

Witnesses:

C. GERST,

A. C. McLOUGHLIN.