To all whom it may concern:

Be it known that I, Herbert A. Croxton, a citizen of the United States, and a resident of Massillon, county of Stark, and State of Ohio, have invented a new and useful Improvement in Controlling Means for Combustible Gas Mixtures, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to means for controlling the flow and burning of combustible gas mixtures, particularly as adapted to meet the requirements of mold-drying.

The object of the invention is to provide controlling and burning apparatus which is efficient in its operation, economical in its construction, and which will occupy the least possible space.

Said invention consists of means hereinafter fully described, and particularly set forth in the claims.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings, Figure 1 represents a front elevation of apparatus embodying my invention. Figure 2 represents a section of the said apparatus, taken upon the planes indicated by lines 2 2 in Fig. 1. Fig. 3 represents a plan of the valve-casing and burner-nozzle, together with the air-supply pipe connected therewith. Fig. 4 represents a detail perspective view of the valve controlling the influx of air from the air-supply pipe.

Running parallel with the wall A of the combustion-chamber, in which the ignited gas mixture is designed to be directed, and upon the outside thereof is an air-supply pipe B. In the uppermost part of this pipe is an opening b, which registers with an opening c in the lowermost part of a cylindrical valve-casing C, the direction of whose axis is right-angular with reference to the axis of pipe B. Opening c is surrounded by a cylindrically concave flange c', forming a saddle, by means of which and screw c' the casing is secured firmly to said pipe. The interior of casing C is bored out at c to form a cylindrical valve-seat, in which is seated a cylindrical hollow valve C', having its inner end open, as shown in Fig. 2, and coaxial with the casing C. Such inner end is caused to abut a shoulder c', formed in the casing, and the valve is secured in place by means of a removable cap C', which is held in place by means of suitable screws c'', Fig. 1. An opening c' in the valve's shell allows of communication between the interior of the casing and the gas-supply pipe, as will be readily understood.

The outer end of the valve is provided with a squared boss c', which may be turned by a wrench to turn the valve, and so control the flow of air into the casing. Above the casing is a gas-supply pipe D, which also runs parallel with the wall A, and leading from the bottom of such pipe is a conduit D', which passes through an opening c' in the top of the casing and is provided at its extremity with a nozzle d. This nozzle is located in a tube C', which is screwed into the end of casing C and forms a burner-nozzle for the device. Nozzle d is held in position and centered by means of screws c'' c'''. A valve d' controls the flow of gas to nozzle d. As shown, the nozzle C' extends into an opening a, formed in wall A. Air and gas may therefore be simultaneously blown into the combustion-chamber and ignited, properly mixed.

By means of the described construction it will be seen that the entire apparatus may be placed in close proximity to the wall and is arranged to offer the least possible amount of obstruction to workmen operating around it. Similar devices may be placed at suitable intervals along the walls and connected with pipes B and D.

Having thus described my invention in detail, that which I particularly point out and distinctly claim is:

1. The combination with an air-supply pipe and a gas-supply pipe above the same and parallel therewith, of a valve-casing disposed at substantially right angles to said air-supply pipe, said casing being formed with a saddle adapted to seat upon the exterior of said air-supply pipe and having an opening through said saddle communicating with the interior of the casing, a cylindrical valve having its axis coincident with the axis of said casing and controlling said opening, a burner-nozzle secured to said casing in axial alignment therewith, and a gas-conduit entering said casing and provided with a nozzle located in said burner-nozzle, said gas-conduit being connected with said gas-supply pipe.

2. The combination with the apertured
wall of a combustion-chamber and an air-supply pipe and a superimposed gas-supply pipe lying parallel with and on the outside of such wall, of a valve-casing disposed opposite an aperture in said wall and at substantially right angles to said air-supply pipe, said casing being formed with a saddle adapted to seat upon the exterior of said air-supply pipe and having an opening through said saddle communicating with the interior of the casing, a cylindrical valve having its axis coincident with the axis of said casing and controlling said opening, a burner-nozzle secured to said casing in axial alinement therewith and projecting into the aperture in such wall, and a gas-conduit entering said casing and provided with a nozzle located in said burner-nozzle, said gas-conduit being connected with said gas-supply pipe.

Signed by me this 17th day of August, 1905.

H. A. CROXTON.

Attest:

W. W. WEBB,
JNO. J. DONAHUE.