

Sept. 22, 1942.

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2,296,792

AUTOMATIC AIR CONTROL

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2 Sheets-Sheet 1

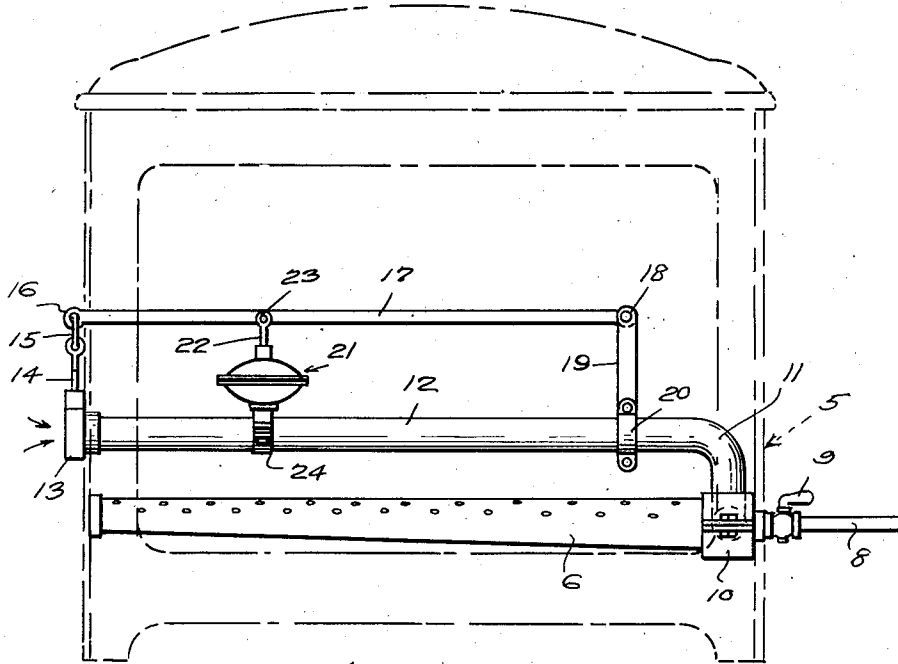


Fig. 1.

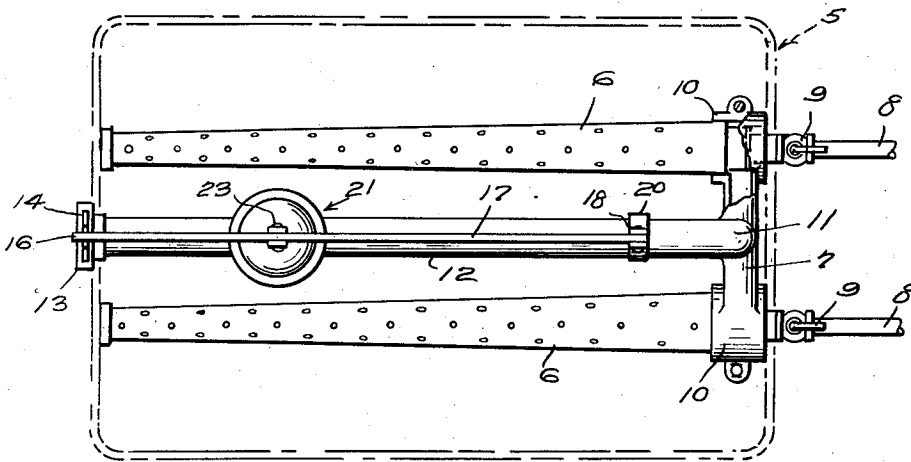


Fig. 2.

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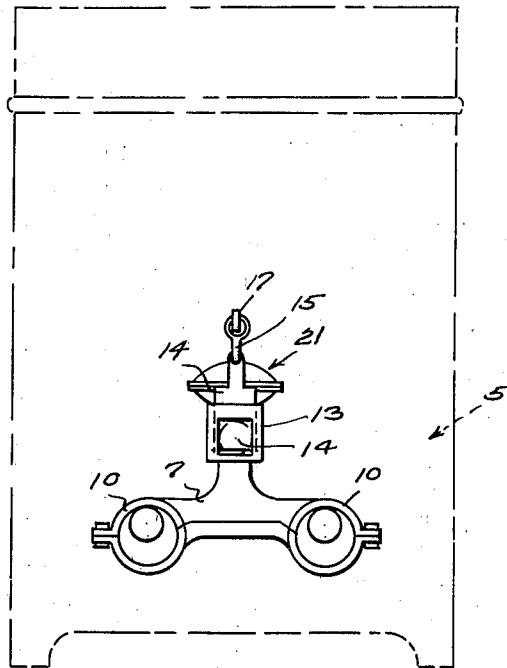
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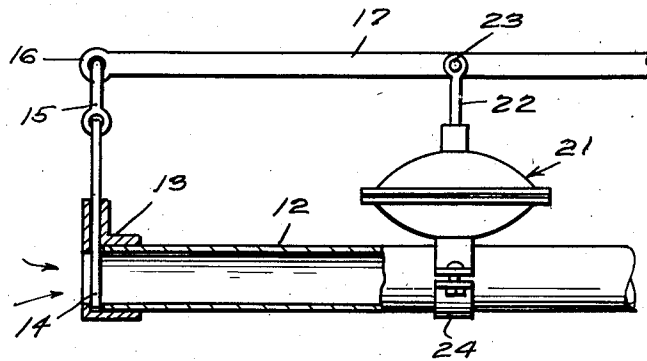
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*Fig. 3.*



*Fig. 4.*

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# UNITED STATES PATENT OFFICE

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## AUTOMATIC AIR CONTROL

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Application August 1, 1941, Serial No. 405,084

1 Claim. (Cl. 236-15)

This invention appertains to new and useful improvements in air admission control for furnaces and various apparatus employing gas burners. It is accepted knowledge that a gas burner can use much more air when the local temperature is high than when of a low temperature and it is the principal object of the present invention to provide automatic means for admitting more air in mixture with the gas as the local temperature rises and thus produce more perfect combustion and lower the gas consumption.

Other objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:

Figure 1 represents a side elevational view of a burner with the automatic air control attached thereto.

Figure 2 is a top plan view of the structure shown in Figure 1 with parts in section.

Figure 3 is an end elevational view of the structure shown in Figure 1.

Figure 4 is a fragmentary detailed sectional view of the automatic air control.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 generally refers to a double burner combination radiator-circulator gas heater. The burner is being denoted by reference character 6. In carrying out the present invention a tubular bridge 7 is provided between the intake ends of the burner and supply lines 8 having shut off valves 9 therein lead to these burners. The tubular bridge 7 for supplying air to the burner 6 has a clamp structure 10 at each end thereof for embracing the corresponding burner 6.

A neck portion 11 rises from the intermediate portion of the tubular bridge 7 and connects to an elongated conduit 12 which extends over the burners 6 as substantially shown in Figure 1. A head structure 13 is provided at the free end of the conduit 12 and this has a slotway there-

in accommodating a gate 14 which is vertically slidable. A link 15 connects the upper end of this gate to an eye 16 at the free end of an elongated beam 17 which has its opposite end pivotally connected as at 18 to an upright 19 secured to the conduit 12 by a clamp 20.

Numeral 21 denotes a thermostatic unit having a plunger 22 extending therefrom and being pivotally connected as at 23 to an intermediate portion of the beam 17. This thermostatic unit 21 is secured by a clamp 24 to the conduit 12.

Obviously, as the area adjacent the burners has its temperature increased, the thermostatic unit 21 will operate to lift the beam 17 and open the gate 14 gradually, admitting more air which passes along the conduit 12 and is heated in transit, it of course being understood that the air is actually drawn through the conduit 12 by the suction of gas created by passing from the supply lines 8 into the burners 6.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

An air feed attachment for gas burners comprising an air conduit having one end connected to the intake side of the burner and supported in a position under the influence of heat from the burner throughout the entire area of the conduit, a gate at the remaining end of the conduit and adapted to gravitate into a position for closing said last-named end of the conduit, a thermostatic unit supported on the conduit, a beam swingably mounted on the conduit and to which the thermostatic unit is connected, and a connection between the gate and the beam, said thermostatic unit being responsive to heat from the burner to raise the beam and the gate.

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