J. KENNEDY.

GAS BURNER.

APPLICATION FILED JAN. 21, 1916.

1,228,217. **Patented May 29, 1917.**

Fig. 1.

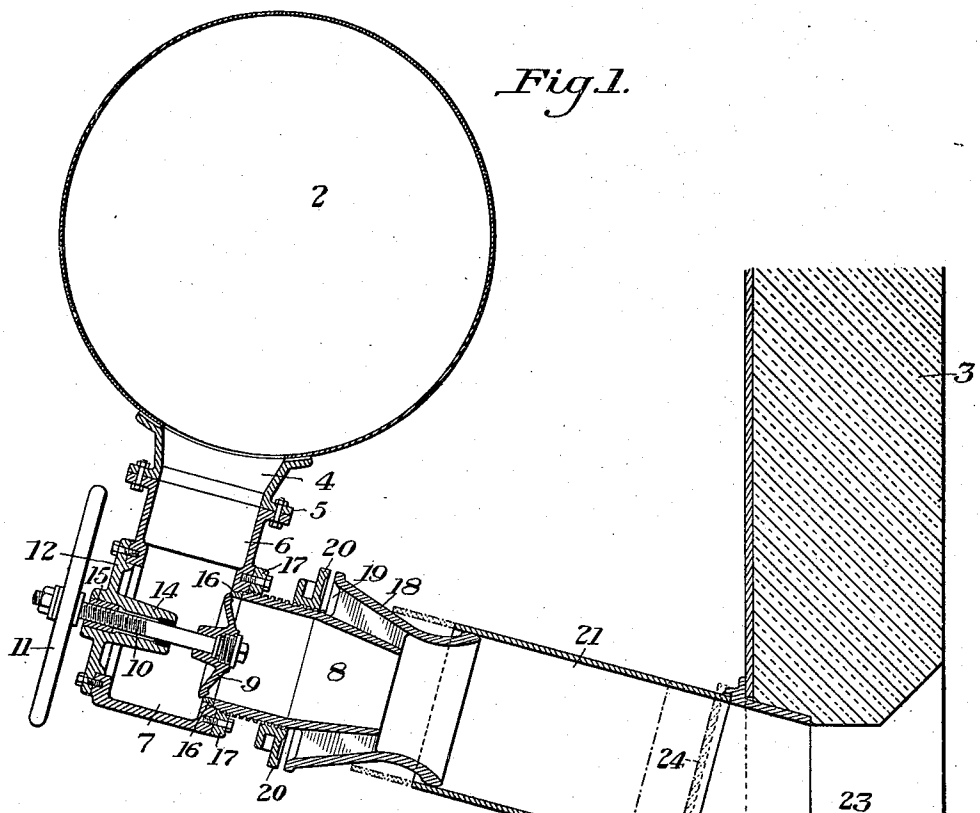
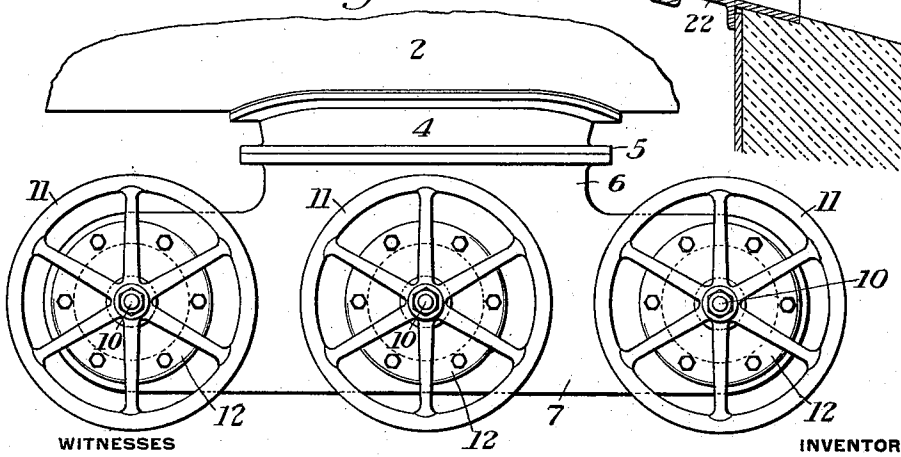


Fig. 2.



WITNESSES

R. A. Balderson

Jesse B. Heller

INVENTOR

Julian Kennedy

by Bakewell, Byrnes & Parmelee

Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JULIAN KENNEDY, OF PITTSBURGH, PENNSYLVANIA.

GAS-BURNER.

1,228,217. Specification of Letters Patent. Patented May 29, 1917.

Application filed January 21, 1916. Serial No. 73,299.

To all whom it may concern:

Be it known that I, JULIAN KENNEDY, a citizen of the United States, residing at Pittsburgh, Allegheny county, Pennsylvania, have invented a new and useful Improvement in Gas-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional view showing one of my improved gas burners as applied to a furnace, and

Fig. 2 is an end elevation of the same, partly broken away.

My invention has relation to gas burners for boiler and other furnaces.

One object of my invention is to provide a gas burner of simple and comparatively inexpensive construction in which the valve parts are all carried by the burner structure itself.

A further object is to provide a simple and convenient construction for multiple burners supplied from a common gas pipe or main.

A still further object of the invention is to provide means of simple and convenient character which will effectively guard against certain accidents due to leaky valves. It is frequently necessary for a workman to enter the furnace chamber supplied by the gas burners, the gas supply being supposed to be shut off. By reason of a leaky valve or valves, however, it sometimes happens that sufficient gas will enter the furnace chamber from the burner or burners to overcome the workman. To guard against accidents of this kind, more or less complicated supports and fittings for the burner parts have been supplied so that the entire burner or burners could be removed from the furnace at such times. My invention obtains this result by a very simple device which renders it entirely unnecessary to disturb the burner parts themselves.

Referring to the accompanying drawings, in which I have illustrated a preferred form of my invention, the numeral 2 designates a gas pipe or main which supplies the burners for a furnace 3. I have illustrated my invention as applied to a multiple form of burner having three burner nozzles, all supplied from the pipe or main 2. The latter is provided with the outlet connection 4 having a bolting flange 5 to which is secured the neck portion 6 of a chambered burner casing 7. This burner casing is provided along one side with the three gas nozzles 8, each of which is controlled by its own valve 9 operated by a screw stem 10 extending to the exterior of the casing and provided with a hand wheel 11, or other suitable actuating means. The bearing for each screw stem is preferably provided by a removable cap plate 12 closing an opening in the outer side of the casing 7 and having an extended hub 14 in which the screw bearing 15 is carried. The valve 9 can be made to seat directly against the end of the burner nozzle 8, but I preferably provide a removable seating ring 16.

The nozzles 8 may be secured by seating them in openings of the casing 7 and securing them by nuts 17 threaded onto the threaded exterior of the nozzles.

18 is an air inlet member surrounding the nozzle portion of the nozzle 8 and having air inlet openings 19 between said member and the nozzle. These openings are preferably controlled by valve plates 20 which are threaded upon the threaded exteriors of the nozzles 8.

21 designates a pipe or sleeve member which is telescopically engaged with the delivery end portion of the air inlet members 18 and which is shown as supported at its delivery end on a fitting 22 secured to the furnace around the burner opening 23 thereof. When it is desired to guard against the possibility of escaping gas entering the furnace from the burners, the pipe members 21 are slid back to the position indicated in dotted lines in Fig. 1, thus separating their open ends from the fittings 22. To further safeguard the furnace, a closure plate 24 may be seated on the fitting 22, as indicated in dotted lines in said figure; or the opening in said fitting may be closed in any other suitable manner.

It will be noted that the burner structure comprising the casing 7, the valve 9, and the members 8 and 18, is complete and self-contained, there being no separate pipe fittings or valve attachments required. The casings 7 can be constructed with any number of burner openings and nozzles, all supplied by a common connection with the gas pipe or main. To safeguard the furnace against leaking valves, it is not necessary to provide

any special support, or mountings for the burner parts, a slight movement of the pipe member 21 being sufficient.

I do not desire to limit myself to the particular details of construction and arrangement of the parts which are herein shown and described, as it is obvious that these may be varied in many ways without departing from the spirit and scope of my invention as defined in the appended claims.

I claim:

1. A gas burner for furnaces having a casing, a nozzle extending therefrom, a valve arranged to open and close communication between the nozzle and casing, an air inlet member surrounding said nozzle and connected thereto, there being air passages between said nozzle and the air inlet member, a valve arranged to regulate the amount of air passing through the air inlet, and a pipe telescopically connected with the end of the air inlet member and arranged to form an extension thereof; substantially as described.

2. A gas burner for furnaces having a casing, a nozzle extending therefrom, a valve arranged to open and close communication between the nozzle and casing, said nozzle having a helical thread on a portion of the periphery thereof, an air inlet member surrounding the outer end of said nozzle, there being air passages between said nozzle and the air inlet member, and an air controlling valve having a screw threaded connection with the thread on the nozzle arranged to regulate the amount of air passing through the air inlet; substantially as described.

3. A gas burner for furnaces having a casing, a nozzle extending therefrom, a valve arranged to open and close communication between the nozzle and casing, an air inlet member surrounding said nozzle and connected thereto, there being air passages between said nozzle and the air inlet member, a valve having a screw threaded connection with the nozzle arranged to regulate the amount of air passing through the air inlet, and a pipe telescopically connected with the end of the air inlet member and arranged to form an extension thereof, substantially as described.

In testimony whereof, I have hereunto set my hand.

JULIAN KENNEDY.

Witnesses:
H. W. RANO,
J. W. KENNEDY.

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