April 12, 1932. J. A. MORICK 1,853,568

BURNER

Filed June 13, 1930

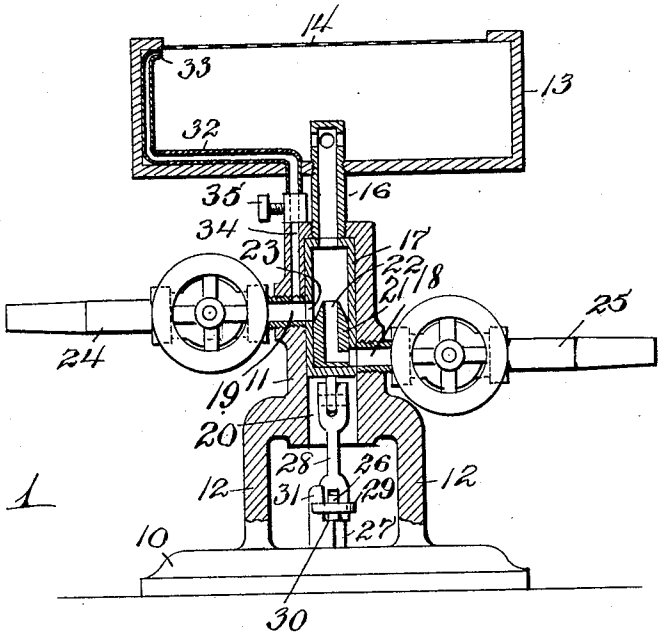

Fig. 1

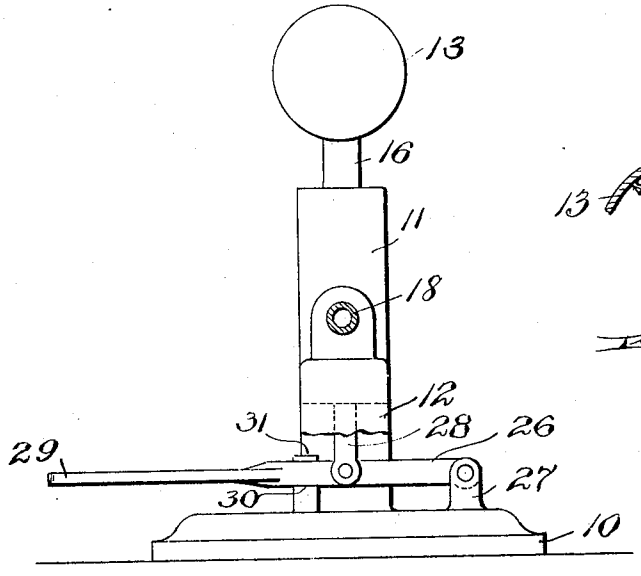

Fig. 2

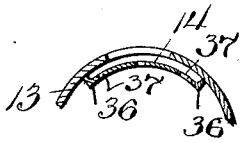

Fig. 3

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BURNER

Application filed June 13, 1930. Serial No. 460,807.

This invention relates to a burner adapted for use on a work-bench and which is used from time to time in heating articles for treatment but which has indeterminate periods of idleness. Such burners are used in such operations as heating glass tubes for use in neon lights and for other purposes and in the course of the day the tube is often removed for fitting or installation. To keep the burner going is wasteful and I have devised a burner which can be quickly turned off and on by one movement of one hand or foot and which has a pilot light which burns when the main burner is off and which lights the main burner at once when the main fuel inlet is again opened.

The invention is illustrated in the accompanying drawings, in which Figure 1 is a vertical section of a burner embodying my invention. Figure 2 is a side view of the burner shown in Figure 1 and partly broken away at the bottom. Figure 3 is a detail section of a burner of preferred construction.

The burner can be fixed in place but is preferably and usually made portable having a base 10 on which the tube casing 11 is mounted. The casing is supported on spaced legs 12 and is supplied at the top with a main burner 13. This burner is of any desired form but is preferably of the long cylindrical type. The plate 14 is perforated at the top to provide flame along the top of the burner. A desirable form of burner is such as described in Patent No. 1,704,359, dated March 5, 1929. The nipple 16 acts as a support for the burner and also supplies fuel from the mixing chamber 17. The mixing chamber is movable to close the air inlet 18 and gas inlet 19 at the same time. In the form shown this simultaneous opening and closing of the air and gas inlets is done by sliding the mixing chamber up and down. The chamber is in the form of a sleeve which slides in the bore 20 of the casing 11. In the mixing chamber is a nozzle 21 which has a right-angled channel 22 which conducts air from the air inlet 18 to the mixing chamber when the mixing chamber is raised. The mixing chamber has an opening 23 which is in line with the gas inlet 19 when the mixing chamber is raised. The mixing chamber 17 and the nozzle 21 therefore form a valve which opens and closes the air and gas inlets simultaneously. A valved pipe 24 supplies the gas inlet 19 and a valved pipe 25 supplies the air inlet 18 with air under pressure, in the accepted practice.

The valve is moved up and down by a lever 26 which is pivoted at one end, at 27, to the base and is connected by the link 28 to the valve. The handle portion 29 extends to a convenient extent and the stop 30 on the lug 31 holds the handle up when the main burner is in use. When the valve is to be lowered the handle is swung a little to the side and then drops or is pushed down to close both the air and gas inlets.

When the fuel is thus shut off, it, of course, saves considerable fuel and is at once ignited when turned on. This ignition is due to a pilot light in the form of a by-pass 32 which extends from the gas inlet, in front of the valve 17 and to the burner where its outlet 33 is restricted to the desired extent. The by-pass is usually in the form of a small pipe passed up inside the main burner casing and having at its lower part a connecting passage 34 and is supplied with a needle valve 35.

The burner shown in Figure 3 has a burner plate 14 with its side extensions 36 with the small holes 37 slightly under the overhanging edges of the outer shell 13 to prevent the complete extinguishing of the flame under a strong draft.

While the word "handle" has been used in this specification for the lever for operating the valve to supply or cut off fuel to and from the main burner, this term is designed to include any other form of operating mech-

anism such as might be connected to a foot treadle on the machine.

I claim:—

A burner comprising a casing having a burner element at the top, air and gas inlets at the sides, a valve slidable in the casing and having a port connecting with the air inlet when the valve is up, the valve being below the gas inlet when the valve is down, the valve acting to close both inlets when in lowered position, a handle for the valve, a stop to hold the handle in raised position, and a by-pass from the gas inlet to the burner and in front of the valve to serve as a pilot light.

In testimony whereof he affixes his signature.

JOSEPH A. MORICK.