R. WYNELL.
GAS REGULATING BURNER.

No. 538,006.

Patented Apr. 23, 1895.

Fig.1

Fig. 2

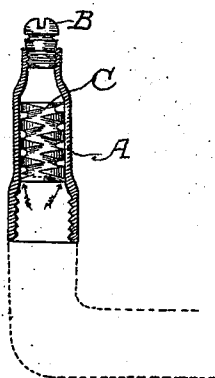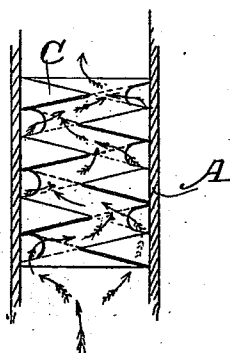Fig. 3.

Inventor,
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Atty.

United States Patent Office.

ROBERT WYNELL, OF SAN FRANCISCO, CALIFORNIA.

GAS-REGULATING BURNER.

To all whom it may concern:

Be it known that I, ROBERT WYNELL, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Gas-Regulating Burners; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device for automatically regulating the supply of gas to gas burners.

It consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a sectional view of a gas burner showing my device fitted within it. Fig. 2 is an independent separate view of the regulating device. Fig. 3 is an enlarged view of Fig. 1.

The object of my invention is to provide a device which is applicable to each individual gas burner and which serves to automatically regulate the supply of gas without reference to the variations in pressure which may take place. It is also applicable in any pipe or passage through which fluid or liquid flows under a variable pressure. In the present case I have shown it applied to a gas burner which will illustrate its various uses.

A is the burner tube which is fitted to the gas supply pipe in any usual or suitable manner, and it has a tip B through which the gas flows to be burned.

Within the tube A is fitted my regulating device. It consists of a plug C having right and left spiral grooves cut in it, extending from one end to the other. The periphery of this plug is of such diameter as to fit snugly within the tube so that without the grooves, it would essentially stop any flow of gas. The spiral grooves, however, provide channels through which the gas can flow from below into the upper part of the burner tube which forms a sort of chamber from which the gas escapes through the tip. At the points where the spiral grooves cross each other, they form intersections with the oppositely inclined channels, so that the flow of gas through each of the line of grooves is intercepted and broken by the flow which comes from the opposite direction through the other channels formed by the grooves. By this construction the currents of gas are entirely broken up, and any pressure due to the regular flow of the currents is very much reduced by the currents intercepting each other, so that as the gas escapes into the chamber above the plug, it passes out through the burner tip with little or no positive pressure, such as would cause the flame to flare and roar.

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

1. A gas regulating burner consisting of the burner tube and tip, a plug fitting closely within the lower part of the burner tube having a double series of grooves or channels arranged spirally whereby the said grooves or channels intersect each other at two different points upon opposite sides of the plug to cause the currents to be intercepted and broken at each intersection and upon opposite sides, substantially as described.

2. A device to regulate the flow of fluids in pipes, consisting of a plug fitting closely the passage in the interior of the pipe, and having spirally formed grooves or channels extending in opposite directions from one end of the plug to the other, said grooves or channels intersecting each other at two distant points upon opposite sides of the plug whereby the flow of the fluid is intercepted and broken at each intersection and upon opposite sides, substantially as herein described.

In witness whereof I have hereunto set my hand.

ROBERT WYNELL.

Witnesses:
S. H. NOURSE,
H. F. ASCHECK.