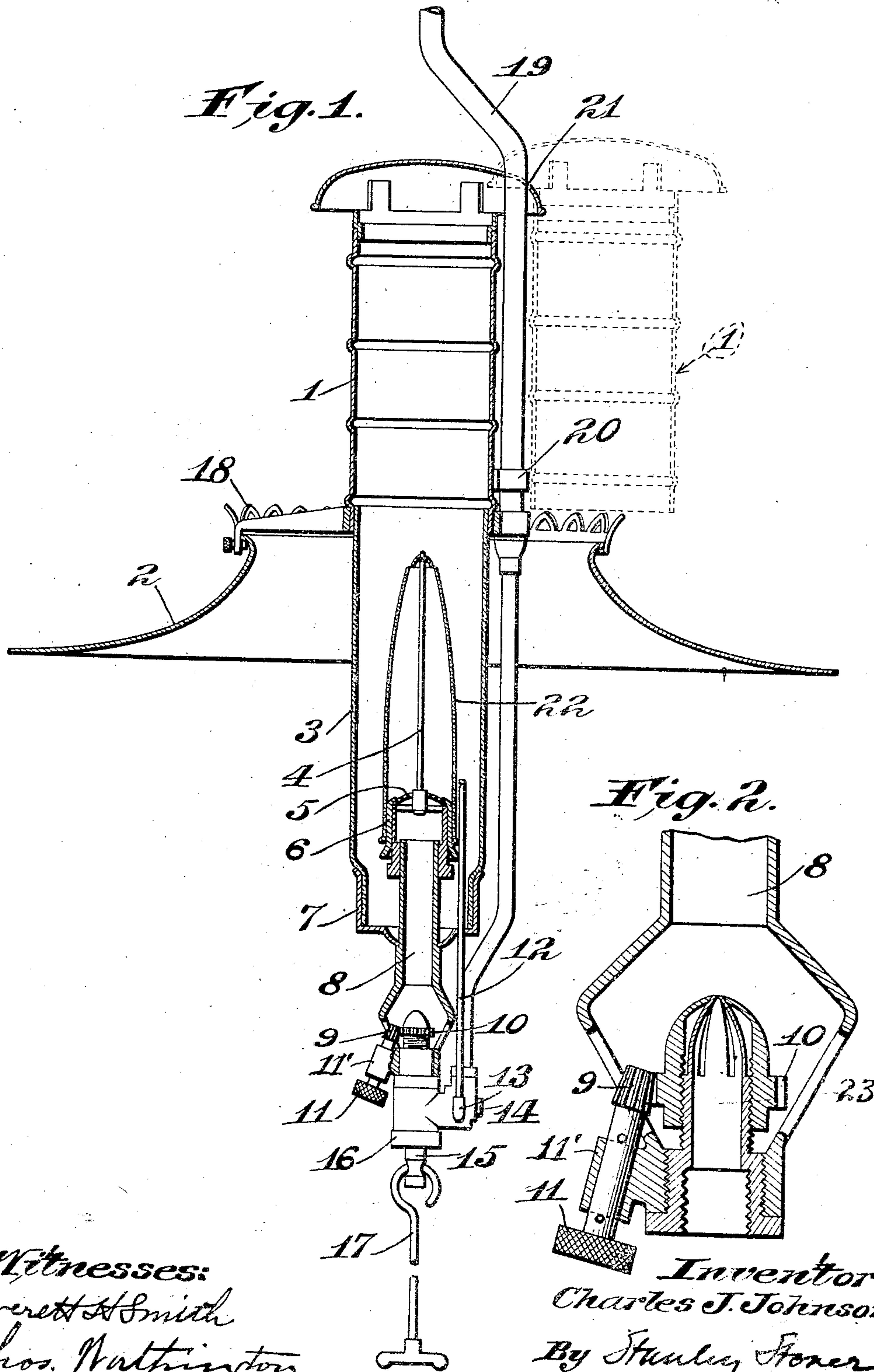


C. J. JOHNSON.
REGULATOR FOR GAS JETS.
APPLICATION FILED JAN. 11, 1909.

923,531.

Patented June 1, 1909.



Witnesses:
Everett H. Smith
Thos. Watlington

Inventor:
Charles J. Johnson
By Stanley Stoner
Atty.

UNITED STATES PATENT OFFICE

CHARLES J. JOHNSON, OF ST. LOUIS, MISSOURI.

REGULATOR FOR GAS-JETS.

No. 923,531.

Specification of Letters Patent.

Patented June 1, 1909.

Application filed January 11, 1909. Serial No. 471,744.

To all whom it may concern:

Be it known that I, CHARLES J. JOHNSON, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Regulators for Gas-Jets, of which the following is a specification.

My invention relates to that form of gas jet which is particularly useful on Bunsen burners and where it is necessary to introduce a jet of gas for mixture with air, the size of which can be regulated at will.

My present invention is an improvement upon that patented by me on September 15 18th, 1906, No. 831,512.

Of the various devices which have heretofore been employed all either depend on artificial pressure or cut the jet into numerous sub-jets, all of which fail to accomplish the best results.

My device furnishes a solid cylindrical stream of gas mixed with air, the size of which may be regulated as desired and from which the maximum results both as to combustion and efficiency can be obtained, yet while the said jet is introduced in a cylindrical form into the exact center of the bunsen.

Referring to the accompanying drawings which form a part of the specification, Figure 1 shows a vertical section of my entire device, and Fig. 2 shows a vertical section of the jet proper and the means for regulating the size thereof, said drawing being somewhat enlarged.

1 is the cylinder placed above the mantle and 2 is the usual shade of porcelain or other suitable material.

3 is the chimney placed below the cylinder 1 and shade 2.

4 is a center support from which is hung the mantle 22.

5 is a gauze cap placed above its holder or support 6.

7 is the basket in which the chimney 3 is supported.

8 is the Bunsen tube provided with a flaring bottom.

9 is a bevel gear which meshes with a pinion 10 on a regulator cap and 11 is a button which controls this said bevel gear, said button being connected with said bevel gear by a bar working in a shoulder 11'.

12 is a by-pass stem of a pilot light.

13 is the by-pass leading from the main source of gas supply to the pilot light.

14 is a plug removable for the purpose of cleaning out the by-pass.

15 is the valve plug adjustable and tapered, capable of being operated from below.

16 is the valve cap and 17 is a suspended handle which controls the supply cock.

18 is the crown from which is suspended the shade 2, and 19 is the extension of the vertical rod which supports the cylinder 1, shade 2 and crown 18.

20 and 21 show pivots about which the cap and cylinder revolve; the object of constructing these parts so that they revolve about this axis being that new mantles frequently smoke or otherwise burn the parts; and this enables the device to be swung out of the way until a new mantle is fully broken in.

22 is an ordinary mantel such as is usually supplied to this kind of a lamp.

23 is the burner tube the upper end of which is contracted and slit part of the way of its length in a manner similar to that described in my former patent above referred to. The slits are so wide that when the upper portion is contracted to the minimum and closed either entirely or approximately they still furnish enough open space to allow gas mixed with air to pass there through, so that immediately upon opening the same by use of the pinion 10 there is a supply of gas ready to escape for ignition purposes. The pinion 10 on the regulator cap meshing with the bevel gear 9 operating by the button 11 furnishes a simple and ready means for raising or lowering this cap thereby allowing the gas to either escape or be shut off through the tube 23. In my former patent, above referred to, these slits in tube 23 were somewhat wider midway their length, but I find that enough surplus space is provided by a parallel opening, the object being to have the escape paths for gas always larger than the orifice through which it passes for ignition.

In my former device the turning or regulating of the cap 10 was difficult, especially when the parts became heated, which difficulty is removed by the pinion and bevel gear above described. A further practical feature is found in my means of swinging the cylinder and its cap out of the way when new mantles are being first used.

What I claim as new and desire to secure by Letters Patent of the United States is:

A gas burner consisting in the combination of a burner tube provided with a number of slits for the escape of gas extending down-

wardly from its upper end, thereby forming flexible portions which may be bent together at their free ends to vary the size of the slits between them, said tube having also a screw-
5 threaded portion below said slits, a Bunsen tube provided with an apertured, flaring bottom and mounted upon said burner tube below said screw-threaded portion, a regulator cap having an opening in the center of its
10 summit coincident with the axis of said tubes and a screw-threaded section to engage the

threads upon said burner tube, gear teeth upon the exterior of said cap, a bevel gear meshing with said teeth and carried by a stem journaled on said burner tube and hav- 15
ing on its outer end a button by which it may be turned, for the purpose set forth.

CHARLES J. JOHNSON.

Witnesses:

STANLEY STONER,
EVERETT H. SMITH.