

124,200

PATENT



SPECIFICATION

Convention Date (United States), Mar. 2, 1918.

Application Date (in the United Kingdom), Mar. 3, 1919. No. 5255/19.

Complete Accepted, Oct. 2, 1919.

COMPLETE SPECIFICATION.

Improvements in and relating to Gas Lighters.

I, SAMUEL EDMONDSON GUINN, Salesman, 522, Main Street, Bowling Green, Warren County, Kentucky, in the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention relates to improvements in gas lighters designed primarily to be attached to the gas supply pipe of gas ranges, and adapted to be held in the hand to ignite a burner.

One of the principal objects of the invention is the provision of means arranged to ignite the gas by simply tapping the device on the range or other convenient place.

A further object of the invention is to provide means for simultaneously opening the gas valve at the time the operator, by a movement of the hand, taps the igniter.

The invention also comprehends improvements in the details of construction and arrangement of parts and is hereinafter described and particularly pointed out in the claims.

In the accompanying drawing Figure 1 is a perspective view of the igniter. Figure 2 is a longitudinal section of same.

Figure 3 is a detail cross section through the pipe.

1 indicates a handle, through which a pipe 2 passes, the pipe being extended beyond the ends of the handle, and being held in fixed relation by a screw 3, and a finishing nut 4. On the forward end of the pipe 2, is a combustion chamber 5, considerably larger in diameter than the diameter of the pipe, and the open end of the latter communicates through an opening 6 with the chamber 5.

Located adjacent the opening 6 and extending through a threaded sleeve on the gas chamber is a threaded stem 7, the outer end thereof having a head, which affords convenient means for adjusting the stem.

In the sleeve is a coil spring 8, which bears against a sparking element 9, while the stem 7 engages the opposite end, the spring creating the necessary tension to force the sparking element forward.

Fastened to the handle is a resilient member 10, the forward end thereof being bent upwardly, as at 11, and passes through an opening formed in the wall of the gas chamber, and projects slightly therein. On the rear face of the

[Price 6d.]

bent up portion 11 is a friction plate 12, against which the sparking element resiliently bears.

Rotatable on the pipe 1, is a disk 13, formed with slots 14, through which headed pins 15 pass. The disk is formed with an opening 16, which is adapted to register with an opening 17 in the handle, the opening 17, serving as a receptacle for additional sparking elements. By rotating the disk, the opening 16, may be brought into registry with the opening 17, for the insertion or removal of extra sparking elements, and by further movement of the disk the opening 17 can be closed to retain the elements for future use.

Mounted in the handle 1, and extending through the pipe, is a reciprocable valve 19 of any convenient type to control the passage of gas to the burner. The valve normally closes the pipe 2, and on its upper end is a thumb piece 20, located adjacent the inner end of the handle. The valve is retained in closed position by a spring 21. The valve shown is purely illustrative of but one form of valve, for it is evident any suitable valve structure which will serve the purpose can be employed.

In addition to the valve 19, a valve 22, is attached to the free end of a flexible connection 25, or to the manifold of the gas range, to insure of the cutting off of the gas should the spring actuated valve fail to work.

In operation, the attachment is connected to the manifold of a gas range, and the valve 22 is turned on. The operator takes the handle in one hand, with the thumb on the thumb piece of the valve 19, then with a quick downward movement of the device towards the range the forward corner of the resilient member 10 taps the surface of the range, and the friction element 12 is forced across the face of the sparking element 9, and generates a spark at the time the operator moves the device to tap the resilient member, the thumb presses on the thumb piece 20 and opens the valve 19, consequently the spark generated ignites the gas, and the pressure of the latter ejects a flame from the front end of the gas chamber, and burner of the gas stove can be readily lighted. The flame will continue as long as pressure on the valve is retained, and as soon as such pressure is removed the spring 19 automatically closes the valve and the supply of gas is cut off, and of course the flame is extinguished.

The gas chamber is of such diameter, with reference to the opening in the burner tip, that the air contained in the chamber is to supply sufficient mixture with the gas to ignite same when the spark is generated, hence it is not necessary to provide additional means for the admission of air to the chamber.

In connection with the ignition of the gas when the sparking device is operated, it has been found that when the friction element is projected into the chamber in the path of the flowing gas, the latter is momentarily dissipated or pocketed between said element and the rear wall of the chamber. At this time the spark is generated, with the result that the "thin" volume of gas in such a large space readily mixes with the air in the chamber and quickly ignites. I have found this decidedly advantageous and I purposely provide the frictional element of such length as to choke the gas when the device is operated.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A gas lighter comprising a gas pipe, an elongated combustion chamber on one end of the gas pipe and considerably larger in diameter than said pipe, a resilient friction element extending through the wall of the combustion chamber, a resiliently mounted sparking element mounted in the wall of the combustion chamber and in engagement with the friction element, the friction element being so positioned that when it is forced inwardly it will generate a spark and will extend across the path of the flow of gas from the pipe and dissipate said gas between the element and the rear wall of the chamber, a handle mounted on the pipe in rear and spaced from the combustion chamber,

and a flexible pipe connected to the rear end of the pipe to supply gas to the pipe, whereby an operator can move the device within the range of the flexible pipe and by tapping the friction element cause ignition of the gas.

5 2. A lighter comprising a pipe, a combustion chamber on one end of same, a handle on the pipe, a sparking element in the combustion chamber adapted to be operated by tapping or striking the device against an object, and a valve located on the handle for opening the pipe, said valve being positioned to be engaged by the thumb of the operator, whereby when the sparking device is tapped on an object to create a spark, the jar or shock will cause opening of
10 the valve for the passage of gas.

3. A lighter comprising a gas pipe having an elongated enlarged open mouth combustion chamber at one end, a sparking device operable in the chamber and including a resilient member which is normally held projected from the chamber and adapted to be tapped on an object to generate a spark, a handle on the
15 pipe and a valve located on the handle to be engaged by the finger of the hand of the operator holding the handle, whereby to open the pipe to permit gas to flow at or about the time the spark is generated by tapping the resilient member on an object.

4. A gas lighter constructed substantially as hereinbefore described with
20 reference to the accompanying drawing.

Dated this 3rd day of March, 1919.

J. S. WITHERS & SPOONER,
Chartered Patent Agents,
Staple House, 51 & 52, Chancery Lane, London,
Agents for the Applicant.

25