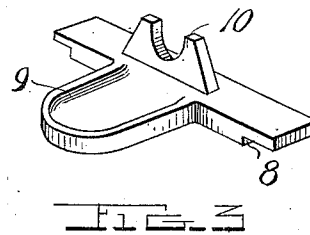
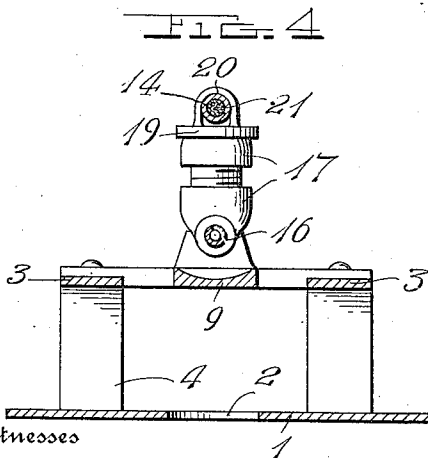
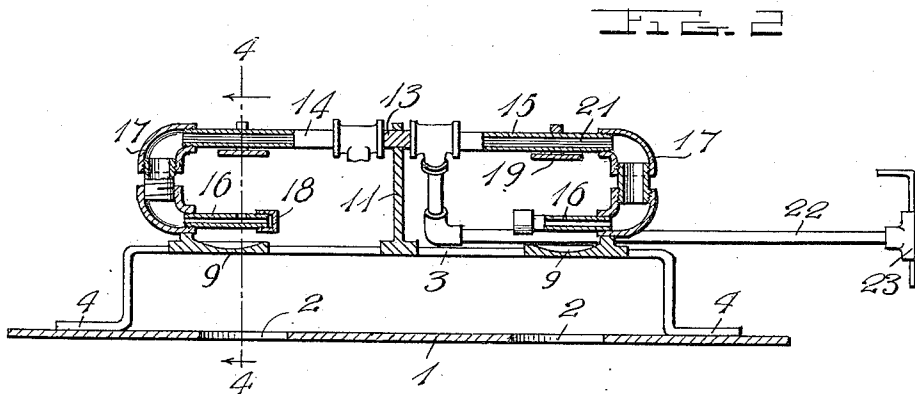
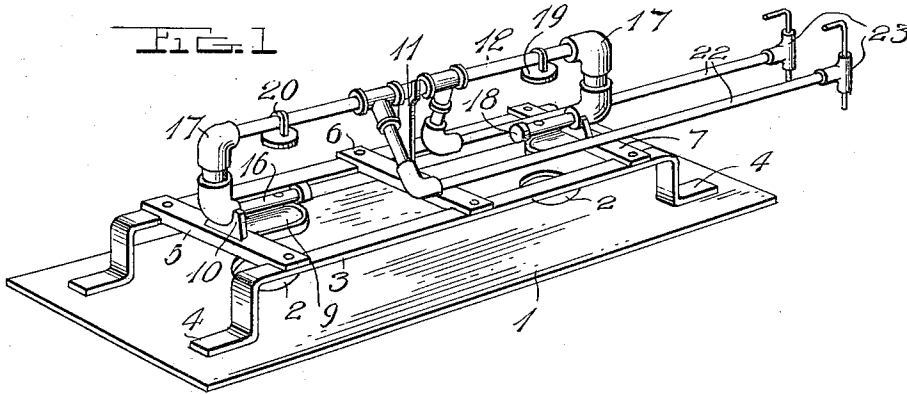


G. J. CLARK.
OIL BURNER.
APPLICATION FILED NOV. 11, 1912.

1,063,329.

Patented June 3, 1913.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE J. CLARK, OF DEFIANCE, OHIO.

OIL-BURNER.

1,063,329.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed November 11, 1912. Serial No. 730,715.

To all whom it may concern:

Be it known that I, GEORGE J. CLARK, a citizen of the United States, residing at Defiance, in the county of Defiance and State of Ohio, have invented certain new and useful Improvements in Oil-Burners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to kerosene oil burners such as are used in the fire boxes of stoves.

The object of the invention is to provide a cheaply constructed one-piece burner having a plurality of independently controlled flames and adapted to be placed in the fire box of an ordinary cooking stove and having improved means for mounting and supporting it in the fire box.

Another object is to provide a combined generating pan and brace for the burner support.

Another object is to provide a solid connection for the pipes which also serves to divide the fuel supply.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings; Figure 1 represents a perspective view of a kerosene burner constructed in accordance with this invention and taken from the side; Fig. 2 is a longitudinal vertical section thereof; Fig. 3 is a detail perspective view of the generating pan and brace; Fig. 4 is a transverse vertical section on line 4-4 of Fig. 2.

In the embodiment illustrated a base plate 1 is shown for insertion in the fire box of a stove and provided with air inlet openings 2 designed to be disposed beneath the jet openings of the burner to be described whereby a limited amount of air will be admitted to the burner. A burner supporting frame is shown disposed over this plate and to properly position the burner said frame comprises two metal side bars 3 having offset ends extending longitudinally and in a plane parallel with the body portion of the bars to form feet 4 which are designed to rest on the plate 1 or on the end plates of the fire box (not shown) when the device is applied. These bars or side members of the

frame are spaced apart a suitable distance and connected in spaced relation by longitudinally spaced cross bars 5, 6 and 7, the end bars 5 and 7 having the lower faces of the ends thereof recessed to form shoulders 8 at the inner ends of said recesses which are adapted to engage the inner edges of the side bars 3 and brace said bars against collapse. The reduced ends of these cross bars 5 and 7 are riveted or otherwise secured to the side bars and the ends of the intermediate bar 6 are similarly secured.

Each of the end cross bars 5 and 7 has a generating pan 9 extending laterally from its inner edge and preferably made integral therewith, said pan being here shown in the form of a plate hollowed out on its upper face to receive the oil to be ignited. Recessed lugs 10 project upwardly from said bars 5 and 7 in position to receive and support the burners to be described. A pipe stand 11 projects upwardly from the intermediate bar 6 for a purpose to be described.

The burners proper comprise a horizontal retort pipe 12 of substantially the same length as the body of the side members of the supporting frame and which is supported by the pipe stand 11. This pipe is provided midway its ends with a solid section 13 which rests on the stand 11 and forms a partition to divide said pipe into two tubular sections 14 and 15 which constitute vaporizing tubes. The outer ends of these tubes 14 and 15 are connected with parallel burner tubes 16 by elbows 17 of comparatively large diameter, said elbows serving as gas storage reservoirs located between the vaporizing tubes and the burner tubes. The burner tubes 16 have jet openings in their upper faces and are preferably closed at their free ends by caps 18 of any suitable construction. These tubes 16 rest in the recessed lugs 10 of the cross bars 5 and 7 and extend toward each other being disposed at opposite ends of the supporting frame and over the generating pans 9. Flame spreaders 19 are disposed above the jet openings in the burner tubes and are supported on the vaporizing tubes in any suitable manner being here shown in the form of disks having loops 20 slidably engaged with the tubes 14 and 15. The tubes 14 and 15 are preferably filled with wires indicated at 21 to facilitate the vaporizing of the oil.

Oil supply tubes 22 conduct oil to the

tubes 14 and 15 near their inner ends and are provided with valves 23 for controlling the amount of oil fed to the burners.

In the use of this burner the plate 1 is first placed in the fire box of an ordinary cooking stove and the burner support is then placed thereon with the flame spreaders 19 arranged at the desired angle to direct the flame either to the top of the stove or over the oven as may be desired and with the pipes 22 projecting through the wall of the stove to position the valves 23 outside of the stove in convenient position for operation by the cook. The valves 23 are then opened sufficiently to admit a limited amount of oil to the burner pipes which is ignited and together with the oil in the generating pans 9 heats the vaporizing tubes 14 and 15 whereby the oil passing there-through is vaporized and a gas formed which passes out through the jet openings in the burner tubes and is there burned in the same manner as in ordinary gas burners.

The flame spreaders 19 serve to baffle the flame and spread it out causing it to efficiently heat the top of the stove or when turned to direct it toward the oven. The filling of the vaporizing tubes 14 and 15 with wires provides a larger heating surface within the tubes and distributes the oil in a comparatively thin flame which facilitates the vaporizing thereof and in which elbows 17 form vaporizing retorts and gas storage chambers which aid in the complete vaporizing of the gas and stores it in such volume sufficient to produce an even steady flame.

While this burner is particularly adapted for use in cooking stoves it may also be used in heating stoves and it will, of course, be obvious that after the burner begins to generate the gas the oil will be turned on to the desired extent and left on until it is desired to extinguish the flame.

While I have described my invention with more or less minuteness as regards details and as being embodied in certain precise forms, I do not desire to be limited thereto unduly any more than is pointed out in the claims. On the contrary, I contemplate all proper changes in form, construction and arrangement, the omission of immaterial elements and substitution of equivalents as circumstances may suggest or render expedient.

I claim as my invention:

1. An oil burner comprising a supporting structure having an intermediate pipe stand and recessed end lugs, a retort pipe resting

on said stand, burner tubes arranged below and in a plane parallel with said pipe, elbows connecting said tubes with the ends of said pipe, said tubes having jet openings therein, and flame spreaders disposed above said jet openings.

2. An oil burner comprising side bars having offset feet, cross bars connecting said side bars near the opposite ends thereof and having generating pans extending laterally therefrom, recessed lugs projecting upwardly from the cross bars, a retort pipe stand supported by said side bars, a retort pipe extending longitudinally of said bars in a plane thereabove and supported on said pipe stand, burner tubes connected with the ends of said pipe and disposed in the vertical plane of and below said pipe, said tubes having jet openings therein, valved oil supply pipes connected with said pipe, and flame spreaders on said pipe.

3. An oil burner comprising side bars having offset feet, cross bars connecting said side bars near the opposite ends thereof and having generating pans extending laterally therefrom, recessed lugs projecting upwardly from the cross bars, a retort pipe stand supported by said side bars, a retort pipe extending longitudinally of said bars in a plane thereabove and supported on said pipe stand, burner tubes connected with the ends of said pipe and disposed in the vertical plane of and below said pipe, said tubes having jet openings therein, valved oil supply pipes connected with said retort pipe, flame spreaders on said pipe, said pipe having a solid intermediate portion between its connection with said supply pipes to form vaporizing chambers.

4. A supporting frame for an oil burner comprising laterally spaced side bars having longitudinally extended offset feet, end cross bars connecting said side bars and each having one face thereof reduced at its opposite ends to form shoulders for attaching the inner ends of said side bars, a generating pan extending laterally from one side edge of each cross bar, recessed lugs extending upwardly from said cross bars, and an intermediate cross bar having a pipe stand.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE J. CLARK.

Witnesses:

WILLIAM W. BECHEL,
CHARLY WELLS.