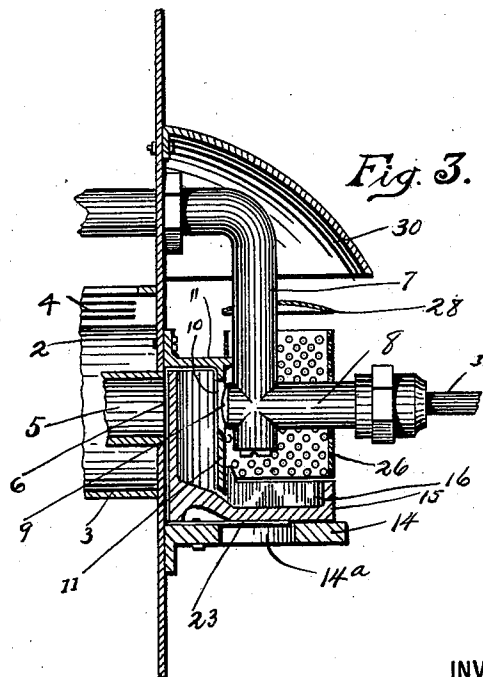
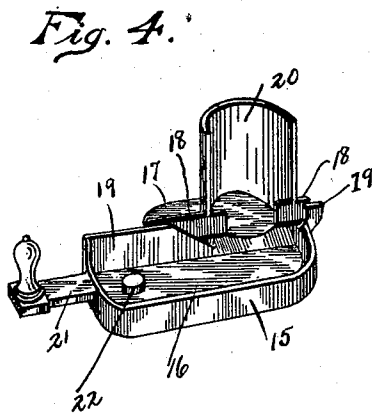
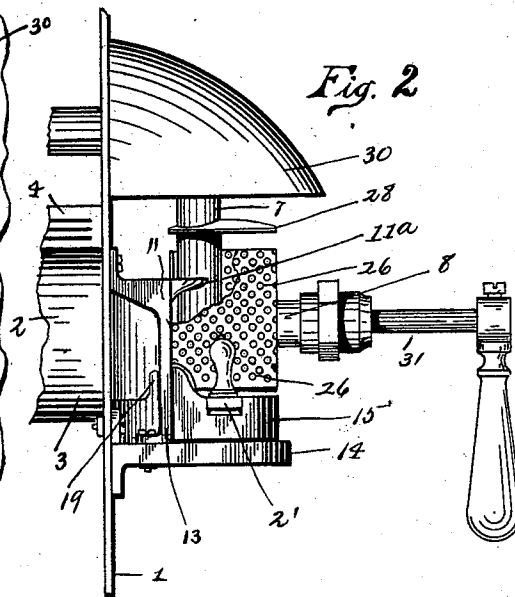
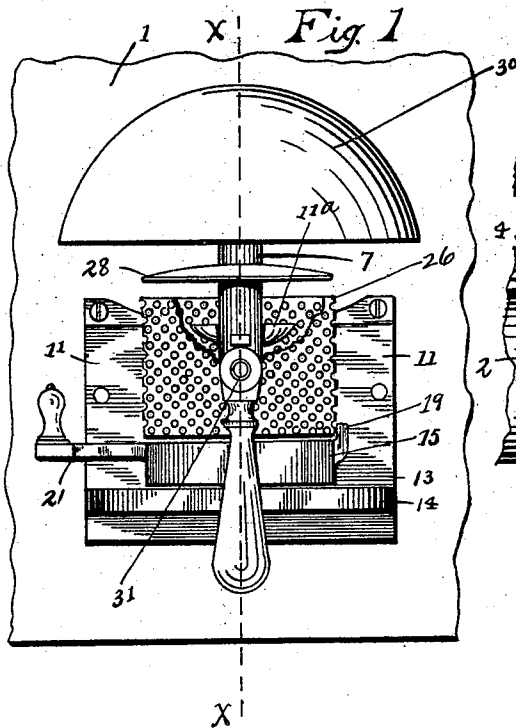


(No Model.)

E. T. BURGESS.
HYDROCARBON BURNER.

No. 568,332.

Patented Sept. 29, 1896.



WITNESSES:

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EDWARD T. BURGESS, OF COLUMBUS, OHIO.

HYDROCARBON-BURNER.

SPECIFICATION forming part of Letters Patent No. 568,332, dated September 29, 1896.

Application filed December 12, 1895. Serial No. 571,862. (No model.)

To all whom it may concern:

Be it known that I, EDWARD T. BURGESS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Hydrocarbon-Burners, of which the following is a specification.

My invention relates to the improvement of hydrocarbon-burners, and the objects of my invention are to provide an improved gas-generating mechanism for gasolene or similar stoves and to produce certain improvements in details of construction and arrangement of parts, which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved generating attachment. Fig. 2 is a side view of the same. Fig. 3 is a sectional view on line *x x* of Fig. 1, and Fig. 4 is a view in perspective of the generator drip-cup.

Similar numerals refer to similar parts throughout the several views.

1 represents a gasolene-stove wall, and 2 represents the burner, which is supported on the inner side of said wall. This burner is substantially the same as shown in former patent, No. 364,986, dated June 14, 1887, granted to Josiah Burgess, and consists, as indicated in the drawings, of an exterior cylinder 3, the latter being provided on its upper side with a longitudinal burner-head 4. This burner further consists in an internal smaller cylinder 5, the outer end of which communicates with an opening 6, formed in the stove-wall 1.

7 represents the supply and generator pipe, which, as shown in the drawings, extends outward from the interior of the stove-body at a point above the burner 2, and thence extends downward to a point in front of the opening 6, at which point said generator-pipe is provided with an outwardly-extending stem 8, which contains the usual needle-point valve, the opening 9 of the latter being, as shown, directly in front of the stove-opening 6. The inner end of the stem 8, in which is contained said needle-point-valve opening 9, is projected into the mouth of an opening 10 in the vertical wall of a bracket 11, the upper portion of said bracket being horizontal and extending outward from the stove-wall 1 at a point above the opening 6 therein, and thence

extending downward in front of and past said opening 6. At each end the vertical portion of this bracket is provided with downward extensions 13, the lower ends of which are supported upon a horizontally-arranged shelf or bracket 14, which extends outward from the wall 1.

11^a represents guide-lugs which project from the upper portion of the bracket 11 and form a guideway for the vertical portion of the generator-pipe.

15 represents a drip or igniting cup, which consists, as indicated in the drawings, of a horizontally-supported cup-body 16 of a substantially D shape. The rear side of the cup-body is provided with a rearwardly-extending plate or extension 17, the latter being on a slightly higher plane than the bottom of said cup. The forward side of the extension-plate 17 is provided with an upwardly-projecting guide-flange 18, which, as shown in the drawings, extends in a direction parallel with the vertical back wall 19 of the cup. The flange 18 and wall 19 are, however, open or removed toward one end of the cup to form an outlet for an upwardly-extending shield 20, which rises from the extension 17, and the inclined floor of which leads into the cup, as shown. As indicated in the drawings, the guide-channel, which is formed between the flange 18 and wall 19, is adapted to receive loosely the lower portion of the vertical wall of the bracket 11. One end of the cup-body is provided with a rigid handle-arm 21, which extends in the direction of the length of the cup. Near the bottom of the cup is formed a short upwardly-projecting boss or gage 22, which is of less height than the height of said cup-walls and which is adapted to be used for the purpose hereinafter set forth.

The cup-body, formed as above described, is adapted to rest upon the bracket or platform 14, the latter being preferably formed with a vertical opening therethrough, as indicated at 14^a. 23 represents a suitable friction-plate or spring-strip, which has one of its ends secured to the upper side of the bracket 14 below the cup-body and which has its remaining end projecting over the opening 14^a, said spring-strip or friction-plate being adapted to spring or press slightly upward against the under side of the cup and thereby afford sufficient frictional resistance to pre-

vent the cup from voluntarily sliding back and forth in its seat. Those portions of the generator-pipe and stem 8 which are immediately in front of the bracket 11 are practically

5 concealed by a perforated flame-screen 26.

Fitting about the vertical arm of the generator-pipe 7, above the upper open end of the screen 26, is a deflector-plate 28. Above this deflector-plate and about the upper end
10 portion of the generator-pipe is supported from the stove-wall an outwardly and downwardly projecting hood 30.

In utilizing my improved generating apparatus the drip-cup is moved to the desired
15 position by the movement of the outwardly-projecting handle-arm 21. In this movement of the drip-cup the vertical portion of the bracket 11 serves as a guide for said cup. When the drip-cup has been so moved as to
20 bring the shield 20 opposite the needle-point opening of the valve, the stem of said valve, which is indicated at 31, is opened and the oil contained in the generator-pipe is discharged therefrom through said needle-point
25 opening. In case the valve is opened a sufficient distance, it is evident that the stream of outgoing oil will pass through the opening 10 of the bracket and be directed against the shield 20, from which it will flow downward
30 into the cup beneath the lower edge of the bracket. However, it is deemed preferable to turn the valve but slowly, allowing the oil which then escapes without great force from the needle-point opening to follow the generator-pipe downward and drop therefrom
35 directly into the cup. It is evident, however, that in the operation of my device a portion of the oil may thus be allowed to drip off the lower end of the generator, even though the
40 discharge is sufficient to cause the remaining portion thereof to strike the shield 20. Sufficient oil having been thus discharged in said cup, said oil is ignited. The heat from the cup operates by contact with the generator-
45 piping to generate gas therein in the usual manner. The oil having been ignited, the cup is made to slide longitudinally by proper movement of the lever 21 until the shield 20 is moved to one side of the burner-opening 6.
50 The valve 31 may now be opened and the gas leading from the needle-point opening thereof will be discharged directly into the burner-tube 5.

While the screen 26 will serve to confine
55 the flame rising from the cup about the desired portion of the generator-piping, it is evident that the deflector or shield 28, which is arranged above said screen, will serve to deflect the flame and heat downward and
60 assist in confining it in the desired space about the junction of the pipe-arms 7 and 8. The hood 30 will also serve as a deflector to prevent the rising of the heat, flame, or smoke above the desired limit. It will be observed
65 that while the guideway or channel which is formed between the walls 18 and 19 serves as a loose way for the lower edge of the bracket

11, said guideways are at such height above the cup-bottom as to prevent any escape of oil therethrough from the cup. 70

In order to provide means for indicating to the eye of the operator the extent to which the cup has been filled, I provide the bottom of the cup with the projecting gage 22. When
75 sufficient oil has been directed into the cup to cover the upper side of the boss or gage, it will be apparent to the operator that sufficient oil for generating purposes has been discharged into said cup.

Owing to the use of the friction-plate 23, 80 it is evident that any tendency of the cup to slide in either direction voluntarily in case the stove is tipped slightly from a horizontal position will be obviated.

Having now fully described my invention, 85 what I claim, and desire to secure by Letters Patent, is—

1. In a hydrocarbon-burner the combination with a stove-body, a burner supported therein, an oil-supply and generator pipe running above said burner and extending downward in front of the latter, an opening in the stove-wall communicating with the interior of the burner and a valve in said generator-pipe opposite said stove-wall opening, of a
90 laterally-movable cup having a shield projection on its inner side, said cup being provided with a longitudinal guideway on its upper side and a bracket-plate 11 rigidly supported between the stove-wall-burner opening and
95 the lower portion of the generator-pipe, said plate 11 having an opening therein and having its lower edge bearing loosely in the longitudinal channel of said cup, substantially as and for the purpose specified. 100

2. In a hydrocarbon-burner the combination with a burner, a generator and a valve in said generator opposite said burner, of a laterally-movable cup beneath said generator, a shield 20 projecting from said cup, said
110 shield adapted by the movement of the cup to be interposed between the generator and burner, a rear wall for said cup, an extension in rear of said wall, a flange projecting from said extension and parallel with said rear
115 wall, the bottom of the channel between said wall and flange being on a higher plane than the bottom of the cup, substantially as and for the purpose specified.

3. In a hydrocarbon-burner the combination with a burner, a generator and a valve in said generator opposite said burner, of a laterally-movable cup beneath said generator, a shield 20 projecting from said cup, said
120 shield adapted by the movement of the cup to be interposed between the generator and burner and a gage-boss 22 rising from the bottom of said cup and of less height than the latter, substantially as and for the purpose specified. 125

EDWARD T. BURGESS.

In presence of—

C. C. SHEPHERD,
F. G. FULLINGTON.