(No Model.)

V. BÜRKLIN.

BURNER FOR PETROLEUM COOKING STOVES.

No. 355,811. Patented Jan. 11, 1887.

Fig. 1.

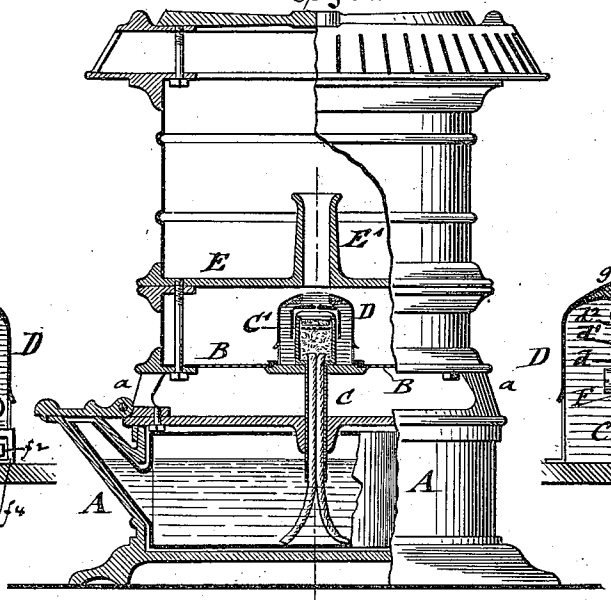


Fig. 5.

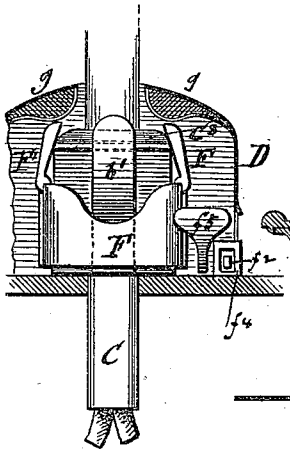


Fig. 4.

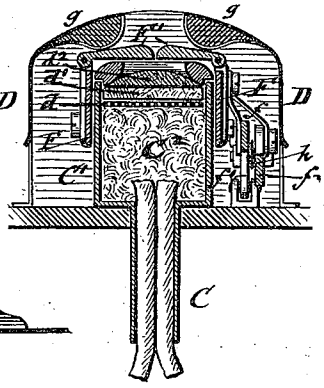


Fig. 2.

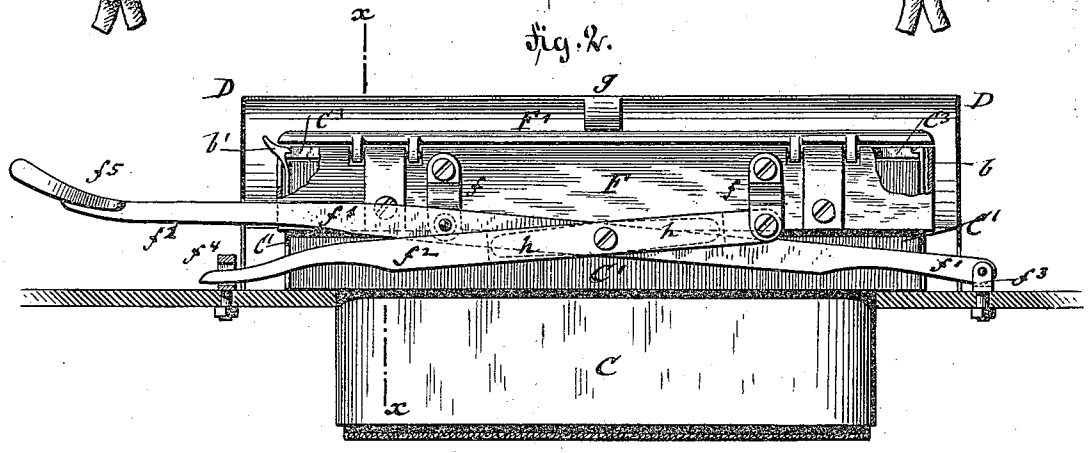
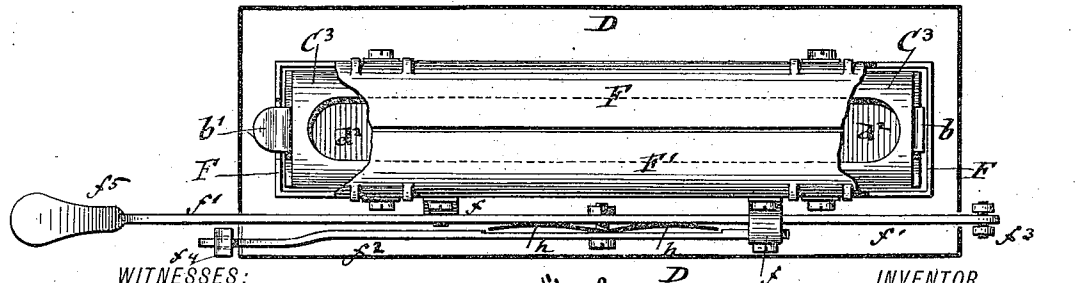


Fig. 3.



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UNITED STATES PATENT OFFICE.

VICTOR BÜRKLIN, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO JOSEPH DOMES, OF SAME PLACE.

BURNER FOR PETROLEUM COOKING-STOVES.

SPECIFICATION forming part of Letters Patent No. 355,811, dated January 11, 1887.

Application filed January 8, 1886. Serial No. 187,944. (No model.)

To all whom it may concern:

Be it known that I, VICTOR BÜRKLIN, of the city, county, and State of New York, have invented certain new and useful Improvements in Burners for Petroleum Cooking-Stoves, of which the following is a specification.

This invention has reference to improvements in burners for petroleum cooking-stoves, whereby the more perfect combustion of the oil is obtained without requiring the replacing or adjustment of the wick; and the invention consists of a novel construction of burner for petroleum cooking-stoves, which burner is composed of a burner-head filled with an absorbent material, a perforated plate, an absorbent strip above the same, and a porous refractory plate above said strip, which parts are retained by a detachable rim-frame having an opening for the flame. Hinged caps are guided along lugs of the dome and regulate the thickness of the flame, said caps being adjusted by a slide-frame extending around the burner-head and adjusted by a suitable lever mechanism.

In the accompanying drawings, Figure 1 represents a side elevation, partly in section, of a petroleum cooking-stove with my improved burner. Fig. 2 represents a side elevation of the burner drawn on a larger scale and with parts broken away. Fig. 3 is a plan of Fig. 2, also with parts broken off; and Figs. 4 and 5 represent, respectively, an end view of Fig. 2, partly in section through the dome, and a vertical transverse section on line *x x*, Fig. 2. Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the oil reservoir or fount of my improved petroleum cooking-stove. On the fount A is supported, by legs *a a*, horizontal perforated diaphragm B, on which is centrally supported the enlarged head C′ of the burner. The wick-tube C extends from the diaphragm B downward through the top of the oil-reservoir A and into the latter, as shown in Fig. 1. The burner-head C′ is arranged at the upper end of the wick-tube and inclosed by a dome, D.

Above the burner C′ and the dome D is arranged a horizontal plate, E, having an opening corresponding in size with the opening of the dome D, and an upwardly-extending chimney, E′, that is vertically above and in line with the flame-opening of the burner.

The wick-tube C is made large enough for two or more wicks, which are held in close contact sidewise of each other, the upper ends of the wicks extending into the burner-head C′, where they form a permanent contact with an interior filling, C^2, of wicking or other suitable absorbent material of the head C′. The lower ends of the wicks terminate in the fount A, and convey the oil by capillary attraction to the filling C^2 in the head C′. The filling C^2 is covered by a horizontal separating-plate, *d*, of wire-gauze or reticulated sheet metal, on which is placed a thin strip, *d′*, of felt or other absorbent material, that forms a supporting layer for a porous plate, d^2, of suitable refractory carbonaceous or other material.

The filling C^2, perforated plate *d*, strip *d′*, and porous plate d^2 are retained in position in the head C′ by an open frame, C^3, that forms the rim of the burner-head C′. The frame C^3 is made detachable and retained in position on the burner-head C′ by means of a fixed catch, *b*, at one end and a spring-catch, *b′*, at the opposite end, as shown in Figs. 2 and 3. A slide-frame, F, is guided on the enlarged burner-head C′, and provided at its longer edges with caps F′, which are hinged to the upper edges of said longer sides. The caps F′ form contact with cam-shaped projections or lugs *g* at the under side of the crown of the dome, and move along the same in opening or closing the flame-opening of the head C′.

The slide-frame F is connected by pivot-links *f f* with centrally-fulcrumed cross-levers $f' f^2$, of which the lever *f′* is pivoted at its lower end to the ear f^3 of the supporting-plate of the head C′, while the end of the lever f^2 slides on a U-shaped guide-lug, f^4, of said plate. The upper end of the lever *f′* is extended through the slot of the dome D, so as to form a handle, f^5, by which the slide-frame F is raised or lowered, so that the caps F′ are placed more or less over the flame-opening of the burner-head C′ or clear the same entirely, producing thereby a flame of smaller or larger

size. By lifting the slide-frame F to its full extent the caps F′ close entirely the opening of the head C′, and extinguish thereby the flame.

The slide-frame F and caps F′ are retained in the position to which they are set by means of a friction-spring, *h*, that is interposed between the cross-levers f' f^2 at the fulcrum of the same, as shown in Figs. 2 and 3. The caps F serve the twofold purpose of regulating the thickness of the flame and of extinguishing the same entirely.

The air-space formed between the top of the oil-fount A and the perforated diaphragm B serves to protect the top of the fount against the heat emanating from the burner and to supply the required quantity of air to the space above the perforated diaphragm B, from which space the air is conducted by openings at the base of the dome D to the inside of the same and the base of the chimney E′.

When the burner is lighted, the porous top plate, d^2, of the same becomes incandescent, so as to change the oil supplied to it into vapors, which mix with the air supplied to the dome and chimney, so that a perfect combustion of the oil takes place. The flame burns with a perfectly white flame, and produces a high degree of heat above the chimney at the upper supporting part of the cooking-stove. The upper part or body of the stove is made of the usual construction.

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

1. The combination of a wick-tube, a burner formed of an enlarged head, an interior filling and a detachable top frame, an exterior slide-frame, caps hinged to said slide-frame, a dome having interior guide-lugs for said caps, and fulcrumed cross-levers connected to said slide-frame and caps, so as to adjust the same and regulate the thickness of the flame or extinguish the same altogether, substantially as set forth.

2. The combination of an enlarged burner-head having an interior absorbent filling, a perforated separating-plate, an intermediate absorbent strip and a porous refractory top plate, a detachable rim-frame attached to the upper part of said burner-head, an adjustable slide-frame having hinged caps, a dome having cam-shaped guide-lugs for said caps, and a lever mechanism for raising or lowering said guide-frame and caps, substantially as set forth.

3. A burner for petroleum cooking-stoves, consisting of an enlarged head, an interior absorbent filling, a perforated separating-plate, an absorbent strip above said plate, a porous refractory plate above said strip, a retaining rim-frame, and means for locking or releasing said rim-frame, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

VICTOR BÜRKLIN.

Witnesses:
PAUL GOEPEL,
SIDNEY MANN.