

W. H. RUSSELL.
Vapor-Burner.

No. 220,665.

Patented Oct. 14, 1879.

Fig. 1.

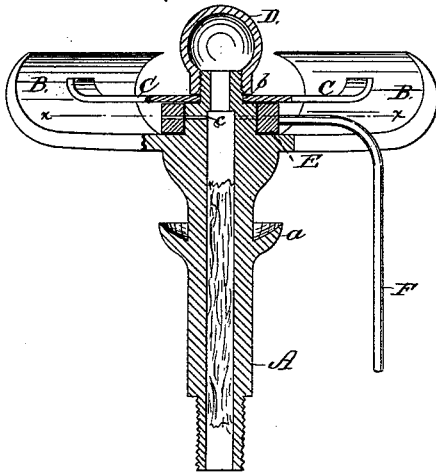


Fig. 2.

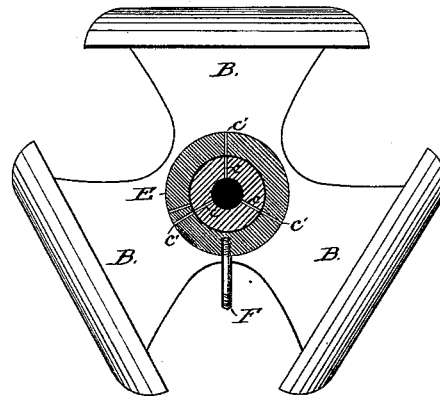
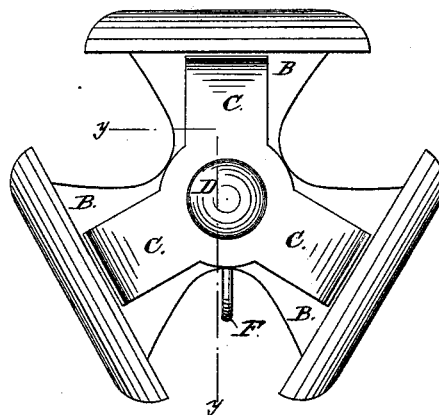


Fig. 3.



WITNESSES:

W. W. Hollingsworth
Edw. W. Bign

INVENTOR:

Wm. H. Russell
BY *Wm. H. Russell*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM H. RUSSELL, OF SEDALIA, MISSOURI.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. **220,665**, dated October 14, 1879; application filed September 15, 1879.

To all whom it may concern:

Be it known that I, WILLIAM H. RUSSELL, of Sedalia, in the county of Pettis and State of Missouri, have invented a new and Improved Vapor-Burner; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a section through the line *y y* of Fig. 3. Fig. 2 is a section through the line *x x* of Fig. 1. Fig. 3 is a plan view.

My invention is in the nature of an improved vapor-burner designed for burning gasoline and other light hydrocarbons for illuminating purposes, and for heating purposes also, if desired.

The characteristic features of my invention are a double set of horizontally-projecting and upwardly-curved deflecting-plates, a rotary cut-off located between the two sets of plates, and opening and closing communication with an internal tube, and a surmounting generator or globular chamber located above said plates in the flame-space, and communicating with the interior of the central tube, as hereinafter more fully described.

In the drawings, A represents the central tube, which is adapted to be screwed onto a pipe leading from an elevated reservoir containing gasoline, as usual. This tube is provided with a cup-shaped flange, *a*, and just above the cup there is fixed to the tube, or cast with it, if desired, three deflector-plates, B B B, which widen as they extend from the tube, and are curved upwardly at their ends. Upon the upper end of the tube A is formed a shoulder, *b*, upon which rests a second tripartite deflector-plate, C C C, which plate is clamped against the shoulder *b* by the hollow generating-chamber D, which is screwed upon the extremity of the tube, and forms a globular termination to the same.

In that portion of the tube between the two sets of deflector-plates B and C, I bore a set of perforations, *c*, which give passage to laterally-issuing jets of vapor from the interior

of the tube, and to control the issue of the vapor through the same I inclose this portion of the tube by a swiveling collar, E, having a set of perforations, *c'*, corresponding to *c*, so that by turning the collar E the orifice *c'* may be turned into registration with *c*, to allow the vapor to escape to be burned; or the collar may be turned so as to throw the orifice *c'* out of registration with *c*, to cut off the supply and extinguish the flame.

In constructing the collar its perforations *c'* are preferably bored in such relation to the orifice *c* that they do not all turn into registration at once, but turn successively into registration, so that the amount of vapor turned on may be regulated. For turning this collar a pendent handle, F, is provided.

In the lower portion of the tube A, I prefer to place a wick or other obstruction which will retard the flow of the oil, and give it time to be properly heated, vaporized, and burned.

In making use of this construction of burner the collar is first turned, and a small quantity of the fluid allowed to trickle down into cup *a*, and this is then ignited to give the initial flame necessary to begin the vaporization. As soon as vaporization properly commences, the said vapors pass out between the plates B and C, and are thereby spread out and directed upwardly to form a bulky and luminous flame of a more or less circular shape, the said plates serving not only to spread out the flame, but causing a sufficient admixture of air to insure perfect combustion. The flame thus formed encircles the generating-chamber D, which is filled with the burning fluid, and the heat imparted to the fluid in the same continues the vaporization.

In modifying my invention I do not limit myself to the collar E, as located upon the outside of tube A, but may place said collar upon the inside, in which case it will be rotated by a stem rising centrally through the tube A.

I do not claim, broadly, an upper and lower deflecting-plate in combination with a tube having a discharge-orifice between the same;

and I am also aware that a globular generating-chamber has been located above the discharge-openings of a vapor-burner.

Having thus described my invention, what I claim as new is—

1. The tube A, carrying deflectors B and C, and having outlet-orifices for the vapor arranged between these deflectors, in combination with a swiveling collar, E, located in a plane between the upper and lower deflectors, and having orifices arranged as set forth, to register with those in the tube, together with the hollow generator-chamber D, screwed upon the end of the tube above the deflectors C, substantially as and for the purpose described.

2. The tube A, having deflectors B B B, made rigid therewith and formed with a shoulder, *b*, and perforations *c*, in combination with the detachable deflectors C C C, the generator-chamber D, screwed upon the tube, so as to clamp the deflector C between the same and the shoulder *b*, together with the perforated collar E, swiveling loosely between the deflectors, substantially as described.

WILLIAM H. RUSSELL.

Witnesses:

SOLON C. KEMON,
EDWD. W. BYRN.