(No Model.)

# H. RUPPEL.

## VAPOR BURNER.

No. 551,172. Patented Dec. 10, 1895

Fig. 1.

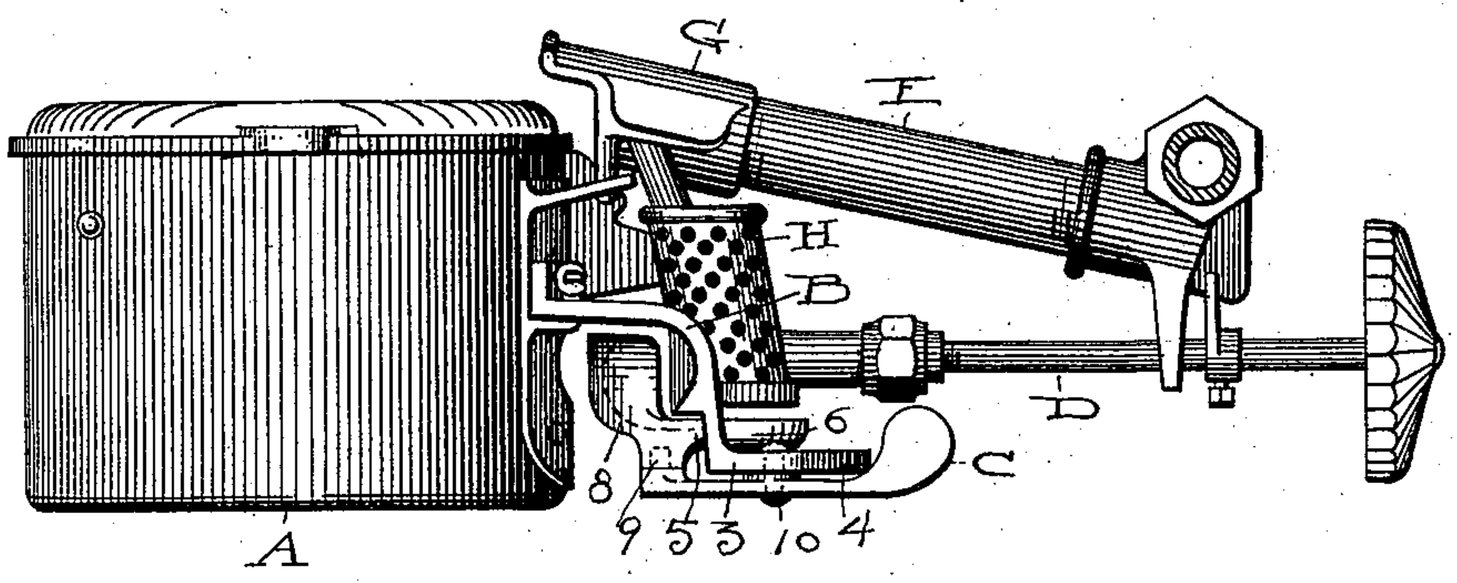



Fig. 2.

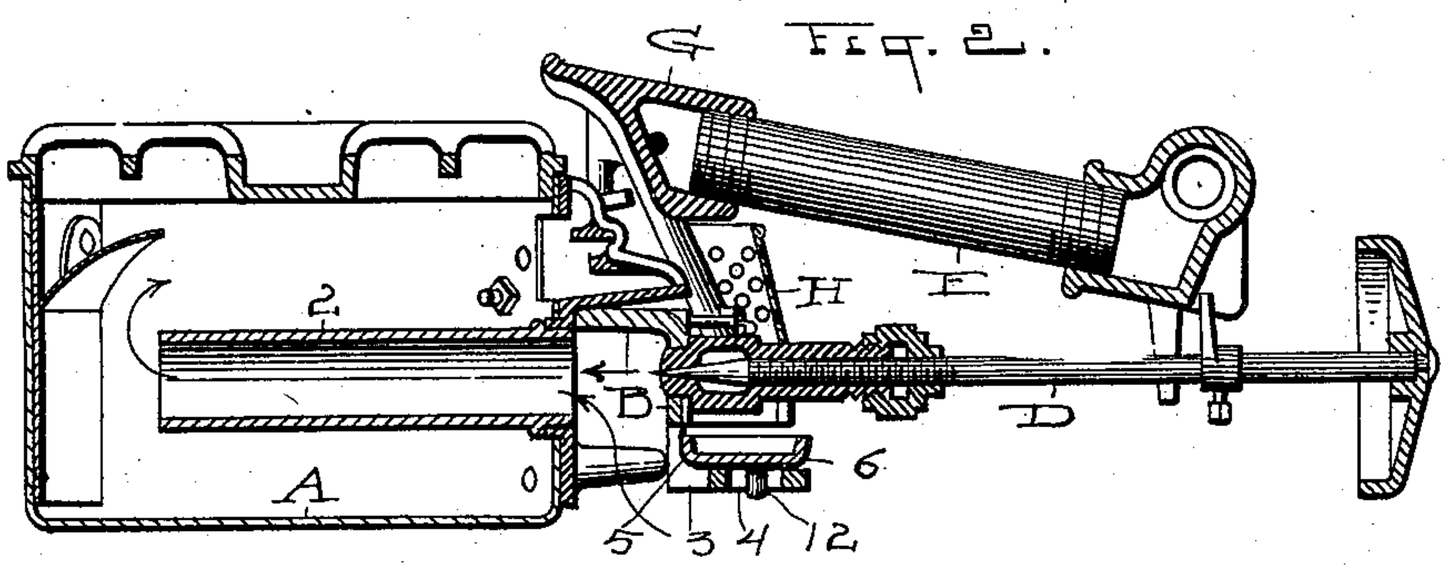



Fig. 3.

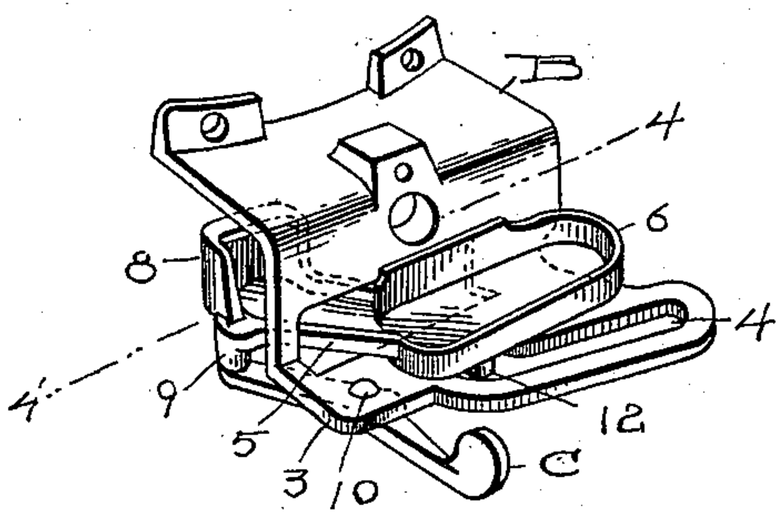
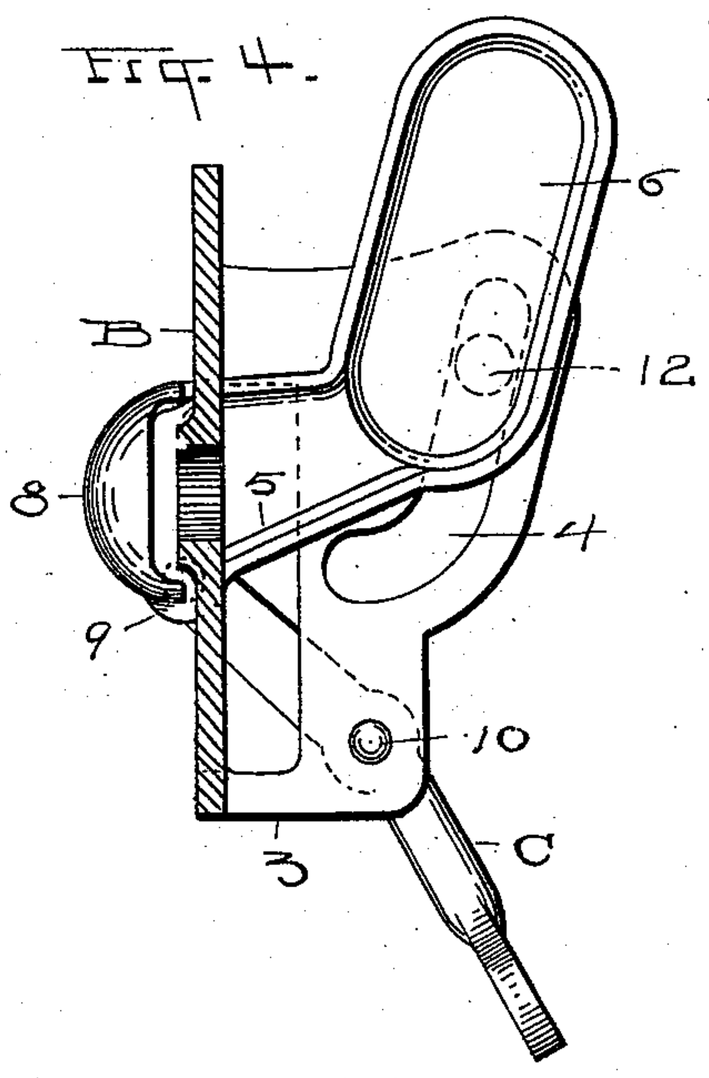



Fig. 4.




Attest

W. B. Moser

N. W. Thomas.

Inventor.

Henry Ruppel

By H. T. Fisher

Attorney

# UNITED STATES PATENT OFFICE.

HENRY RUPPEL, OF CLEVELAND, OHIO, ASSIGNOR TO THE DANGLER STOVE AND MANUFACTURING COMPANY, OF SAME PLACE.

## VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 551,172, dated December 10, 1895.

Application filed March 26, 1895. Serial No. 543,222. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY RUPPEL, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Vapor-Burners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to vapor-burners; and the invention consists in an improvement in the style and character of burners invented by me and shown in the patent issued to the Dangler Stove and Manufacturing Company June 5, 1894, No. 520,805.

In the accompanying drawings, Figure 1 is a plain elevation of a burner embodying my improvement. Fig. 2 is a vertical central sectional elevation thereof. Fig. 3 is a detail in perspective of the shield for the main oil and vapor jet and the inlet to the commingling-chamber into which it discharges, showing also initial lighting-cup and its operating parts. Fig. 4 is an enlarged plan view of the initial lighting-cup and parts, looking down from a line corresponding substantially to 4 4, Fig. 3.

By comparing the elements and constructions shown herein with the patent referred to it will be seen that in several particulars the two constructions are substantially alike, and no claim is made herein to novelty for anything that is shown in the said patent. However, my experience has taught me that the initial lighting mechanism in the said patent was materially defective, and I have remedied the defects and objections to that construction by the means herein shown and described. Thus I interpose a deflector in front of the main inlet-orifice, so as to catch the oil for initial heating and convey it into the initial lighting cup or pan, and in the same operation I project the initial lighting pan or cup laterally and outwardly where the quantity of oil in the cup is exposed to view and the cup is brought into convenient position for applying a match.

A is the commingling-chamber and 2 is a vapor-inlet pipe therefor. A shield B, of the shape substantially as shown in Fig. 3, is fixed to the said chamber over the mouth of the inlet-tube 2, and said shield has an outwardly-extending flange 3 at its bottom provided with a curved slot 4. Above the said flange 3 the said shield has a transverse horizontal slot or opening adapted to receive and operate the horizontal arm 5 of the initial lighting-cup 6. Integral with the said arm 5 is the deflector 8, convex in cross-section on its inside and arranged to come between the mixing-chamber and the shield B and in front of the oil-inlet orifice. On the bottom of this deflector is a lug or projection 9, and a short finger-lever C, pivoted at 10 on the flange 3, engages in the lug 9 and serves to carry the initial lighting-cup and the oil-deflector 8 into either the position shown in Fig. 3 or in Fig. 4, as one or the other may be wanted. The cup 6 has a projection 12 on its bottom which travels in the slot 4 and guides the cup therein as the cup is moved out and in. The slot 4 runs inward at its near end, so as to retire the cup 6 beneath the burner mechanism, which is immediately above the same, as seen in Figs. 1 and 2, and thus brings the cup into a position where it can be most effective in initially heating the burner and is out of the way.

To further understand the construction of the burner it will be noticed that D is the main valve-stem, having a needle-point at which the oil or vapor is ejected. If it be oil, it is intended for initial lighting, and in that case the oil would be projected against the deflector 8, whence it would run along the bottom of the arm 5 into the drip-cup 6, the parts in that case sustaining the relation seen in Fig. 4 with the deflector 8 over the entrance to the commingling-chamber and interposed in front of the needle-valve orifice.

E is the oil-supply pipe, through which oil is conveyed into the generating or vaporizing part G of the burner. This part is constructed to carry the oil or vapor down to the needle-valve outlet, and said needle-valve alone determines the flow of oil or vapor, as the case may be. If it be oil and initial lighting is the purpose, the operator simply takes hold of the lever C and carries the parts 6 and 8 into the positions respectively shown in Fig. 4. Then, as oil is jetted against the inner

curved surface of the part 8 it runs down the floor of the arm 5 into the cup 6, the said cup being then to one side beyond the burner mechanism and exposed to view and convenient for lighting, as seen in Fig. 4. It is assumed, however, that lighting does not occur until a sufficient quantity of oil be obtained in the cup to heat the burner to a vaporized condition. When this has occurred, a light is applied to the oil, the valve D is turned off, and the initial cup is run back into heating position beneath the generating burner part G, as seen in Figs. 1, 2, and 3. This movement of the cup 6 inward to its normal position removes the deflector 8 laterally from the jet-orifice, so as to clear the way for the vapor into the commingling-chamber. It requires only a few moments to heat the generator, and when this has been done the valve D is again turned on and vapor is discharged therefrom and the entire burner is automatically lighted. The perforated guard H protects the flame about the generator and promotes a blue flame for initial lighting, which prevents smoke and facilitates the heating of the burner.

One of the advantages in having the initial lighting-cup slide out to one side alone is that it shows when the cup is sufficiently filled. This is understood to be a distinguishing characteristic of my invention and so far as I know is exceptional and novel. If no view of the oil were afforded, persons would be apt to allow an excess of oil to flow and promote danger, or not enough to heat the burner and fail on that account; but with my sliding cup they can see how much they have and avoid danger and insure careful lighting.

I claim—

1. The burner and a fixed part having a horizontal slotted portion, in combination with an initial lighting cup supported and sliding on said slotted portion, a deflector for the oil integral with said cup and a lever pivoted to said cup to operate the cup and deflector, substantially as set forth.

2. The burner having an opening into which the vapor is injected and a horizontal support for the initial lighting cup, said support constructed to have the cup slide thereon, in combination with a lighting cup having an oil deflector rigid therewith and provided with a channel leading to said cup, a perforated chimney for said lighting cup, and means to slide said cup, substantially as set forth.

Witness my hand to the foregoing specification.

HENRY RUPPEL.

Witnesses:
H. T. FISHER,
R. B. MOSER.