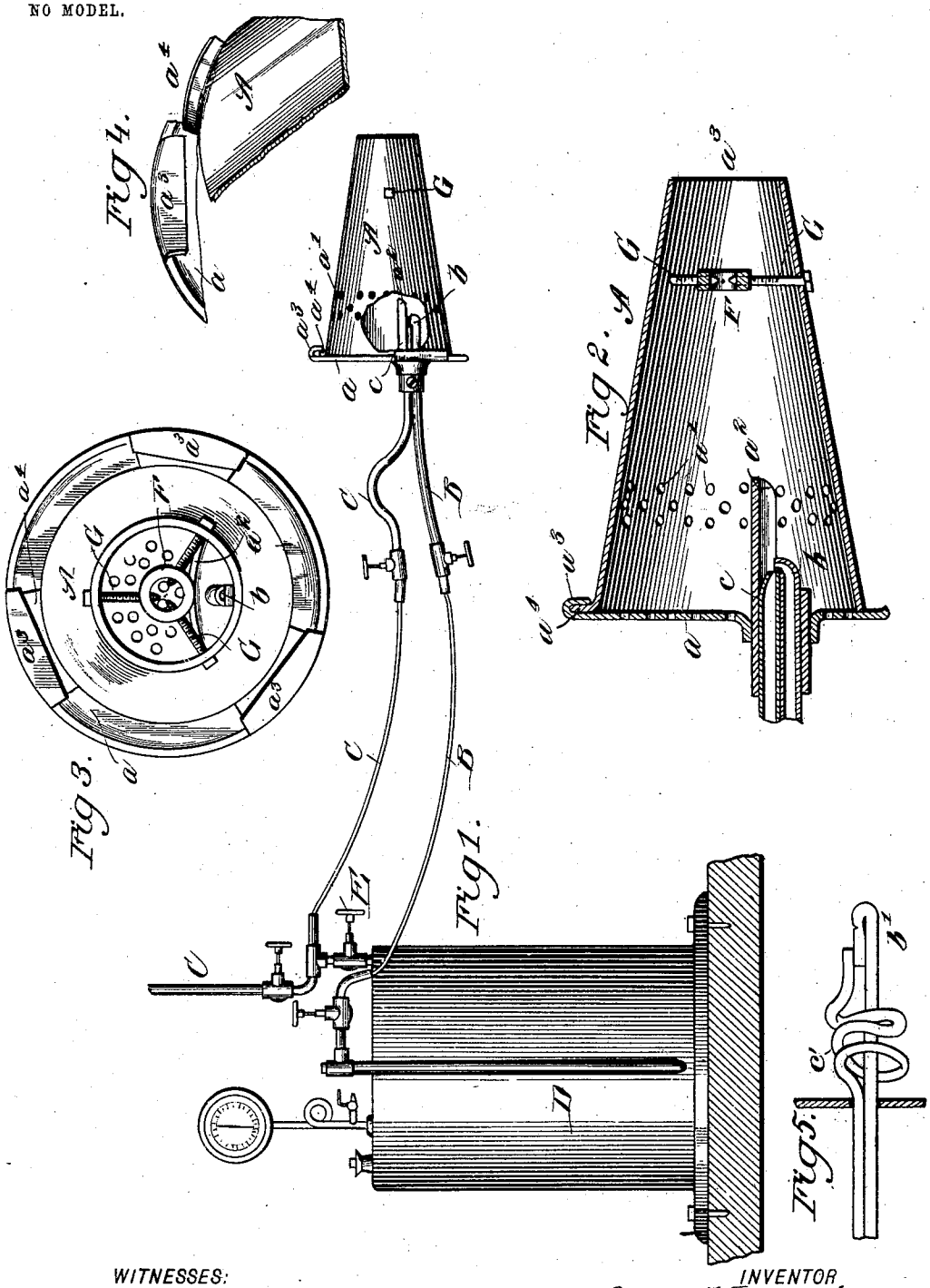
No. 762,167. PATENTED JUNE 7, 1904.

O. HAUCK.

OIL BURNER.

APPLICATION FILED DEC. 9, 1903.

NO MODEL.



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No. 762,167. Patented June 7, 1904

UNITED STATES PATENT OFFICE.

OTTO HAUCK, OF NEWPORT NEWS, VIRGINIA.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 762,167, dated June 7, 1904.

Application filed December 9, 1903. Serial No. 184,426. (No model.)

To all whom it may concern:

Be it known that I, OTTO HAUCK, a citizen of the United States, residing at Newport News, in the county of Warwick and State of Virginia, have made certain new and useful Improvements in Oil Burners and Heaters, of which the following is a specification.

It is the object of my invention to provide an improved oil burner and heater for the use of brazers in soldering the surface of copper and other metal and also for burning off paint and other allied uses.

The invention includes improvements in the construction of the body of the heater or burner and attachments thereof and also in the construction of the air and oil feed devices constituting the burner proper.

The details of construction, arrangement, and operation of parts are as hereinafter described, reference being had to accompanying drawings, in which—

Figure 1 is mainly a side view of my invention with other parts which are necessarily connected therewith in use. Fig. 2 is a central longitudinal section of the heater proper. Fig. 3 is an end view of the same. Fig. 4 is a perspective view of portions of the heater, illustrating the slidable joint by which the back of the heater is attached to the body thereof. Fig. 5 is a side view representing a modification of the burner proper.

The body A of the heater or "brazing-lamp," as it may be termed, has the form of a hollow truncated cone. With said part A an oil-pipe B and air-pipe C are connected, the nozzles *b* and *c* thereof (see Fig. 2) being connected and arranged in such manner that the inflow of air through the pipe C induces a current of oil in the pipe *b*, by which the oil is atomized as it discharges into the body of the burner-casing A. The pipe B is connected with an oil-tank D, and the air-pipe C is in practice connected with a blower or tank in which air is held under compression. The air-pipe is connected at E with the oil-tank D, so that any suitable degree of pressure of air may be applied on the surface of the oil within the tank to insure due flow or delivery of the same at the nozzle *b*. The pipes B C are duly provided with stop-cocks, as shown. The nozzles *b c* project through a hole in the lower portion of the plate *a*, constituting the base of the burner-casing A. The said plate is perforated, as shown, to allow ingress of air, and the side of the cone A is also perforated at *a'* for the same purpose. It will be noted that the perforations *a'* are so located relative to the nozzles *b c* that air is admitted at a point where combustion begins. Immediately over the nozzles *b c* I arrange a fender or guard-plate a^2, which serves to direct the current of mingled air and oil forward in the cone A. The conical form of heater or lamp causes the products of combustion and the flame to converge toward its mouth a^3. A short distance back of the latter I arrange a form of baffle or interrupter for the combustible material. The same consists (see Figs. 2 and 3) of a ring F and pins or screws G, which pass through the sides of the cone A and also through the ring F, so that their points project more or less within the latter. By this construction while a central passage is left free through the ring F the device taken as a whole serves to interrupt the spray and insures a more thorough intermixture of the combustible materials and also a more thorough combustion of the same before reaching the mouth a^3 of the casing. By screwing the screws G in or out the interruption of the central passage of the ring F may be regulated at will, so as to produce the greatest effect in combustion. By use of the interrupter or baffle described the point of thorough combustion and of greatest heat exterior to the casing A is brought nearer the mouth a^3 than would be otherwise practicable.

In order to provide for convenient detachment of the base-plate *a* from the body of the heater or lamp, the former is provided with flanges a^3 (see Fig. 4) at different points on its periphery, the said flanges inclining inward, as shown. The conical body A of the casing is likewise provided with corresponding flanges a^4, which project outward, as shown. It is apparent that by placing the base-plate *a* against the large end of the casing A, so that the flanges a^3 of one part lie between the flanges a^4 of the other, and then rotating the parts upon each other the flanges will interlock or engage, as shown in Figs. 1, 2, and 3.

It is apparent that the nozzles *b c* will be-

come heated to a greater or less degree when the heater or lamp is in use and that oil will thereby become vaporized more or less and that the heated air will effect a more thorough combustion than if supplied in a cool or cold state. By the construction shown in Fig. 5 these effects are increased—that is to say, the oil-pipe b' is curved upon itself, so as to provide a longer passage for the oil before reaching the discharge-orifice, and the air-pipe c' is coiled about the oil-pipe, so that the air has a much longer passage than in the instances shown in Figs. 1 and 2. Thus the air and oil are heated to a higher degree and a greater calorific effect obtained.

My improved heater or lamp is particularly adapted for brazing large surfaces, but is also applicable for various other uses, as before intimated. It is particularly adapted for the use of crude oil; but other liquid hydrocarbons may be employed.

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

1. The heater or lamp proper, comprising the hollow truncated casing provided with an interrupted flange and a base-plate having corresponding interrupted flanges which are adapted to interlock with the flanges of the body, substantially as described.

2. The combination with a heater or lamp for the purpose specified, and oil and air discharge pipes arranged for atomizing oil in the manner described, of an interrupter or baffle consisting of a ring, and radial supports passing through the side of the heater and projecting into the ring, the said supports being adapted for axial adjustment, substantially as described.

3. The combination with a heater or lamp for the purpose specified, and means for introducing oil and air to form a combustible spray, of the interrupter or baffle located near the front end of said body, and consisting of a ring and screws passing through the side of the body and projecting within the ring, substantially as described.

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Witnesses:
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