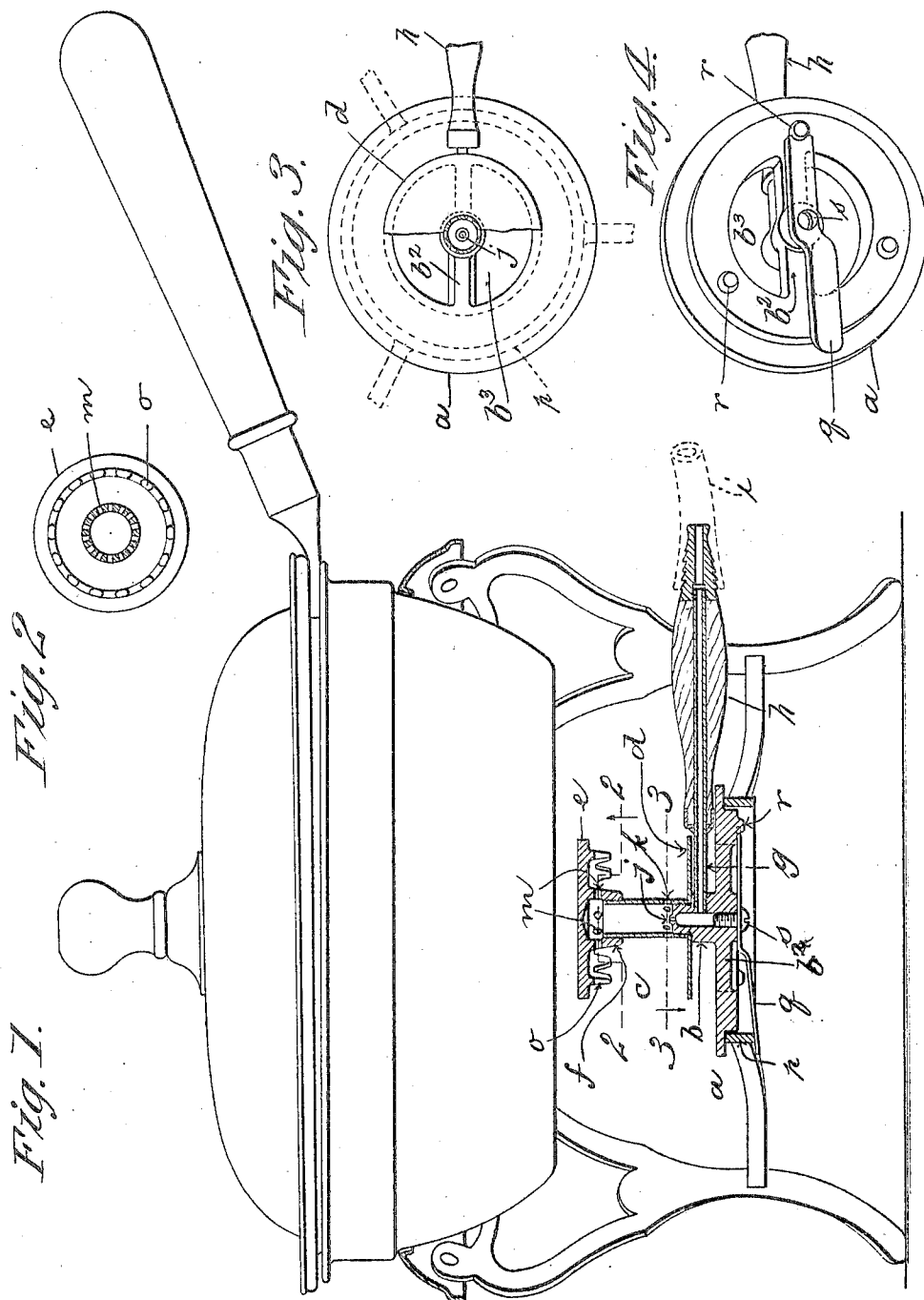


J. F. BARKER.
PORTABLE GAS BURNER.
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UNITED STATES PATENT OFFICE.

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PORTABLE GAS-BURNER.

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To all whom it may concern:

Be it known that I, JOHN F. BARKER, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Portable Gas-Burners, of which the following is a specification.

This invention relates to the general class of gas-burners, and specifically to a portable Bunsen burner for gas, the object of the invention being to provide a burner of this description for household use which is provided with a combined shield and radiating-plate located between the flame and the base of the burner, whereby the latter may be set upon the table without danger of marring the finish of the same. A further object of the invention consists in the provision of a burner of this character so constructed as to be applied to the lamp-supporting ring of a chafing-dish whereby the burner may be used in the place of an ordinary alcohol-lamp; and having these ends in view the invention consists in the construction described in the following specification and pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a sectional elevation of the invention as applied to a chafing-dish stand-ard. Fig. 2 is a cross-sectional view on line 2 2, Fig. 1, looking in the direction of the arrow. Fig. 3 is a cross-sectional view on line 3 3, Fig. 1, in the direction of the arrow. Fig. 4 is a perspective view of the under side of the base of the burner.

Referring to the drawings, *a* indicates the base of the burner, centrally of which there is an upstanding boss *b*, the upper end of which is necked down, and on this necked-down portion the tube *c* is screwed. Before this tube is screwed onto the base a metal plate *d* is fitted onto the shoulder formed on the boss *b* by the necking-down of the upper end thereof, and when the tube *c* is then screwed on it binds this plate *d* to the base tightly and in intimate contact therewith. To the upper end of the tube *c* is screwed the circular head *e*, which has a centrally-located hub *f*, threaded to receive said tube.

In the side of the boss *b* a tube *g* is screwed, which is preferably located beneath the metal plate *d*, as shown in Fig. 1. On this tube a

handle *h* is fitted, it being preferably of wood or some suitable non-conducting material. The end of the handle is finished off in a suitable manner to receive the end of a piece of flexible tubing *i*, (shown only in dotted lines in Fig. 1,) whereby the burner may be connected with a gas-pipe. The boss *b* on the base-plate is bored through substantially at right angles to the plate to constitute a gas-passage *j* centrally of the tube *c*, and substantially in the transverse plane of this gas-outlet *j* apertures *k* are made through the wall of said tube. This boss is supported on a narrow bar *l*, extending across an opening *l*², located centrally of the plate. The relatively small transverse area of the bar *l*² renders the passage of heat therethrough into the base-plate very slow, and the opening *l*² affords a passage for air up against the under side of the deflecting-plate *d*, which aids in keeping the latter cool.

Under the circular head *e* the gas-outlet apertures *m* are located, through which the commingled gas and air passes in burning. This head *e*, as usual in this class of burners, constitutes a support for a dish and is provided near its outer edge with a depending flange *o*, preferably serrated. The location of the outlet-apertures *m* under the head *e* and their arrangement whereby the flames therefrom shoot out horizontally under the head and then curl up around the depending flange has made it necessary heretofore either to make the burner quite high in order that the heat radiated from the under side of this head might not scorch the table on which it was standing, or if circumstances would not permit the use of a high burner then it has always been necessary to interpose something between the burner and the table to protect the latter. I have found in practice that the heat against which it is necessary to guard may reach the table on which the burner is standing either by being reflected directly from the under side of the head or by running down the tube *c* into the base-plate, gradually heating the latter, and I have succeeded in overcoming these objections by means of the construction shown and described herein, which consists in making a burner of this character with a thin metal disk interposed between the head *e* and the base-plate and preferably secured on the latter or near the

latter. This base-plate d acts as a shield interposed between the flame and the table, and it takes up the heat reflected from the flame and dissipates the same by radiation, and being in intimate contact with the tube c and the base-plate it likewise receives the heat which passes down the tube and serves to radiate that heat also to such a degree that the base-plate may at all times be handled and safely deposited on the polished surface of a table without danger of marring the surface thereof.

To adapt the burner to be used under a chafing-dish or the like, the base-plate d is made of such form as to permit it to be fitted into the ring p , in which the ordinary vapor-lamp of this utensil is usually supported, and preferably the base is provided with a spring-finger q , which is secured centrally of the base, as shown in the drawings, in any suitable manner, and has its free end so disposed opposite the handle h that in placing the burner in the ring p the finger q will spring under the lower edge of the ring p , and thus hold the burner more or less securely on the ring. The base a is generally provided with the small circular feet r , projecting from the under side thereof, and when the burner is removed from its position under the chafing-dish the spring-finger q will spring up toward the base into substantially the plane of the bearing ends of these feet r , to the end that when the burner is placed on the table it will stand level.

A burner of this character constructed as herein described and free from the objections which have been characteristic thereof up to the present time is an exceedingly useful article, and the construction thereof is believed to be novel. It will be noted by reason of the location of the plate d just below the apertures k that there is a constant current of air passing over this plate from its periphery toward the tube c , the air being indrawn in the manner well known by the jet of gas from the gas-passage j . The spring-finger q may be applied to the base a in any desirable manner, a convenient way being to secure one end thereof in engagement with one of the feet r , as shown in Figs. 1 and 4, then securing it between its ends by means of a screw

s , threaded into the end of the axial perforation through the boss b .

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A portable gas-burner comprising a base, a burner-head located above said base, a tubular standard to support said head and constituting a conduit for commingled gas and air, a solid-metal plate located between the burner-head and base, intimately connected to the standard near said base, and constituting a shield against direct radiation of heat from the burner downward, and constituting also a radiating-disk for heat received from said standard, and means to removably attach said standard to the lamp-support of a chafing-dish or the like.

2. A gas-burner comprising a base-plate, a burner-head, a gas-conduit extending between the base-plate and said head, there being apertures through the wall of said gas-conduit for the admission of air, near said base-plate, together with a solid-metal heat deflecting and radiating plate fixed on said gas-conduit and in intimate contact therewith between the base-plate and said aperture.

3. A portable gas-burner comprising a base-plate, a burner-head located above said plate, a suitable support for the head, and a solid-metal heat-deflecting plate located on said support and in intimate contact therewith between the burner-head and the base-plate, in a plane substantially parallel with the latter, and means to secure the base-plate of the burner, removably, to the lamp-support of a chafing-dish or the like.

4. A gas-burner comprising a base-plate, a burner-head located above said plate, a suitable support for the head, and a heat-deflecting plate located between the burner-head and the base-plate, in a plane substantially parallel with the latter, and a spring-finger attached to the under side of said base-plate and adapted to engage the under side of the lamp-support of a chafing-dish or the like.

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Witnesses:

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