This invention relates to an attachment for a Bunsen burner, and more particularly concerns a reflector and shield for use with such a burner.

According to the invention there is provided a cylindrically curved plate having a forwardly extending base which can be attached to the tip of a Bunsen burner. The curved plate serves to concentrate the heat of the flame upon an article being worked in the flame. The invention is particularly useful in mechanical dental work upon dentures where a Bunsen burner flame is employed. The invention is also useful in other applications where a shield and reflector may be employed in association with a Bunsen burner.

Another object is to provide a shield including a concave, upright plate and a horizontal, flat base sector plate, the upright plate serving as a reflector and shield for a flame of a Bunsen burner, while the base plate serves to mount the shield to the Bunsen burner.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

FIG. 1 is a front elevational view of a shield embodying the invention, shown in association with a Bunsen burner.

FIG. 2 is a side elevational view of the shield alone.

FIG. 3 is a top plan view of the shield alone.

FIG. 4 is a perspective view of the shield, with lateral wings in retracted position.

FIG. 5 is a top plan view on an enlarged scale of the base of the shield of FIG. 4, on a reduced scale.

FIG. 6 is a front elevational view of the shield of FIG. 4 on an enlarged scale, with lateral wings extended.

FIG. 7 is a top plan view of the shield with wings extended.

FIG. 8 is a sectional view on a further enlarged scale taken on line 8—8 of FIG. 6.

Figures 1–3, there is shown a shield 10 embodying the invention. This shield includes an upright, axially vertical metal plate 12 which is an oblique section of a cylinder. The plate is widest at its base and extends axially about 15°. The edges 14, 14' of the plate extend vertically up to a midpoint A and then are inclined upwardly and rearwardly in an arc C. Flanges 16, 16' extend horizontally from the base of the plate 12 and are welded to a forwardly extending circular sector plate 20. The sector plate has edges 22, 22' extending about 15° to each other from apex 21 of the plate 20. Curved edge portions 23 are turned up against flanges 16, 16'. A hole 24 is formed in plate 20 near apex 21. The plate 20 fits on the threaded tip 27 of a post 30 of a Bunsen burner 25. The tip extends through hole 24 and an internally threaded burner tip 29 holds the plate 20 fixed between annular shoulder 31 on burner post 30 and the burner tip 29.

The concave side of plate 12 faces forwardly toward the burner flame F and serves to concentrate heat upon an article which may be worked or heated in the flame. The long, wide shield prevents sparks and particles from scattering from the working area of the flame. The shield 10 may be highly polished and renders the flame more visible to a mechanic or operator. The shield may be finished in black or any desired color. The base plate 20 may serve as a platform to support tools and other articles being used by the mechanic or operator.

FIGS. 4–8 show another Bunsen burner shield 10 which may be attached to a Bunsen burner. Shield 10 is similar to shield 10 and similar parts are identically numbered. Shield 10 has a pair of wings or wing plates 32, 32' which serve to extend from the shield plate 12 laterally at opposite edges. Each of the wing plates is cylindrically curved and its inside curvature conforms with the convex outside curvature of plate 12. Each of the wing plates has a straight edge portion 14' and a curved upper portion 2. Two horizontal slots 35', 35'' are formed in each of the wing plates. These slots are spaced apart vertically of the wing plates. Rivets 36 anchored in holes 37 in the plate 12 shadily engage edges of slots 35', 35'' so that the wing plates can be laterally of plate 12 while remaining in contact therewith to serve as lateral extensions as clearly shown in FIGS. 6, 7. When the plates 32, 32' are retracted to the position shown in FIGS. 4 and 5, edge portions 14' extend laterally of edges 14, 14' of the plate 12. These edge portions can be grasped for selectively moving and adjusting either or both wing plates with respect to the shield plate 12.

The shield 10 mounts on a Bunsen burner by engagement of hole 24 under the tip 29 of a Bunsen burner in the same way as indicated in FIG. 1. Both shields 10 and 10' provide useful attachments and accessories for a Bunsen burner. They make working with a Bunsen burner safer and quicker.

The parts of the shield can be stamped or cut out of pliable sheet metal at low cost by conventional metal working machinery. The shield is easy to mount on and remove from a Bunsen burner for replacement with others if desired.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

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

1. A reflector attachment for a Bunsen burner, said attachment comprising a cylindrically curved plate formed as an oblique section of a cylinder with substantially straight lateral edges and with holes therein, a circularly curved bottom edge and an arcuate upper edge, a base plate extending forwardly from the bottom of the concave side of said curved plate, said base plate being formed as a sector of a circle with a forwardly extending apex and edges angularly disposed to each other, said base plate having a curved rear edge registering with the curved bottom edge of the curved plate, said base plate having a hole near said apex for engaging on a tip of the Bunsen burner post, a pair of cylindrically curved wing plates slidably abutted to the rear side of the curved plate and having spaced slots and rivets engaged in the holes in the curved plate and engaged in the spaced slots for slidably holding the wing plates as lateral extensions of the curved plate in continuation of the cylindrical curvature thereof, whereby the wing plates are selectively extensible with respect to the curved plate for adjusting the width of the reflector attachment, said curved plate, base plate and wing plates having highly polished
surfaces to reflect and concentrate heat of the flame at a tip of the Bunsen burner.

2. A reflector attachment for a Bunsen burner, said attachment comprising a cylindrically curved plate formed as an oblique section of a cylinder with substantially straight lateral edges and with holes therein, a circularly curved bottom edge and an arcuate upper edge, a base plate extending forwardly from the bottom of the concave side of said curved plate, said base plate being formed as a sector of a circle with a forwardly extending apex and edges angularly disposed to each other, said base plate having a curved rear edge registering with the curved bottom edge of the curved plate, said base plate having a hole near said apex for engaging on a tip of the Bunsen burner post, a pair of cylindrically curved wing plates slidably abutted to the rear convex side of the curved plate and having spaced slots and rivets anchored in the holes in the curved plate and engaged in the spaced slots for slidably holding the wing plates as lateral extensions of the curved plate in continuation of the cylindrical curvature thereof, whereby the wing plates are selectively extensible with respect to the curved plate for adjusting the width of the reflector attachment, said curved plate, base plate and wing plates having highly polished surfaces to reflect and concentrate heat of the flame at the tip of the Bunsen burner, said curved plate having forwardly extending flanges secured to said curved rear edge of the base plate to reinforce attachment of the base plate to the curved plate.

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