also may be used. This reverses the images of the two areas with respect to the center line. Two images of the gap or overlap are seen, on opposite sides of the contiguous areas. These images may interfere with accurate comparison of the two areas. For this reason the biprism first described is preferable.

GEORGE E. DAVIS

DEPARTMENT OF PHYSICS,
DUQUESNE UNIVERSITY

A GASOLINE-TORCH LABORATORY BURNER

THE Biological Survey, U. S. Department of Agriculture, maintains several research stations at points remote from such utilities as gas and electricity. Field workers at such stations are handicapped in not being able to use Bunsen burners or electrical stoves. This difficulty has been overcome at the Delta Migratory Waterfowl Refuge, in Louisiana, by utilizing a gasoline-torch stove. The stove was designed and constructed by Timothy Sullivan, a machinist at the refuge WPA project. It can be built at little cost, requires for heat only an ordinary gasoline "blow-torch" such as that used by plumbers, and produces a high heat with comparatively little fuel consumption.

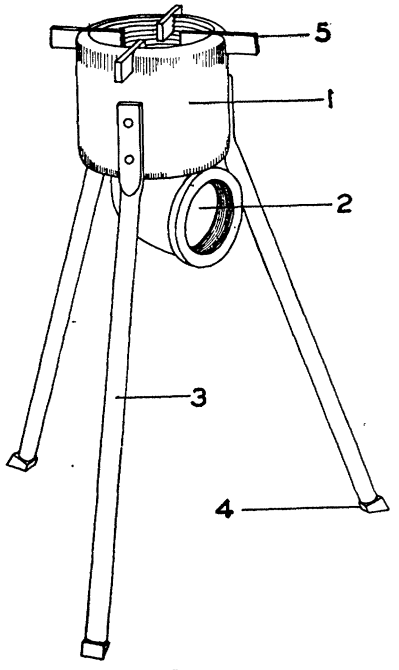

FIG. 1.

The Sullivan burner utilizes the following materials:

Materials: Many of these items may be salvaged from old machinery or from scrap-metal heaps. (1) One galvanized iron 3¼-inch pipe sleeve, 3¼ inches high. (2) One 1¾-inch pipe elbow. (3) Three pieces of ⅜-inch iron pipe, each 13 inches long. (4) Three pieces of rubber for insulating shoes for the legs of the stand. (May be cut from old automobile tire shoe.) (5) Four 2-inch lengths of ⅜ × ½ inch iron bar for grate. (6) Collar cut from ⅛-inch thick steel plate, to fit the inside diameter of the 3¼-inch pipe sleeve and with a hole to receive the 1¾-inch pipe elbow. (Not shown in figure.)

Assembly: One end of the elbow is welded to the steel collar, and this unit welded to one end of the pipe sleeve. This forms the body of the burner, the open end of the elbow being the flame intake, and the upper end of the sleeve the top of the burner. Then the top end of the sleeve is cut in four equidistant places to receive the lengths of iron bar. These lengths are spot-welded in place and form a grate. The ⅜-inch iron pipe is used for the stand, the upper end of each length being flattened and riveted to the outside of the lower half of the sleeve. The rubber shoes for the feet of the tripod stand may be cut with a projection that will fit up inside of the bore of the iron piping.

Use: a gasoline torch is heated and fired, and placed so that the end of the barrel is about an inch from the flame intake of the burner. The amount of heat may be regulated by adjusting the flame of the torch.

JOHN J. LYNCH

U. S. DEPARTMENT OF AGRICULTURE

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