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H. GRAF

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ORCHARD HEATER

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Fig. 1

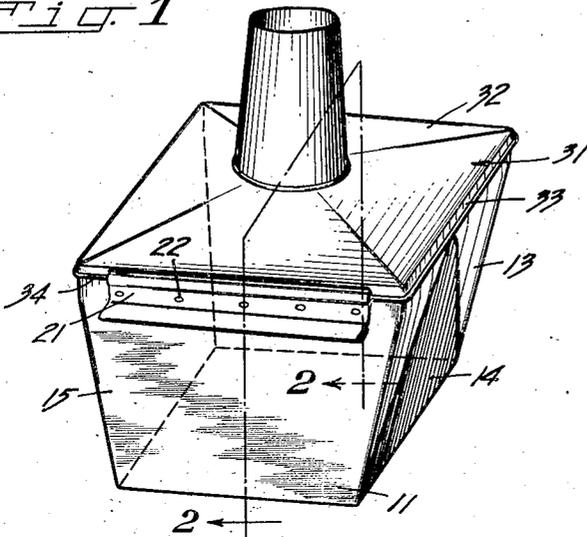


Fig. 2

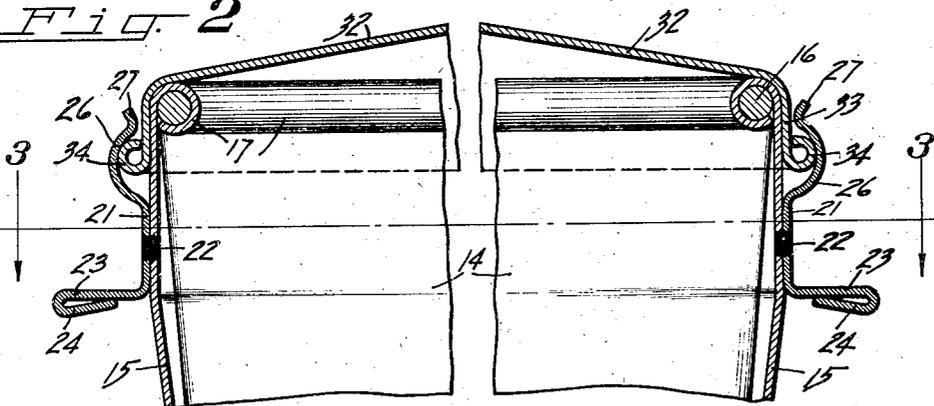
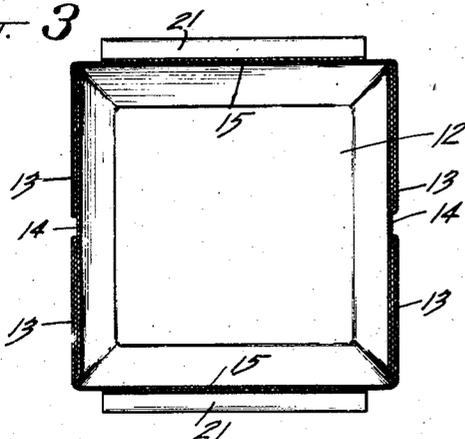


Fig. 3



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ORCHARD HEATER

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4 Claims. (Cl. 220-55)

The present invention relates to an orchard heater and has particular reference to improved features of construction of a rectangular heater having a bowl folded and formed from sheet material.

The principal object of the present invention is the provision of an orchard heater having combined reinforcing, cover retaining and carrying handle elements associated with a rectangular bowl.

An important object of the invention is the provision of yielding clamping elements associated with the rectangular bowl or body of such a heater, these elements removably locking and holding a rectangular cover in container closing position.

Numerous other objects of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a perspective view of an orchard heater embodying the present invention;

Fig. 2 is an enlarged sectional view taken substantially in the vertical plane, indicated by the broken lines 2-2 in Fig. 1, parts of the section being broken away; and

Fig. 3 is a reduced plan sectional view of the heater bowl as viewed substantially along the line 3-3 in Fig. 2.

In orchard heaters burning fuel oil it is highly desirable that the several parts of the heater be constructed of the lightest material that can be used consistent with the necessary strength and wearing qualities so that the heaters can be easily handled when filled with oil and also to minimize shipping costs to the orchards where they are to be used. Relatively thin sheet metal has been universally used in their fabrication, such material combining cheapness and ease of manufacture. A favorite form in the less expensive heaters is the folded square or rectangular shape but in this shape there are relatively large flat side walls which are inherently more or less flexible. The present invention, overcomes weakness in the side walls by providing improved reinforcing members properly located for their reinforcing functions and providing additional features such as handles for carrying purposes and yielding snap or clamping elements for holding the cover in closing position.

In the drawing, the numeral 11 designates a bowl or body having a bottom 12 which is adapted

to be formed from a blank by folding of corner flaps 13 back against flat tapered end walls 14, this leaving flat tapered side walls 15. The wall sections 13, 14, 15 are slightly bent near the top of the bowl into vertical planes. The upper edges of these walls are preferably bent inwardly, downwardly and outwardly around a wire 16 (Fig. 2), this construction producing a curled, smooth, rounded edge 17 for the mouth or open end of the bowl.

The folded construction of the end parts 13, 14 with the three thicknesses of metal provides strength and rigidity for the end walls and the relatively weaker side walls 15 are strengthened by reinforcing members 21 formed as sheet metal bars which are secured in horizontal positions against the side walls. These bars are secured in any suitable manner, as by spot welded connections 22. Each reinforcing bar 21 is preferably bent outwardly, along its lower edge, into a horizontally projecting flange 23 which is folded back on itself at 24. This double flange thickness of each reinforcing member provides rigidity and converts it into a suitable carrying handle by which the bowl may be easily lifted.

The bar 21, above its engagement with the wall 15, projects outwardly and upwardly in a semi-circular bead section 25 which terminates in a half-rounded lip 27 which normally extends close to the wall 15, that is, when the heater bowl is open. There is sufficient resiliency in the metal of the bar to permit yielding outwardly of this lip and the bead part 25, this yielding feature being utilized for clamping engagement with a cover member 31.

The cover 31 is of a size and shape to frictionally fit the open end of the bowl body 11, and is preferably formed with sloping top walls 32 and vertically depending skirt walls 33 which frictionally engage the exterior straight or vertical surfaces of the walls of the bowl. The cover walls 33 preferably terminate at their lower rims in curled edges 34. This cover is, when the invention is in use, usually provided in a known manner with a damper for the admission of air, which is not illustrated because it is not necessary to the understanding of the invention claimed herein.

When the cover 31 is applied to the bowl body 11 adjacent parts of the curled edges 34 are pressed between the vertical walls of the bowl and the lips 27 of the bars 21 and force the lips and their connecting beads 25 outwardly or away from the bowl until the cover is fully seated on the body. In finally closed position (Fig. 2) the

curled edges 34 on the two sides of the cover are fully seated in the interior walls of the beads 26 and the cover is firmly, although removably, held in closing position. The cover is easily removed being merely pulled off of the body, the beads 26 springing outwardly to let the edges 34 pass by the lips 27.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. An orchard heater for fuel oil, comprising a body having flat side walls terminating in an open end, a plurality of reinforcing bars secured to said side walls, a cover member for closing the open end of said body, said reinforcing bars having means for engaging outside of and above said cover and clamping it in closing position on said body.

2. An orchard heater for fuel oil, comprising a body having flat side walls terminating in an open end, a plurality of reinforcing bars secured

to said side walls, a cover member for closing the open end of said body and having depending walls engaging and overhanging said body walls and terminating in curled edges, said reinforcing bars having means for engaging the curls of said cover outside of the latter and clamping it in closing position on said body.

3. An orchard heater for fuel oil, comprising a body having flat side walls terminating in an open end, oppositely disposed reinforcing bars secured to opposite side walls of said body, each of said bars having an upwardly extending yielding edge and an outwardly extending handle part, and a cover member for closing the open end of said body and having depending walls engaging and overhanging said body walls and terminating in curled edges adapted to snap into the yielding edges of said reinforcing bars whereby the said cover is retained in closing position.

4. An orchard heater for fuel oil, having a body and superposed cover, the body having attached thereto at opposite sides strengthening bars having outstanding handle portions, and also having yielding lips engageable over portions of the cover.

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