March 20, 1956 E. F. SMITH 2,738,743

TRASH BURNER

Filed March 21, 1952

FIG. 2

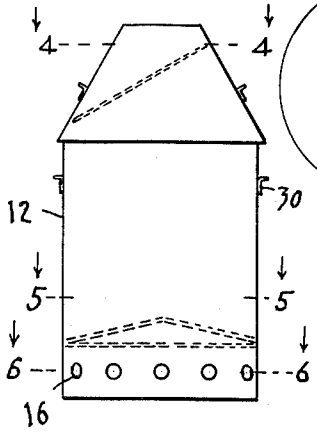


FIG. 3

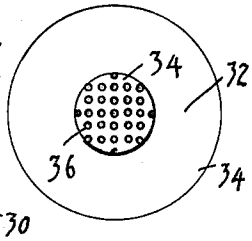


FIG. 4

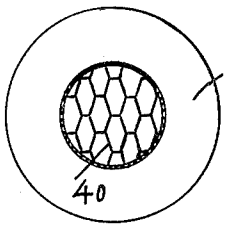


FIG. 1

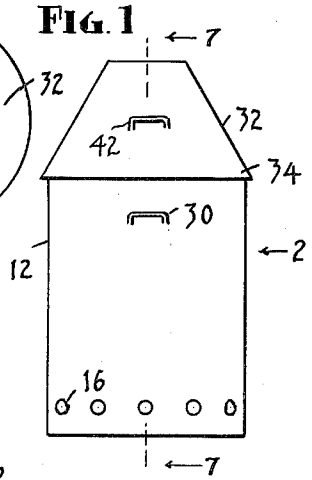


FIG. 8

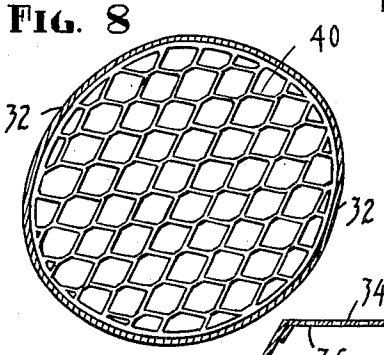


FIG. 5

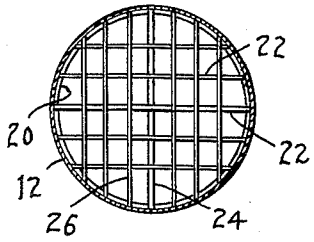


FIG. 7

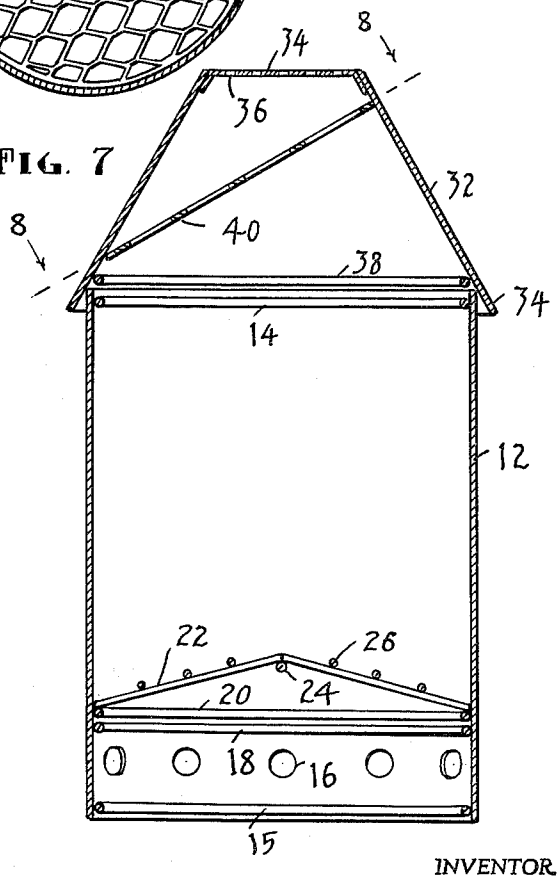


FIG. 6

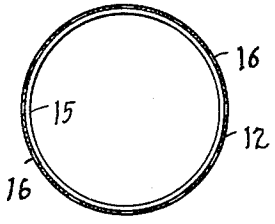
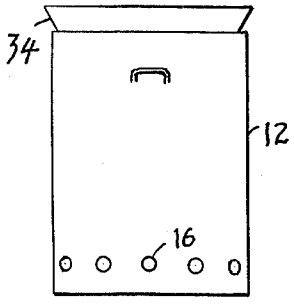


FIG. 9



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TRASH BURNER

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Application March 21, 1952, Serial No. 277,795

2 Claims. (Cl. 110—18)

This invention relates to improvements in portable incinerators. It has especial reference to a device for the burning of discarded and useless materials as trash and rubbish.

To provide a burner device which will afford improved combustion is the object, broadly stated, of my invention. Other and specific aims are devoted to providing features of structural improvement whereby the device is economical of manufacture, capable of being practicably handled in merchandising and in use, and which is durable and dependable.

The objects of my invention are accomplished by, and the invention is contained in, the new construction, combination and arrangement of parts described in the following specification and illustrated in the accompanying drawings, suitable characters of reference being applied to the several parts of the invention and they appear in the different views.

In the drawings:

Fig. 1 is an elevational view of my new trash burner.

Fig. 2 is an elevational view, in the direction of arrow **2** in Fig. 1.

Fig. 3 is a top plan view in the direction of arrow **3** in Fig. 2.

Fig. 4 is sectional top plan view on broken line **4—4** in the direction of arrow **4** in Fig. 2.

Fig. 5 is a sectional top plan view on broken line **5—5** in the direction of arrow **5** in Fig. 2.

Fig. 6 is a sectional top plan view on broken line **6—6** in the direction of arrow **6** in Fig. 2.

Fig. 7 is an enlarged vertical central sectional view on the broken line **7—7**, in the direction of arrow **7** in Fig. 1.

Fig. 8 is a plan view taken on the broken line **8—8** in the direction of arrow **8** in Fig. 7.

Fig. 9 is an elevational view indicating the appearance of the device as when not in use, the dome being in inverted position and nested in the upper portion of the tube.

A length of sheet metal rectangular in plan and of predetermined dimensions, curled to cylindrical form, its meeting ends being abutted and united as by welding, constitutes upright tube **12** which forms the body of the burner which, in the present typical instance, is about eighteen inches in diameter. Said tube is stiffened at its upper portion by an internal annular band **14**, and at its lower portion, by the internal annular band **15**. At a plane slightly above the plane of said lower band **15** is a series of inlets **16** arranged in horizontal alignment. At a plane above the plane of said holes, is secured a support member, as ledge ring **18**.

Grating which I designate as a ridged grate comprises a base ring **20** of diameter to be reposed, with clearance at the tube walls, upon said ledge ring **18**. Wires **22** spaced and in parallelism and inclined upwardly have their base ends integrated with said ring **20**. Their upper ends are integrated, as by welding, at a right angle to a ridge wire **24**, as indicated in Fig. 7. Cross wires **26**

are in spaced parallelism with said ridge wire and at their points of crossing with the inclined wires **22** are secured thereto, as indicated in Fig. 5. The mesh so formed permits of the subsidence readily therethrough and without tendency to clogging, of such incombustible residue as may be present in the trash content of the tube. The said grate reposes upon the ledge ring **18**, free in its position, and capable of being removed.

Transport manually of the tube is facilitated by means of a handle **30**.

A length of sheet metal of predetermined length, curvilinear in plan, curled to annular formation, its meeting ends being abutted and welded, and the upper edges thereof being spanned by a circular plate **34** with perforations **36**, constitutes a frusto-conical cover **32** the lower base **34** thereof being of diameter larger than the diameter of said tube **12**.

To the internal face of said cover, at a plane suitably above the plane of the said lower base is secured annular base ring **38**.

A baffle and deflector member **40**, made of a foraminous plate elliptical in formation (as indicated in Fig. 8) is secured within said cover inclined at an oblique angle to the vertical axis of said cover. Expanded metal is the material preferred for this baffle and deflector plate for the reason that the openings therein are diamond shaped, their long dimensions being parallel to the main axis of said plate. Said angle of inclination is, preferably, about thirty degrees. Transport of the cover is facilitated by providing a handle **42**.

A burner, according to my invention, while economical of construction, is strong and durable and it is not liable to deformation in any of the transactions that are incident to its use.

For facility in shipping and storage transactions, the cover is disposed in inverted position and within an end portion of the tube, as indicated in Fig. 9. The device is of minimum weight and bulk, and its three parts namely, the tube, the cover, and the grate are capable of being easily transported separately and of being readily arranged in, or disassembled from the combined status as same appear in the drawings.

In the use of the invention, the grate having been disposed upon the ledge ring **18**, and the trash having been disposed within the tube and upon said grate, the cover is now disposed in place, its seat ring **38** resting upon the rim of the tube. The base border **34** of the cover provides shelter at the rim portion of the tube against weather elements. Upon firing the trash, the draught of air through the inlets **16**, grate **22—26** and the baffle and deflector plate **40** affords effective combustion. Practice of the invention has demonstrated that the portion of the trash mass that is only partially immediately consumed or combusted, upon colliding with the baffle member **40** is caused to be desiccated, deflected and consumed further before its rise to the peak portion and perforated top of the cover. In this prevention of the rise to the peak portion of the cover, of impermeable portions of the trash, combustion is not impeded, a dependable burning of the trash is had, smoking is minimized, subjection of portions of the tube to abnormal heating is avoided, and tendency to puffing is eliminated.

It will be understood that modifications may be made, within the scope of the invention as it is defined in the claims, without departing from the principle of the invention and without sacrificing any of its advantages.

What I claim as my invention is:

1. In a trash burner, in combination with an upright tube having a series of holes in the lower marginal portion of its walls, an internal annular ledge member secured to said walls at a plane above the plane of said

holes, and a grate removably seated upon said ledge member, a frusto-conical cover the diameter thereof at its lower base being greater than the tube and the top of the cover being perforated, an internal annular seat member secured to said base and being of diameter substantially same as the said tube, and a foraminous plate secured interiorly of said cover and inclined upwardly from a point slightly above the plane of the said seat member.

2. A trash burner consisting of an upright tube having spaced holes in the lower marginal portion of its walls, and an internal ledge ring secured to said walls at a plane above the plane of said holes, a ridged grate removably seated upon said ledge ring, a frusto-conical cover the diameter thereof at its lower base being greater than the tube and the top thereof being perforated, an internal seat ring secured to said base and being of diameter to rest upon the rim of said tube, and a foraminous plate secured interiorly of said cover and inclined upwardly from a point in the wall thereof spaced slightly above the plane of said internal ring.

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