(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 032 280**
A2

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **80300124.7**

(22) Date of filing: **15.01.80**

(51) Int. Cl.³: **F 23 G 9/00**

(43) Date of publication of application:
22.07.81 Bulletin 81/29

(84) Designated Contracting States:
BE DE FR IT NL

(71) Applicant: **Cleeton, Austen Edgar**
Barnfield House
Horsham West Sussex, RH13 6ER(GB)

(72) Inventor: **Cleeton, Austen Edgar**
Barnfield House
Horsham West Sussex, RH13 6ER(GB)

(74) Representative: **Huntingford, David Ian et al,**
W.P. THOMPSON & CO. Coopers Building Church Street
Liverpool L1 3AB(GB)

(54) Refuse incinerator.

(57) An incinerator (1) for burning garden or domestic refuse comprising a hollow truncated cone (2) of incombustible material and a support frame (3).

In order to enable the incinerator to be easily dismantleable, the truncated cone (2) is formed from two trapesium shaped sheets (10) which are bent into the required shape, the resulting truncated cone being disposed, with its narrower aperture (13) lowermost, in the support frame (3) which supports the cone (2) in such a manner that the frame itself is not subjected to direct heating by the flames of burning refuse in the incinerator.

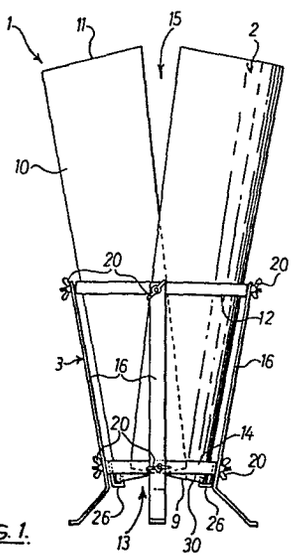

FIG. 1.

EP 0 032 280 A2

DESCRIPTION

"REFUSE INCINERATOR".

This invention relates to incinerators for use in burning garden, domestic or other refuse.

Incinerators of this type are already known which are either not dismantleable at all, in which case they can constitute an eyesore when not in use, or are difficult to store, or they are dismantleable, but, owing to the direct application of heat from the burning refuse and the vagaries of the weather, eventually corrode to such an extent that dismantling becomes virtually impossible.

It is an object of the present invention to provide an incinerator in which the above disadvantages are removed or are at least substantially reduced.

In accordance with this invention there is provided a dismantleable incinerator comprising at least one sheet of incombustible material, said sheet or sheets being bendable to form a hollow truncated cone, and a support frame which is adapted to hold said truncated cone in its working position in which it has a substantially vertical attitude with its narrower aperture lowermost.

Advantageously the support frame comprises at least two rings of incombustible material which are adapted to be connected together so as to have a common axis, the rings having different diameters so that the truncated cone may be received within, and supported by, the rings when in its working position. The rings are connectible by connecting members which may also extend beyond the lowermost aperture of the truncated cone so as to support the incinerator with the aperture at a distance above the ground.

Thus an incinerator in accordance with this invention has an advantage over the aforementioned known incinerators in that it is not only dismantleable but will

continue to be dismantleable for considerably longer than the known dismantleable incinerators. This is because the relevant parts of the support frame are not subjected to direct heating by the flames of the burning refuse. Particularly good isolation from the flames is achieved if the truncated cone is constructed from corrugated material such as corrugated iron. Thus the support frame is only subjected to an intense heat at the points of contact between the rings and the corrugated iron.

When the incinerator is dismantled it can be stored easily as all the parts can be packaged flat.

When assembled the main wear is on the truncated cone so that only this has to be replaced, yearly or at longer intervals when necessary.

The conical shape of the incinerator concentrates the combustion at the bottom and the larger top aperture of the truncated cone assists forced draughts and hence combustion. These draughts tend to rise up near the inside surface of the cone so that combustible material is being burnt from the outside whereby the material self-hops down onto the main area of combustion at the bottom of the cone.

Because of its height and shape and its solid sides, flames are not likely to be blown sideways so that an incinerator of this type also has an advantage in that it can be used in relatively confined areas with a reduced risk that nearby articles, such as fences or bushes, will be scorched or even be caused to catch fire.

Also, the cone does not have to be emptied of ash once combustion is completed. The ash instead falls to the ground under the lowermost aperture of the cone whence it can be spread out or collected up or even caught in a suitable resceptacle which is placed below the cone prior to combustion.

The invention is further described hereinafter, by way of example only, with reference to the accompanying drawings, in which:

Fig.1 is a side view of one embodiment of an incinerator in accordance with this invention, when in its assembled, operative state;

Fig.2 is a front view of one of the sheets of incombustible material used in the incinerator of Fig.1;

Figs. 3 and 4 are perspective views of rings forming parts of the support frame for the incinerator of Fig.1;

Fig.5 is a perspective view of a connecting member forming a part of the incinerator of Fig.1; and

Fig.6 is a perspective view of a cone support forming a part of the support frame for the incinerator of Fig.1.

With reference to the drawings, an incinerator 1 comprises a truncated cone 2 received within a support frame 3. The truncated cone 2 consists of two bent sheets 10 of incombustible material, such as sheet metal, the sheets preferably being corrugated. If the sheets are corrugated, they strengthen the vertical line of the incinerator as well as facilitating bending of the sheets in the horizontal plane. Furthermore the corrugations provide a plurality of small side chimneys which enhance draughts and hence combustion. Fig.2 illustrates one such sheet 10 which has the outline of a trapesium, although square, rectangular or even irregular shaped sheets may equally well serve to form the truncated cone 2. Similarly, one, three or more sheets may be used if desired. In the embodiment of Fig.1 two trapesium shape sheets 10 are used with the short end 9 forming a narrow aperture 13 of the truncated cone 2 and the long end 11 forming a larger aperture 15.

The support frame 3 illustrated in Fig.1 comprises a ring 12 connected to a smaller ring 14 by way of connecting members 16, the relative sizes of the rings 12, 14 being indicated in Figs. 3 and 4. The rings 12,14

are preferably formed from flat metal strips bent into circles and contain evenly spaced holes, 22,24 respectively through which bolts 18 may be positioned for assembling the support frame. Fig.5 shows one connecting member 16 which is also provided with holes 22',24', which holes are aligned with the holes 22,24 respectively in the rings 12,14 when assembling the support frame. When the bolts 18 have been inserted into the aligned holes 22,22' and 24,24', wing nuts 20 are attached to bolt together the support. At least two connecting members are used but preferably four, as illustrated, so that the incinerator may be kept in the upright position by the support frame alone.

In order to maintain the truncated cone in a raised position above the ground, cone supports 26, which each have a hole 28, may be connected to the support frame in the manner shown in Fig.1. To effect this connection the hole 28 is aligned with the holes 24,24' in the ring 14 and the connecting member 16 respectively, and a bolt 18 is passed therethrough and clamped in place by the wing nut 20. Thus, the edge 30 of the cone 2 can be supported on the base 32 of the cone supports 26.

Alternatively, the cone supports 26 can be permanently rigidly attached to the lower ring or to respective ones of the connecting members 16.

CLAIMS.

1. A dismantleable incinerator comprising at least one sheet of incombustible material, characterised in that the sheet or sheets (10) is bendable to form a hollow truncated cone, and a support frame (3) which is adapted to hold said truncated cone in its working position in which it has a substantially vertical attitude with its narrower aperture (13) lowermost.

2. An incinerator as claimed in claim 1 in which the support frame (3) comprises at least two rings (12,14) of incombustible material which are adapted to be connected together so as to have a common axis, the rings (12,14) having different diameters so that the truncated cone may be received within, and supported by, the rings when in its working position.

3. An incinerator as claimed in claim 2, in which the rings (12,14) are adapted to be connected together by connecting members (16) which, in the assembled incinerator, extend beyond the lowermost aperture (13) of the truncated cone so as to support the incinerator with the aperture (13) at a distance above the ground.

4. An incinerator as claimed in claim 3 in which the support frame (3) further comprises at least one cone support (26), the or each cone support (26) being adapted to be attached to each of the connecting members in the vicinity of the ring (14) having the smaller diameter and being arranged so as to receive and support the truncated cone with the aperture (13) at a distance above the ground.

5. An incinerator as claimed in any preceding claim in which the sheets (10) are corrugated so as to afford better themal isolation for the dismantleable support frame.

6. An incinerator as claimed in any preceding claim in which two trapezium-shaped sheets (10) of incombustible material are used to form the truncated cone.

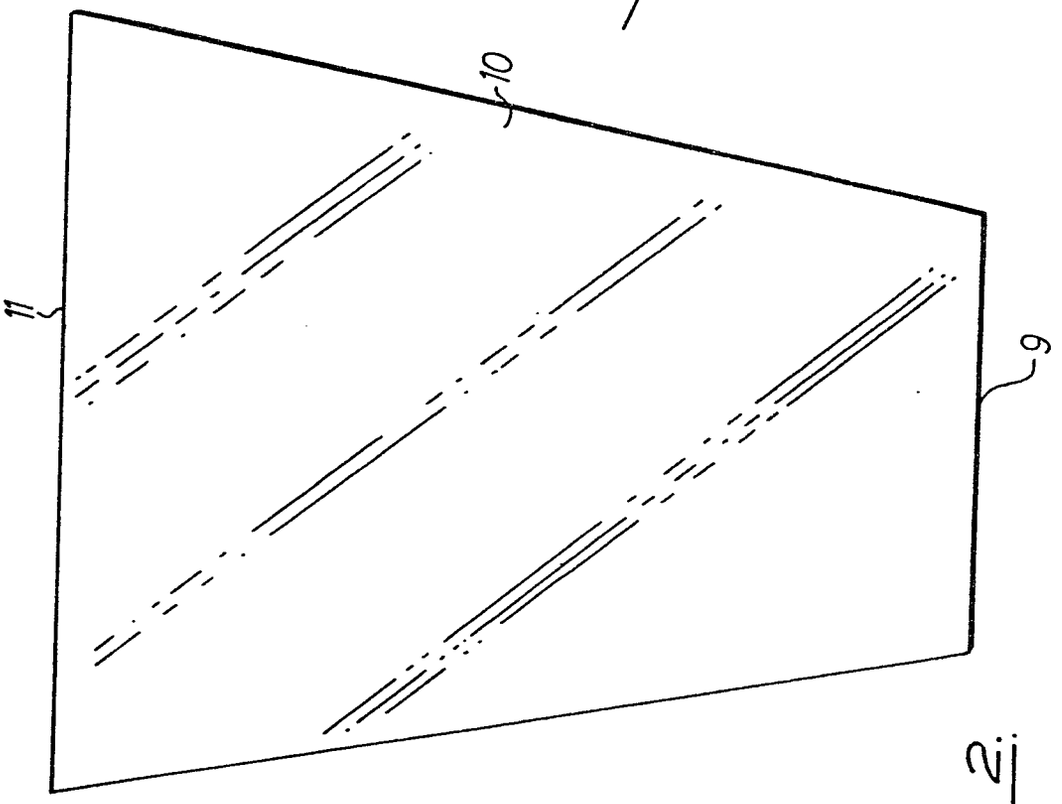

FIG. 2.

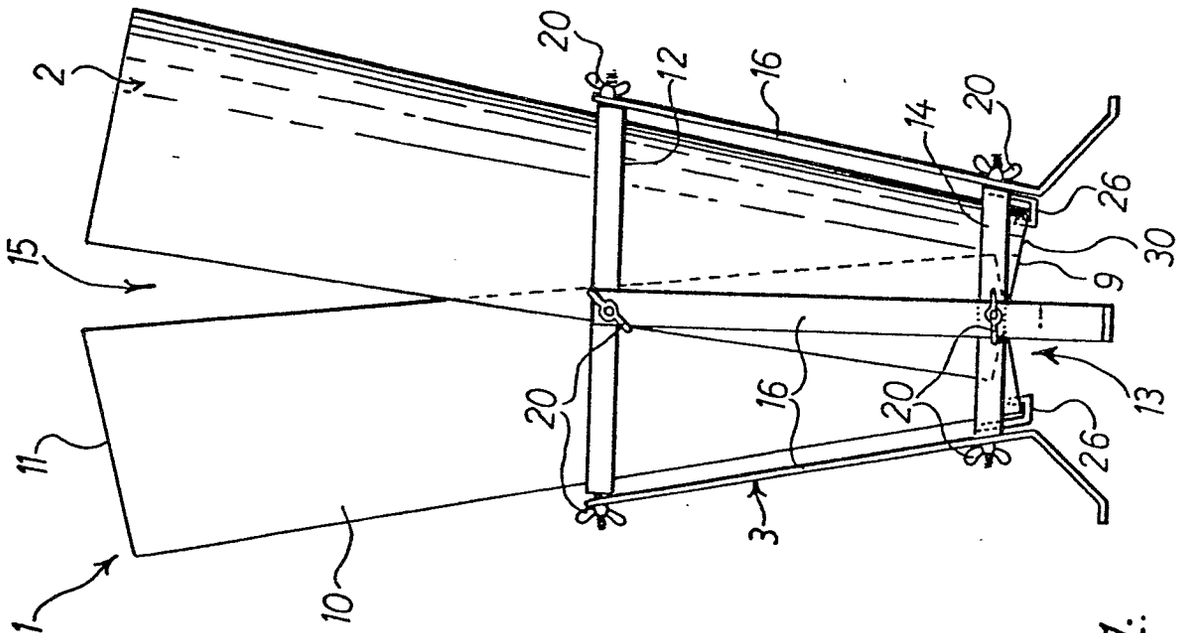

FIG. 1.

C°4324/C

0032280

2/2.

FIG. 5.

FIG. 4.

FIG. 3.

FIG. 6.