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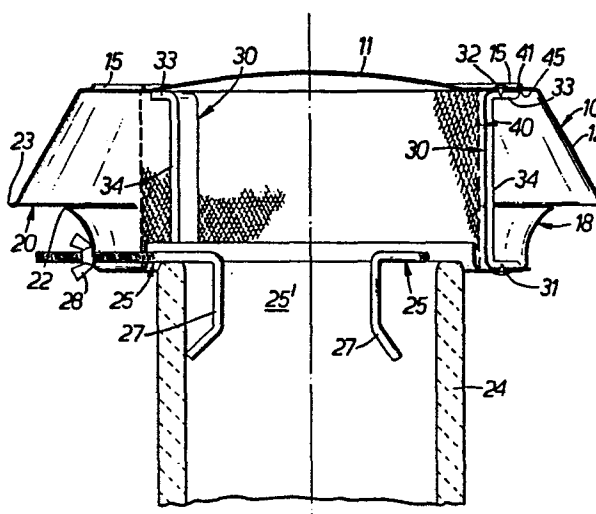
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54 Improvements in chimney cowl.

57 The cowl comprises a hood (10) having a flat top portion (11) and a downwardly and outwardly extending peripheral portion (12), there being provided a series of openings (15) disposed around the periphery of the flat topped portion (11). An annular, channel (18) is disposed below the hood (10) with its top opening upwardly beneath the openings (15). A gap (20) is formed between the outer wall of the channel (18) and the edge (23) of the portion (12) of the hood for the discharge of smoke and chimney gases. The hood (10) is carried from the channel (18) by brackets (30) and the channel (18) is adapted with hook bolts (25) for fastening to the chimney stack (24).



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IMPROVEMENTS IN CHIMNEY COWLS

This invention relates to chimney cowls.

A chimney cowl is usually fitted to reduce
downdraught in the chimney and to reduce the entry
of rain into the chimney flue.

5 Simple chimney hoods are known which cover over
the chimney opening to reduce direct rain entry.

 Also known are cowls which are capable of
reducing downdraught for given wind directions,
bearing in mind not only that a chimney may be
10 sheltered from wind blowing from certain quarters and
be subject to prevailing winds but also that wind
may blow horizontally across the top of a chimney
or at an angle either upwardly or downwardly with
respect to the horizontal. Such cowls need to be
15 properly orientated with respect to the chimney to obtain
the best results depending upon the prevailing wind
direction.

 An object of this invention is to arrive at
an improved chimney cowl which is more effective to
20 prevent rain entry into a chimney flue and which is
effective to prevent or reduce downdraught in a
chimney irrespective of the wind direction.

 According to this invention, a chimney cowl
comprises a hood, the hood having a flat top portion

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and a downwardly and outwardly extending peripheral portion, there being provided a series of openings disposed around the periphery of the flat top portion of the hood, an annular, channel-form member disposed
5 below the hood in downwardly spaced relation thereto and dimensioned and arranged so as to lie with its channel top opening upwardly directly beneath said openings to enable said channel to collect precipitation falling through said openings, an
10 annular gap being formed between the upper, peripheral edge of the outer wall of the channel-form member and the peripheral edge of the downwardly and outwardly extending peripheral portion of the hood, and means for securing the cowl to a chimney with the channel-
15 form member encircling the chimney opening.

Preferably, the securing means is carried by the channel-form member and the channel-form member supports the hood.

Conveniently, the channel-form member is
20 circular in shape and said openings are arranged in a circular ring.

A tubular bird guard may be provided, the bird guard being in one piece and being held in position between the underside of the hood and the floor of the
25 channel in the channel-form member, the bird guard surrounding the inner wall of the channel-form member

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and extending upwardly from the upper peripheral edge thereof to engage the underside of the hood.

With this arrangement, the bird guard, if provided, is securely retained in the cowl and cannot readily fall into the flue and cause a blockage.

A specific embodiment of the present invention will now be described by way of example, and not by way of limitation, with reference to the accompanying drawings in which :-

FIG. 1 is a front elevation of a chimney cowl according to the present invention;

FIGS. 2 and 3 are respectively top plan and underneath plans of the cowl; and

FIG. 4 is a section on line 4-4 in Fig. 2.

With reference now to the accompanying drawings, the cowl comprises a hood 10 having a circular, generally flat top portion 11 and a downwardly and outwardly extending peripheral portion 12, there being provided a series of four, elongated openings 15 disposed around the periphery of the flat topped portion 12 of the hood in a circular ring. An annular, channel-form member 18 of circular shape is disposed below the hood in downwardly spaced relation thereto. The channel-form member 18 is dimensioned and arranged so as to lie with its open channel top facing upwardly directly towards the openings 15 to enable the channel to collect

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precipitation falling through the openings. A directly downwardly facing annular gap 20 is formed between the upper, peripheral edge 22 of the outer wall of the member 18 and the peripheral edge 23 of the portion 12 of the hood. Hook bolt means 25 is provided for securing the cowl to a chimney 24 with the member 18 encircling the chimney opening 25. The hook bolt means is carried by the member 18 and comprises four radially disposed hook bolts 27 at 90° angles which are passed through opposite holes in the inner and outer walls of the member 18 respectively. The ends of the hooks 27' are engaged with the inner surface of the chimney with the cowl centred over the chimney opening and the wing bolt nuts 28 are then tightened evenly so as to draw the hooks into firm engagement with the chimney inner surface and thereby secure the cowl in place. The member 18 supports the hood 10 via four U-shaped brackets 30 screw fixed, as at 31 and 32, to the floor of the channel-form member 18 and the flat top portion 11 of the hood respectively and to the latter at locations between the adjacent ends of adjacent openings 15. The horizontally extending limbs 33, 34 of the brackets 30 are directed radially outwardly and the vertically extending portions 34 of the brackets are spaced

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from the inner wall of the channel-form member 18. The gap thus provided receives and locates the lower edge portion of a hollow, right cylindrical, one piece, bird guard 40 formed of wire mesh. The bird guard 40 extends upwardly to engage the underside of the flat-topped portion 11 of the hood and is held loosely in a central position between the underside of the hood and the floor of the channel in the channel-form member by the brackets 30. The limbs 33, 34 of the brackets 30 are provided with lugs 41, 42 which locate in holes 45 and 46 respectively in the hood and in the outer wall of the member 18, the latter forming drain holes for draining water collected in the channel of the member 18 to the outside of the chimney opening. The outer wall of the member 18 is upwardly and outwardly curved towards the peripheral edge of the peripheral portion 12 of the hood to improve the weathering and the fact that the gap 20 between the wall and the hood is downwardly facing prevents the direct entry of wind under the hood for most conditions. At the same time, this gap 20 is made adequate enough to provide for the exit of smoke and not unduly to increase the resistance to flow of air up the chimney flue. The central portion 11 of the hood is slightly domed in an upward direction to

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to strengthen the hood against buckling and to
cause water to run off the top of the hood while
the openings 15 are provided each with a surrounding
upturned lip to prevent water draining through the
5 openings.

In use of a chimney cowl as described, wind
striking the hood from any direction and being
deflected across the top of the hood and across the
openings 15 gives rise to an aspirating effect
10 improving the updraught through the chimney. Due
to the symmetrical shape of the hood, this is done
regardless of the general direction of the wind.
The cowl substantially covers over and shelters
the chimney opening to prevent downdraughting under
15 adverse wind conditions and also acts to prevent or
reduce rain penetration into the chimney flue,
precipitation falling through the openings 15 being
collected and drained off to the outside of the
chimney opening by the channel member 18.

20 The cowl as described is of "knock-down"
construction and can be assembled on site using
the fixing screws described. In installing the cowl
it is unnecessary to "direct" the cowl to suit
prevailing wind conditions. The cowl is easy to
25 fit and requires no tools. The channel-form of the
member 18 constituting the base of the cowl and

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carrying the hook bolt fixings provides sufficient rigidity to resist distortion under the action of the forces exerted by the hook bolts attaching the cowl to the chimney.

5 Whilst a circular cowl has been described by way of example, this is not essential. A generally square-form cowl, as viewed in plan, is within the scope of this invention and could be provided to suit square chimney flues. Alternatively, a tubular
10 adapter could be provided for converting a square chimney flue into a round section to suit the circular cowl described.

 The cowls may be provided in various sizes to suit chimney flues of various dimensions.

15 It is to be understood, however, that the hook bolt fixings enable a cowl of any given dimensions to be fitted to quite a wide range of flue sizes.

 The channel-form member 18 might conceivably be of
20 inverted channel-form or replaced with a closed or solid-sectioned annular member which will equally perform the rigidifying function of the channel-form member 18. Such a closed or solid-sectioned or inverted channel-form member might have its upwardly
25 facing or top surface directly beneath the openings 15

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adapted simply to drain off water outwardly of the opening to the top of the chimney flue.

In any event, it would be preferred to provide the inverted channel-form or closed or solid-
5 sectioned member with an upwardly and outwardly curved wall surface corresponding to that at the outer wall of the member 18.

With reference to the construction of chimney cowl as described in the last but one paragraph above
10 it is within the scope of the present invention to provide a chimney cowl comprising a hood, the hood having a flat top portion and a downwardly and outwardly peripheral portion, there being provided a series of openings disposed around the periphery of
15 the flat top portion of the hood, an annular frame member disposed below the hood in downwardly spaced relation thereto, an annular gap being formed between the frame member and the peripheral edge of the downwardly and outwardly extending peripheral portion
20 of the hood, support means supporting the hood from the frame member, and securing means carried by the frame member for securing the cowl to a chimney with the frame member encircling the chimney opening.

Preferably, in this case, the frame member would
25 have its upwardly facing top surface disposed directly

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beneath said openings and adapted to drain off water outwardly of the chimney opening.

CLAIMS:

1. A chimney cowl comprising a hood, the hood having a flat top portion and a downwardly and outwardly extending peripheral portion, there being
5 provided a series of openings disposed around the periphery of the flat top portion of the hood, an annular, channel-form member disposed below the hood in downwardly spaced relation thereto and dimensioned and arranged so as to lie with its
10 channel top opening upwardly directly beneath said openings to enable said channel to collect precipitation falling through said openings, an annular gap being formed between the upper, peripheral edge of the outer wall of the channel-form member
15 and the peripheral edge of the downwardly and outwardly extending peripheral portion of the hood, and means for securing the cowl to a chimney with the channel-form member encircling the chimney opening.

20 2. A chimney cowl as claimed in claim 1 in which the securing means is carried by the channel-form member and the channel-form member supports the hood.

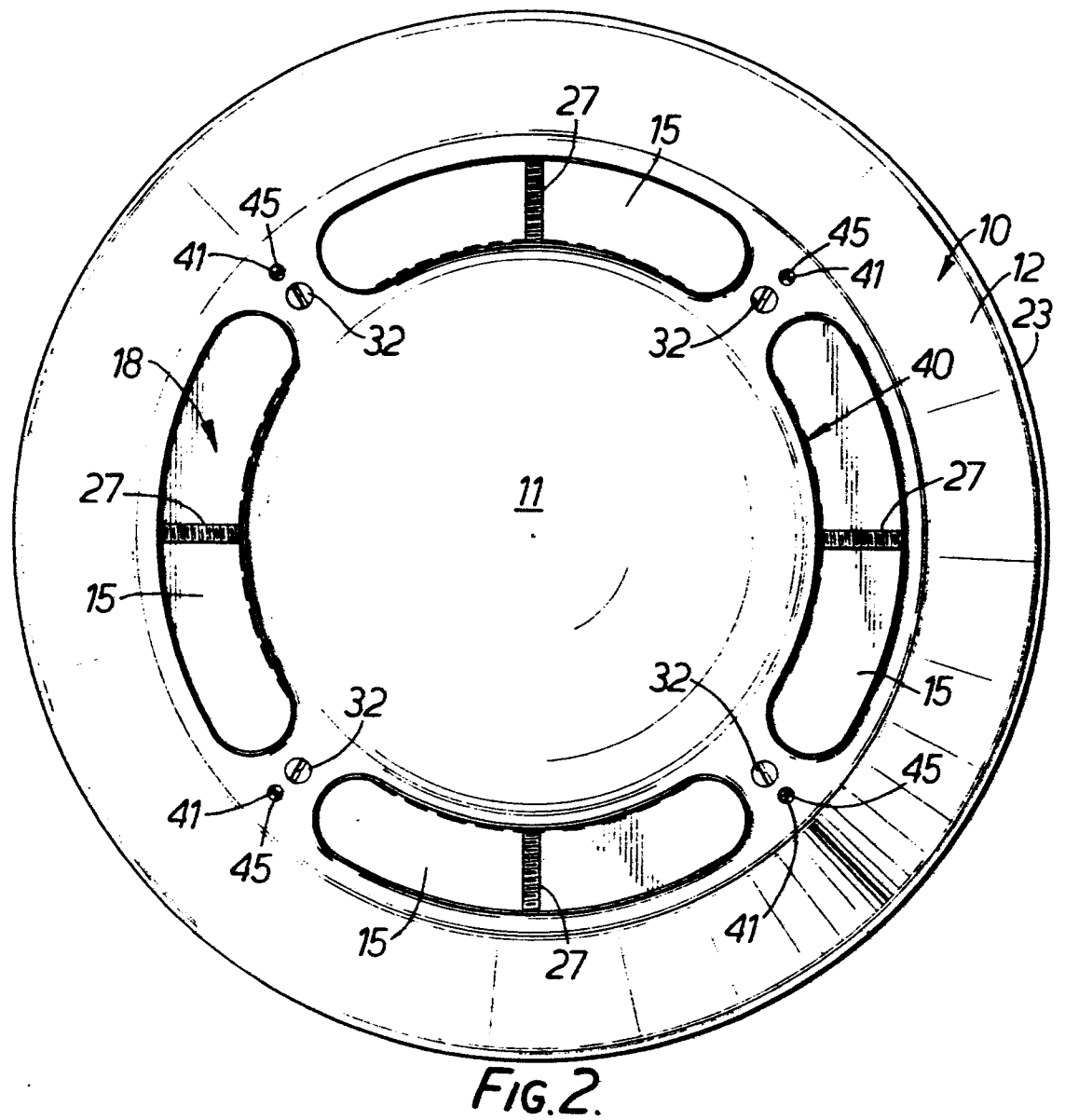
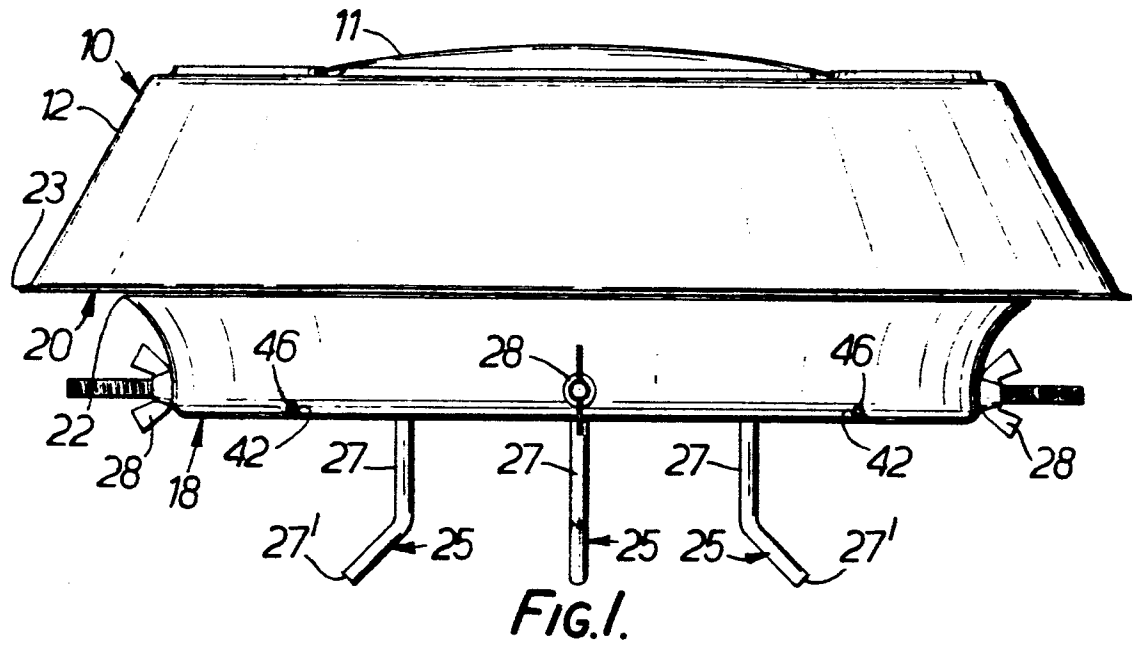
3. A chimney cowl as claimed in claim 1 or 2 in which said openings are arranged in a

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circular ring.

4. A chimney cowl as claimed in any preceding
claim further comprising a tubular bird guard, the
bird guard being in one piece and being held in
5 position between the underside of the hood and the
floor of the channel in the channel-form member,
the bird guard surrounding the inner wall of the
channel-form member and extending upwardly from
the upper peripheral edge thereof to engage the
10 underside of the hood.

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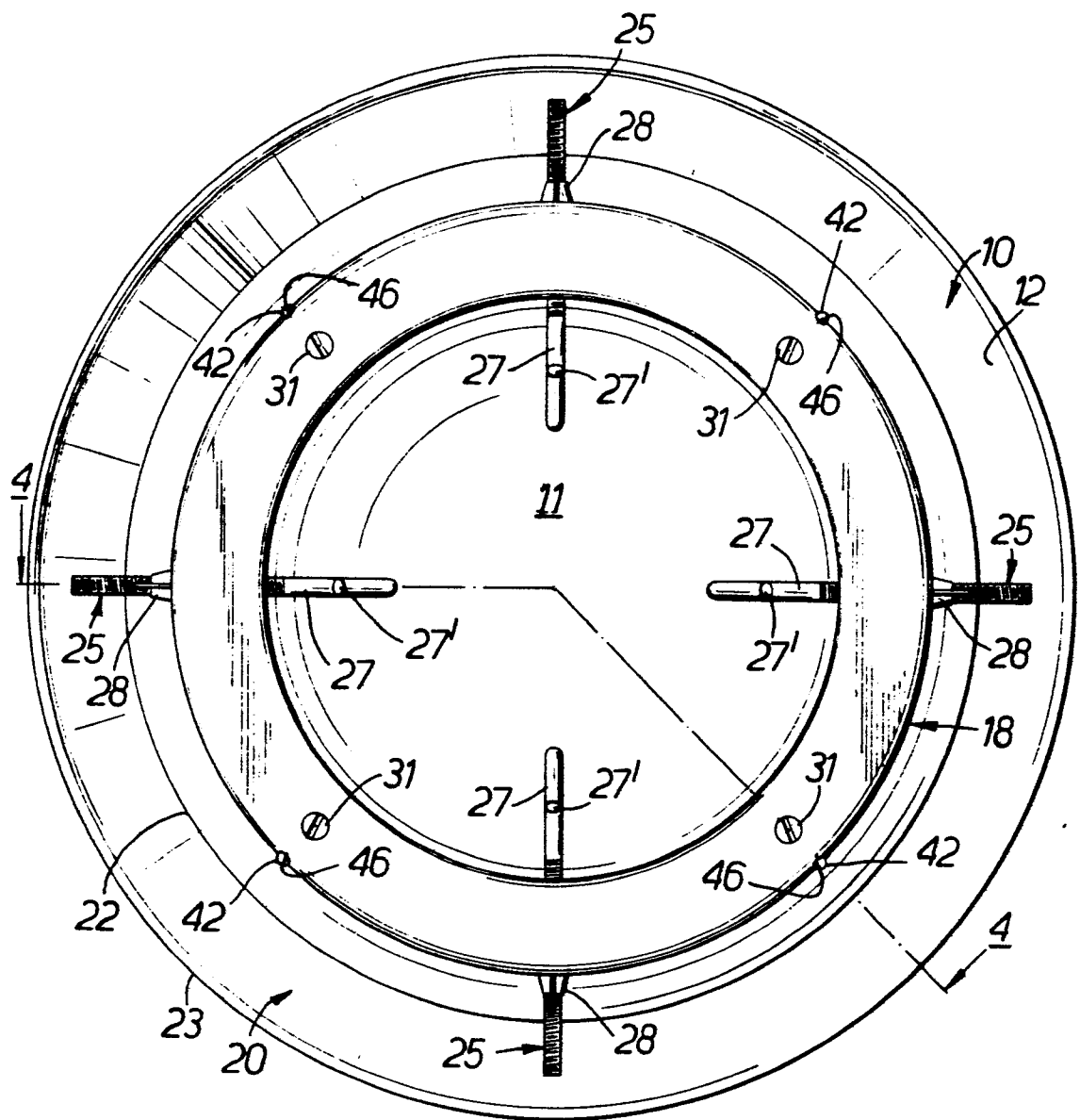


FIG. 3.

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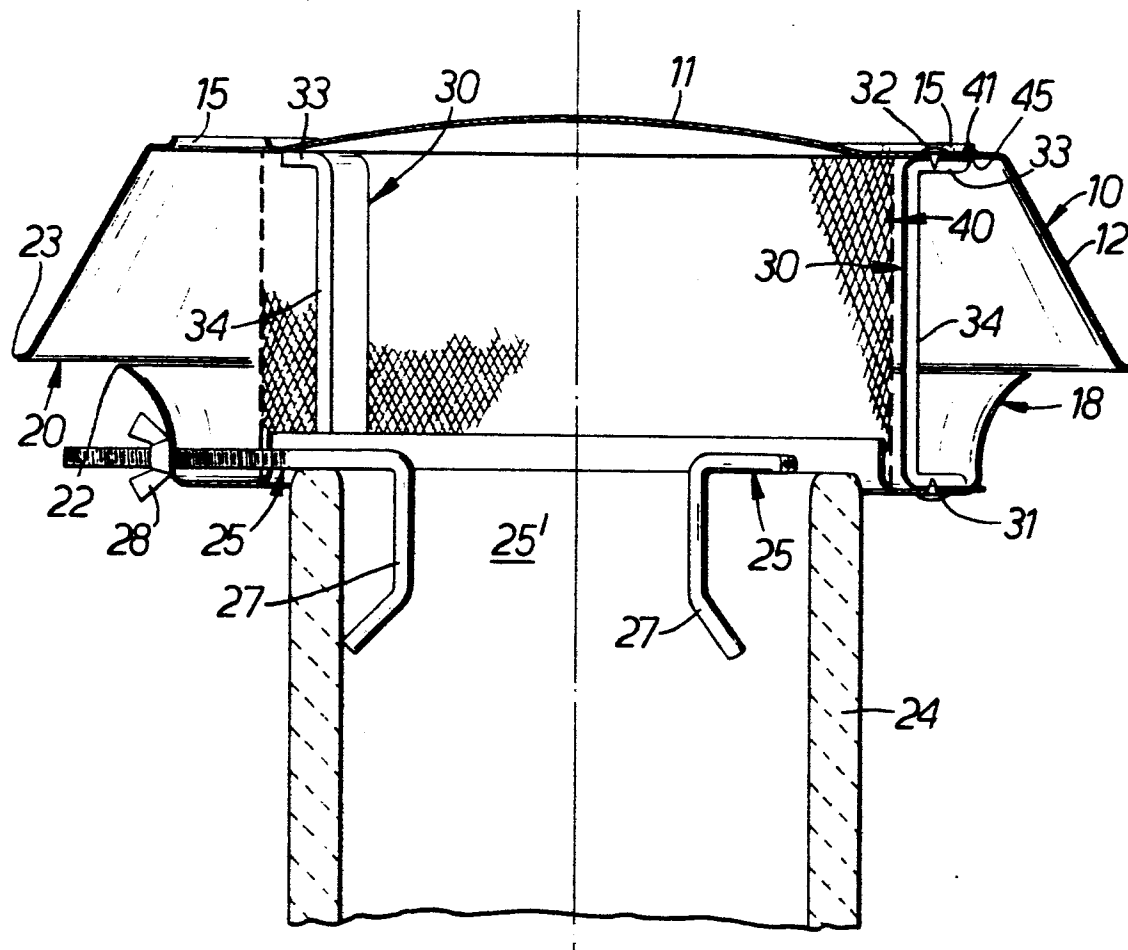


FIG. 4.



European Patent
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EUROPEAN SEARCH REPORT

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Application number

EP 85 30 8018

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	FR-A-1 322 537 (RUBINETTI) * Page 1, right-hand column, lines 26-37; figures *	1	F 23 L 17/02 F 23 L 17/14
A	GB-A- 696 331 (BRITISH BUILDING SUPPLIES LTD.) * Figure 1 *	1	
A	FR-A- 835 000 (MACHET) * Whole document *	1	
A	CH-A- 155 704 (HASLER-MUTH) * Whole document *	1	
A	CH-A- 184 822 (BÜHRER) * Page 1, left-hand column, line 17 - right-hand column, line 19; figure 1 *	1,2	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
A	BE-A- 843 523 (B. BOONANTS) * Page 3, lines 18-26; figure 1 *	4	F 23 L F 24 F
A	GB-A-1 256 426 (PJT ENG. CO., LTD.)		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 10-02-1986	Examiner BELTZUNG F.C.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			