April 30, 1963 J. H. CARR 3,087,409

VENT COWL

Filed Dec. 3, 1959

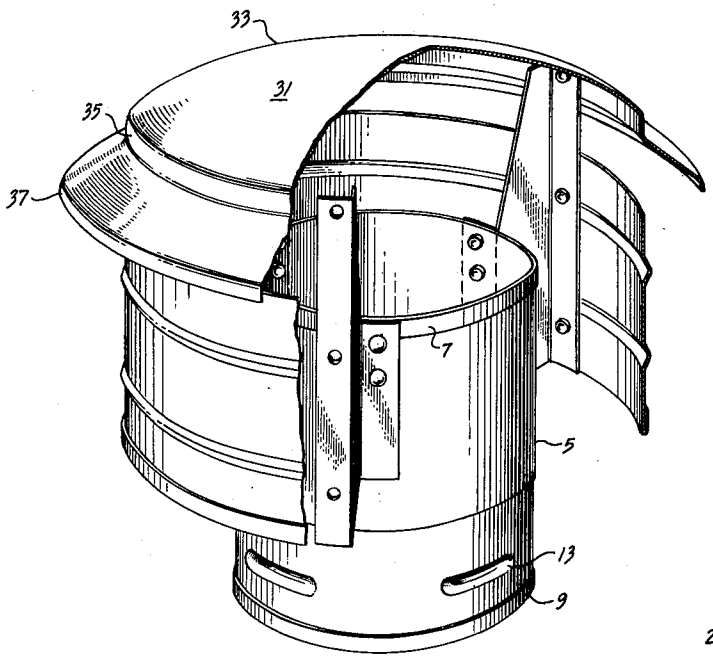


FIG. 1

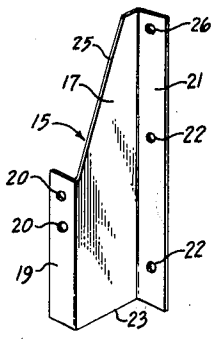


FIG. 3

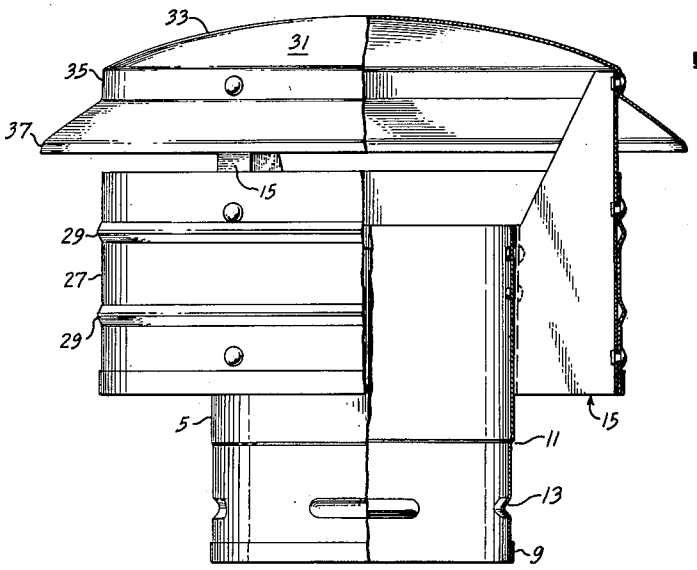


FIG. 2

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United States Patent Office 3,087,409 Patented Apr. 30, 1963

3,087,409

VENT COWL

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Filed Dec. 3, 1959, Ser. No. 857,098
2 Claims. (Cl. 98—84)

This invention relates to a vent cowl structure and more particularly relates to a metal structure of welded or riveted construction.

Vent cowls or caps are commonly used with vents for exhausting combustion gases, such as from space heaters or water heaters and it is highly desirable that such cowls present a minimum back pressure to the flow of gases therefrom. It is also desirable that such structures function regardless of wind direction and particularly that the cowl not act as an air scoop under any wind conditions whereby a down draft would be produced. Further, such vent cowls should be effective in excluding rain or other foreign matter from entering the vent, as well as preventing access by birds or small animals.

It is an object of the present invention to provide a vent cowl structure of simple design but which has all of the above desirable features and which is inexpensive to construct and which is very durable.

In the drawings forming part of this application:

FIGURE 1 is a perspective view, partially in section, of a vent cowl embodying the present invention.

FIGURE 2 is an elevational view of a vent cap of FIGURE 1, partly in section.

FIGURE 3 is a perspective view of one of the brackets used to support the deflector and top cap to the base.

Referring now to the drawings by reference characters, there is shown a base or coupling section **5** which may have a top rolled over edge **7** and a bottom rolled over edge **9**. The base section **5** preferably has an indentation **11** therein so that the bottom portion of the base pipe is slightly smaller than the top. The base section **5** also preferably has a series of indentations **13**, preferably four in number, which may be used for securing the base section to a vent pipe. Fastened to the base section **5** adjacent the top thereof are a series of brackets, preferably three in number, generally designated **15**. Each of the brackets **15** has a flat center section **17** with an inner flange **19** and an outer flange **21** integral therewith. It will be noted that the flanges **19** and **21** are turned in opposite directions. The inner flange **19** has holes **20** therein for attachment of the flange to the base, while the flange **21** has holes **22** for attachment of the deflector and hole **26** for attachment of the top cap. The inner lange **19** is relatively short while the outer flange **21** is relatively long. The bracket **15** has a flat base **23** while the tops of the flanges **19** and **21** are joined with the angling edge **25**.

Deflector **27** is provided which is mounted concentric to the base member **5** in such a relationship that its top extends somewhat above the top of the base member **5**. The deflector preferably has two reinforcing beads **29** for greater strength. The deflector **27** is substantially larger than the base pipe **5** and preferably has a net cross-sectional area (the actual cross-sectional area of the outer deflector minus the cross-sectional area of the base pipe) at least equal to and preferably on the order of twice as large as that of the base pipe. It has been found that this relationship is essential to prevent back pressure.

A top cap **31** is provided having an outside diameter substantially greater than that of the deflector. The cap **31** has a central dome portion **33** which extends to an annular trunk **35**. The inner wall of the annular trunk **35** is of substantially the same diameter and concentric

with the deflector. Extending beyond the annular trunk **35** is the outer rim **37**.

Preferably, the vent cowl is assembled by riveting although other suitable means, such as spot welding, may be employed. The holes **20** in the flange **19** provide a convenient place for riveting the bracket to the base member **5** and the holes **22** are used to fasten the deflector **27** to the bracket. The hole **26** is used for fastening the top cap to the bracket.

It is believed apparent from the foregoing that I have provided an inexpensive yet effective vent cap for use in connection with venting gases to the atmosphere.

I claim:

1. A vent cowl comprising:

(*a*) an open-ended metal cylinder having means thereon for securing said cylinder to an upstanding pipe whereby to permit said cylinder to serve as an extension thereof;

(*b*) at least two brackets secured to the exterior of said metal cylinder, said brackets each consisting of a flat sheet of metal having two straight parallel edges and having two opposed straight edges not parallel with one another whereby the two parallel edges are of unequal length;

(*c*) a flange integral with each of said parallel edges and at a right angle relative to the said sheet of metal at the point of attachment thereto, said brackets being secured to said metal cylinder along a longitudinal surface thereof by rivets through each of the flanges integral with the shorter bracket edge;

(*d*) a second open-ended metal cylinder, said second cylinder being of a diameter in excess of the diameter of said first cylinder;

(*e*) means securing the said second cylinder concentrically about the upper portion of said first cylinder to said flanges integral with the longer edges of said brackets, said second cylinder being so mounted that a portion of each bracket and flange integral with said longer edge extends thereabove and a portion of said second cylinder extends above the uppermost edge of said first cylinder while a larger portion thereof extends below the uppermost edge of said first cylinder;

(*f*) a top cap of a generally dish-shaped configuration and of larger diameter than said second cylinder, said top cap having a vertical annular trunk in an area spaced from the outermost edge thereof, said trunk being of substantially the same diameter as said second cylinder;

(*g*) and means securing said top cap at the vertical annular trunk thereof to the said portions of said flanges of said brackets extending above said second cylinder whereby said top cap is positioned over the said second cylinder with sufficient space between the lowermost surface of the said top cap and the uppermost edges of said second cylinder to permit gas to pass therebetween.

2. The vent cowl of claim 1 wherein the cross-sectional area of the said second cylinder is at least twice the cross-sectional area of the said first cylinder.

References Cited in the file of this patent

UNITED STATES PATENTS

2,068,916	Heppenstall	Jan. 26, 1937
2,739,520	Curran	Mar. 27, 1956
2,753,786	White	July 10, 1956

FOREIGN PATENTS

24,468	Great Britain	1907
935,323	France	June 16, 1948
509,107	Belgium	Feb. 9, 1952