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1,923,176

CHIMNEY STRUCTURE

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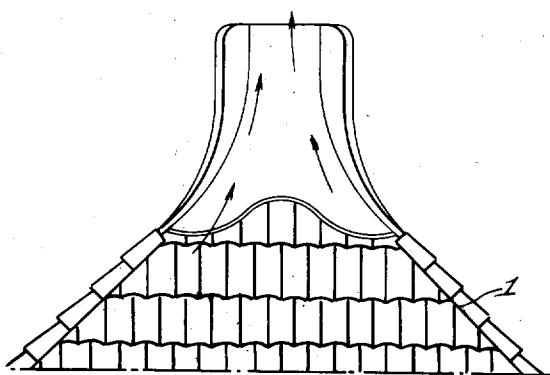


Fig. 1

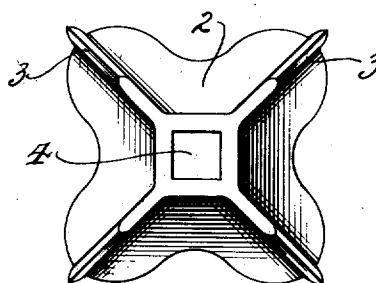


Fig. 2.

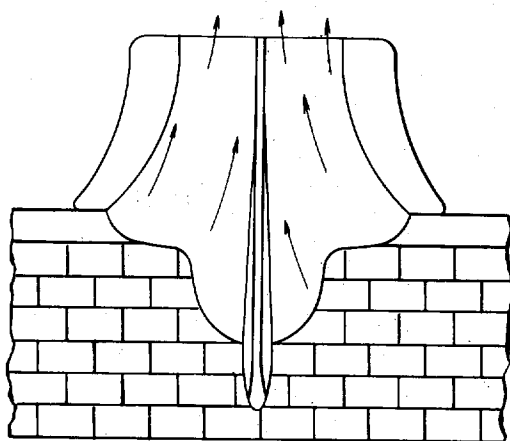


Fig. 3.

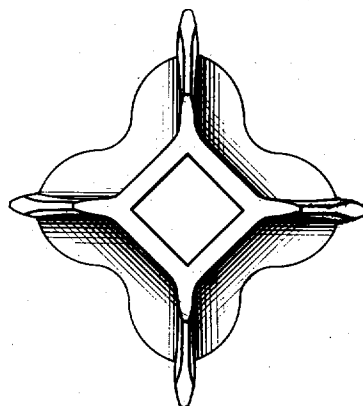


Fig. 4.

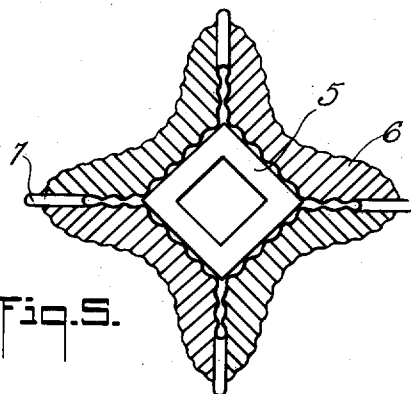


Fig. 5.

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CHIMNEY STRUCTURE

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2 Claims. (Cl. 98—58)

This invention relates to chimney structures, and with particularity to an improved chimney design which is highly efficient and artistic in appearance.

5 An object of the invention is to provide a chimney structure which is of relatively small height and is capable of achieving draft effects of ordinary chimneys of much greater height.

10 Another object of the invention is to provide an improved design of chimney which is capable of taking advantage of the velocity of the exterior air to create an additional draft within the chimney.

15 A feature of the invention relates to a chimney structure which is so shaped as to utilize the exterior air in such a manner as to create a suction on the interior of the chimney.

20 Another feature of the invention relates to an addition for ordinary chimneys to increase the effective draft thereof without increasing the height of the chimney.

25 Other features and advantages of the invention not specifically enumerated will be apparent after a consideration of the following detail descriptions and the appended claims.

Referring to the drawing—

Fig. 1 represents a portion of a roof having applied thereto a chimney according to the invention;

30 Fig. 2 is a top plan view of the chimney of Fig. 1;

Fig. 3 shows a modified form of chimney for use with a gable roof;

35 Fig. 4 is a top plan view of the chimney shown in Fig. 3; and

Fig. 5 shows the invention embodied in a separate attachment for use with standard chimneys.

40 Referring more particularly to Figs. 1 and 2, the numeral 1 represents schematically a portion of a square pyramidal roof. Mounted at the top of said roof is a structure according to the invention comprising a hollow square pyramidal chimney made of any suitable material such as brick, plaster or any moldable heat-resistant material. The faces 2 of the chimney proper are provided with concave curvatures conforming to the stream line of the exterior air. Preferably the intersections 3 of the chimney walls or faces are extended to provide fin-like members as shown clearly in Figs. 1 and 2. There is thus provided a structure wherein the exterior air traveling in a general upward direction is gradually increased in velocity from the base of the chimney to the top of the chimney, due to the confining action of the concave faces and

the fin members 3. Furthermore it will be noted that the upper ends of each chimney face terminate in a substantially vertical portion, thus directing the exterior air in a substantially vertical direction at the same time that its velocity is increased. As a result of the velocity of the exterior air traveling upward past the opening or mouth 4 of the chimney, there is created a suction at the mouth due in general to a sort of ejector action, thus increasing the effective draft on the interior of the chimney. Furthermore, because of the curvature of the outer faces of the chimney the exterior air tends to travel in a substantially vertical direction thus carrying up smoke or soot in a vertical line away from the roof 1.

Furthermore, the chimney structure disclosed is capable of embodiment in highly artistic forms, and while Figs. 1 and 2 show the chimney designed to conform to one particular type of roof, it will be understood that the broad principles of the invention may be embodied in chimneys for other shapes of roofs. Thus, for example, in Fig. 3 the invention is shown applied in a chimney for use on a simple gabled roof. In Fig. 3 the arrows represent the direction of the exterior air which is gradually confined by the tapering action of the chimney faces to increase the draft on the interior of the chimney. Instead of building the entire chimney in accordance with Figs. 1 to 4, the invention may be embodied in the form of a separate unit adapted to surround an ordinary square or round chimney. Thus in Fig. 5 there is shown in plan view a portion of a square chimney 5, and surrounding the chimney is a member 6 of the general shape represented by the outer surface of either of the chimneys of Figs. 2 and 4. In Fig. 5, however, the member 6 may be fashioned out of sheet metal or any other suitable material to provide the concave taper and also to provide the fin members 7. While Fig. 5 shows the member 6 fashioned out of corrugated material, it will be understood that this member may be made out of flat metal with the intersections suitably united as by welding, brazing or soldering, and if desired the fin portions 7 may be attached as separate members instead of being formed in one piece as shown in the drawing.

While certain specific embodiments of the invention are disclosed in the drawing it will be understood that the invention is not limited thereto, and that various changes and modifications may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. The combination of a sloping roof and a chimney, the outer walls of which continue the slope of the roof and are then stream lined upwardly, said walls also being provided with projecting converging vanes to receive air flowing upwardly along the roof, accelerate its motion, and discharge it in a vertical direction adjacent the chimney top.
2. The combination of a sloping roof and an

enclosure for a chimney consisting of walls to surround the chimney which continue the slope of the roof and are then stream lined upwardly, said walls also being provided for projecting converging vanes to receive air flowing upwardly along the roof, accelerate its motion, and discharge it in a vertical direction adjacent the chimney top.

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