CHIMNEY COVER WITH EXTENDED PLINTH AND DEFLECTOR

Inventor: Craig S. Issod, Medford, NJ (US)

Correspondence Address:
Craig S. Issod
8 Golden Circle
Southampton, MA 01073 (US)

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(57) ABSTRACT

Improved extended chimney cover for installation on a masonry chimney. The Extended Plinth (106) is substantially elongated vertically to allow termination at a varied level from adjacent flues. Above Extended Plinth (106) is a Screen or Open area (108) which allows for flue gas exhaust. A solid vertical Deflector (110) can optionally be installed along one face of the Screen or Open area to further protect adjacent flues from effects of the flue gases.
CHIMNEY COVER WITH EXTENDED PLINTH AND DEFLECTOR

CROSS REFERENCE TO RELATED PUBLICATIONS

[0001] This application claims benefit to U.S. Provisional Application Ser. No. 60/504,783, filed on Sep. 22, 2003, which is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] This invention relates to sheet metal chimney caps and covers for masonry flue tiles, specifically to caps and covers which are used to cover adjacent clay flue tiles contained in a single masonry structure.

BACKGROUND OF THE INVENTION

[0003] Masonry chimneys with clay flue liners serve to remove noxious flue gases from furnaces, fireplaces and other sources of combustion inside a building. It is quite common for a building to contain more than one such source of combustion, such as multiple fireplaces or a fireplace and a furnace. In such cases, a common chimney structure with multiple flues is a preferred method of venting. The clay flue tiles of multiple flue chimneys often terminate at exactly the same height above the common chimney structure and with only a small horizontal separation between each.

[0004] Caps and covers for these chimneys are well known in the art. These devices serve to keep animals from nesting in the flue, keep rain from the chimney interior and stop large sparks from escaping. Inventors have produced varied functional coverings for single flue tiles. Others have created and marketed single chimney caps fitting over multiple flue tiles within one masonry structure. However, these units often will not easily or properly fit a multi-flue chimney structure and do not meet current code requirements which specify that flues must not terminate at the same vertical level. This code exists due to a phenomenon known as flue reversal which can cause the products of combustion to exit one flue and return to the living area through a second.

[0005] Pat. No. 6,436,021 (Hisey) discloses a chimney cover which fits over a single flue. Pat. No. 4,732,078 (Giumenta) discloses another in which the walls are formed from a single blank of sheet metal. Pat. No. 4,334,460 (Simmons) disclosed a third which has a composite roof. A feature which is common to all these chimney covers is a solid cover or roof. The covers are constructed with an overhang which projects on a horizontal plane and is beveled or rounded at a downward slant to deflect water, snow and debris.

[0006] Thus, if such covers are installed on adjacent clay tiles, the overhangs will collide and make correct installation difficult. As a result, many are installed in a makeshift fashion, with the overhang sheared off or bent down to avoid collision with the adjacent cover.

[0007] Pat. No. 5,025,712 (Perry) discloses a flue cover which allows for adjustment of the height of the rain cover for the purposes of dampening or adjusting the smoke output from a flue. It does not allow for changes in the flue termination height nor deflection of smoke by vertical surfaces.

[0008] Pat. No. 6,066,039 (Cowen) discloses a single cover which can be used to span multiple flues. The cover provides no separation between the covered flues nor does it allow for flues to be terminated at varying heights. By keeping multiple flues under one cowl, it actually encourages flue gas leakage from one flue to another.

[0009] Pat. No. 2,381,178 (Munyon) describes a chimney extension which is designed for the lengthening of existing flue tiles. This device possesses no termination or mesh and the adjustment method does not properly fit the variance in common flue tile sizes. In addition, the substantial extension of flue liners with single wall sheet metal is contrary to Fire and Building code and considered unsafe due to excess cooling of flue gases.

[0010] My own PPA, #456,444 discloses chimney extension brackets and a novel mounting method which can be used to raise the termination height of a single flue.

[0011] Neither all, of the sheet metal chimney covers heretofore known suffer from the following disadvantages:

[0012] a) If one installs standard single flue covers on adjacent flues, the rain covers will collide, forcing the installer to modify the cover in a makeshift fashion. Even when modified thusly, the chimneys will still terminate at the same level, thereby creating a danger of flue gases exiting one flue and infiltrating into the home or structure by returning down an adjacent flue that is not in use. The modified rain covers will also fail to deflect water and snow in the proper manner.

[0013] b) Sheet metal covers designed for multiple flues do not properly take into account the need for flues to terminate at widely varying heights. In addition, by providing a single cover over multiple adjacent flues, they encourage the problem of flow reversal and the introduction of noxious gases into the living area.

[0014] c) Sheet metal covers for multiple flues are often custom manufactured, or manufactured in small quantities in widely varying sizes in order to fit varying flue tile sizes. This drives up the cost of production and distribution.

[0015] d) Sheet metal chimney extensions and mounting brackets are not commercially available. If they were fabricated, an installation would require the purchase and installation of a separate cap and deflector in order to provide the best function.

BACKGROUND OF THE INVENTION-OBJECTS AND ADVANTAGES

[0016] It is therefore an object of the invention to provide a chimney cover that can be installed on one or more flues of a multiple flue chimney and in doing so, allow this flue tile to terminate at a point substantially differing from the adjacent flue tile, chimney cover or other exhaust outlet.

[0017] It is another object of the invention to provide a chimney cover which will be easily installed on the termination of an existing clay flue tile and adjust to fit the varying sizes within each nominal size range of common clay flue liners.
[0018] it is another object of the invention to provide a chimney cover that allows for installation next to common existing sheet metal flue covers without having to modify either cover.

[0019] it is another object of the invention to provide a chimney cover with a deflector that can be positioned facing the adjacent flue tile so as to provide additional protection against crossover of exhaust gases.

[0020] it is another object of the invention to provide a chimney cover which allows existing masonry chimneys with multiple flues to be rendered safer and to conform to current codes and practices.

[0021] it is another object of the invention to provide a chimney cover that is inexpensive to manufacture.

[0022] it is another object of the invention to provide a chimney cover that can be retrofitted on existing chimneys easily with a minimum of tools needed.

[0023] it is another object of the invention to provide a chimney cover that protects the flue from excess precipitation and animal entry.

[0024] it is another object of the invention to provide a chimney cover that protects the roof and other nearby combustibles from large sparks originating in the connected appliance.

[0025] Further objects and advantages will become apparent from a consideration of the ensuing description and drawings.

SUMMARY OF THE INVENTION

[0026] In accordance with the present invention, there is provided a fabricated chimney cover having a box-like structure with a vertically extended solid plinth above which is open mesh, expanded metal or slotted metal and a solid cover. A deflector can be positioned over one of the vertical open wall surfaces.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] A complete understanding of the present invention may be obtained by reference to the accompanying drawings, when considered in conjunction with the subsequent, detailed description, in which:

[0028] FIG. 1 is a perspective view of an embodiment of the chimney cover installed on a masonry chimney adjacent to a standard chimney cover of the typical prior art.

[0029] FIG. 2 is a perspective view of an embodiment of the chimney cover showing an extended plinth, deflector gasket and threaded mounting screw.

[0030] FIGS. 3A-3D show various embodiments of an optional deflector.

[0031] For purposes of clarity and brevity, like elements and components will bear the same designations and numbering throughout the FIGURES.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0032] FIG. 1 is a perspective view of an embodiment of the chimney cover installed on Clay Flue Tile 102 protruding from a Masonry Chimney Structure 100 and adjacent to a Standard Chimney Cover 122. This embodiment consists of a Cover Mount 104 which attaches to the Clay Flue Tile 102 by means of a Threaded Machine Screw 124 which is tightened against the Clay Flue Tile 102. Those skilled in the art will recognize that many other fastening means are possible. The Extended Plinth 106 extends vertically from the Cover Mount 104. The Extended Plinth 106 is commonly constructed from sheet metal materials, however other rigid materials may be used. The Extended Plinth 106 may be insulated. The Screen or Open area 108 which serves to ventilate the chimney exhaust gases extends vertically from the Screen or Open area 108. Ventilation may also be facilitated using slots or other methods known to those skilled in the art. In this embodiment, The Rain Cover 120 is attached to the top of the Screen or Open area 108. In another embodiment, the Rain Cover 120 can be replaced with a horizontal screen. The Deflector 110 can be affixed to one vertical wall of the Screen or Open area 108, which serves to further deflect exhaust gases away from the Standard Chimney Cap 122 or adjacent flues.

[0033] FIG. 2 is a perspective view of an embodiment of the chimney cover showing a Gasket 126 which allows for a proper seal between the Cover Mount 104 and the Clay Flue Tile 102. The Threaded Machine Screw 124 is shown which facilitates attachments of this embodiment to the Clay Flue Tile 102.

[0034] FIGS. 3A-D show optional Deflector 110 and various means for storage and operation of this deflector.

[0035] Another embodiment of the Extended Plinth 106 is telescoping, thereby allowing a vertical height adjustment.

REFERENCE NUMERALS

[0037] 100 Masonry Chimney Structure
[0038] 102 Clay Flue Tile
[0039] 104 Cover Mount
[0040] 106 Extended Plinth
[0041] 108 Screen or Open area
[0042] 110 Deflector
[0043] 120 Rain Cover
[0044] 122 Standard Chimney Cover (prior art—for reference only)
[0045] 124 Threaded Machine Screw
[0046] 126 Gasket

OPERATION

[0048] In operation one installs the chimney cover on a clay flue tile adjacent to another flue tile. To assure proper seal, a gasket 126 can optionally be installed between the top surface of the Clay Flue Tile 102 and the Cover Mount 104. The installer can, optionally, install a Deflector 110 over one of the vertical faces of the Screen or Open area 108. When my chimney cover is installed in this manner, a number of advantages become evident:

[0049] (1) Gasket 126 assures that exhaust gas leakage at top of Clay Flue Tile 102 is greatly reduced.
[0050] (2) Extended Plinth 106 provides an extended passage for flue gases, thereby releasing them substantially above an adjacent flue tile.

[0051] (3) Deflector 110 provides additional deflection of flue gases away from adjacent flues.

[0052] Conclusion, Ramifications and Scope

[0053] Accordingly, the reader will see the the chimney cover of this invention can be used to cover a flue tile easily and conveniently without impeding on adjacent chimney covers. The improved chimney cover also allows the effective flue gas termination height to be raised, thereby bringing the chimney into compliance with modern codes and practices.

[0054] Since other modifications and changes varied to fit particular operating requirements and environments will be apparent to those skilled in the art, the invention is not considered limited to the examples chosen for purposes of disclosure, and covers all changes and modifications which do not constitute departures from the true spirit and scope of this invention. For example, the plinth can be telescoping and have other shapes which allow a decorative effect on the chimney cover. The plinth may also be removable.

[0055] Having thus described the invention, what is desired to be protected by Letters Patent is presented in the subsequently appended claims.

What is claimed is:
1. A chimney cover for reducing smoke crossover to and from adjacent flues comprising:
   means for extending the effective vertical termination height of the flue; and
   means for deflecting exhaust gases away from adjacent flues; and
   means for mounting and sealing to flue tile or existing masonry; and
   means for exhausting the flue gases to the atmosphere.
2. The chimney cover in accordance with claim 1, wherein said means for extending the vertical termination height of the flue comprises a fixed or telescoping vertically extended plinth.
3. The chimney cover in accordance with claim 1, wherein said means
to deflect the exhaust gases away from adjacent flues comprises a vertical deflector.
4. The chimney cover as recited in claim 1, further comprising:
a seal gasket, for tight seal of chimney cover mount to the flue tile.

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