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# (12) United States Patent Vargas

#### (54) PIPE DIVERTING SYSTEM

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(58) Field of Classification Search

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See application file for complete search history.

#### (56) References Cited

#### U.S. PATENT DOCUMENTS

1,623,659 A 1,683,548 A	4/1927 9/1928	Comerford Hughey
3,524,400 A	8/1970	Magi
3,895,467 A 4,102.090 A	7/1975 7/1978	Clement Anguish
4,599,828 A 4,895,065 A	7/1986 1/1990	Ishikura
4,893,003 A	1/1990 Lamparter (Continued)	

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## (57) ABSTRACT

A roof mounted diverting device for diverting a direction of flow of gas from a roof-penetrating pipe is provided. The roof-penetrating pipe has a central axis. The device includes a diverter having a lower opening and an upper opening, the upper opening having a central axis; and a seal having a seal opening, the seal opening being con figured to contact an outer surface of the roof-penetrating pipe and form a gastight seal with the roof-penetrating pipe. In an assembled state of the device, any of the gas that enters the diverter can only exit the diverter through the upper opening or through the roof-penetrating pipe, and the diverter is installable in multiple different positions, each of die different positions having a different included angle between the central axis of the upper opening and the central axis of the roof-penetrating pipe.

#### 20 Claims, 17 Drawing Sheets

