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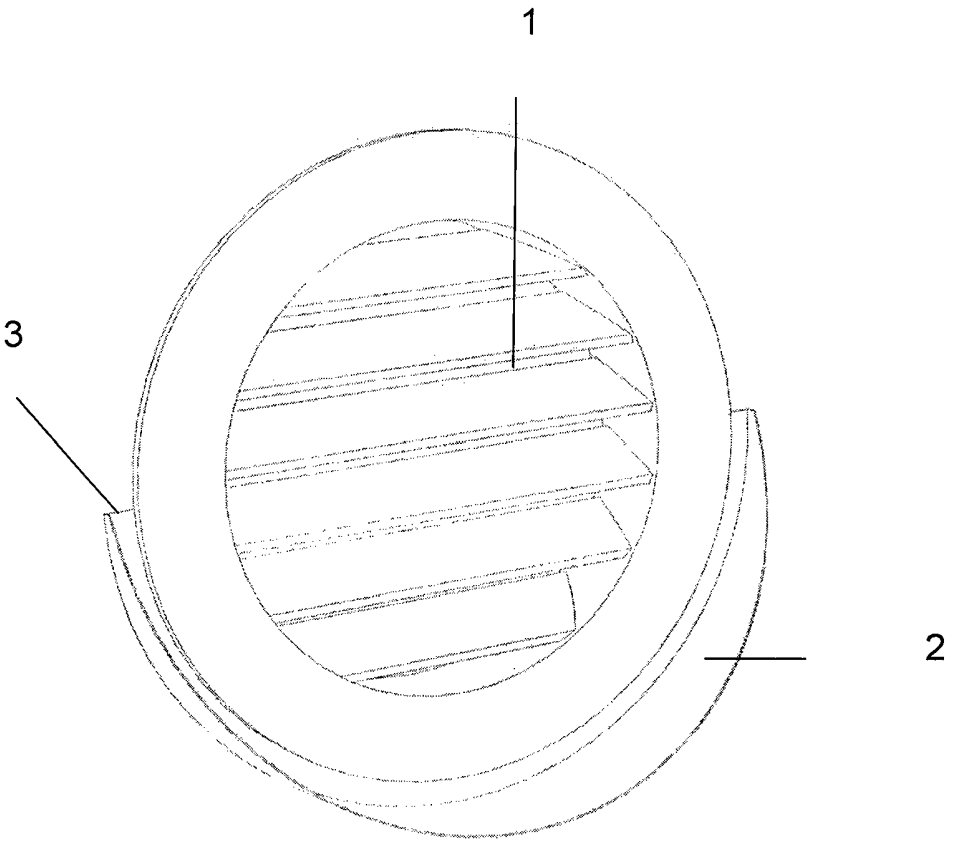
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(54) **VENT GRATE WITH A GUTTER**

(57) The invention presents a vent grate with a gutter, wherein the gutter enables gathering of condensate from the ventilation system into the gutter. Between the vent grate and the gutter there is also a flange, which guides the dirt that is breaking off from the vent grate into the gutter. The gutter guides liquids and dirt away from the external wall of the building.



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Description

Technical field

[0001] The invention relates to the vent grates of buildings, specifically an improvement of the vent grates of external walls of buildings, which helps to reduce the repair and operating costs of the external walls of buildings.

Prior art

[0002] The end elements used in the ventilation of buildings are vent grates and vent caps, whereas any potential condensate in ventilation systems should be drained.

[0003] Known is the ventilation of the Aereco system, where a vent grate responds to moisture by opening mechanically in a self-acting automatic mode, and can be opened and closed. This system is used mainly for the ventilation of indoor premises.

[0004] A solution, which by its technical nature is closest to the invention, is the structure for the collection of condensate (CA2756563, Ieradi Joseph, published 01.10.2009), which comprises a reservoir with open ends, intended for collecting a liquid, a covering for the reservoir, installed around the open ends of the reservoir and intended for entrapping the liquid into the reservoir. The covering of the reservoir includes a support structure and a tensioning mechanism and the covering may also include a collector for collecting condensate from the covering into the reservoir. The presented solution is intended for collecting condensate into the reservoir and for transporting it from the reservoir to a desired location. The structure of the solution is complicated and burdens the external wall of the building.

Description of the invention

[0005] New apartment buildings and private houses have central ventilation, where forced ventilation generates condensate, which drains through the vent grate onto the external wall of the building, ruining the appearance of renovated buildings in a short time. Outdoor conditions unavoidably cause accumulation of dirt (dust, rainwater, snow, etc.) on the vent grate, also transferring from the vent grate to the external wall of the building, ruining its appearance.

[0006] In order to solve this problem, the invention presents a vent grate with a gutter, wherein a gutter connected to a vent grate forms a whole, whereas the gutter and its flange gather the liquids and dirt draining from the ventilation system and vent grate into a gutter, which guides these away from the external wall of the building.

List of figures

[0007] The figure shows the preferred embodiment of the vent grate with a gutter.

Embodiment of the invention

[0008] The presented vent grate with a gutter comprises vent grate 1 and gutter 2 which is connected thereto, whereby vent grate 1 and gutter 2 form a complete unit of equipment. Gutter 2 is a protruding shallow bent part with sides, which is inclined downwards in relation to the bottom part of vent grate 1 and allows gathering of condensate draining from the ventilation system into the gutter from where it is guided (flows) away from the external wall of the building. Gutter 2 has flange 3, which is located between vent grate 1 and gutter 2 and is level with vent grate 1. Flange 3 allows gathering of dirt (soiled water) breaking off from vent grate 1 into gutter 2, from where it is guided away from the external wall of the building.

[0009] The height of flange 3 is between 3 to 8 mm, preferably 4 to 5 mm. The inclination of gutter 2 in relation to the vent grate is between 30 to 60 degrees, preferably between 40 to 50 degrees.

[0010] Gutter 2 is preferably produced from aluminium. Gutter 2 is pressed in a die form, giving gutter 2 its specific form and flange 3. This is followed by gluing gutter 2 to vent grate 1 with heat resistant adhesive, after which vent grate 1 with gutter 2 are coated with powder paint.

[0011] In the preferred embodiment of the invention in using vent grate 1 with gutter 2, the liquid is drained at 25 to 30 mm distance from the external wall of the building and the liquid does not damage the external wall of the building.

[0012] The presented solution can be used with vent grates of various shapes and the gutter can also be produced from various materials. It is also possible to install a separate gutter to an existing vent grate, making it possible to utilize the invention on vent grates that already exist in the external walls of buildings.

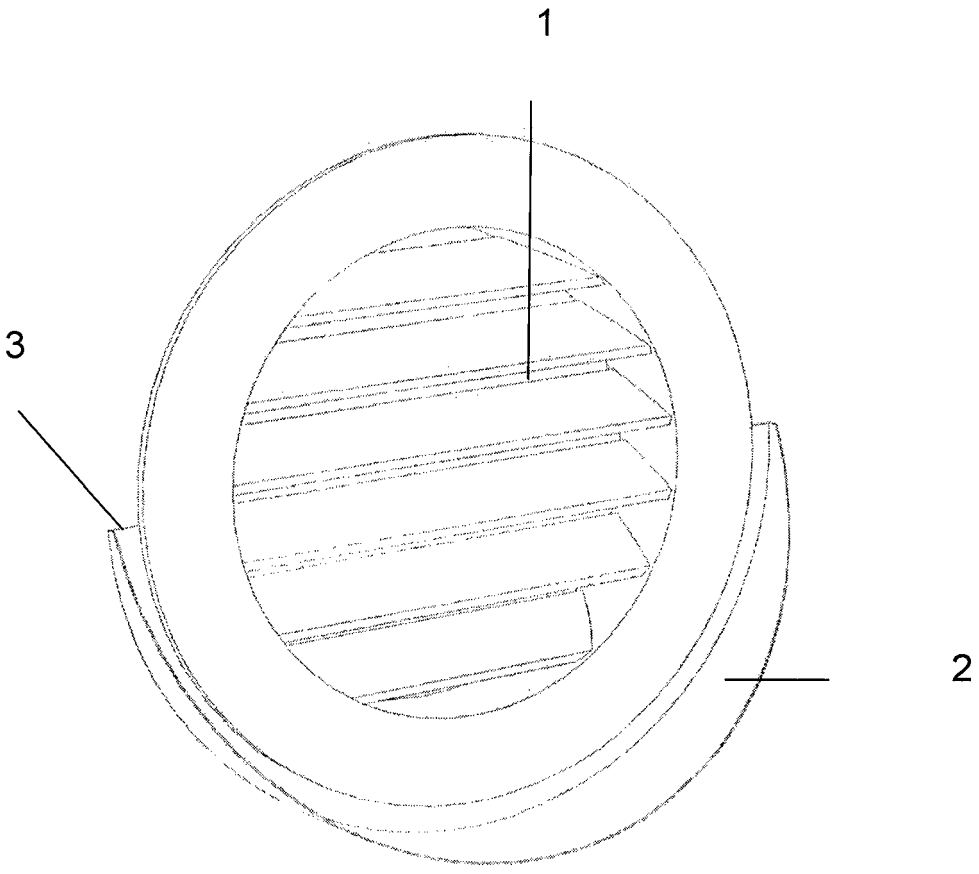
Claims

1. A vent grate with a gutter, comprising a vent grate (1), **characterized in that** it comprises a gutter (2) which is connected to the vent grate (1) to form a complete unit of equipment, whereas the gutter (2) is a protruding shallow bent part with sides, which is inclined downwards in relation to the bottom part of the vent grate (1) and whereto condensation liquid draining from the ventilation system is gathered and the gutter (2) has a flange (3), which is level with the vent grate (1) and is located between the vent grate (1) and the gutter (2) and is intended to gather the dirt breaking off from the vent grate (1) into the gutter (2) and the gutter (2) guides the liquid and dirt away from the external wall of the building.

2. A vent grate with a gutter according to claim 1, **characterized in that** the inclination angle of the gutter (2) in relation to the vent grate is between 30 to 60 degrees and the height of the flange (3) is between

3 to 8 mm.

3. A vent grate with a gutter according to claims 1 and 2, **characterized in that** the inclination angle of the gutter (2) in relation to the vent grate is preferably between 40 to 50 degrees and the height of the flange (3) is preferably between 4 to 5 mm.


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EUROPEAN SEARCH REPORT

Application Number
EP 17 00 1247

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 5 772 502 A (SMITH JOE E [US]) 30 June 1998 (1998-06-30) * column 3, lines 30-52; figure 4 *	1-3	INV. F24F7/02 F24F13/08
X	GB 2 217 831 A (BUDD CHRISTOPHER ANTHONY) 1 November 1989 (1989-11-01) * page 2, line 11 - page 6, line 32; claims 1,3; figures 1,4 *	1-3	
X	DE 10 2008 053510 A1 (POETTER KLIMA GMBH [DE]) 29 April 2010 (2010-04-29) * paragraphs [0031] - [0033]; figure 1 *	1-3	
X	DE 20 18 949 A1 (GAL GES F ANGEWANDTE LUFTTECHN) 4 November 1971 (1971-11-04) * page 3, paragraph 3-5; figure 1 *	1-3	
X	DE 28 22 936 A1 (COLT INT GMBH) 14 December 1978 (1978-12-14) * page 6; figure 1 *	1-3	TECHNICAL FIELDS SEARCHED (IPC)
X	DE 31 03 458 A1 (BUERCHER FRIEDRICH) 2 September 1982 (1982-09-02) * page 9, line 7 - page 10, line 31; figure 1 *	1-3	F24F
X	DE 26 09 669 A1 (COLT INT GMBH) 15 September 1977 (1977-09-15) * figure 4 *	1-3	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	16 November 2017	Lienhard, Dominique

CATEGORY OF CITED DOCUMENTS

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

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

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 17 00 1247

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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16-11-2017

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5772502 A	30-06-1998	NONE	
GB 2217831 A	01-11-1989	NONE	
DE 102008053510 A1	29-04-2010	DE 102008053510 A1	29-04-2010
		DE 202008017906 U1	28-10-2010
DE 2018949 A1	04-11-1971	NONE	
DE 2822936 A1	14-12-1978	NONE	
DE 3103458 A1	02-09-1982	NONE	
DE 2609669 A1	15-09-1977	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CA 2756563, Ieradi Joseph **[0004]**