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(54) Motorized extractor hood for kitchens of vertical sliding type.

(57) The present invention relates to a motorized extractor hood for kitchens, of the type housed and vertically sliding inside a vertical compartment (2) obtained on the back of the cabinet (M) in which the oven and/or stove is installed. An actuator (3) is designed to move the hood. A specularly opposite pair of identical vertical racks (5), respectively fixed onto the lateral walls (2b) of the compartment (2) engage with corresponding sprocket wheels (6) coupled at the two ends of a horizontal shaft (7) revolvingly supported by the hood (1).

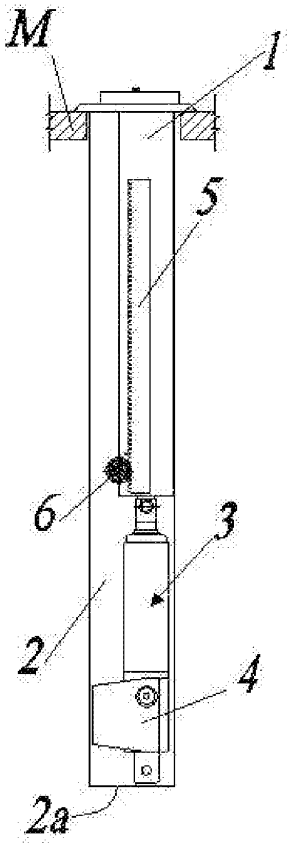

Fig. 2

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Description

[0001] The present patent application relates to a motorized extractor hood for kitchens of vertical sliding type, provided with a mechanism that drives its alternate travels to make them perfectly smooth and regular.

[0002] The extractor hood of the invention is contained and concealed inside a vertical compartment obtained on the back of the cabinet in which the oven and/or stove is installed, in such a way that the hood is completely concealed when it is not used.

[0003] This type of hood is obviously provided with an actuator, generally composed of a hydraulic jack with vertical axis, with relevant motor-drive pump, which is designed to drive the extractor hood in ascending and descending travels.

[0004] When the extractor hood is completely out of its housing compartment, it is configured as a box-shaped screen that rises on the back border of the cooktop and is provided with one or more front slots that act as extraction inlets for vapours and fumes generated while cooking.

[0005] The extractor hood is equipped with an electrical fan assembly that extracts air from the internal compartment of the hood and directs it towards a discharge pipe through which the air is ejected in the environment or recycled in the kitchen after being filtered and purified through suitable filter means provided in the hood.

[0006] The vertical travels of the said motorized hoods are generally guided by an opposite pair of lateral tracks, with vertical axis, situated on the sides of the compartment where the hood is contained and concealed.

[0007] One of the most typical drawbacks noted during the actuation of the said motorized hoods consists in the lateral swerving of the hood during the alternate travels, especially when the hood is out of the housing compartment for the majority of its height, it being less efficiently driven by the two tracks mounted inside the said compartment.

[0008] The purpose of the present invention is to remedy this specific problem by designing a new model of hood provided with a mechanical device able to completely prevent the lateral swerving of the hood during its travels, which could cause the unstable sliding with unpleasant vibrations, if not the jamming, of the hood, when the hood is in such a transversal position that the it is jammed between the two tracks.

[0009] A further purpose of the invention is to create a mechanical device with the aforementioned functional properties, which is inexpensive to make and simple to install, without requiring to modify or adjust the traditional structure of an ordinary motorized hood of vertical sliding type.

[0010] The device of the invention can be mounted both on hoods of new construction and existing models installed in old kitchens that are already used.

[0011] The model of extractor hood according to the present invention has a traditional structural and functional configuration, although it is characterised in that it comprises an opposite pair of identical vertical racks, respectively fixed on the vertical walls of the compartment that houses the sliding hood.

[0012] The said racks engage with corresponding sprocket wheels coupled at the two ends of a horizontal tree revolvingly supported by the hood.

[0013] In view of the above, the horizontal shaft translates together with the hood, affecting the travels and preventing the possible swerving of the hood, which is forced to follow perfectly vertical travelling trajectories parallel to the lateral guide tracks, since the two sprocket wheels are forced to make perfectly identical simultaneous forward travels because of their coupling with the corresponding racks.

[0014] For major explicative clarity, the description of the hood of the invention continues with reference to the enclosed drawings, which are only for illustrative, not limitative purposes, wherein:

- fig. 1 is a view of the hood of the invention concealed inside its housing compartment, which is cross-sectioned with a vertical longitudinal plane to show the internal components;
- fig. 2 is a side view of figure 1;
- fig. 3 is basically identical to fig. 1, except in that it shows the hood in operational position, that is to say completely ejected from its housing compartment;
- fig. 4 is a side view of figure 3;
- fig. 5 is a view of an alternative constructive version of the hood of the invention.

[0015] With reference to the figures above, the hood (1) of the invention is composed of a parallelepiped box-shaped body that is housed and vertically slides inside a vertical compartment (2) obtained on the back of the cabinet (M) in which the oven and/or stove is installed, in such a way that the hood is completely concealed when it is not used.

[0016] The hood (1) is actuated by a hydraulic jack (3) with vertical axis, with motor-driven pump (4) situated on the bottom of the said compartment (2); the stem (3a) of the jack (3) is coupled in the centre of the lower side (1a) of the hood (1), while the cylinder (3b) is fixed to the bottom wall (2a) of the compartment (2).

[0017] The hood (1) of the invention also comprises a specularly opposite pair of identical vertical racks (5), which are respectively fixed on the vertical walls (2b) of the compartment (2), which engage with corresponding sprocket wheels (6) coupled at the two ends of a horizontal shaft (7) revolvingly supported by the hood (2).

[0018] As shown in the enclosed figures, according to the preferred embodiment of the invention, the shaft (7) extends near and parallel to the lower side (1 a) of the hood (1), from which it protrudes laterally only with the two ends where the said sprocket wheels (6) are coupled.

[0019] The shaft (7) idles during the travels of the hood (1), being driven into rotation by the two sprocket wheels

(6), which are in turn driven into rotation by the relative movement between the sliding hood (1) actuated by the jack (3) and the two racks (5) fixed to the lateral walls (2b) of the compartment (2).

[0020] As mentioned above, fig. 5 shows an alternative constructive version of the hood of the invention, which differs from the previous one in that the hood (1) is actuated by an electrical motor (30) mounted on board the hood, which drives the shaft (7) into rotation.

Claims

1. Motorized extractor hood for kitchens, which is housed and vertically slides inside a vertical compartment (2) obtained on the back of the cabinet (M) in which the stove is installed, and comprising an actuator (3, 30) used for sliding, **characterised in that** it also comprises a specularly opposite pair of identical vertical racks (5), respectively fixed onto the lateral walls (2b) of the compartment (2), which engage with corresponding sprocket wheels (6) coupled at the two ends of a horizontal shaft (7) revolvingly supported by the hood (1).

2. Motorized extractor hood for kitchens according to the above claim, **characterised in that** the actuator (3) is fixed onto the bottom wall (2a) of the said compartment (2).

3. Extractor hood according to the above claim, **characterised in that** the actuator (3) consists in a jack (3) with vertical axis, with motor-driver pump (4) mounted on the bottom of the said compartment (2), the stem (3a) of the jack (3) being coupled in the centre of the lower side (1 a) of the hood (1), and the cylinder (3b) being fixed to the bottom wall (2a) of the said compartment (2).

4. Extractor hood according to claim 1, **characterised in that** the actuator (30) consists in an electrical motor (30) mounted on board the hood (1), which drives the shaft (7) into rotation.

5. Extractor hood according to any of the above claims, **characterised in that** the shaft (7) runs near and parallel to the lower side (1a) of the hood (1), from which it protrudes laterally only with the two ends where the said sprocket wheels (6) are coupled.

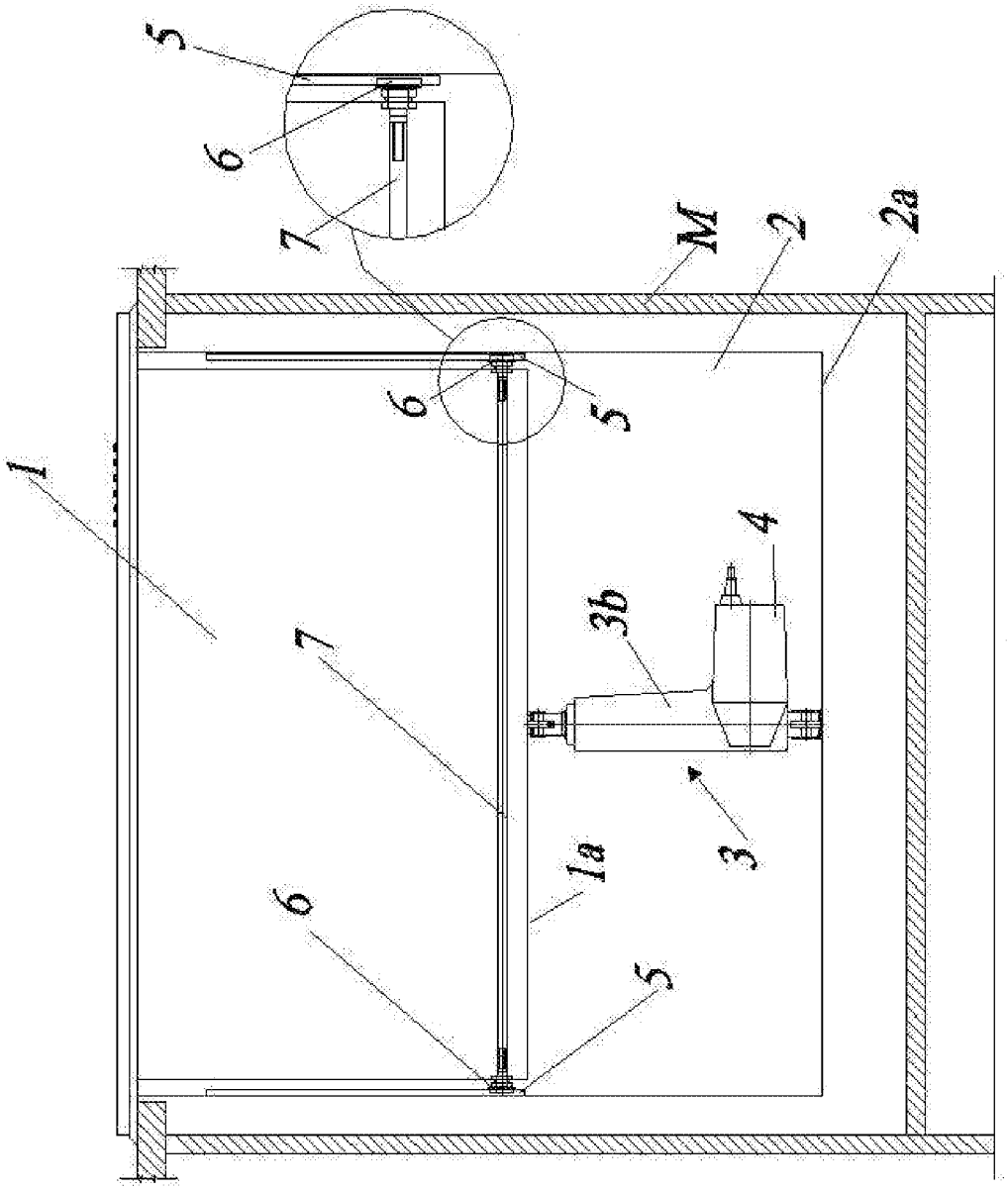

Fig. 1

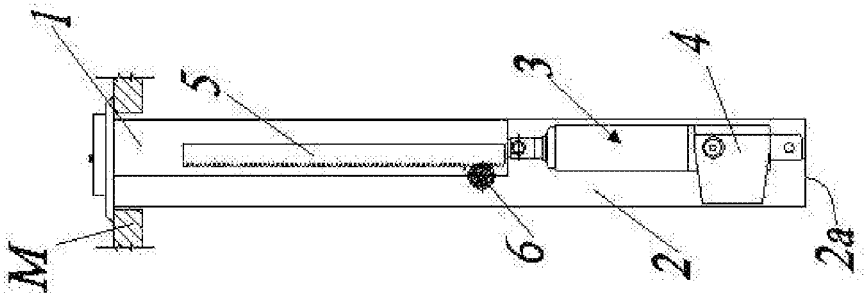

Fig. 2

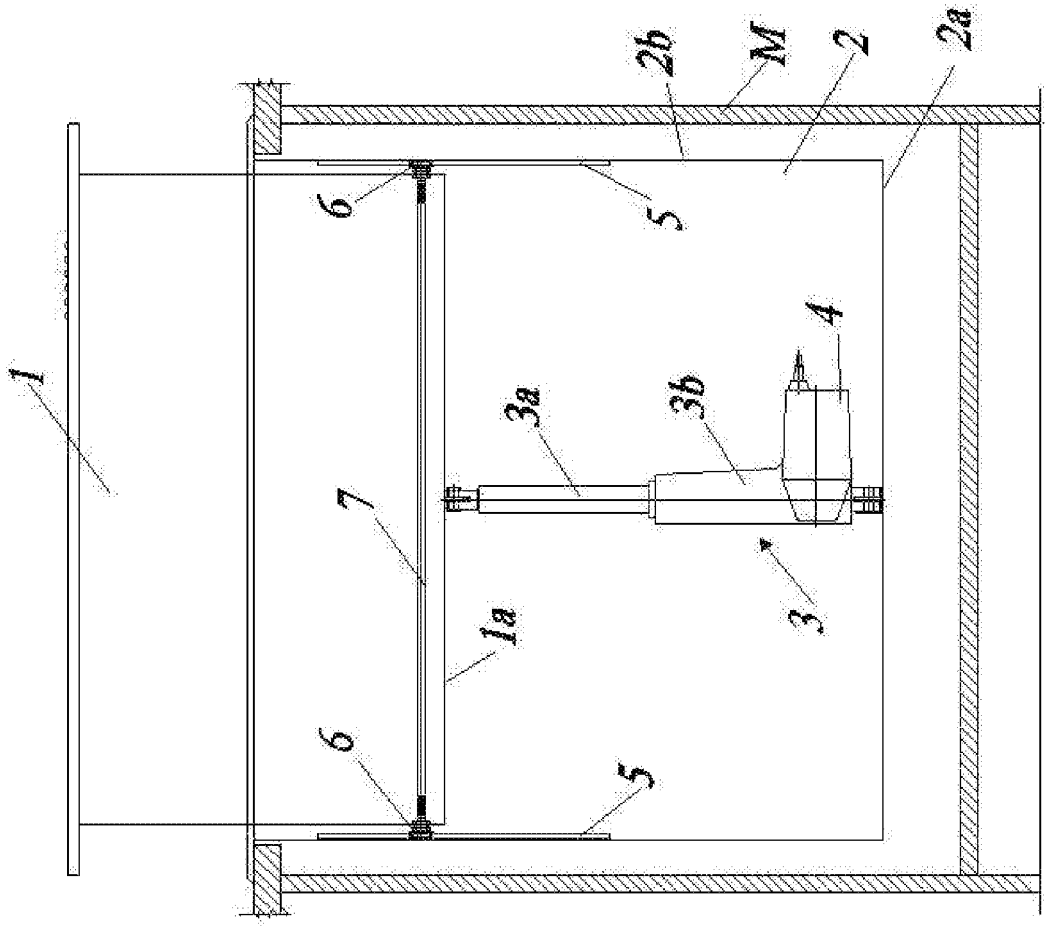

Fig. 3

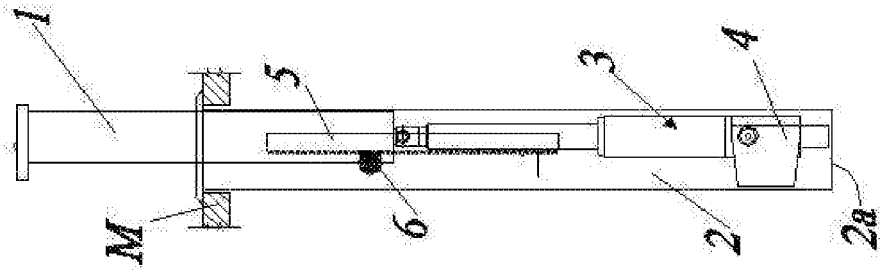

Fig. 4

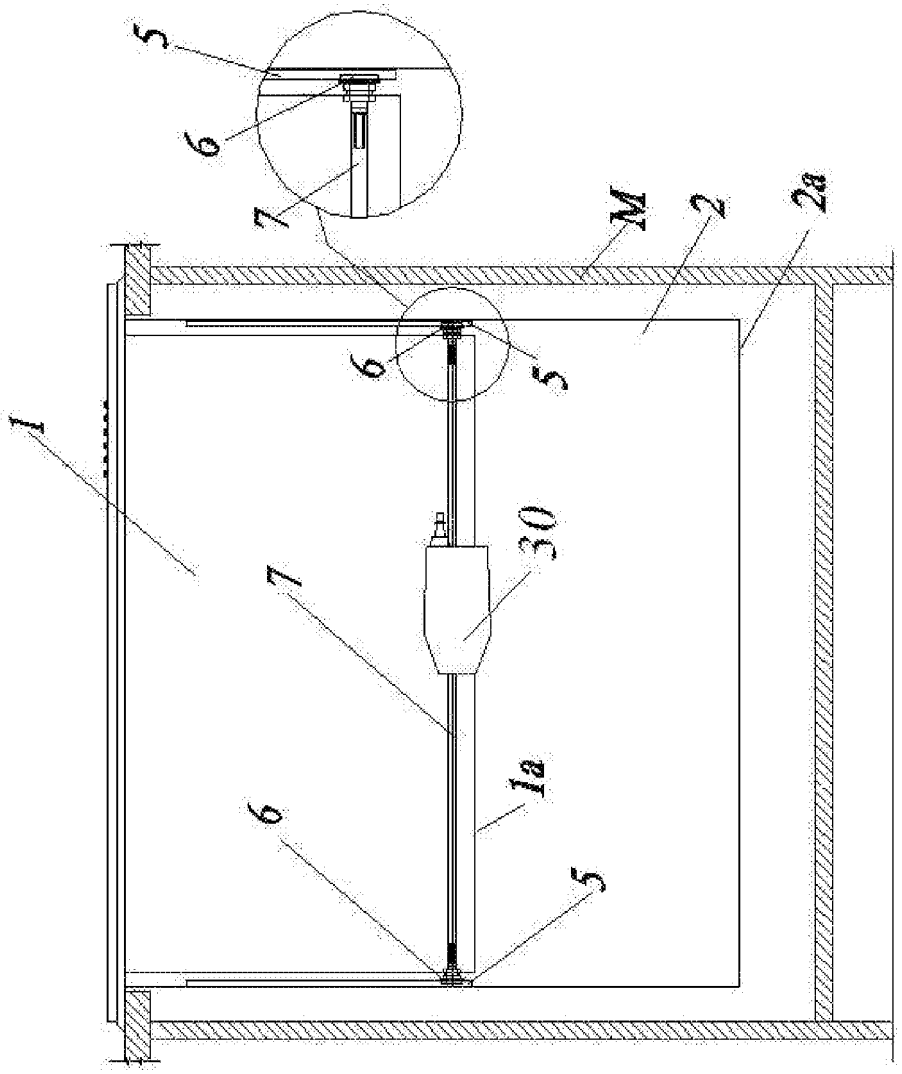

Fig. 5