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(54) **MULTI-STORY BUILDING CONTAINING  
INDIVIDUAL APARTMENT (OFFICE) AND  
GARAGE BLOCKS (MULTI-COTTAGE)**

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(57) **ABSTRACT**

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A residential or office building, mainly for densely populated cities is proposed, in which outer residential quarters, adjacent to the building's external walls, are combined with inner quarters, used for parking cars, in individual apartment-garage or office-garage blocks. The outer quarters are separated from inner quarters by a fire-resistant wall. The car quarters have an entrance from within the building, wherein car halls, car elevators, and/or inclined ramps are arranged. The proposed structure allows freeing the area in front of the building from cars and reduces the necessity in arrangement of multi-story underground and/or on-ground car parking, as well as providing convenience for car owners. It is especially attractive for cold climate regions, wherein heat preservation and a possibility of keeping cars in a warm space are highly significant.

PRIOR ART

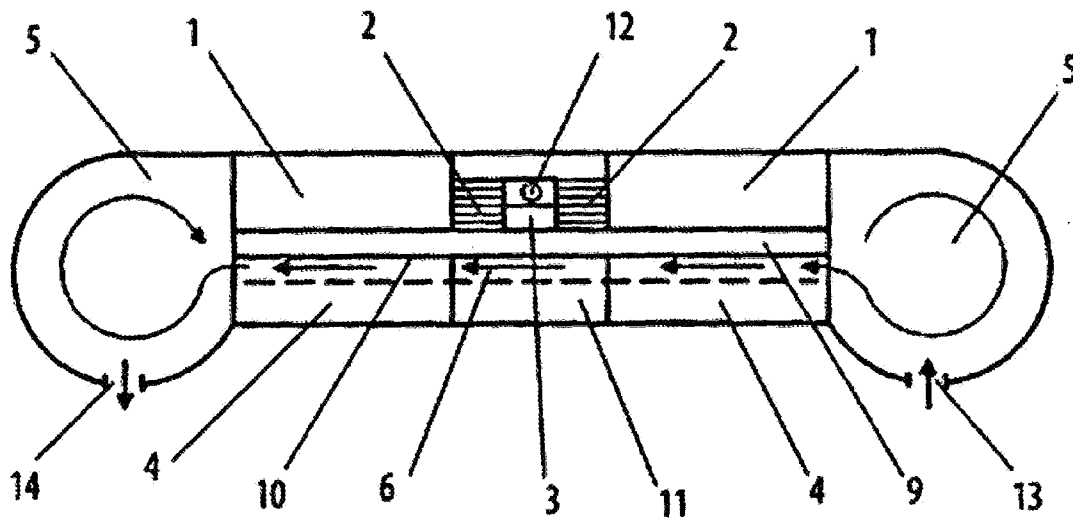


Fig. 1

**MULTI-STORY BUILDING CONTAINING  
INDIVIDUAL APARTMENT (OFFICE) AND  
GARAGE BLOCKS (MULTI-COTTAGE)**

CROSS-REFERENCE TO RELATED  
APPLICATIONS

**[0001]** This application is a U.S. national stage application of a PCT application PCT/RU2012/000186 filed on Mar. 19, 2012, published as WO2012141611, whose disclosure is incorporated herein in its entirety by reference, which PCT application claims priority of a Russian Federation patent application RU201114347 filed on Apr. 13, 2011.

FIELD OF INVENTION

**[0002]** The invention belongs to the field of construction, particularly to construction of multi-story buildings with parking space.

BACKGROUND OF THE INVENTION

**[0003]** There are known several related art documents (herein called ‘analogues’).

**[0004]** (1). The closest to the present invention analogue (herein also called a ‘prototype’) is described in a Russian Federation useful model Nr. 15.11.20 ONQ91358.

**[0005]** The prototype useful model claims:

**[0006]** 1. A residential multi-story building with the following characteristics: it contains residential quarters that are located on both sides of a staircase with a passenger lift, an area for vehicles with a driving zone and spaces for cars separated by fire-resistant walls (the car spaces are located on the level as residential quarters on each story of the building), two ramps that serve for vehicle entrance and exit purposes, in addition, between the residential and the vehicle area, there is created a pedestrian zone in the form of a hallway that has a fire-resistant wall on the side of the vehicle zone.

**[0007]** 2. The building of claim 1, characterized in that: the driving zone is located between fire-resistant wall of the vehicle area and the spaces for cars.

**[0008]** 3. The building of claim 1, characterized in that: on the opposite of the staircase with the passenger lift on the first story of the building there is located an entrance into the building segment.

**[0009]** 4. The building of claim 1, characterized in that: a garbage chute is located between the staircase and the passenger lift.

**[0010]** 5. The building of claim 1, characterized in that: each said ramp is a spiral ramp.

**[0011]** 6. The building of claim 1, characterized in that: each said ramp has either a one-way or a two-way traffic.

**[0012]** 7. The building of claim 1, characterized in that: each said ramp is a concentric spiral ramp.

**[0013]** Another analogue (2) is known as:

**[0014]** Sky Garage (garages and apartments) built on 200 Eleventh Ave, designed by Selldorf Architects (located at Manhattan’s Union Square, N.Y., USA).

**[0015]** The building has private garages on the floors. It provides direct delivery of one car to the owner’s apartment in a lift. From the lift, the car moves right to the garage, where no space is provided for turning the car around. That means the car needs to be backed-up to the lift.

**[0016]** There is known another analogue (3) a building, wherein automobiles are taken to ‘sleep’ to their owners’

apartments—described by Leonid Popov, Mar. 22, 2006 (<http://www.membrana.ru/particle/1809>), herein called ‘Berlin Project’. The Berlin Project envisages a garage in the apartment analogical to the aforementioned New-York Project (Sky Garage): one lift for the section delivers one car to the apartment. But in this project, the car spot is located on the balcony (loft). No space is provided for turning the car around, which means that the car needs to be backed-up to the lift.

**[0017]** According to the present invention, a multi-story building comprises: external walls, living-garage blocks (LGBs, each composed of an apartment and/or office space, and a garage space), internal passage zones (herein also called ‘car halls’ having a sufficient space for driving a car therein), elevators for cars communicating with the car halls, and/or inclined ramps communicating with the car halls. The LGBs include:—inner quarters intended for placement of cars communicating with the car halls; and—outer quarters intended for long-term residence or work of people and inwardly adjacent to the external walls. The outer quarters are separated from the inner quarters by a fire-resistant wall (fire wall). The LGB has an entrance thereto from within the building. The LGB’s owner may determine how he/she wants to allocate and use the space of his/her own LGB.

**[0018]** The differences between the proposed invention and the analogue (1) are the following: A)—the area for vehicles and the area for people are joined in one block that belongs to one owner, while the analogue proposes a mechanism for collective parking on each story; B)—for lifting the vehicles to the stories, the invention proposes not only spiral ramps, but also any inclined rampants (including one-way or two-way spiral ramps), as well as vehicle elevators alone, or in combination with the inclined rampants and ramps; C)—the invention proposes a building construction, wherein the dwelling premises are adjacent to the outer wall of the building but the area for cars (the garage space) is located in the inner part of the block with the entrance from the inside of the building.

**[0019]** The difference between the proposed invention and the analogues (2) and (3) is the presence of the car hall inside the building with enough space for turning around or for 2 cars to pass by.

**[0020]** The analogues both provide direct car delivery in the only elevator serving a particular section of the building. There is no space for turning the car around, which means that it involves regular unnatural driving in reverse (backing up).

**[0021]** The analogues both do not solve the task of reliable car delivery. Due to the fact that no technological device has 100% reliability, the mentioned analogues (2) and (3) do not provide uninterrupted use of the building’s facilities. The German project specifically mentions that in case of the lift failure, the residents will be offered free taxi service. The American project proposes the building with prearranged apartment layouts that provide garage space for only one car, whereas a second car might be parked in an underground parking lot.

**[0022]** The aforementioned differences clearly point that the analogues (2) and (3) have a limited use and cannot be implemented for a wide variety of building.

**[0023]** The advantages of the proposed invention are the following:

**[0024]** the presence of the driving zone (car hall) inside the building provides for several means and ways of delivering cars to each story of the building, as well as

performing the usual turning maneuver when entering and exiting the LGB (block);

[0025] this concept provides a natural answer to the question about the amount of car spots for one block: the bigger the block, the more car spots it has. If the block owner does not need a lot of car spots, he/she can use the excess of internal auxiliary facilities for creating storage, workshop, gym, sauna, billiard room, greenhouse, etc.;

[0026] all the long-term people residence premises are located along the perimeter of the building, if the building plan is a closed polygon shape; they face South if the building plan is linear or arch shape, which means the insulation conditions are better;

[0027] the passenger elevators, fire escapes, internal communication facilities (garbage chutes, pipes, ventilation channels, cable channels, etc.) are arranged in the inner quarters in order to provide a maximum of natural lighting in the area of long-term people residence;

[0028] taking into consideration a constant increase of the average number of vehicles per person, especially in big cities, the concept of storing all the cars of one family inside the apartment-garage block allows freeing the area in front of the building of the vehicles, so it can be used for sports, children and recreation activities, for arranging local squares and parks;

[0029] it allows for a maximal use of the building site without allocation of space for an underground parking.

[0030] It is possible to implement a free (flexible) plan for LGBs arranged in the business-class residential buildings and office buildings.

[0031] The economy-class buildings may be built according to typical projects with a fixed design (plan) and typical communication equipment.

[0032] Construction of this type of buildings is particularly attractive for the Far North, where heat preservation and the possibility of permanently keeping cars in a warm space are especially significant.

[0033] Implementation of the proposed building structure allows freeing the area in front of the building from vehicles, offering the city car owners comfort that was previously available only to residents of suburb or county cottages, decreasing the load on the underground city space, reducing the need for underground parking construction, and improving ecology of the urban environment.

1. A multi-story building comprises:

external walls, plurality of living-garage blocks each having an entrance thereto from within the building;

a plurality of car halls each having a sufficient space for driving a car therein;

a plurality of elevators communicating with the car halls, and/or a plurality of inclined ramps communicating with the car halls; said elevators and/or said inclined ramps are used for lifting the cars onto the building's floors;

wherein the living-garage blocks include:

a plurality of inner quarters intended for placement of cars, and communicating with the car halls; and

a plurality of outer quarters intended for long-term residence or work of people and inwardly adjacent to the external walls.

2. The building according to claim 1, wherein the outer quarters are separated from the inner quarters by a fire-resistant wall.

3. Building by prototype 1, characteristics: driving zone (car hall) is located in the inner garage area of the block and unites several blocks. The building according to claim 1, wherein said car halls each communicates with a predetermined number of living-garage blocks.

4. (canceled)

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