July 28, 1936. F. SINGER 2,049,088

CONSTRUCTION OF BUILDINGS

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Fig. 1.

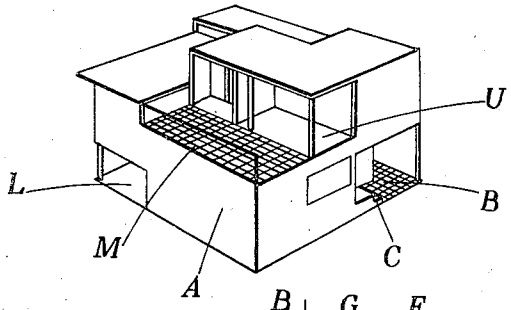


Fig. 2.

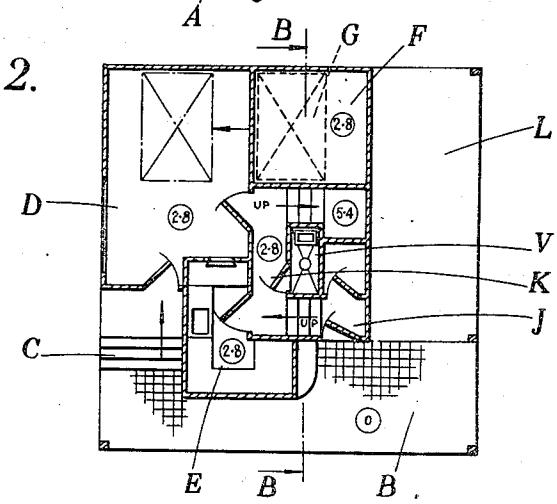
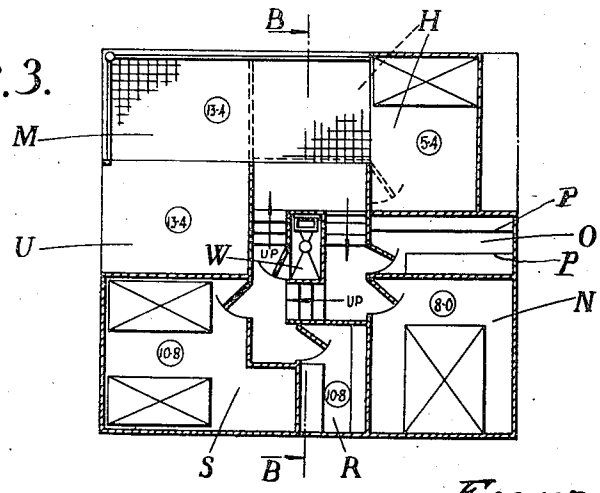


Fig. 3.



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Fig. 4.

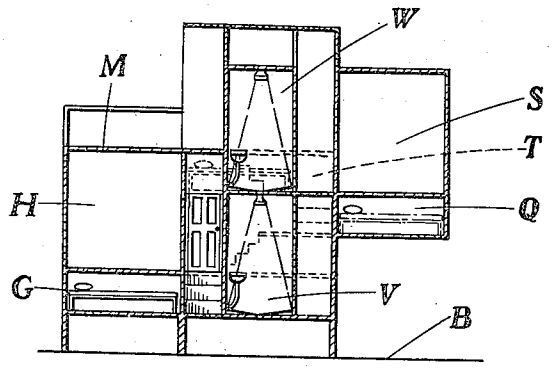


Fig. 5.

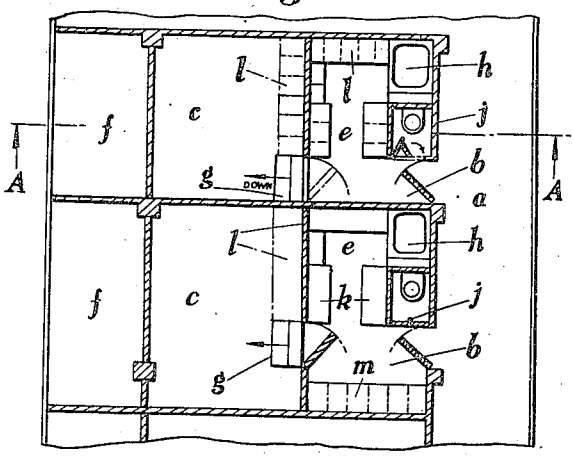
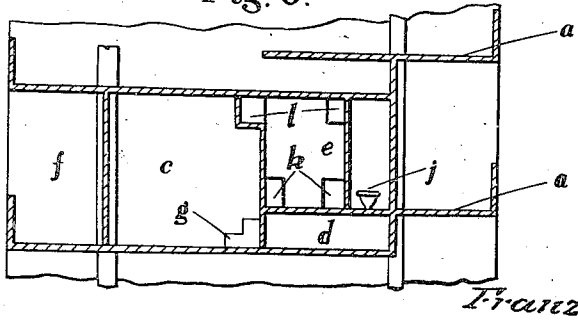


Fig. 6.



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Fig. 7.

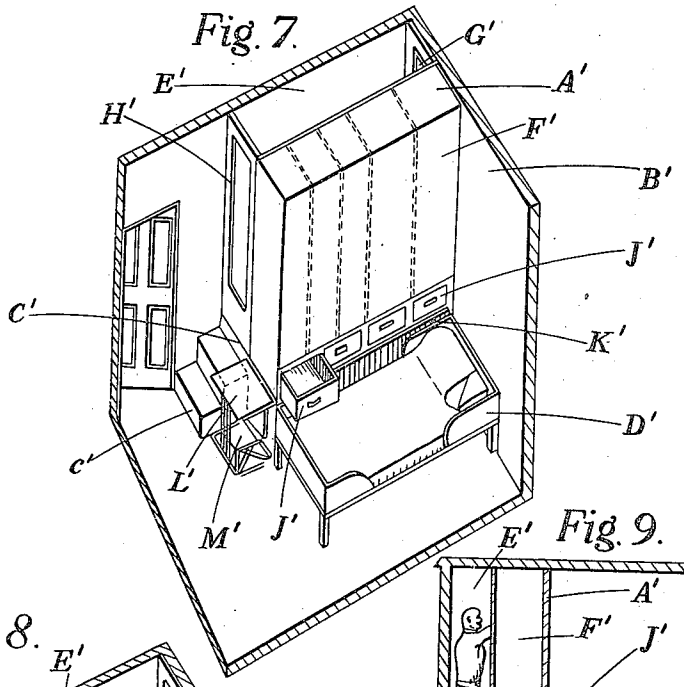


Fig. 8.

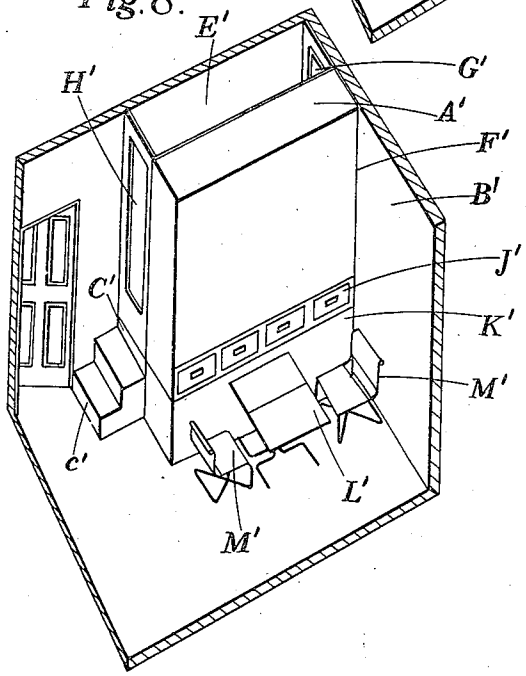


Fig. 9.

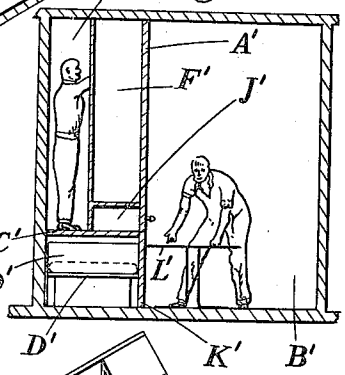
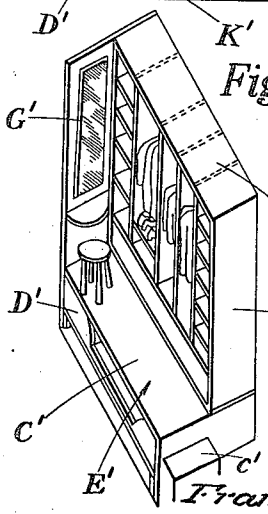


Fig. 10.



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Fig. 11.

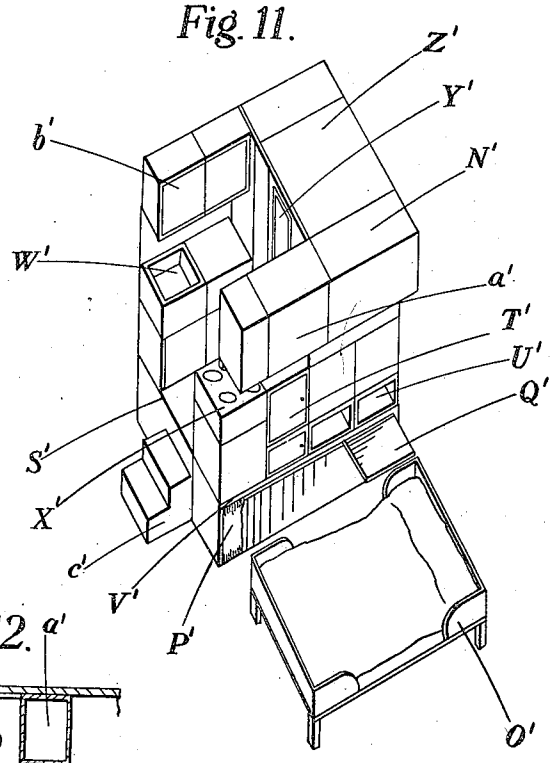


Fig. 12.

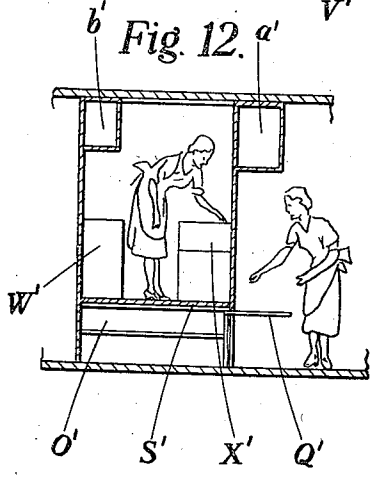
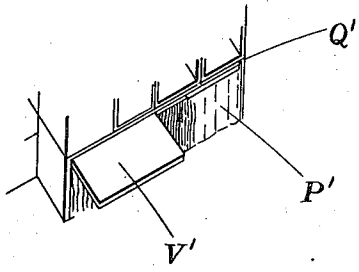


Fig. 13.



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UNITED STATES PATENT OFFICE

2,049,088

CONSTRUCTION OF BUILDINGS

Franz Singer, Vienna, Austria

Application September 27, 1935, Serial No. 42,544
In Great Britain August 15, 1934

2 Claims. (Cl. 20—1.11)

This invention relates to the construction of buildings, and has for its object to provide an improved construction which is particularly suitable for domestic buildings of the flat or tenement type, as well as of small detached, semi-detached or terrace houses.

In modern buildings of this type great economy of space is required to enable sufficient accommodation to be provided particularly when planning small flats or tenements which will require only a small cubic space of building, so that these flats may be let for a low rental. With this economy in view, particular attention has hitherto been paid to the reduction of over-all area in plan as by modifying the horizontal grouping and inter-relation of the various rooms and other spaces.

The idea underlying the present invention is to make use of all available space by modifying the vertical grouping of the rooms and other spaces in a building or in adjacent houses.

The rooms and other spaces in a house may be divided into three classes; first ordinary living rooms (Class A) secondly supplementary rooms (Class B) and thirdly storage spaces (Class C). Of these classes the first requires to be of a certain minimum height say eight feet six inches to nine feet, whilst the second, of which kitchens, pantries, sculleries, bedrooms, dressing rooms, bathrooms, lavatories, entrance halls, corridors and hanging cupboards are examples, although requiring to be of such height as to be accessible, do not require to be so high and may be for example about six feet six inches high. Spaces of the third class, which may serve for the storage when not in use of chairs, tables, beds and other articles or the installation of domestic machinery and the like, require a height of about two to three feet only.

In accordance with the invention, rooms, either of the first or second class, of a building or of adjacent buildings are provided at different levels, the spaces between adjacent floor levels being used as storage spaces of the third class accessible from the rooms.

This invention is carried out by way of joining rooms of Class A and rooms of Class B. This can be done

(*a*) If ceiling levels of rooms of Class A and B are the same.

(*b*) If floor levels are the same.

In case of (*a*) the floor level of rooms of Class B is higher than that of rooms of Class A. By carrying through the floor level of A underneath the rooms of Class B, a storage space C is formed underneath rooms of Class B, and is accessible from rooms of Class A. Rooms of Class A and B are connected by steps, which may be concealed or collapsible.

According to one way of carrying out the invention, a supplementary room is provided with its floor at a higher level than that of an ordinary living room from which it may or may not be accessible, and with its ceiling at the same level as that of the living room. In the preferred arrangement of this sort, the supplementary room, which may be, for example, a bathroom or kitchen, communicates with the living room by steps which can normally be concealed, and the space between its floor and that of the living room serves for the storage, when not in use, of beds, tables, chairs and other articles of furniture belonging to the living room.

The invention can either be embodied in a new building or it can be adapted to existing buildings by the provision of a structure resembling a large wardrobe which can either be built in position as a fixture or be assembled from parts so that it is removable and resembles a very large piece of furniture.

This structure has a supplementary platform a few feet above the ground underneath which is housed, for instance, a made bed or divan which latter may be folded when drawn out from the recess so as to form a bench or set of double height.

In the preferred form of the furniture the upper or supplementary floor provides space for a bathroom or dressing-room or other supplementary room which will enable a single room to be converted into a flat. A door is preferably provided in one side and steps which can be folded so as normally not to be obvious provided giving access to this door. Various sliding parts may be incorporated so as to be capable of being pulled out for one use to provide writing tables and similar pieces of furniture, these sliding parts or flaps conveniently being arranged at the top surface of the space, that is to say, below the intermediate or platform level.

The invention is illustrated by way of example with reference to the accompanying drawings in which

Figure 1 is a perspective view of a detached house with the rooms arranged in spiral formation,

Figures 2 and 3 represent lower and upper floor plans respectively of the house shown in Figure 1,

Figure 4 represents a section on line B—B of Figures 2 and 3,

Figure 5 represents a plan of two small suites of an hotel or mansion flat and

Figure 6 represents a section on line A—A of Figure 5,

Figures 7 and 8 represent external perspective views of one form of construction adapted for night and for day use respectively in an existing building,

Figure 9 is a vertical cross sectional view as seen in Figure 8,

Figure 10 represents a view of the inside of the construction of Figures 7 and 8, one side and the door being omitted for clearness,

Figure 11 represents an external perspective view, and

Figure 12 a similar fragmentary view, of an alternative construction adapted for night and for day use respectively, and

Figure 13 represents a vertical cross sectional view through the furniture as seen in Figure 12.

Referring first to Figures 1 to 4, the house A comprises a number of rooms with progressively higher floor levels arranged round a central staircase, storage spaces being provided under the floors of the higher rooms for beds and the like in adjacent lower rooms.

The house is intended primarily as a family dwelling, but could be used for small flats. Assuming it is to be used for the latter purpose the lowermost flatlet, which may be occupied by the owner or housekeeper, has one entrance from a verandah B by three steps C and another entrance from an inner hall K and comprises a living room D and a kitchen E. The level of these rooms is 2 feet 8 inches from the ground and the living room D is provided with a low recess F 2 feet 8 inches high to take a double bed G which can be pulled into the living room for use. The kitchen is accessible from the living room D and from the passage K. The flatlet on the next level comprises a room H which is 5 feet 4 inches from the ground and is approached from the entrance by means of two separate sets of three steps with the passage K between them. The main portion of the room H overhangs a low verandah space L, for example for storing garden furniture, and the rest of the room, which is below a balcony M and is not so high as the main portion of the room, is positioned above the storage recess F of the lowest flatlet.

The next higher level is 2 feet 8 inches above the room H and on this level is a large hanging cupboard or kitchenette space O, under which is a low recess P for housing a bed or beds of the room H, and a room N. The bed from this room N may be hidden in a recess Q provided below another hanging cupboard or kitchenette R situated on a level of 10 feet 8 inches and intended to be used by the occupier of a room S situated on the same level. A recess T for the bed or beds of this room S is provided by lowering the ceiling of part of the lowest room D.

Above the recess T a covered balcony U is provided and this balcony and the open part M are 2 feet 8 inches above the level of the room S.

It will be seen that the stairs are situated in a central wall and that they comprise five sets of three steps each separated by short landings from which the individual rooms are approached. The stairs are themselves positioned round a well in which are situated two shower rooms V and W one above the other and on the 2 feet 8 inch and 10 feet 8 inch levels respectively.

This system of building may be applied to any size of house, the rooms being arranged at successively higher levels in spiral formation in the manner indicated above. Existing houses may also be enlarged by adding further rooms as required, the roof levels also being in stepwise spiral formation.

An example of the application of the invention to a different type of building, such as an hotel or service or mansion flats is illustrated in Figures 5 and 6. In this form each suite is entered directly from a passageway comprising a balcony *a* and the entrance hall *b* and a bathroom or the like *e* are on the same level as the balcony but above the level of the main room *c* in order to provide a space *d* under the rooms *b* and *e* in which furniture such as a bed in the day and dining furniture at night may be stored, thereby enabling one room to be used as a living room and a bedroom without the disadvantage of all the necessary furniture being in the room at the same time.

As the entrance hall *b* and bathroom *e* do not need as much head room as the living room *c* the ceilings of all the rooms are on the same level enabling a great economy of space to be effected.

The living room *c* is shown as leading onto a balcony *f* which is at the level of the floor of the room and preferably extends right along the building so that all the rooms entered from the same entrance balcony lead onto it. Instead of an entrance balcony, an interior corridor could, of course, be substituted, and rooms could lead off from both sides of the corridor. In this case, where it is not necessary to have the corridor the full height to the floor of the corridor above, the space between the ceiling of one corridor and the floor of the corridor above may be used to house service pipes and the like.

Figure 5 shows a typical arrangement of two suites of slightly different size, both suites having narrow halls *b* leading down two steps *g* into the living rooms *c*. A door may be provided between the hall and living room if desired. Each of the bathrooms *e* is provided with a short stepped bath *h* and a lavoratory *j* and with a dressing space provided with floor cupboards *k* and ceiling cupboards *l*. The ceiling cupboard on the inner side of the bathroom overhangs the partition wall between the bathroom and living room, as shown in Figure 6, thereby effecting an additional utilization of normally wasted space.

The larger suite also has hanging cupboards *m* on the opposite side of the hall from the bathroom.

Referring now to Figures 7 to 10 of the drawings, the structure takes the form of a large piece of furniture A^1, which is of wardrobe form, is fitted into one corner of a room B^1 and is about 3 feet wide by 6 feet long and extends up to the ceiling of the room.

A floor C^1 is provided in the furniture about 3 feet from the base thereof and the space below this floor is adapted to receive a bed D^1 which just fits therein without any wastage of space. The part of the furniture above the floor C^1 is fitted as a dressing room, as shown clearly in Figure 10, and is provided with a dressing space E^1 on the side adjacent the wall of the main room and with wardrobe space F^1 on the other side; sliding drawers, shoe racks and long gown and suit recesses being provided.

At the inner end of the dressing space a long wall mirror G^1 is fitted and at the outer end a door H^1 is provided.. The wardrobe space F^1 is raised above the floor level C^1 in order to provide

a space for drawers or recesses J^1 accessible from outside the furniture.

When the bed D^1 is pushed away into the position shown in Figures 9 and 10 for use of the room during the day, it is concealed by a sliding flap K^1 which is pulled out from its inoperative position beneath the recesses or drawers J^1 shown in Figure 7 and dropped to the vertical position shown in Figures 8 and 9. When the flap K^1 is in this position with the bed concealed, tables L^1 and chairs M^1 may be placed in the space previously occupied by the bed as is shown in Figure 8. At night the chairs and tables may either be pushed into the space previously occupied by the bed or they may be for example nested and placed at the side of the structure as shown in Figure 7.

Figure 9 shows the different floor levels of the main room B^1 and the dressing room formed in the furniture A^1 and shows how space normally wasted is utilized.

Figures 11 to 13 show a larger structure N^1 capable of housing below it a rigid double bed O and forming a kitchenette and bathroom. The bed is stored in the recess in a similar manner to that shown in Figures 9 and 10, but as an alternative to providing a rigid door or flap to conceal the bed when it is stored away a curtain P^1 may be provided which may be opened as shown in Figure 11 or closed, when the bed O^1 is pulled out for use.

A sliding leaf Q^1 is fitted just below the raised floor S^1 of the structure, and cupboards T^1, recesses U^1 and a table leaf V^1, all accessible from outside the furniture, are formed above the floor S^1.

The inside of the structure is concealed from the main room by wall partitions and a door (not shown) and the kitchenette includes a sink W^1, cooking stove X^1 and various cupboards forming a safe, a dresser and the like. The kitchen is separated by a door Y^1 from a small bathroom Z^1.

This form of furniture is provided with some of the cupboards *a* formed at the top of the furniture in an overhanging manner so that the wasted headroom above the table leaves Q^1 and V^1 is utilized as shown clearly in Figure 13. A cupboard b^1 provided at the top of the furniture over the sink W^1 also utilizes space normally wasted.

Suitable ventilation and light is provided in both forms of structure and the entrance door of the furniture is approached by steps c^1 which are shown rigid but which may be collapsible.

It is to be understood that the structure can be of any suitable material or form of construction, whether built up from standard units as shown or formed from appropriate framings and panelling or in any other convenient manner.

The invention is not restricted to the features which have been described above by way of example but includes such embodiments as come within the ambit of the claims which follow.

I claim:—

1. A building structure comprising main rooms of story height, and supplementary rooms of less than story height, the ceiling levels of the main and supplementary rooms being the same and the floors of the supplementary rooms being raised above the floor-level of the main rooms to provide low-ceiling recesses in the main rooms and accessible from them, the rooms being arranged in spiral formation and entered from a central staircase.

2. A building structure comprising a series of rooms with progressively higher floor levels arranged spirally around a central staircase the distance between successive floor levels being substantially less than story height, each successive level overlapping part of the floor immediately below it to form storage spaces accessible from the main rooms between the overlapping parts of successive levels and supplementary rooms above said storage spaces.

FRANZ SINGER.