United States Patent [19]

Stoop

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[54] COMPLEX OF PATIO HOUSES

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[51] **Int. Cl.**.....**E04h 1/02,** E04b 1/348
[58] **Field of Search**.....52/79, 169, 234; D13/1 R

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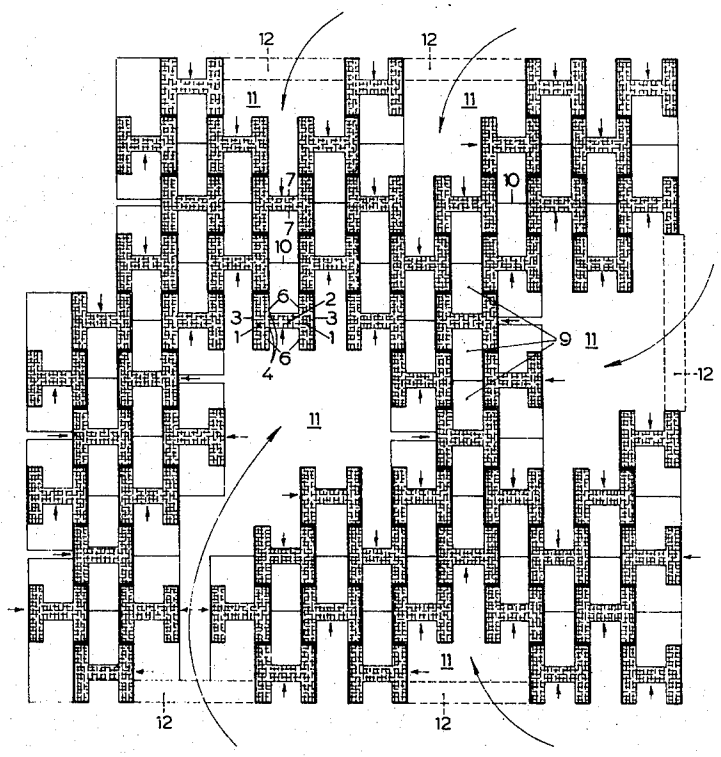
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Primary Examiner—Alfred C. Perham
Attorney—Eric H. Waters et al.

[57] **ABSTRACT**

A complex of patio houses each having two mutually parallel wings and an interconnecting part perpendicular to said wings, and having an H- or h-shaped outer circumference. The houses of the complex are arranged in such a way, that the wings of any two adjacent houses always lie on one line whereas the interconnecting parts of these houses lie on opposite sides of this line. In this manner each house has at least one patio which is partially bounded by the wings of adjacent houses.

9 Claims, 8 Drawing Figures



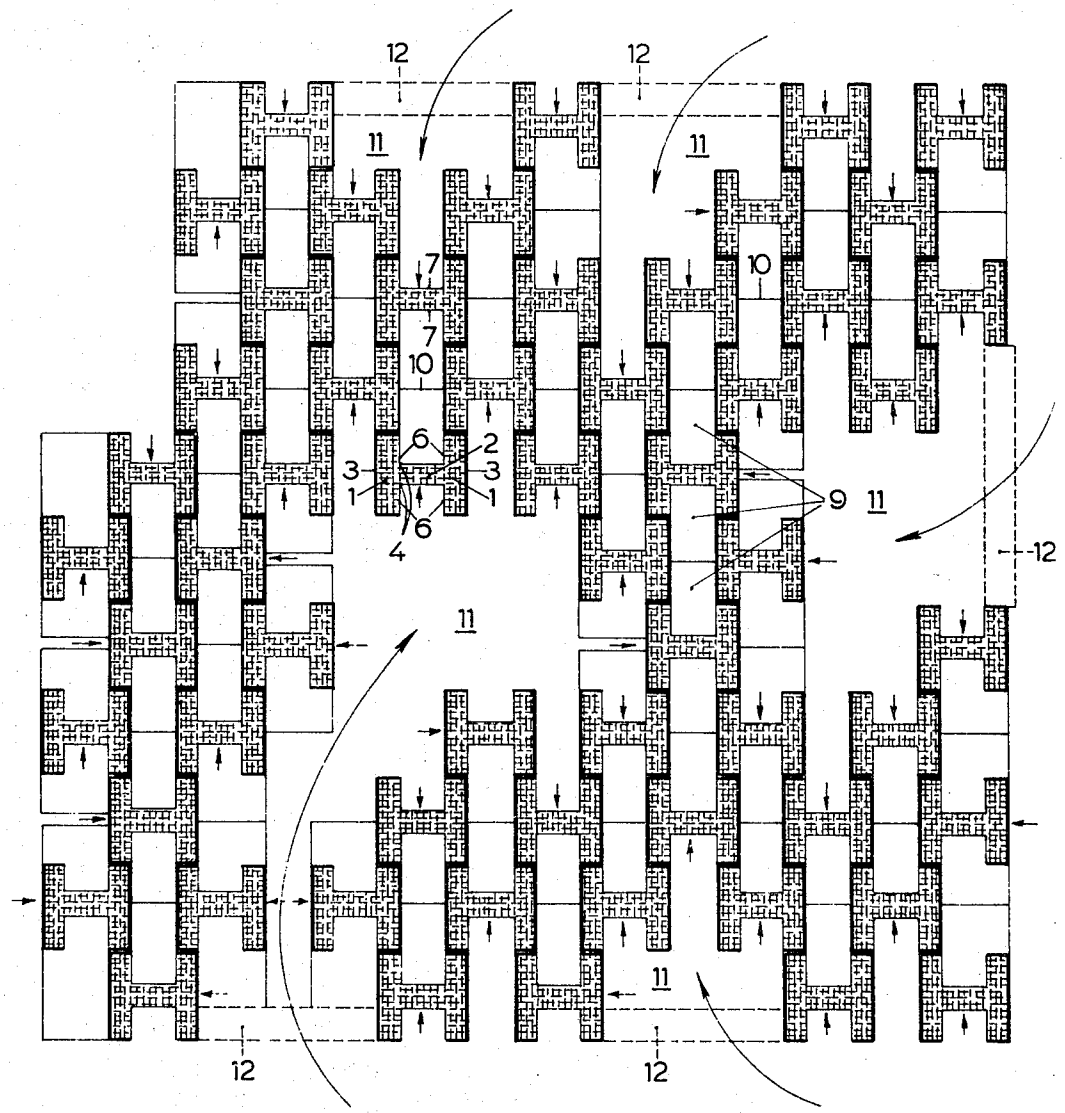


fig.1

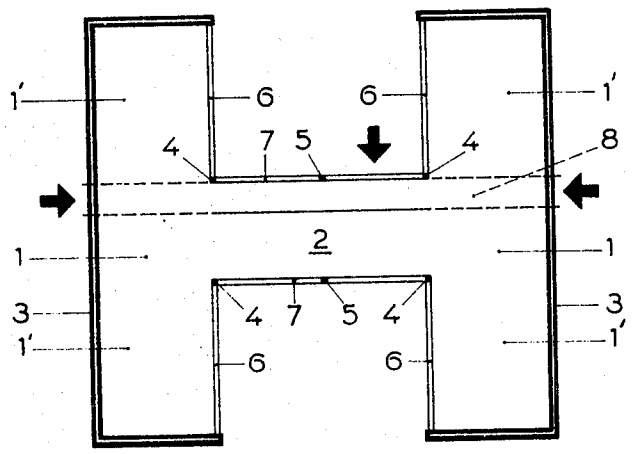


fig.2

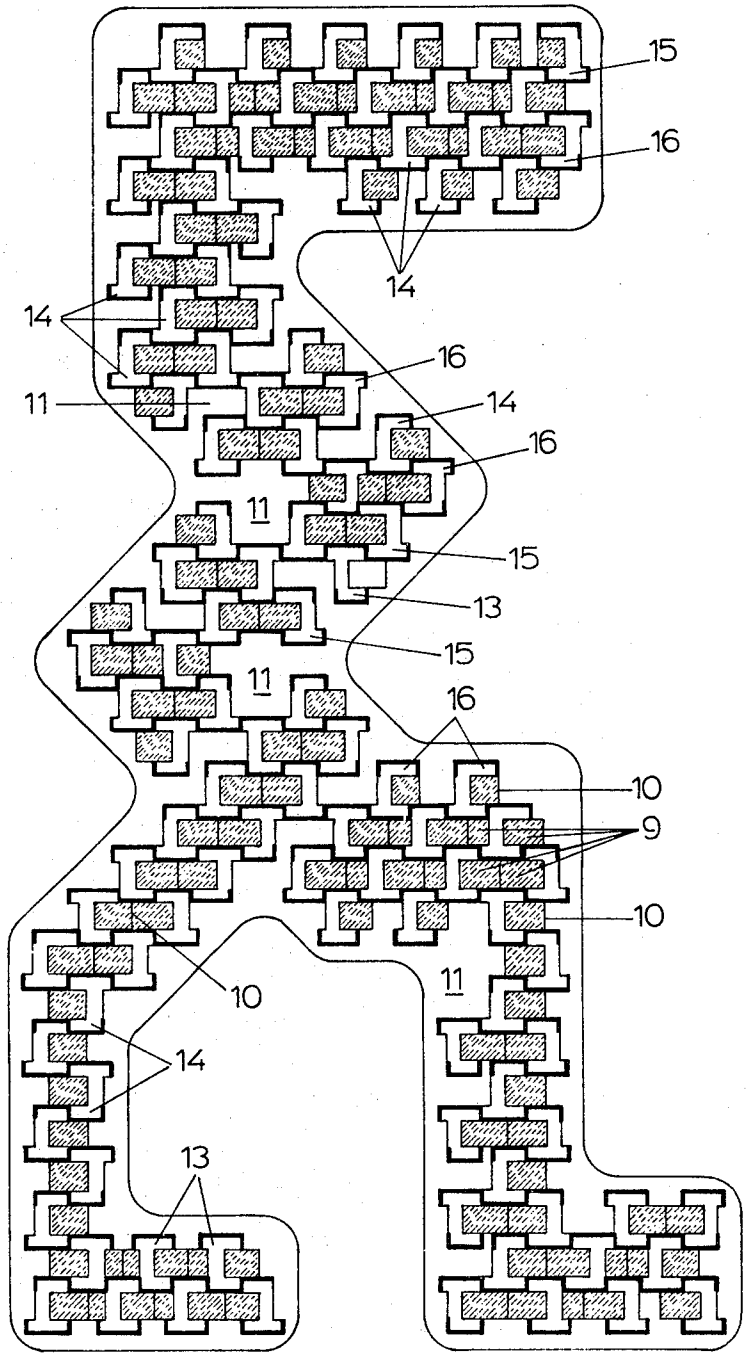


fig.3

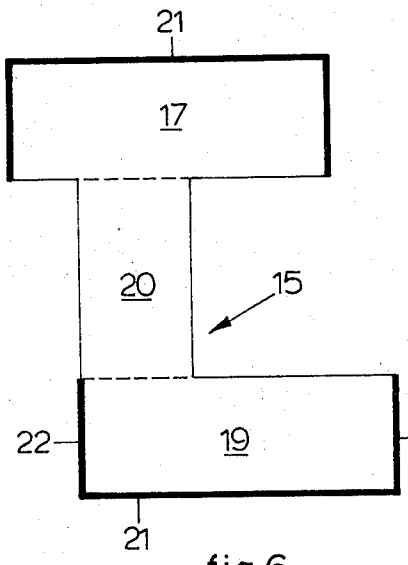


fig.6

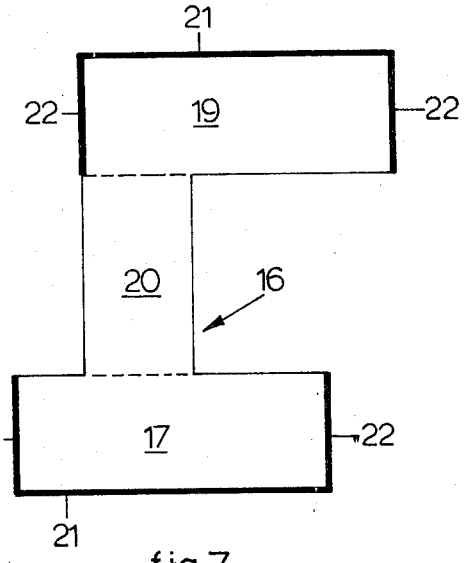


fig.7

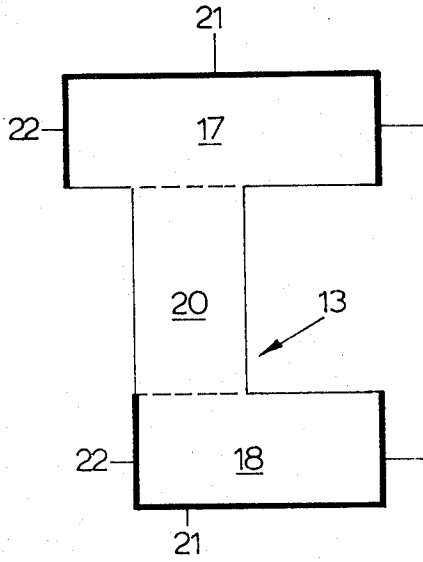


fig.4

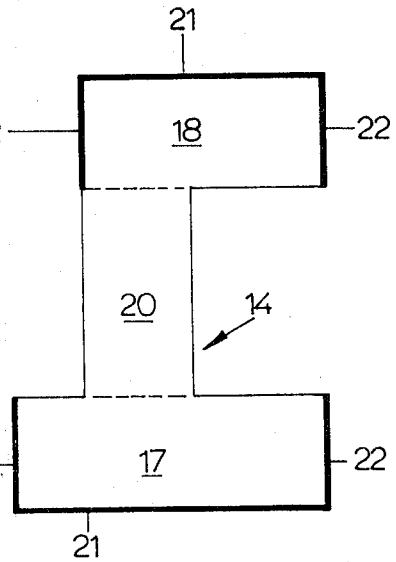


fig.5

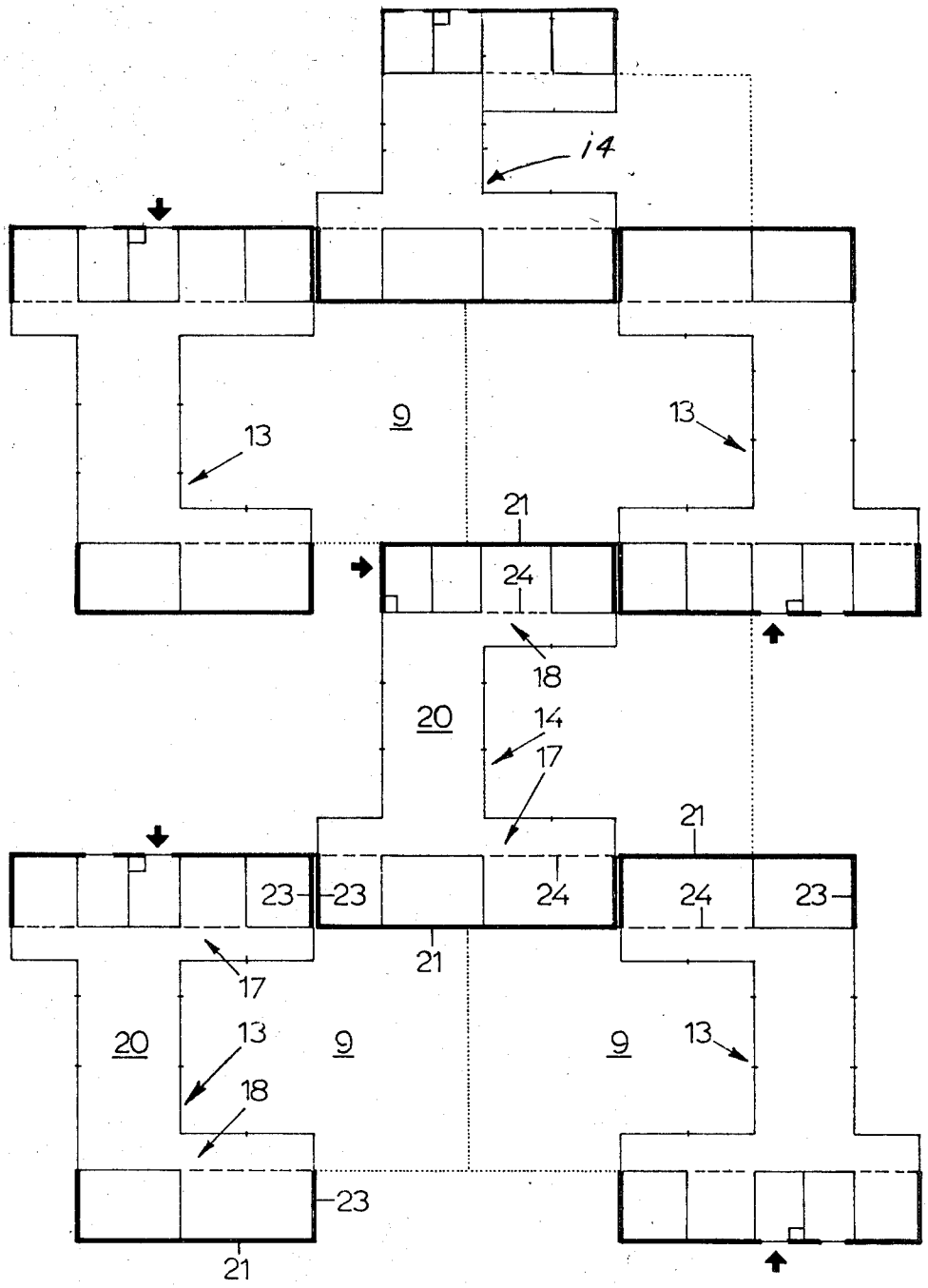


fig.8

COMPLEX OF PATIO HOUSES

BACKGROUND OF THE INVENTION

The present invention relates to a complex of patio houses.

Complexes of patio houses each having an L-, T- or U-shaped outer circumference are well known in the art. The houses of such a complex are arranged in such way that each of the houses has a patio bounded by the closed outer walls of adjacent houses and by garden walls, pergolas or bushes. In this manner the patio forms an enclosed open living room which is shielded from the wind and affords a substantial privacy. Because such a patio is protected from the wind it can be used as an additional living room from early spring until late fall. It has been found that the microclimate is changed in the patio. Within a patio of which the length and the width equal the height of the surrounding buildings, the nightly radiation is only 45 percent of the radiation in the open country, so that the patio may also be used on many summer nights. The microclimate may further be influenced by means of plants, fountains and sun shields.

As was mentioned before, houses having an L-, T- or U-shaped outer circumference are well known. The L-shape is the most economic shape and therefore practiced most often. In an L-shaped house, it is just possible to provide a separation between a living wing and a sleeping wing, so that the entrance can be located between these wings on the corner of the house. In this way, the distances to be covered within the house can be kept at a minimum.

The known patio houses, however, have the disadvantage that they can only be built in rows of one house deep, so that only by off-setting the houses with regard to each other a lively effect can be obtained. Doing this, however, increases the building costs.

T-, and U-shaped patio houses have no more possibilities to offer than the described L-shaped houses and also have the disadvantage that the patio has to be left open at the back, so that in fact, it only amounts to a back garden. Such a back garden, however, cannot be regarded as a patio any more and most of the advantages of the real patio, viz. privacy and protection against the weather, are lost again. The original patio house, of course, is a house that fully surrounds the patio or inner court. This means that, in order to obtain a roomy patio, a very large house has to be built.

Another disadvantage of the known complexes of patio houses is that such houses are normally built in rows and are wholly orientated on the patio. Thus such complexes have very narrow pathways with an almost blind wall on one side and high impenetrable bushes on the other side, so that they make a dreary impression from the outside. This disadvantage might be diminished by spacing the houses further apart by means of wider pathways and public gardens, but this of course makes the houses more expensive.

SUMMARY OF THE INVENTION

The object of the present invention is to provide a complex of patio houses which has substantial advantages over the known complexes as described in the foregoing.

According to the invention, this object is realized by the fact that each of the houses of the complex comprises two mutually parallel wings and an interconnecting part perpendicular to these wings. One of these wings projects on both sides from the interconnecting part whereas the other wing projects at least on one side from the interconnecting part. The houses of the complex according to the invention are arranged in such way that at least one wing of each of the houses is substantially aligned with at least one wing of another house, and that the interconnecting parts belonging to each pair of adjacent wings are opposedly directed. In this manner each of the houses of the complex has at least one patio which is accessible from said house and is surrounded by one facade of the interconnecting part and the inner facades of the wings of said house, and by at least a part of the outer facades of the wings of adjacent houses.

Thus, a complex of patio houses is provided in which each house has at least one, and more often even two patios which are both larger than the patio of the known L-, T- or U-shaped houses of the same size, because according to the invention the size of each patio is partially determined by the adjacent houses.

The complex according to the invention has the further advantage that long continuous foundations and roof constructions can be used so that systematic and economic building methods may be applied.

Because the patio houses may be linked axially as well as transversely, closely built-up sites may be obtained with only such openings as are necessary to make each house accessible from the road. These openings form fore-courts onto which several houses open and which can be given a certain amount of privacy by means of common car ports. In this way, these openings form a meeting place for the residents of the complex, as well as a safe playground for the children.

In a first embodiment of the invention, both wings of each of the houses of the complex project on both sides from the interconnecting part, and the projecting parts of the wings are of equal length, so that the outer circumference of the house is H-shaped. In this manner, a complex of patio houses is obtained having a regular pattern.

In another embodiment of the invention, only one of the wings of each of the houses projects on both sides from the interconnecting part, whereas the other wing only projects from one side of the interconnecting part, so that each of the houses has an h-shaped outer circumference. In this manner, a more versatile linking pattern may be obtained, while at the same time the complex may be more readily adapted to the already existing roads.

The H- or h-shaped outer circumference of the houses, allowing for a large number of different ways of linking the houses without increasing the costs of the foundations, gives the complex according to the invention a very lively appearance. The compact pattern of the complex leads to a consumption of ground space which is at the most 10 percent more than with the traditional one-family houses built in rows. Because many otherwise necessary roads may be omitted in the complex according to the invention, less ground space is needed. Therefore, the ground costs of a complex according to the invention will be about the same as the ground costs of a traditional row of one-family houses, whereas the building costs will be much lower than for

a row of traditional houses having the same living space, garden and living comfort. With the known L-, T- or U-shaped patio houses, the arrangements and floor plans may be adapted to the needs and wishes of the inhabitants only to a slight degree. It is extremely difficult to change the arrangement of such houses later on, e.g., when more rooms are needed or for other reasons, because this involves the breaking away of supporting walls, whereby very expensive constructive measures are rendered necessary.

Because of the h- and H-shaped plans, the wings of the houses may be kept relatively narrow, so that only the blind outer walls and the short perpendicular walls of the wings have to be supporting walls. On each corner of the interconnecting parts of the houses, a supporting column is erected.

As the inner walls of the wings, the walls of the interconnecting part, and the internal walls of the houses are not supporting, these walls may easily be changed or removed. Thus, the patio houses according to the invention may easily be adapted to the needs and wishes of the inhabitants, not only during the erection of the houses but also at a much later date.

Because of the small depth of the projecting parts of the wings, all rooms receive sufficient light through the windows in the inner facades of the wings and the facades of the interconnecting part.

The patio houses according to the invention are extremely suitable for various methods of pre-fabrication, especially for the so-called trailer building method. In trailer building, the houses are fully finished in the factory and transported in segments over the road to the building site where these segments are placed on the foundations, which have been constructed in advance, by means of a crane, after which the segments only have to be interconnected. The H- and h-shaped patio houses may easily be divided into three segments, viz. the two wings and the interconnecting part, each having a minimal width and only minimal interface areas to be connected with the other segments of the same house.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 shows a plan view of a complex of H-type patio houses according to the present invention,

FIG. 2 shows a ground plan of an H-type patio house,

FIG. 3 shows a plan view of a complex of h-type patio houses according to the invention,

FIGS. 4–7 show ground plans of the different patio houses of the complex according to FIG. 3, and

FIG. 8 shows another embodiment of a complex of h-shaped houses according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Each of the houses of the complex shown in FIG. 1 has an H-shaped outer circumference and comprises two wings 1 and an interconnecting part 2. Only the large outer walls 3 of the wings 1 and the short perpendicular walls of the wings are blind supporting walls. On each corner of the interconnecting part 2, a supporting column 4 is placed on which continuous beams are supported parallel to the outer walls of the wings. Also supported on the columns 4 are a pair of beams interconnecting the wings of which the length equals the length of the interconnecting part. These beams are supported in the middle by an intermediate supporting column 5, as can be seen in FIG. 2. As the inner walls 6 of the wings 1, the walls 7 of the interconnecting part 2 and the internal walls of the house do not have to support the roof, these walls may be built according to the selected arrangement of the house and may be provided with large windows.

In the interconnecting part 2 of each house of the complex, a corridor 8 is planned adjacent to one of the outer walls 7 of the interconnecting part 2. From this corridor 8, any part of the house may be reached.

The various living functions may be separated from each other in the projecting parts 1′ of the wings on opposite sides of the corridor 8. These wing parts 1′ may be relatively narrow because they do not have to contain any corridors or the like. As the width of the wings 1 is no more than 13 ft, supporting internal walls are not necessary.

In each pair of adjacent houses, one of the wings 1 of each house is aligned with a wing 1 of the other house, whereas the interconnecting parts 2 extend in opposite directions.

Some of the houses have both wings 1 connected to and aligned with wings of different adjacent houses. In this manner, each house has one or even two patios 9 which are accessible from the house and are bounded by the interconnecting part 2 and both wing parts 1′ of the house and by parts of the wings 1 of adjacent houses. Adjacent patios may be separated by means of a wall 10 or of high bushes.

The houses may be divided into three basic types, viz. one having the entrance in the outer wall 3 of the left wing 1 aligned with the interconnecting part, one having the entrance in the outer wall 3 of the right wing 1, and one having the entrance in one of the walls 7 of the interconnecting part 2. These three possibilities have been indicated in FIG. 2 by means of arrows. The houses of the first type have the corridor 8 on the left side of the interconnecting part 2, whereas the houses of the second type have the corridor 8 on the right side, as is indicated by broken lines in FIG. 2. In this manner, the living rooms of the houses all have the same orientation with respect to the sun.

The houses of the complex according to FIG. 3 are h-shaped. Each house has two mutually parallel wings and an interconnecting part 20 perpendicular to said wings. One of the wings 17 projects on both sides from the interconnecting part 20, whereas the other wing 18 or 19 projects on only one side from the interconnecting part. The houses of the complex are arranged in such manner that the wings of adjacent houses are always aligned with each other, whereas the interconnecting parts 20 are alternately directed in opposite directions.

The houses of the complex belong to two different basic types. The only difference between the houses 13 and 14 of the first type of which the plans are shown in FIGS. 4 and 5 respectively, and the houses 15 and 16 of the other type, of which the plans are shown in FIGS. 6 and 7 respectively, is that the length of the wing 18 projecting on only one side from the interconnecting part 20 of the houses 13 and 14 is shorter than the other wing 17, whereas in the houses 15 and 16 both wings 17 and 19 are equal in length.

As the h-houses are not symmetrical with respect to the interconnecting part **20**, the houses of both types can have two different plans which form each other's mirror image. The ground plan of a house **14** as shown in FIG. **5** is the mirror image of the ground plan of a house **13** as shown in FIG. **4**. In like manner, the plans of the houses **15** and **16** as shown in FIGS. **6** and **7** respectively form each other's mirror image.

These four different plans offer a practically unlimited number of linking possibilities, so that the linking pattern of the complex is lively and varied. At the same time, the linking pattern may easily be adapted to the already existing roads, as can be seen from FIG. **3**.

Each of the houses of the complex has at least one and in most cases even two patios **9** which are accessible from said house and are enclosed by the interconnecting parts and the wings of said house, by the blind facades of the wings of adjacent houses and by a wall or hedge **10**.

In like manner as in the H-type houses, only the long outer walls **21** of the wings and the short perpendicular walls **22** of the wings are supporting walls, whereas the inner walls of the wings and the walls of the interconnecting parts **20** do not have to support the roofs, so that these walls may be provided with large windows, if desired.

As can be seen from FIGS. **1** and **3**, long continuous foundation strips may be used with the complex of patio houses according to the present invention. Also long continuous roof surfaces may be used. As the patio houses may be linked together axially as well as laterally, a close building pattern may be obtained.

As can be seen from FIGS. **1** and **3**, openings **11** are provided in the pattern, so that each house may be reached from the road. These openings **11** form forecourts onto which several houses open. These forecourts may be closed off from the road by means of a car port **12**, as can be seen from FIG. **1**.

As mentioned before, the patio houses according to the invention are particularly suitable for trailer building methods, because both wings as well as the interconnecting parts may be easily transported over the road as separate fully finished segments to be interconnected on the building site.

In some countries, however, where the allowable width of segments to be transported over the road is smaller than the width of the wings, problems may arise. These problems may be solved by means of the h-type patio houses according to FIG. **8**. In these houses, only the portions **23** of the short perpendicular walls **22** of the wings are carried out as supporting walls. Thus, the supporting part of each wing may be separated from the remaining part of the wing along the broken line **24**, so that it may be transported over the road as a narrower independent segment. In this case, it is of course practical to locate all fixed elements of the houses, such as the kitchen, the toilet, the bathroom, the entrance hall, etc., within these supporting segments.

The invention is, of course, not limited to the embodiments represented in the drawings by way of example. The houses according to the invention may be changed in different ways within the scope of the invention. For instance, the width of the interconnecting part, the ratio between the length of the projecting parts of the wings, or the distance between the wings may be changed.

I claim:

1. A complex of patio houses, each comprising two mutually parallel wings and an interconnecting part perpendicular to the said wings, wherein a first one of the said wings projects on both sides from said interconnecting part and a second of said wings projects at least on one side from said interconnecting part, said wings and interconnecting part including respective walls, the said houses being arranged in such manner that one wing of each house is substantially aligned with and connected to one wing of at least one other house and that the interconnecting parts of each pair of adjacent houses lie on opposite sides of the said aligned wings, so that each house has at least one patio accessible from said house and bounded by a wall of the interconnecting part of said house, an adjoining wall of each of the wings of said house and a portion of a wall of a wing of at least one adjacent house.

2. A complex of patio houses as claimed in claim **1** wherein the second wing of each house also projects on both sides from the interconnecting part and the projecting parts of each wing are equal in length so that the house has an H-shaped circumference.

3. A complex of patio houses as claimed in claim **1** wherein the second wing of each house projects on only one side from the interconnecting part so that the house has a h-shaped circumference.

4. A complex of patio houses as claimed in claim **3** wherein the projecting part of the second wing of at least some of the houses is shorter than the projecting part of the first wing on the same side of the interconnecting part.

5. A complex of patio houses as claimed in claim **3** wherein the second wing of at least some of the houses is shorter than the first wing and wherein the wing parts projecting from the same side of the interconnecting part are of equal length and the projecting part of the first wing on the other side of said interconnecting part is shorter than the said first mentioned projecting parts.

6. A complex of patio houses as claimed in claim **1** wherein only the long outer wall and at least a substantial adjoining part of the short end wall of each wing of each house are supporting walls and wherein each house further comprises a supporting column at each corner of the interconnecting part.

7. A complex of patio houses as claimed in claim **6** wherein the wings of adjacent houses are interconnected in such manner that the supporting parts of the end walls of the said wing are aligned.

8. A complex of patio houses as claimed in claim **7** wherein the end wall of each wing of each house has a non-supporting part and wherein any two adjacent houses are offset with respect to each other at a distance equal to the width of said non-supporting part.

9. A complex of patio houses as claimed in claim **1** wherein the aligned wings of the houses are supported on mutually parallel continuous foundation strips.

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