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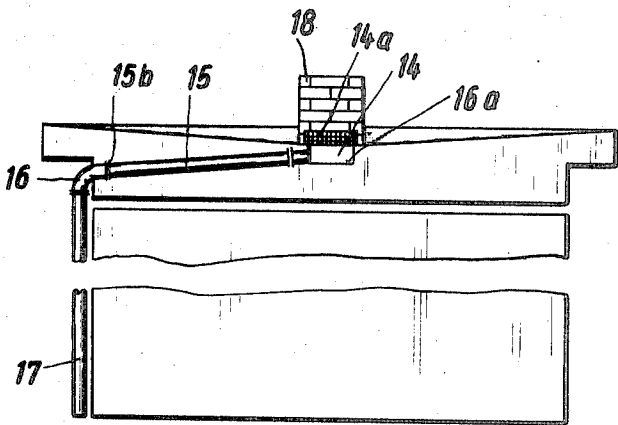
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[54] **ROOF ELEMENT**
3 Claims, 5 Drawing Figs.

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52/16
[51] Int. Cl..... **E04d 13/08**
[50] Field of Search..... **52/12-16,**
95

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ABSTRACT: A building roof structure designed for efficient drainage of rain. The roof structure consists of a plurality of flat components of simple geometric configuration respectively having outer edges distributed along the peripheral upper edge of the building and being respectively joined one to the next and inclined downwardly and inwardly from their outer edges. These components terminate in inner edges which define a simple polygon and which form the upper edges of a receiving receptacle from which rain water can be drained through a suitable pipe.



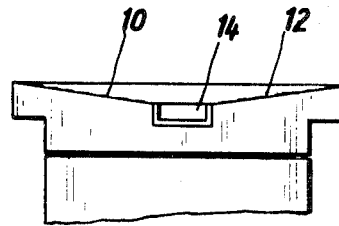
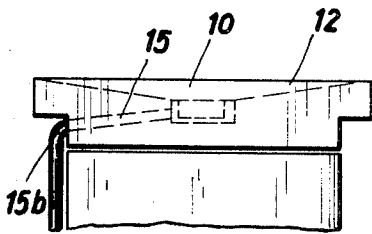
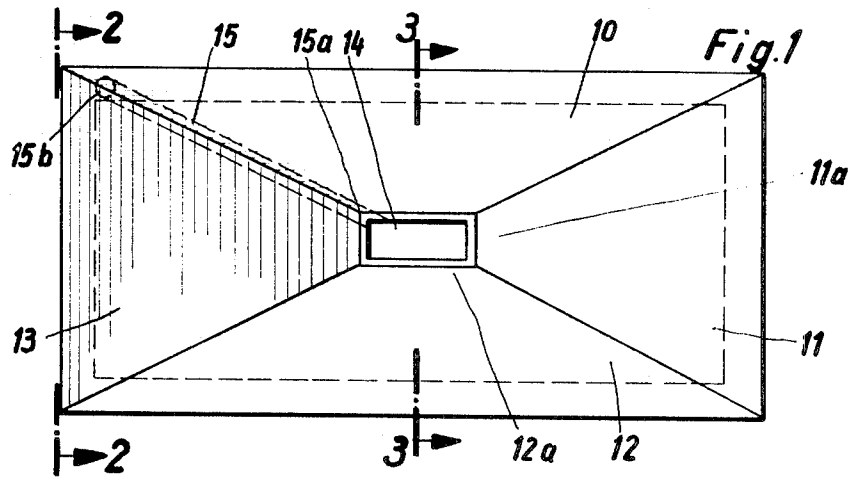


Fig. 2

Fig. 3

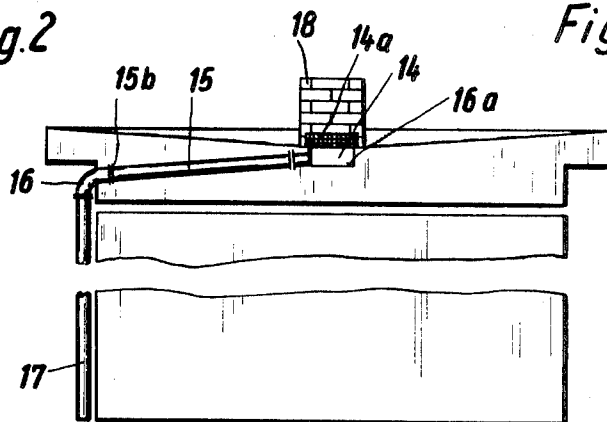


Fig. 4

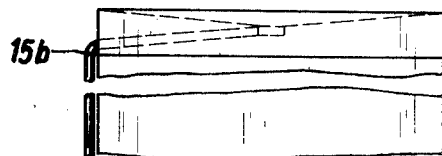


Fig. 5

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ROOF ELEMENT

The invention relates to a roof element for houses, for example bungalows.

Among ridge roofed houses a distinction is made between span roofs and hip roofs, while for bungalows flat roofs are used. It is known to give the flat roof a one-sided slope (lean-to roof); so that the rain water can flow away, the flat or lean-to roof must as usual be given an outwardly directed inclination.

With ridge roofs and with flat roofs, rain gutters are necessary. With gable-ended layout of ridge roof, due to the projecting ends, rain gutters on two sides of the houses can suffice. In this way costs are saved, because rain gutters have varying dimensions and above all their mounting or installation represents a considerable wage factor. However, the ridge roof is thereby somewhat lengthened on both sides, the roof is increased in size and dearer. In bungalows, the gutters as a rule run round the whole house. In order to be able to secure the gutters, in addition the roof edge (eaves) must be brought forward, which also occasions costs. In bungalows it is possible instead of providing a projecting roof, to provide a separate roof edge covering e.g. in the form of wood or aluminum strips or the like which also increases the cost of the structure. Further in bungalows the rain gutters can be let directly into separate roof elements but this also involves an additional building cost.

The purpose of the invention is to avoid the above mentioned disadvantages and to propose a cheaper roof element or roof in which the gutters are avoided and replaced by cheaper parts and separate building operations at the roof edges are no longer necessary.

According to the invention a roof element for houses, e.g. bungalows, is provided in which the roof parts provided with the roof covering, or the surface(s) of the roof covering or of the roof, incline(s) downwardly inwardly. Through this the rain water is compelled to flow to a single predetermined water outflow point.

Preferably these roof parts are so constructed that they extend to about the middle and/or have a symmetrical form of distribution or arrangement. By this means the roof elements are still more unified and the outflow opening can be set directly in the middle of the roof. A further development of the invention provides for at least one of the roof elements to be equipped with an outflow pipe located therein. Since non-corroding pipes of synthetic material have long been a common commercial cheaply made product, the special shape of rain gutters and their expensive mounting are replaced simply by a single outflow pipe, a round or preferably four-cornered receiver head, to make possible a satisfactory diversion of the outflowing rainwater to this pipe so that the pipe itself can have a smaller diameter. By using a four-cornered receiver head the roof element or elements can be cheapened in that their edges which about the receiver head e.g. at the middle, are formed as straight cut edges. By this means constructional material and packing material can be saved.

In further development of the invention, provision is made for the receiver head to be equipped with a grid, a sieve or the like which is located over and/or beside the receiver head and can be so secured that leaves or the like can be prevented from reaching the receiver head and thus the pipe itself. The receiver head can be a vertically downwardly extending pipe piece of earthenware, and it may be provided with a pipe bend to which the actual outflow pipe can be flange jointed, so that the pipe is, if necessary, changeable. The attachment of the end of the outflow pipe to the head or bend can however be effected in other ways known per se, so that the outflow pipe remains, if necessary, exchangeable, although in the case of noncorroding pipes this will hardly be necessary.

A further development of the invention provides that the roof element has only a form and/or such dimensions that at the sides it extends up to the house wall, which is directly

possible with the present arrangement, in contradistinction to known roof elements, because there are no rain gutters but only a vertical down-pipe at one corner of the house. For this reason, the outflow pipe is preferably arranged running diagonally between the corner of the house and the receiver head. The invention is not restricted to this however and, according to the individual case, the pipe can be carried from the receiver head to the nearest house wall, so shortening the pipe. Such an embodiment can be advantageous if the plan of the house and the roof thereof is not rectangular, the house e.g. being provided with additions. With large complicated roof forms, according to the individual case, several outflow pipes can be provided, or as the case may be, the receiver heads can be connected together through correspondingly inclined intermediate pipes. A further development of the invention provides for the receiver head and/or the outflow pipe to be arranged directly beside or against the chimney in order to increase the constructional continuity, or the static stays engaging in the chimney to be used for carrying a receiver head and/or pipe. The outflow pipe itself can be provided with flanges at the end in order to facilitate mounting.

An embodiment of the invention is illustrated in the accompanying drawing and will be described in detail below:

FIG. 1 is a plan view of the roof or roof elements;

FIG. 2 is a view on the line 2—2 of FIG. 1;

FIG. 3 is a section on the line 3—3 of FIG. 1;

FIG. 4 is a side view of the roof element, the outflow pipe, the receiver head and the grid being built in in this case, and

FIG. 5 is a side view of the roof element in which projecting roof edges are avoided.

FIG. 1 is a plan of the roof in which four roof elements 10, 11, 12, 13 are shown. By "roof element" in the sense of this invention, however, a union of several such roof elements may be understood also. The roof elements in this example of embodiment are slightly inclined towards the middle where a receiver head 14 is located. The arrangement can be such that with a roof edge height of 10 meters above the ground the end 15a of the outflow pipe 15 is only 9.75 meters above the ground. The ends 11a, 12a and so on of the roof element 11, 12 and so on are brought to the same level by the inclination. If the roof is 12 meters long and 7 meters wide, lengthwise the rainwater runs down through 25 cm. per some 6 meters widthwise through 25 cm. per about 3½ meters. Such a fall is as a rule adequate. According to the individual case this inward downward slope can be increased or decreased. The other end 15b of the outflow pipe, see FIG. 5 or FIG. 4, is again carried down by the slope in relation to the end 15a, e.g. through 25 cm. so that the water reliably flows away. Advantageously the pipe is flange jointed through elbow or connecting pieces 16 and 16a to the vertical outflow pipe 17 and the receiver head 14 respectively, or connected to them in some other known fashion. In FIG. 4 a stack (chimney) 18 is shown, to which the receiver head and/or the outflow pipe can be firmly secured. It should be mentioned that in individual cases, the receiver head and pipe can be made in one piece or mounted as one constructional part, so that a single examination for fluidtightness is ensured before final mounting. An advantageous development of the invention provides for the receiver head 14 to be provided with a grid 14a which retains leaves and so forth. In this way the roof as a whole is given a dished form, though the roof elements 11, 12, and so forth can also be flat.

Such roof elements are preferably delivered to the site in prefabricated form.

Furthermore the roof construction according to the invention permits the division of the upper or roof story into single rooms, chambers and the like if a sufficiently large useful roof space is available.

The invention is in no way limited to bungalows but can be used with advantage for all buildings of medium height, such as two to three story country houses, e.g. three story houses in towns and the like.

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The indications of height given above by way of example in the description of FIG. 1 are given particularly for the case in which the actual outflow pipe 15 itself including the widening (receiver head 14) starts at the top in the roof; in other words that the receiver head and outflow pipe are here regarded as a unit.

I claim:

1. For use in a building, a combination comprising a substantially flat roof comprising a plurality of prefabricated interconnected components forming together an upper surface inwardly and downwardly inclined substantially toward the center of said roof, said components having inner surfaces the upper edges of which define an outline of endless configuration; a receptacle located between said inner surfaces and having an upper edge matching said outline and joined to said upper edges of said inner surfaces of said roof components for receiving rain water therefrom; and pipe means communicat-

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ing with said receptacle for draining the water therefrom, said pipe means having an outwardly and downwardly inclined portion extending located within at least one of said roof components and to the exterior of the same and a substantially vertical portion joined to said inclined portion and extending downwardly along the exterior of the building.

2. A combination as defined in claim 1, wherein said pipe means comprise a recess of tubular configuration extending through one of said prefabricated components and a plastic pipe extending through said recess and communicating with said receptacle.

3. A combination as defined in claim 1, wherein each of said prefabricated components has a bottom face located in a common plane which when said roof is mounted on said building extends in horizontal direction.

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