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### (54) ELEMENT OF COVERING THE SURFACE, ESPECIALLY THE ROOF SURFACE

(57) The subject of the invention is a surface covering element, especially the roof surface, but also a facade or other surface of a building object.

The surface covering element is a modular panel in which the plate 1 has male locks along both sides in the form of longitudinal, pointed elevations 3 along the side edges. The outer walls 2 of the elevations 3 are flat and rise above the plate 1 preferably vertically, at the bottom the outer walls 2 have outer flanges 5 along their entire length, by means of which the panels are attached to the surface, being at the same level with the plate 1. On the

inner walls there are snap seams 4 are provided to cooperate with longitudinal latches 6 in female locks on the sides of adjacent panels. The female locks of the next panel are always put on top of the male locks. The laying begins with the fixing of the surface covering element according to the invention with two male locks, by fixing the plate 1 to the surface by means of flanges 5. The element thus fixed to the surface with its elevations on sides 3, is fitted with a female lock of the adjacent panel on one side and also on the other side the female lock of the adjacent panel.

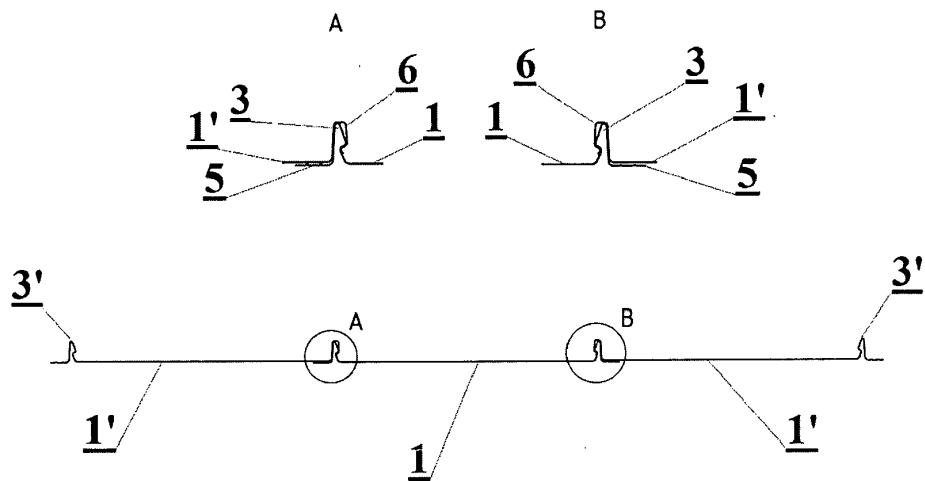


Fig. 3

## Description

**[0001]** The subject of the invention is a surface covering element, especially the roof surface, but also a facade or other surface of a building object.

**[0002]** There are known roof or facade elements made of modular panels in the form of a sheet of metal, spatially shaped into waves, steps, with shaped horizontal, top and bottom edges, and vertical, side edges. Single modular panels are connected with each other during the installation of the roof covering with vertical side and horizontal edges, shaped as locks. The bottom lock of the panel of the row being laid is put on the top lock of the panel of the lower row. In the case of side edges, the locks are made in such a way that on one edge of the modular panel there is a so-called female lock, and on the other edge there is the so-called male lock. The simplest side locks are the side edges of the panels that are appropriately shaped during stamping, which are folded over each other - their shape is such that the next panel is applied by applying it with a shaped side edge to the previously laid panel, where the corresponding fragment is the same. In other solutions, the locks in modular panels are the side edges folded up vertically upwards, at the top the edges are folded down towards the panel plate. Edge bends are shaped in such a way that on one edge the lock has the shape of a point in cross-section - it is a male lock, and on the other edge the fold is shaped so that a recess is formed in the fold - it is a female lock. The male lock is a longitudinal, pointed elevation along the side edge, above the panel surface. The female lock is a longitudinal recess formed from the side edge, raised above the panel plate, the outer side of the recess being shorter and not reaching the level of the panel plate. A longitudinal latch is provided on this shorter side to cooperate with the longitudinal seam of the male lock. There, the seam is made on the inner side of the pointed elevation above the panel plate - this is why such panels are called modular seam panels or click panels. Modular panels are placed on the roof, starting from one of the sides of the covered surface, taking care to start laying in such a way that the female lock can be snapped into the male lock - the longitudinal female lock latch is snapped onto the longitudinal seam of the male lock. This is how the next modular panels are placed, overlapping subsequent female locks on male locks and snapping subsequent female locks on male locks.

**[0003]** According to the invention, the surface covering element is characterized in that the panel has male locks on both sides in the form of longitudinal, pointed elevations along the side edges.

**[0004]** On the inner walls of the pointed elevations, each of the male panel locks is provided with a longitudinal snap-seam to cooperate with the longitudinal latches in female locks of adjacent panels.

**[0005]** The panels are made of steel or copper, or aluminum, or other coated or uncoated sheets.

**[0006]** The solution according to the invention is a great

convenience for the roofer, as the laying can be started from anywhere on the roof. At the same time, both at the ends of the roof and when joining the slope of the multi-pitched roof, it is smoothly transferred to the next fragment. This significantly influences the speed of laying the panels on the roof, while improving the aesthetics of the roof, as the panels are not moved in phase at the transitions to the next slopes. Visually, the covered surface does not differ from that of the known panels.

**[0007]** The subject of the invention is shown in the drawing, in which fig. 1 shows in an exemplary embodiment the covering element in an axonometric view, fig. 2 shows a cross-section of an element, and fig. 3 shows an element according to the invention with side adjacent typical panels connected to it, where in panel joints are shown in the enlargement.

**[0008]** As shown in fig. 1 and fig. 2, the surface covering element is a modular panel in which the plate 1 has male locks along both sides in the form of longitudinal pointed elevations 3 along the side edges. The outer walls 2 of the elevations 3 are flat and rise above the plate 1 preferably vertically, at the bottom the outer walls 2 have outer flanges 5 along their entire length, by means of which the panels are attached to the surface, being at the same level with the plate 1. On the inner walls there are snap seams 4 are provided to cooperate with longitudinal latches 6 in female locks on the sides of adjacent panels, as shown in fig. 3. The female locks of the next panel are always put on top of the male locks.

**[0009]** The laying begins with the fixing of the surface covering element according to the invention with two male locks, by fixing the plate 1 to the ground by means of flanges 5. The element thus fixed to the surface with its elevations on sides 3, is fitted with a female lock of the adjacent panel on one side and also on the other side the female lock of the adjacent panel. These next panels are built as standard, i.e. they have a 1' plate with a male lock on one side and a female lock with a latch 6 on the other side. Hence, the latches 6 female locks of adjacent panels are placed on the elevations of the male locks of the element according to the invention, so again on the sides of the already laid system there are elevations 3 'of male locks - the laying takes place in two sides from the first element with male locks with elevations 3, which it significantly speeds up the installation of the roof or facade covering. For the observer, any change in the appearance of the coated surface is not noticeable, as there are always female locks on top.

## Claims

1. A surface covering element, in particular the roof surface, in the form of a modular panel with side locks for joining to successive module panels, which locks constitute longitudinal side elevations along the side edges extending above the panel plate, characterized in that, the panel on both sides (1) has male

locks in the form of longitudinal, pointed elevations  
(3) along the side edges.

2. An element according to claim 1, **characterized in that**, on the inner walls of the pointed elevations (3) 5 each of the male panel locks is provided with a longitudinal snap-seam (4) for co-operation with longitudinal snaps in female locks of adjacent panels.
3. An element according to claim 1, **characterized in that** a steel or copper or aluminum sheet, or other 10 coated or uncoated sheet, is used to make the panels.

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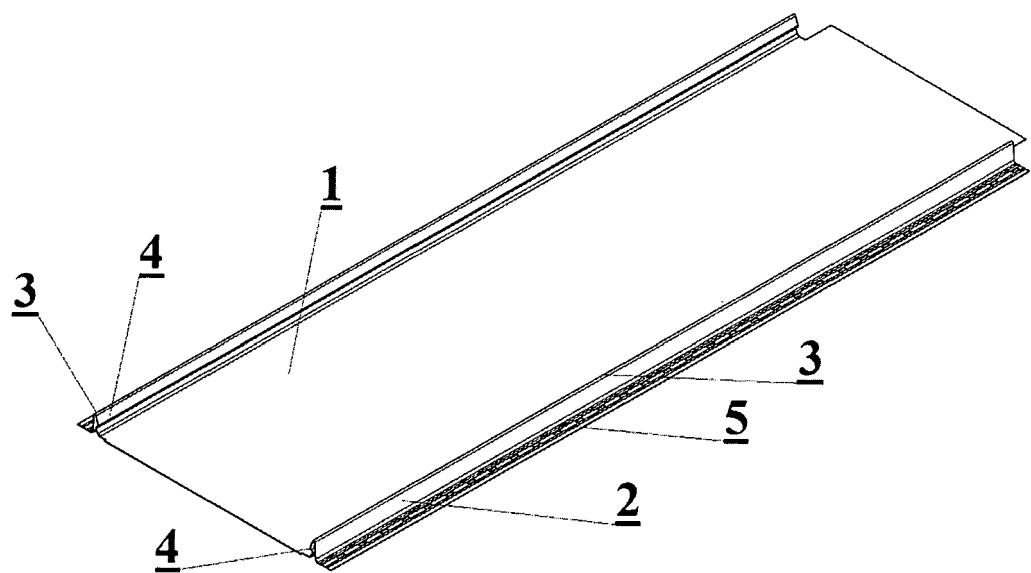
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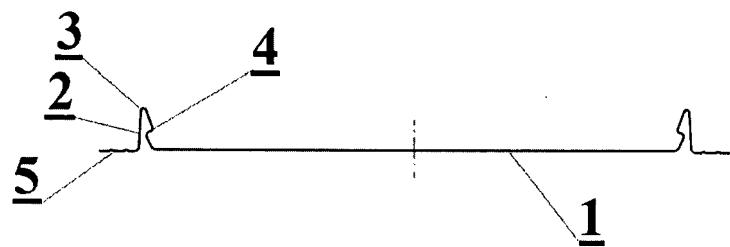
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**Fig. 1**



**Fig. 2**

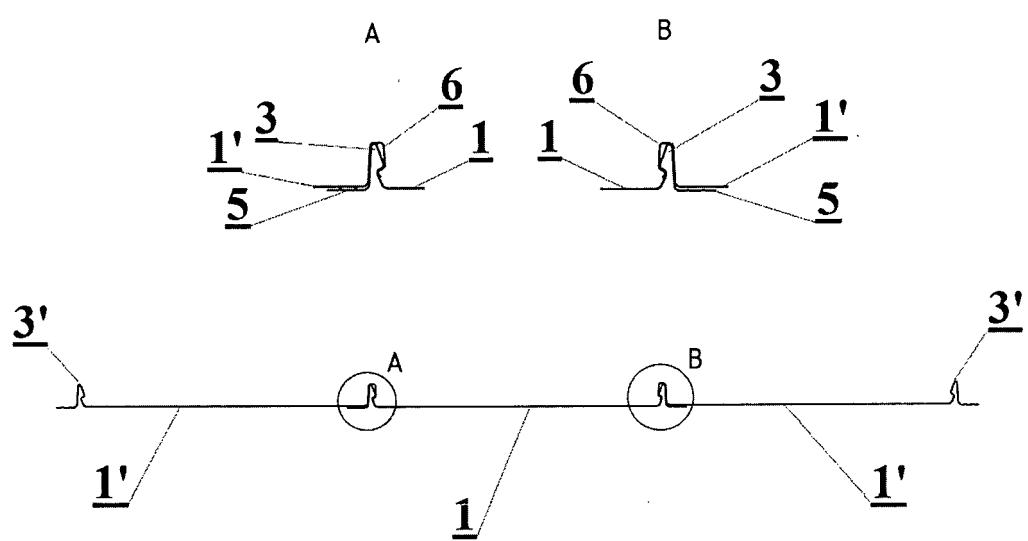


Fig. 3



## EUROPEAN SEARCH REPORT

Application Number

EP 22 46 0027

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35			TECHNICAL FIELDS SEARCHED (IPC)
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50	1 The present search report has been drawn up for all claims		
55	Place of search The Hague	Date of completion of the search 17 October 2022	Examiner Demeester, Jan
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