

SYSTEM WITH A SKIRTING BOARD AND AT LEAST ONE FIXING ELEMENT

The invention concerns a system of a skirting board and at least one fixing element for engagement of the skirting board with a floor and an adjacent wall.

5 From the Polish Patent PL214851 a skirting board is known having an external element in the form of a two-arm profile having a base abutting a floor, the external element being connectable to an internal element by means of a click joint. The click joint is formed by a downwardly angled V-shaped ending of the downwardly bent base of the internal element and by an upward projection located on the base of the external element, the shape of which corresponds to ending.

10 During engagement of the external element with the internal element of the skirting board described in PL214851, not only the base of the resilient internal element has a tendency to be deflected from the floor, but also its upright arm is partly deflected from the wall. This is a disadvantage because it reduces the pressure exerted by the external element against the wall and it may cause incorrect positioning/mounting of the skirting board.

15 The aim of the present invention was to provide a system of a skirting board and at least one fixing element that would ensure reliable mounting of the skirting board, in which system the skirting board would be tightly pressed both against the wall and the floor.

20 According to the invention a system of a skirting board and at least one fixing element is provided, the system being designed for connecting the skirting board with a floor and an adjacent wall, the fixing element comprising a rigid part to be fixed immovably to the wall and a resilient assembly engaging the skirting board, the skirting board comprising an internal shelf extending towards the fixing element.

25 The system according to the invention is characterized in that the resilient assembly comprises at least one resilient arm extending parallel to the wall and being adapted to resiliently deflect parallel to the wall, said at least one resilient arm projecting obliquely from the rigid part towards the floor and having a free ending, said shelf comprising a coupling protrusion adapted to be snapped with said free ending so that said coupling protrusion is pressed by the at least one resilient arm in a direction different from horizontal.

Preferably, said coupling protrusion is pressed by the at least one resilient arm in a direction selected from a group comprising the vertical direction and a direction slanting to the wall.

30 Preferably, the resilient assembly comprises two resilient arms projecting divergently from the rigid part towards the floor.

The skirting board coupling protrusion preferably comprises a slanted internal surface and a slanted external surface so that the skirting board coupling protrusion has a reversed V-shaped cross-section.

35 In a preferred variant, the free ending of the at least one resilient arm comprises a slanted guiding surface adapted to be slid on the slanted external surface of said coupling protrusion during engagement of the skirting board, and a slanted contact surface adapted to press on the slanted internal surface of the coupling protrusion upon engagement of the skirting board.

40 Optionally, the free ending of the at least one resilient arm comprises a slanted guiding surface adapted to be slid on the slanted external surface of said coupling protrusion during engagement of the skirting board, and two slanted contact surfaces adapted to press against respectively the slanted internal surface of said coupling protrusion and the slanted external surface of said coupling protrusion upon engagement of the skirting board.

In the system according to the invention, the resilient assembly of the fixing element exerts a force on the skirting board in a direction slanting to the wall or in the vertical direction. Due to the fact that the rigid part of the fixing element is immovably fixed to the wall and the resilient arms may only be deflected parallel to the wall, essentially without any movement in other directions, there is no risk of the fixing element being deflected from the wall during engagement of the skirting board which would weaken the connection.

Embodiments of the system according to the invention are shown in a drawing in which:

Fig. 1 shows a perspective view of the system according to a first embodiment of the invention before engagement of the skirting board;

Fig. 2 shows a partly cross-sectional view of the system of fig. 1 as seen along the wall;

Fig. 3 shows a front view of the fixing element of the system according to the first embodiment of the invention, in its relaxed state and in its tensed state;

Fig. 4 shows a perspective view of the fixing element of the system according to a second embodiment of the invention;

Figs. 5a and 5b show respectively a front view and a perspective view of the fixing element of the system according to a third embodiment of the invention.

Fig. 6a shows a partly cross-sectional view analogous to that of fig. 2, but with the fixing element according to a fourth embodiment of the inventive system;

Fig. 6b shows a perspective view of the fixing element of fig. 6a.

In the embodiment shown in figs. 1 and 2, the system according to the invention comprises a skirting board 1, a fragment of which may be seen in the fig. 1, and one fixing element 2. There may be any number of the fixing elements 2 depending on the length of the skirting board. The fixing element 2 comprises a rigid part 3 to be immovably fixed to the wall S, and a resilient assembly 4. The rigid part 3 may have any suitable shape as long as it is suitable to be attached to the wall S. In the rigid part 3 there is an opening 5 enabling to attach the fixing element 2 to the wall S, e.g. by means of a screw. In this embodiment the resilient assembly 4 comprises two resilient arms 6 having longitudinal axes X (indicated in fig. 3), the resilient arms 6 projecting divergently from the rigid part 3 towards the floor P and having free endings 6'. The resilient arms 6 extend parallel to the wall S and they may be resiliently deflected parallel to the wall S, essentially without being moved in any other direction. It means in particular that the longitudinal axes X of the resilient arms 6 form an obtuse angle in substantially in a plane parallel to the wall so that the resilient arms 6 may only be deflected parallel to the wall. Consequently, they are not able to deflect "towards" or "from" the wall.

The skirting board 1 may have substantially any external shape suitable for this type of a product, as far as it comprises an internal shelf 7 extending towards the fixing element 2 and the wall S, the shelf 7 constituting and integral part of the skirting board 1 or being fixedly connected therewith and being designed for engagement with the fixing element 2. The shelf 7 has a coupling protrusion 8 to be snapped with the free endings 6' through pushing the skirting board 1 against the wall S.

As shown in fig. 2, the coupling protrusion 8 of the shelf 7 has a slanted internal surface 9 and a slanted external surface 10, so that the coupling protrusion 8 has a reversed V-shape in cross section. On the other hand, each free ending 6' comprises a slanted contact surface 11 and a slanted guiding surface 12. The slanted guiding surface 12 facilitates sliding the free ending 6' over the coupling protrusion 8 along the slanted external surface 10 during engagement of the skirting board 1, and the

slanted contact surface 11 presses against the slanted internal surface 9 of the coupling protrusion 8 with a force F having a direction slanting to the wall S.

In fig. 3 the resilient arms 6 are shown with a continuous line in their relaxed state and with a dotted line in their tensed state. During engagement of the skirting board 1 the resilient arms 6 are deflected in a plane parallel to the wall S, so that their free endings 6' are lifted and they are able to pass over the coupling protrusion 8 of the skirting board 1. In the coupled position of the skirting board 1, the resilient arms 6 press with their free endings 6' against the coupling protrusion 8 and hence against the whole skirting board 1 via the shelf 7, with a force F (indicated by an arrow in fig. 2) having a direction slanting both to the wall S and the floor P. The "slanting direction" means that said force is neither perpendicular nor parallel to the wall S and the floor P. This effect has been achieved due to the fact that the resilient arms 6 may be resiliently deflected parallel to the wall and due to the specific shapes of the free endings 6' and the coupling protrusion 8.

In fig. 4 the fixing element of the system according to a second embodiment of the invention is shown in a perspective view. In this embodiment, the fixing element 2 has also two oblique resilient arms 6, but they project convergently from the rigid part 3 towards the floor P. They have the free endings 6', which – the same as in the first embodiment - extend parallel to the wall S and they may be resiliently deflected parallel to the wall S, essentially without being moved in any other direction. The free endings 6' have the shape as described with reference to the first embodiment.

Figs. 5a and 5b show the views of the fixing element 2 according to a third embodiment of the invention. In this embodiment, the fixing element 2 has one resilient arm 6 extending obliquely from the rigid part 3 towards the floor P. The one resilient arm 6 is located substantially centrally under the rigid part 3 and it also has a free ending 6' having a shape as described with reference to the first embodiment. As in the other embodiments, the resilient arm 6 extends parallel to the wall S and it may be resiliently deflected parallel to the wall S, essentially without being moved in any other direction.

Fig. 6a shows the inventive system with a fixing element 2 according to a fourth embodiment of the invention. In this embodiment, the resilient arm 6, optionally two resilient arms 6 has/have the free ending(s) 6' comprising three slanted surfaces, namely a slanted guiding surface 12 and two slanted contact surfaces 11, 11' forming together a reversed V-shaped cross-sectional profile corresponding to the profile of the coupling protrusion 8. The slanted guiding surface 12 facilitates the sliding of the free endings 6' over the coupling protrusion 8 along the slanted external surface 10 during engagement of the skirting board 1, and the two slanted contact surfaces 11, 11' press against the slanted internal surface 9 and the slanted external surface 10 of the coupling protrusion 8 with a resultant vertical downward force F (indicated with an arrow in fig. 6a).

Fig. 6b shows the fixing element 2 in a perspective view.

A specialist will appreciate that other configurations of the shapes of the coupling protrusion 8 and the free endings 6' are possible. For example, the cross-sectional shape of one element may be a half-circle / section of an arc cooperating with the opposite element being a slanted surface, or a pair of two opposite half-circle / section of an arc surfaces. The fixing elements presented with reference to the first, second and third embodiment (figs. 1-5) may obviously have the free endings 6' of their resilient arms 6 as described with reference to the fourth embodiment (figs. 6a and 6b).

The fixing element 2 may be made of any suitable material, e.g. a plastic material or metal. If the whole fixing element 2 is made of one material, then the local rigidity / elasticity of the specific portions thereof is imparted by their shape.

- 5 It is also possible to make the specific portions of the fixing element 2 of different materials, in particular materials having different elasticities. For example, the resilient assembly 4, i.e. the resilient arms 6 could be made of a material having a higher elasticity than the rigid part 3 of the fixing element 2.

Patent claims

1. A system of a skirting board (1) and at least one fixing element (2) for connecting the skirting board (1) with a floor (P) and an adjacent wall (S), the fixing element (2) comprising a rigid part (3) to be fixed immovably to the wall (S) and a resilient assembly (4) engaging the skirting board (1), the skirting board (1) comprising an internal shelf (7) extending towards the fixing element (2), **characterized in that** the resilient assembly (4) comprises at least one resilient arm (6) extending parallel to the wall (S) and being adapted to resiliently deflect parallel to the wall (S), said at least one resilient arm (6) projecting obliquely from the rigid part (3) towards the floor (P) and having a free ending (6'), said shelf (7) comprising a coupling protrusion (8) adapted to be snapped with said free ending (6') so that said coupling protrusion (8) is pressed by the at least one resilient arm (6) in a direction different from horizontal.
2. The system according to claim 1, **characterized in that** the coupling protrusion (8) is pressed by the at least one resilient arm (6) in a direction selected from a group comprising the vertical direction and a direction slanting to the wall (S).
3. The system according to claim 1 or 2, **characterized in that** the resilient assembly (4) comprises two resilient arms (6) projecting divergently from the rigid part (3) towards the floor (P).
4. The system according to any of the preceding claims, **characterized in that** the coupling protrusion (8) comprises a slanted internal surface (9) and a slanted external surface (10) so that the coupling protrusion (8) has a reversed V-shaped cross-section.
5. The system according to claim 4, **characterized in that** the free ending (6') of the resilient arm (6) comprises a slanted guiding surface (12) adapted to be slid on the slanted external surface (10) of said coupling protrusion (8) during engagement of the skirting board (1), and a slanted contact surface (11) adapted to press on the slanted internal surface (9) of the coupling protrusion (8) upon engagement of the skirting board (1).
6. The system according to claim 4, **characterized in that** the free ending (6') of the resilient arm (6) comprises a slanted guiding surface (12) adapted to be slid on the slanted external surface (10) of said coupling protrusion (8) during engagement of the skirting board, and two slanted contact surfaces (11, 11') adapted to press against respectively the slanted internal surface (9) of said coupling protrusion (8) and the slanted external surface (10) of said coupling protrusion (8) upon engagement of the skirting board (1).