A skirting board arrangement (1) with at least one skirting board (3) attached to the wall (2) and with a plurality of connecting elements (4), in the installed state of the skirting board arrangement (1), each connecting element (4) being introduced from through the skirting board (3) from an outer side thereof into a common drill hole (5) in the skirting board (3) and in the wall (2). The common drill hole (5) is driven into the wall (2) through the skirting board (3) in a single drilling process and the skirting board (3) is held in a force-fit and form-fit manner on the wall by the connecting elements (4).
SKIRTING BOARD ARRANGEMENT
BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The invention relates to a skirting board arrangement with at least one skirting board attached to the wall and with a plurality of connecting elements.

[0003] 2. Description of Related Art

[0004] Skirting boards generally are made of wood, metal or plastic and are attached directly over the floor along the bottom edge of the walls by cementing, nailing or screwing to them. If a skirting board is cemented to a wall, it cannot be easily detached from the wall again at a later time without damage to the skirting board and the wall. When the skirting boards are nailed to a wall, on the one hand, installation especially for concrete walls, and on the other hand, also dismounting of the skirting board are likewise complex. Moreover, attachment of the skirting board by nails is aesthetically less pleasing. In addition, the prior art discloses multi-piece skirting boards, a lower section being screwed directly to the wall and a cover section then being attached to the lower section by means of a catch connection. Attachment of these skirting boards to the wall is labor-intensive and time-consuming, exact placement of the skirting board not being easily possible.

SUMMARY OF THE INVENTION

[0005] A primary object of this invention is to provide a skirting board arrangement with which it is possible to attach a skirting board to a wall with low time and labor input, with high precision, preferably damage to the skirting board and wall upon subsequent removal not having to be feared.

[0006] The aforesaid object is achieved in a skirting board arrangement of the initially named type in that, in the installed state of the skirting board arrangement, each connecting element is inserted from outside through the skirting board into a common drill hole in the skirting board and in the wall and is non-positively connected directly to the wall, that the common drill hole is driven into the wall through the skirting board in a drilling process and that the skirting board is held in a form-fit and force-fit manner on the wall by the connecting elements. Accordingly, a connecting element has a fastening body and a head which is connected to the fastening body, the fastening body having means for forming a direct force-fit connection to the wall when the fastening body is inserted into the drill hole of the wall and the diameter of the head being larger than the diameter of the fastening body.

[0007] In order to attach the skirting board to the wall, it is provided in accordance with the invention that first the skirting board is drilled through, the drill hole being driven into the wall through the skirting board in a drilling process. After drilling, the connecting element is introduced from the outside through the skirting board into the drill hole in the wall, a form-fit and force-fit connection being produced between the fastening body and the wall. The head of the connecting element presses the skirting board against the wall and fixes it on the latter.

[0008] As a result, the invention makes it possible to install a skirting board with high precision and low consumption of time and labor. In this connection, a mounting set can have a drill with a cylindrical drill shaft and with a flat head section. The drill shaft is designed to drill a hole through the skirting board into the wall. With the flat head section, at the end of the drilling process, the outer end of the drill hole in the skirting board is drilled to a countersinking hole, the diameter of the flat head section corresponding at least to the diameter of the head of the connecting element. The connecting element is then introduced with the fastening body in front into the drill hole until the head of the connecting element rests against the bottom of the countersinking hole, by which the skirting board is fixed on the wall. Depending on the execution of the flat head section, the drill can be used to produce a conical countersinking hole, a flat countersinking hole or a counterbored hole.

[0009] The length of the drill shaft corresponds at least to the length of the connecting element. Preferably, the length of the drill shaft is, however, greater than the length of the connecting element in order, in any case, to ensure a sufficient drill hole depth for the fastening body.

[0010] In order to ensure sufficient strength of the skirting board with consideration of the notch action proceeding from the drill hole, it can be provided that the depth of the countersinking hole is less than 30% of the thickness of the skirting board. The drill, in this connection, can have a stop means to limit the penetration depth of the flat head section when drilling into the skirting board. This ensures that, when drilling a countersinking hole, a maximum allowable depth of this hole cannot be exceeded. The stop means can be movably supported, and preferably can have at least one stop surface with a low coefficient of friction. In this way, damage to the base surface when drilling the hole and when countersinking the flat head section into the skirting board can be reliably precluded when the stop means makes contact with the skirting board. Preferably, the stop means can be produced from polytetrafluoroethylene or coated accordingly in order to prevent scratching of the base surface when drilling.

[0011] In the installed state, the head and the skirting board can be aligned on the visible side of the skirting board, preferably the head piece being countersunk into the skirting board with the surface flush. The countersinking hole must accordingly have a sufficient depth which allows countersinking of the head of the connecting element into the skirting board. This ensures an aesthetically pleasing overall impression of the skirting board arrangement. However, fundamentally, it is of course also possible for the countersinking hole to have a greater depth in order to countersink the head of the connecting element still deeper into the skirting board.

[0012] To prevent the head from breaking through the skirting board, the neck of the connecting element which is made between the fastening body and the head can have ribs which extend in the radial direction, which are frictionally joined to the wall of the drill hole of the skirting board and make it difficult for the head of the connecting element to break through.

[0013] Furthermore, it can be provided that the outside of the head and the outside of the skirting board have the same color and/or the same grain, and the surface of the head can be matched to the different base surfaces. For example, there can be a head surface on the visible side in shades or grains: natural beech, flat beech, oak, maple, heat treated wood (dark brown to black), exotic wood (dark brown to red), white or silver. This contributes to an aesthetically pleasing overall impression of the skirting board, the head of the
connecting element being perceived only little or not at all as an integral component of the skirting board.

[0014] For simplified installation and attachment of the skirting board to the wall, between the skirting board and the wall, in the installed state, there can be a layer of adhesive and/or of insulation. For example, there can be an adhesive strip on the skirting board in order to fix the skirting board on the wall before the start of the drilling process and to ensure exact contact of the skirting board with the floor and miter joints during drilling. An insulating layer can be provided between the wall and the skirting board in order to equalize unevenness which could lead to bending of the skirting board when attached to the wall.

[0015] The connecting element, as such, is preferably made in one piece. In this regard, the connecting element has a fastening body, a head connected to the fastening body, and preferably, a neck provided between the fastening body and the head. However, it is also fundamentally possible for the connecting element to be made in several parts and to have a sleeve, such as, for example, a drive-in peg, and a nail or a screw, first of all the sleeve being pressed into the wall and then the nail or the screw being driven or screwed into the sleeve in order to enable a form-fit and force-fit connection of the connecting element to the wall.

[0016] The fastening body can have a plurality of ribs which are located next to one another in the axial direction and which extend in the radial direction. The ribs can be elastic and/or bendable, when driving into the wall deformation of the ribs taking place opposite the driving direction and the deformation of the ribs ensuring the anchoring of the fastening body in the wall. However, fundamentally, it is of course also possible for the fastening body to have an outside thread, in this case, the fastening body being driven into the drill hole. Then, the head of the connecting element on the visible side has an action section for a turning tool. The latter embodiment makes it possible to easily screw the connecting element back out of the wall when detachment of the skirting board from the wall is desired.

[0017] The neck of the connecting element or the region between the head and the fastening body of the connecting element can be made bendable or elastic, preferably, the neck having a smaller diameter than the fastening body. This contributes to the head being easily countersunk into the countersinking hole of the skirting board; this is especially advantageous for skirting boards with a conical base. Due to the flexible neck, the head can also then be completely sunk into the countersinking hole when the drill hole arrangement in the wall does not agree exactly with the drill hole arrangement in the skirting board. This can, for example, be the result of ineffectual execution of the drilling process or slippage of the skirting board during drilling.

[0018] The head of the connecting element, preferably, can have an annular collar of small thickness which extends in the radial direction, preferably on its outer end. In the installed state, the collar overlaps the annular gap between the head of the connecting element and the surrounding drill hole wall of the skirting board. This is especially advantageous when the skirting board inside is made of a foamed plastic and on the surface has a coating with a different color and/or a different grain, the overlapping of the annular gap contributing to an aesthetically pleasing overall impression of the skirting board arrangement. The head of the connecting element can also have, in place of an annular projection or collar, a cover cap projecting over the head or a coating which is applied to the visible side of the head and which has a color and/or grain which corresponds to the color and/or grain of the skirting board on its outside.

[0019] Otherwise, the head can be located eccentrically to the lengthwise centerline of the connecting element; this makes it possible to adjust the distance of the skirting board to the floor within narrow limits in the installed state of the skirting board by turning the connecting elements. This enables a very precise termination of the skirting board against the floor and/or miter joints.

[0020] In particular, there are a host of possibilities for embodying and developing the skirting board arrangement in accordance with the invention, reference being made to the detail description of preferred embodiments of the invention below with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] FIG. 1a is a cross-sectional view of a skirting board arrangement in accordance with the invention in the installed state and FIG. 1b is a frontal view thereof.

[0022] FIG. 2 shows a first embodiment of a connecting element in accordance with the invention.

[0023] FIG. 3 shows a second embodiment of a connecting element in accordance with the invention.

[0024] FIG. 4 shows a third embodiment of a connecting element in accordance with the invention, and

[0025] FIG. 5 is a cross-sectional view of the connecting element taken along line 1-1 in FIG. 3.

DETAILED DESCRIPTION OF THE INVENTION

[0026] FIG. 1 shows a skirting board arrangement 1 with a skirting board 3 attached to a wall 2, a one-piece connecting element 4 being introduced from the outside through the skirting board 3 into a common drill hole 5 of the skirting board 3 and the wall 2 and being connected non-positively to the wall 2. The drill hole 5 is produced by drilling through the skirting board 3 and by directly subsequently drilling into the wall 2 in a continuous drilling process. The skirting board 3 is held by the connecting element 4 in a form-fit and force-fit manner on the wall 2 and adjoins the floor 6. In the lengthwise direction, the skirting board arrangement 1 has a plurality of other drill holes 5 and other connecting elements 4 (FIG. 1b) which are located at regular distances, and which are designed for similarly fastening of the skirting board 3 to the wall 2.

[0027] In the embodiment shown in FIGS. 1a, 1b, the fastening body 7 of the connecting element 4 has been driven in the drill hole 5. The fastening body 7 has a plurality of ribs 8 which extend radially outward, which are located near one another in the lengthwise direction, and which, when the connecting element 4 is driven into the drill hole 5, are deformed against the driving direction, at least in the edge region, and in doing so, form a force-fit connection to the wall 2. The ribs 8 have a disk-shaped cross-sectional shape, the diameter of the ribs 8 being at least slightly larger than the inside diameter of the drill hole 5. Otherwise, the ribs 8 can be bent at least so far that it is possible to drive the fastening body 7 into the drill hole 5 and anchor it. When the fastening body 7 is driven completely into the wall 2, the head 9 of the connecting element 4 rests against the skirting board 3, by which it is pressed against the wall 2.
The drill hole 5 is drilled on the outside to form a countersinking hole 10, the countersinking hole 10 being made conical. In the installed state the head 9 of the connecting element 4 which is likewise made conical is countersunk into the countersinking hole 10 and rests against the shoulder 11 of the skirting board 3. In this way, the skirting board 3 is fixed in its position to the wall 2. Between the head 9 and the fastening body 7, there is a neck 12 which can be easily bent in order to facilitate countersinking of the head 9 into the countersinking hole 10.

FIGS. 2 to 4 show alternative embodiments of the connecting elements 4, the connecting element 4 shown in FIG. 3 corresponding to the connecting element 4 shown in FIG. 1. In the embodiment shown in FIG. 2, the fastening body 7 has an outside thread 14 as ribs. In the embodiments shown in FIGS. 1 & 3, the fastening body 7 has ribs 8 which are arranged distributed over the length of the fastening body 7 essentially with the same distance and parallel to one another. The fastening body 7 in addition to the ribs 8 has a base body 13 which is cross-shaped in the lengthwise direction. This is shown in FIG. 5. The ribs 8 and the base body 13 are made in one piece. The regular arrangement of the ribs 8 on the base body 13 ensures high stability of the fastening body 7. Force-fit attachment of the connecting element 4 in the wall 2 is enabled by the outside thread 14 and the ribs 8 in both embodiments.

FIG. 4 shows a third embodiment of a connecting element 4 which, likewise, has a head 9, a neck 12, and a fastening body 7 with an outside thread 14. In the embodiment shown in FIG. 4, the head 9 is arranged eccentrically to the lengthwise center line Y of the connecting element 4. The eccentric arrangement of the head 9 makes it possible to adjust the distance of the skirting board 3 from the floor 6 in the installed state of the skirting board arrangement 1 by turning the connecting element 4 around its lengthwise axis. The prerequisite here is that the other connecting elements 4 which are intended for fastening the skirting board 3 in the lengthwise direction of the skirting board 3 allow the corresponding adjustment.

Otherwise the head 9 of the connecting element 4 as shown in FIG. 4 has a side flange 15 on its outside 16 which projects in the radial direction beyond the head 9 such that the annular gap present in the installed state between the head 9 and the drill hole wall of the countersinking hole 10 in the skirting board 3 is overlapped by the flange 15. In this way, the head 9 is not perceived as such by the observer; this is aesthetically pleasing. Moreover, the head 9 has a slot 17 on its outer end 16 which is used as the action section for a turning tool (not shown).

To open the drill hole 5 by drilling, a specially adapted drill (not shown) can be used; it has a drill shaft with a drill tip and a flat head section spaced apart from it. The selected distance between the tip of the drill shaft and the flat head section makes it possible to drive the drill hole 5 deep enough into the wall 2 so that the fastening body 7 can be screwed or driven completely into the wall 2. The drill with the drill shaft and flat head section makes it possible to first drill through the skirting board 3 in one working or drilling process and to drive the drill hole 5 into the wall 2. When the drill hole 5 has reached a given depth in the wall 2, the flat head section engages the outer side of the skirting board 3, the drill hole 5 on the outside of the skirting board 3 being opened into a countersinking hole 10 by drilling. After the drilling process, the connecting element 4 is driven or screwed into the drill hole 5 so deep that the skirting board 3 is held by a press-fit in the hole and a form-fit against the wall 2 by the head 9 of the connecting element 4 which acts against the shoulder 11 of the skirting board 3.

Furthermore, it can be provided that the outside of the head 9 and the outside of the skirting board 3 have the same color and/or the same grain, and the surface of the head can be matched to the different base surfaces. For example, there can be a head surface on the visible side in shades or grains: natural beech, flat beech, oak, maple, heat treated wood (dark brown to black), exotic wood (dark brown to red), white or silver (see, FIG. 1b). This contributes to an aesthetically pleasing overall impression of the skirting board, the head of the connecting element being perceived only little or not at all as an integral component of the skirting board.

What is claimed is:

1. Skirting board arrangement with at least one skirting board attached to the wall and with a plurality of connecting elements, in the installed state of the skirting board arrangement, each connecting element extending through the skirting board from an outer side thereof, the skirting board being held on the wall by a force-fit and form-fit connection produced by the connecting elements.

2. Skirting board arrangement in accordance with claim 1, wherein the drill hole of the skirting board has a countersinking hole for a head of a respective connecting element on a visible side, in the installed state, the head resting against an annular shoulder in the skirting board.

3. Skirting board arrangement in accordance with claim 2, wherein the depth of sinking of the countersinking hole is less than 30% of the thickness of the skirting board.

4. Skirting board arrangement in accordance with claim 2, wherein the visible side of the head and the visible side of the skirting board have at least one of the same color and the same grain.

5. Skirting board arrangement in accordance with claim 1, wherein the connecting element is made in one piece.

6. Skirting board arrangement in accordance with claim 1, wherein the connecting element is adapted to the wall.

7. Skirting board arrangement in accordance with claim 1, wherein the connecting element has a fastening body and a head connected to the fastening body, the fastening body having means for forming a direct force-fit connection between the connecting element and the wall when the connecting element is introduced into the drill hole of the wall and the diameter of the head being larger than the diameter of the fastening body.

8. Skirting board arrangement in accordance with claim 1, wherein the connecting element is provided in a recessed piece.

9. Skirting board arrangement in accordance with claim 7, wherein the fastening body has a plurality of ribs which are located closely spaced relative to one another in an axial direction and which extend in a radial direction.

10. Skirting board arrangement in accordance with claim 7, wherein the fastening body has an outside thread, and wherein the head has an engagement section for a turning tool on a visible side.

11. Skirting board arrangement in accordance with claim 7, wherein a neck is provided between the fastening body and the head which is bendable and elastic, and wherein the neck has a smaller diameter than the fastening body.
12. Skirting board arrangement in accordance with claim
7, wherein the head has an annular flange which extends in
a radial direction.

13. Skirting board arrangement in accordance with claim
7, wherein the head is arranged eccentrically relative to a
lengthwise center line of the connecting element.

14. Process of attaching a skirting board arrangement to
a wall, comprising the steps of:
- drilling a common drill hole into a wall through a skirting
board in a single drilling process;
- introducing a connecting element through the skirting
board into the drill hole in the skirting board and wall
from an outer side of the skirting board,
- holding the skirting board against the wall by a force-fit
and form-fit connection produced by the connecting
element, and
- repeating the preceding steps with additional connecting
elements.

15. Process of attaching a skirting board arrangement
according to claim 14, wherein the drilling step is performed
so as to provide the hole of the skirting board with a
countersinking hole for a head of a respective connecting
element on a visible side, the head being caused to rest
against an annular shoulder in the skirting board when
introduced.

16. Process of attaching a skirting board arrangement
according to claim 15, wherein the countersinking hole is
produced to a depth equal to less than 30% of the thickness
of the skirting board.

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