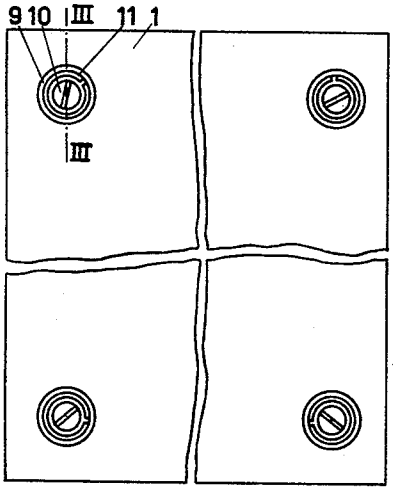
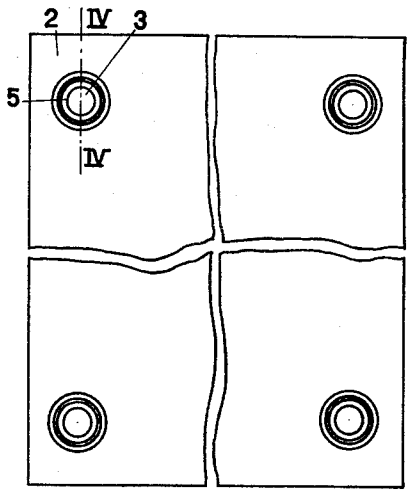
Nov. 30, 1937. A. DE VRIES 2,100,635

SNAP FASTENER

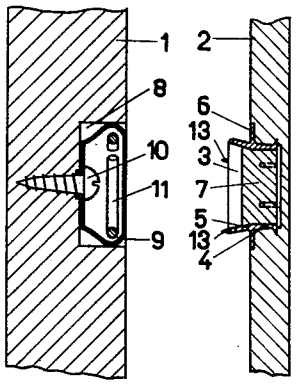
Filed Sept. 29, 1936



FIG·1

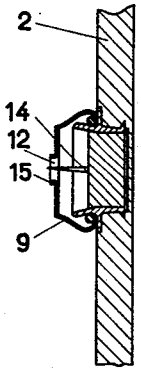


FIG·2

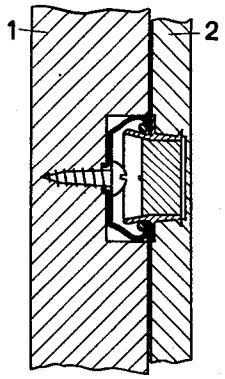


FIG·3

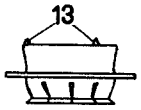
FIG·4



FIG·5



FIG·6



FIG·7

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UNITED STATES PATENT OFFICE

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SNAP FASTENER

Abraham de Vries, Amsterdam, Netherlands

Application September 29, 1936, Serial No. 103,143
In Great Britain September 12, 1935

4 Claims. (Cl. 24—217)

My invention relates to improvement in the fixing of sheet material (herein termed wall-board) and more especially wooden panels to walls or ceilings and the like, in order either to give the wall or ceiling a pleasing appearance or to cover cavities which may contain gas, water or electrical fittings, or in order to obtain a special insulation against the conduction of heat, noise and the like.

The fastening of wall-boards to a wall has hitherto been a difficult problem. As a rule wood-screws are employed for fastening and the boards are screwed on wooden slats which are first screwed on the wall or ceiling, but the screw-heads which project through the boards, even if they are countersunk, destroy the flat finish of the wall-board and the wall-boards cannot be removed without damage to the finished surface.

It is an object of my invention to avoid these drawbacks. To this end I fix a wall-board to a wall or the like by means of one or more fastening members each comprising two complementary inter-engaging portions inserted preferably within recesses in the wall and the wall-board, and one of which is provided with a sleeve formed, by means of lengthwise slots, with tongues the free ends of which are bent outwardly substantially at right angles to the sleeve axis. Each fastening member is formed as a press-stud of which one part can be fixed in a very simple and reliable manner either in the wall or in the wall-board by means of a mandrel, while the other surface of the plate, in which they are fixed, remains unspoilt and free from screw-holes and the like and can therefore easily be finished with a smooth surface or can be used without further finishing.

Preferably each fastening member is formed as a press-stud, one of the parts being fixed to the wall, the other to the wall-board, so that this latter can be accurately and quickly fitted to the wall by simple pressure and can be easily removed and replaced without being damaged.

In order to more easily arrange the parts of the press-studs in alignment with a female part exactly opposite each male part I form the parts with one or more sharp projections.

In the drawing affixed in this specification and forming part thereof some embodiments of my invention are illustrated diagrammatically by way of example.

In the drawing

Figure 1 is a front view of a wall with female parts of the new device mounted thereon.

Figure 2 is a wall-board or panel with corresponding male parts mounted on the surface intended to be applied to the wall.

Figure 3 is a cross section on the line III—III in Fig. 1, drawn to an enlarged scale.

Figure 4 is a cross section on the line IV—IV in Fig. 2, the male portion of the press-stud being here provided with sharp points.

Figure 5 is a similar view, showing the female portion of the press-stud in position on the male portion, this latter being held in place by a mandrel carrying a sharp point in its centre.

Figure 6 is another cross-section, showing the wall-board in position on the wall, the sharp point in the centre of the mandrel shown in Figure 5 being broken off.

Figure 7 is a side elevation of the male portion of the press-stud shown in Figure 4.

Referring to the drawing, 1 is a section of a wall to which the wall-board or panel 2 shown in Figure 2 shall be fixed. The wall may be formed with a continuous flat surface of wood or rails or slats may be arranged on the wall or ceiling to which the panel shall be fixed. On the rear side of the panel some male portions 3 of press-studs are fixed, each part 3 including a sleeve 4, adapted to be inserted in a recess in the panel 2. The sleeve 4 is slotted lengthwise to form a circle of tongues 5, the free ends of which are bent outwardly and preferably substantially at right angles to the sleeve axis to form teeth 6. By driving a mandrel 7 into the sleeve the teeth are forced into the wall of the recess formed in the panel 2, so that the male portion is firmly fixed to the panel without showing on or spoiling the front surface thereof.

The wall 1 is also formed with recesses 8 in which the female portions 9 of the press-studs are fixed by screws 10. In the rim of each portion 9 a resilient clamping ring 11 may be arranged, which may be slit in order to improve its resiliency and may move in the rim of the part 9 with some play.

In order to ensure that the members 9 are located in their proper places in the wall so that each female portion can be mounted in exact alignment with the male member apportioned to it, the proper places of the female portions are first marked on the wall. This may be effected either according to Figure 4, by the male members being provided with a series of sharp points 13 distributed on the edge of the sleeve 3. After having arranged the required number of male portions on the panel, the latter is pressed into the desired position on the wall, when the points

13 will mark the proper places for the female portions in the wall surface.

In the modifications shown in Figure 5 the mandrel or wedge serving to force the teeth on the tongues of a male member 3 into the panel, carries a sharp point 14, which, similarly as described with reference to Figure 4, marks in the wall the proper places for the screws by means of which the female portions are subsequently fixed in the recesses 8. The points 14 may then be broken off by striking them with a hammer.

Alternatively or additionally the hole 12 formed in the bottom of the female part for the passage of the screw 10 may be formed with a sharp projecting edge 15, or the female portion may be provided with sharp points in the same way as the male portion.

Figure 6 shows the wall with a panel into position thereon.

Owing to the fact that the rings 11 have some freedom of movement in the female members, small differences in the relative positions of the two parts of each press-stud may easily be provided for.

Evidently the invention is not limited to round press-studs. I may also arrange resilient rails on the panels, which fit resiliently into corresponding holders arranged on or in the wall. In order to fasten the rails to the panel, use may be made of a number of sleeves formed with tongues as above described.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described for obvious modifications will occur to a person skilled in the art.

I claim:

1. In an expanding fastener in combination, a first fastening member comprising a sleeve of flexible material, a plurality of axially extending converging tongues formed at one end of said sleeve and teeth at the free ends of and extending radially outwards substantially at right angles to said tongues, a second fastening member formed to tightly fit the other end of said sleeve, means on the adjoining parts of said two members for holding same in mutual engagement, and an expander of a diameter equalling the inner diameter of said sleeve near the inner ends of said tongues.

2. The fastener of claim 1, in which the other end of the sleeve is funnel-shaped.

3. The fastener of claim 1, in which a radial flange surrounds said sleeve intermediate its ends.

4. The fastener of claim 1, in which one of the fastening members is provided with a sharp projection to mark the place for the other member.

ABRAHAM DE VRIES.