March 31, 1953 C. S. ANDERSON 2,633,049

FASTENER ELEMENT HAVING A LATERALLY MOVABLE HEAD

Filed Dec. 17, 1949

Fig. 1

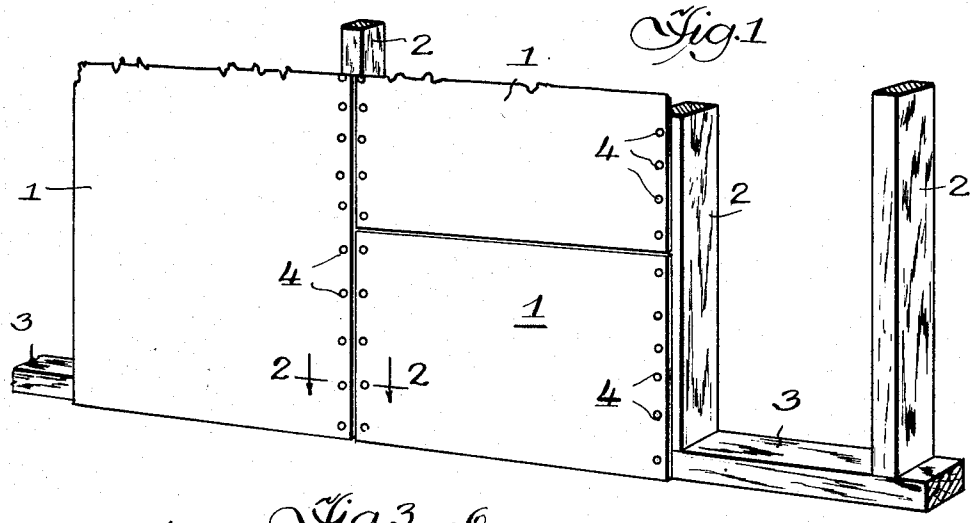


Fig. 3

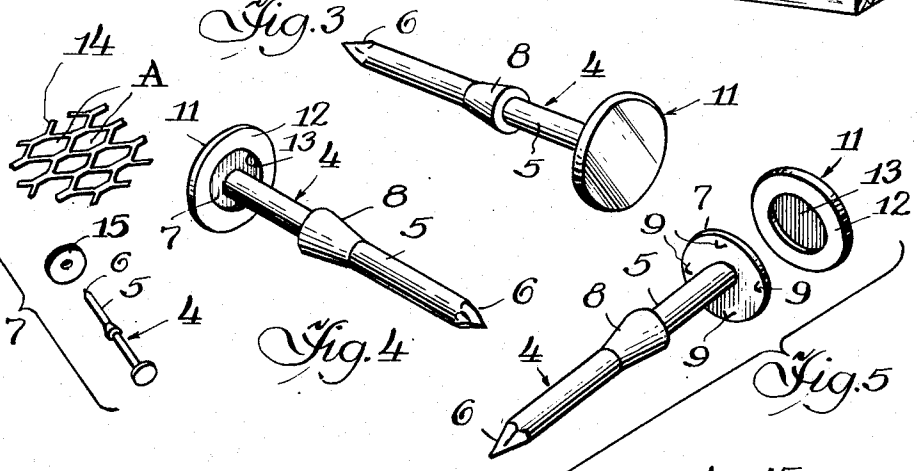


Fig. 7

Fig. 4

Fig. 5

Fig. 2

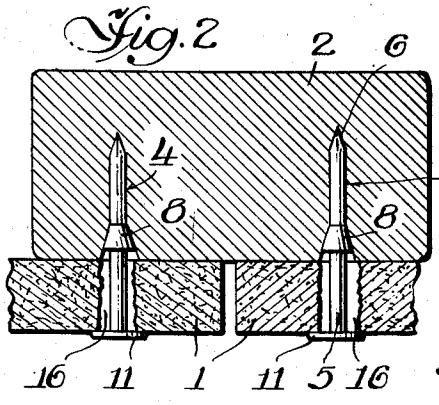
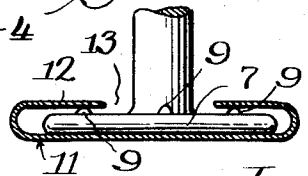


Fig. 6



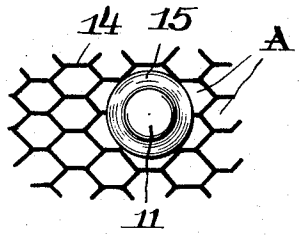


Fig. 8

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Patented Mar. 31, 1953 2,633,049

UNITED STATES PATENT OFFICE

2,633,049

FASTENER ELEMENT HAVING A LATERALLY MOVABLE HEAD

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Application December 17, 1949, Serial No. 133,637

2 Claims. (Cl. 85—28)

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The present invention relates to a novel means and mechanism for securely fastening panels or sheets of a wall covering such as rock lath or metal lath upon a frame or supporting surface, yet permitting relative movement between adjacent panels or sheets and with respect to the frame or supporting members upon which they are mounted whereby to compensate for any thermal expansion and contraction, as well as to compensate for shifting or uneven settling of the building.

In the building or fabrication of wall structures by the use of a wall covering such as rock lath or metal lath, such lath in the form of sheets or panels is applied to the studding or joists and preferably with the panels or sheets in slightly spaced relation because of the natural thermal expansion and contraction and to further compensate for any future shifting or settling which is apt to cause undue pressure that frequently results in unsightly cracks and crevices in the plaster or other surface coating.

It is, therefore, an important object of the present invention to provide a simplified form of nail or fastening means comprising a nail having a head and point at the opposite ends, a substantially cone-shaped enlargement between the point and the head, and a cap of substantially greater dimensions than the head for receiving the head and whereby the head and cap are shiftable laterally. This assembly permits limited lateral movement or shifting of the lath due to its expansion and contraction, as well as limited movement of the structure on which such lath is supported. Thus the plaster in which the head and cap assembly is embedded is not subject to the stresses and strains normally imposed thereon by such forces, and the nail head is permitted to move or shift relative to the cap whereby the wall surfacing remains smooth and unbroken.

The present invention further comprehends the provision of a novel nail assembly for anchoring rock and metal lath and the like to the studding and joists of a supporting frame, the assembly including a head and a novel hollow cap of greater diameter or cross-section than the nail head and adapted to loosely receive and substantially enclose the head, and means provided on one of said members for frictionally engaging the other and thereby retaining the cap against accidental or unintentional shifting on the nail head.

Further objects are to provide a construction of maximum simplicity, efficiency, economy and ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

The invention further resides in the construction, combination and arrangement of parts illustrated in the accompanying drawing, and while there is shown therein a preferred embodiment, it is to be understood that the same

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is susceptible of modification and change, and comprehends other details, arrangements of parts, features and constructions without departing from the spirit of the invention.

In the drawing:

Figure 1 is a fragmentary perspective view showing panels or sections of rock or similar lath mounted and held in place by the novel securing or fastening means upon a supporting frame.

Fig. 2 is an enlarged fragmentary view in horizontal cross-section taken in a plane represented by the line 2—2 of Fig. 1.

Figs. 3 and 4 are enlarged views in perspective of the novel fastening means or nail assembly.

Fig. 5 is a disassembled view of the novel nail and cap.

Fig. 6 is a fragmentary enlarged view of the head end of the nail with the cap broken away to more clearly disclose the relationship between the head and cap, and showing the projections or protuberances on the underside of the head for preventing accidental or unintentional shifting of the cap with respect to the nail head.

Fig. 7 is a view in perspective of one of the fastening members or nail assemblies and a fibre washer for anchoring metal lath upon the studding or joists of the supporting frame.

Fig. 8 is a fragmentary face or plan view of the novel fastening means employed in anchoring a section of metal lath upon its support.

Referring more particularly to the disclosure in the drawing and to the novel illustrative embodiment shown in Figs. 1 to 6 inclusive, adjacent panels, sheets of sections 1 of rock lath or the like are shown as mounted upon or attached to studding or joists 2 and to the headers and foot rails 3 by the novel fastening means or nail assemblies 4. These fastening members 4 comprise a nail having a shank 5 pointed at one end 6 and at its other end provided with a head 7. Intermediate these ends there is provided a cone-shaped or conical enlargement 8 of greater diameter or cross-section than the shank 5 of the nail but substantially less than the diameter or cross-section of the head 7.

The head 7 is provided with a plurality of spaced, rounded projections or protuberances 9 on its undersurface and a cap 11 receiving and partially enclosing or encompassing the head and of substantially greater diameter or cross-section than the head 7. This cap is bent or spun inwardly to form an inturned flange 12 with a centrally disposed opening 13 substantially greater than the diameter or cross-section of the shank 5 of the nail, the circumference or periphery of the head 7 being spaced inwardly a substantial amount from the interior of the cap as shown in Fig. 6, to permit relative lateral or coplanar movement therebetween. However, by reason of these projections or protuberances 9, such relative movement is restricted by the frictional engagement of these protuberances with the interior or adjacent surface of the inturned

flange 12. These protuberances may be located rather closely adjacent the periphery of the head 7 (Fig. 5), or inwardly more closely toward the shank (Fig. 6), so long as there is frictional contact maintained between the head of the nail and the flange 12. Or, these protuberances may be indentations in the flange 12 bearing against the head of the nail.

This fastening means or nail assembly may be employed in securely attaching the panels, sheets or sections of rock lath or the like 1 onto the studding or joists 2, or for attaching panels, sheets or sections of metal lath 14 (see Figs. 7 and 8) onto the studding or joists 2 of the supporting frame. In such attachment of panels or sheets of metal lath, I preferably provide a fibre washer 15 of greater diameter or cross-section than the head 7 of the nail and of the openings A in the lath, and drive the nail through the opening in this washer whereby the latter is forced or driven against and tightly engages the metal lath by the cap of the nail. The opening in the washer 15 is initially larger than the shank of the nail or made so by the enlargement 8 on the nail to allow for relative movement.

In the fabrication of the wall and assuming panels or sheets of rock lath or the like 1 are to be applied, the fastening members are driven through the lath and into the studding 2 of the wood frame until the underside of the cap 11 impinges against the outer face of the lath and retains it securely. These fastening members are driven through the lath and anchored in the wooden supporting frame or studding at the desired spacing as shown in Fig. 2, or through a washer and the metal lath as shown in Figs. 7 and 8. The conical or downwardly tapered enlargement 8, which is spaced sufficiently from the underside of the head to span the thickness of the lath, in passing through the lath forms an opening 16 therein of not less than the diameter or cross-section of the enlargement 8. This allows for relative movement thereat between the shank 5 of the fastening member or nail and the panels or sheets of lath as well as between the lath and the supporting framework.

Were it not for the cap 11 which is pressed against the lath and becomes embedded in the surface finish of plaster or the like that is applied to the rock lath or metal lath after assembly, the nails would be rigidly connected or anchored to the panels 1 and provide a rigid assembly therebetween. The resulting assembly would not compensate for the thermal expansion and contraction of the lath and studding, or for relative movement due to other causes such as settling of the building. By reason of the relative movement permitted between the head 7 of the nail and the cap 11, and with the opening 16 in the lath being of a size substantially greater than the diameter or cross-section of the shank 5 so that relative movement therebetween is permitted, relative movement between the adjacent panels, sheets or sections of lath as well as between these panels, sheets or sections and their supporting members, is assured.

As the cap is made of one piece and carried by the nail head as a unit assembly, but one operation is required for driving and anchoring the nail and cap assembly in position, and when so assembled, the panels or sheets of lath are retained securely yet sufficiently yieldable with respect to lateral strain as to permit thermal expansion and contraction and limited relative movement or shifting between the lath and surface coating or plaster so as to prevent cracks in the plaster which normally result where the panels are anchored by conventional nails.

Having thus disclosed the invention, I claim:

1. Fastening means for securely yet yieldably anchoring a wall covering of panels of rock lath and the like upon a supporting frame, comprising a nail having a shank pointed at one end, an enlarged head provided on the other end and a downwardly tapered enlargement intermediate the ends, a hollow cap for loosely receiving the head and having a continuous inturned flange bent over the underside of the head and providing an uninterrupted flat surface engaging the wall covering, said flange being provided with an opening of substantially greater cross-section than that of the shank, and rounded protuberances spacing the head from the flange for frictionally restricting coplanar movement between the cap and the head but permitting either to shift upon relative movement between the wall covering and supporting frame, said protuberances projecting from the underside of the head and disposed inwardly of the periphery of the head for engaging the inturned flange.

2. A fastener assembly for securely yet yieldably anchoring and retaining preformed sheets of a wall covering upon a supporting frame, comprising a nail having a pointed end, an enlarged part providing a head and a substantially cone-shaped enlargement of the shank intermediate the ends and of less cross-section than the head for forming an opening in the wall covering of a size substantially greater than that of the shank to permit lateral movement of the sheets of wall covering relative to the nail, and a hollow part providing a cap receiving and loosely encompassing the nail head and having an inturned annular and continuous flange presenting a flat contacting face adapted to impinge against the wall covering and provided with an opening through which the shank projects and of substantially greater cross-section than the cross-section of the shank whereby the shank and head of the nail may shift laterally with respect to the cap, and spaced, rounded projections on one of said parts projecting into contact with and frictionally engaging the adjacent coplanar surface of the other part for spacing the head from the flange and frictionally restricting coplanar movement between the cap and the head but permitting either to shift upon relative movement between the wall covering and the supporting frame.

CHESTER SIG ANDERSON.

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