Oct. 3, 1939. C. L. HUTCHISSON, JR 2,174,940

EXPANSION STRIP

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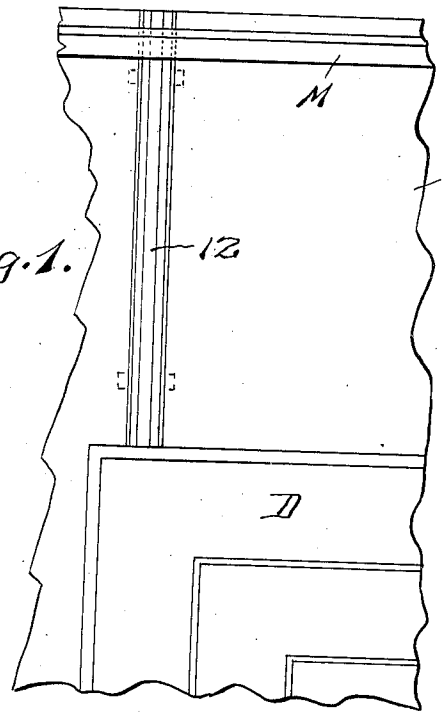


Fig. 1.

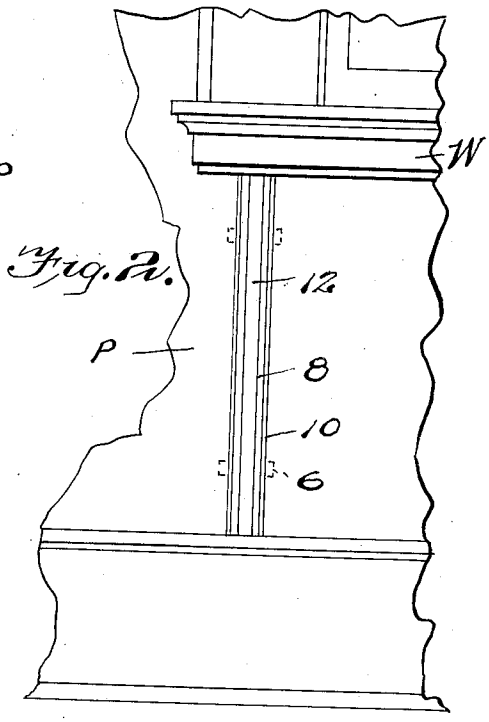


Fig. 2.

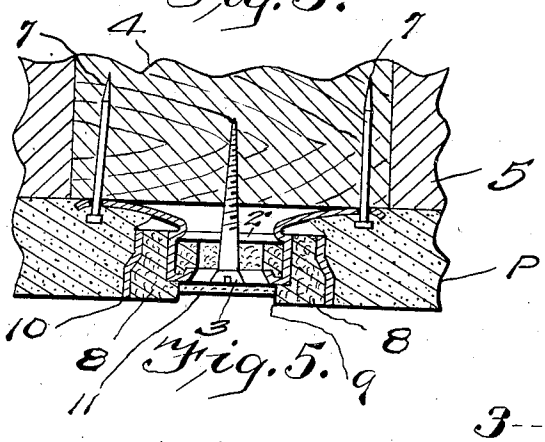
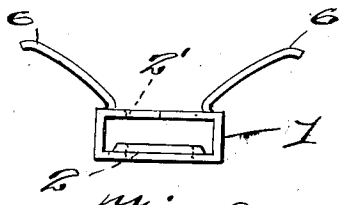


Fig. 3.



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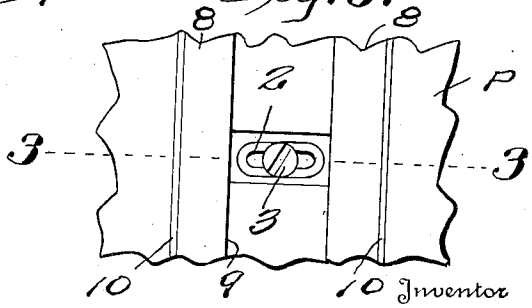

Fig. 4.

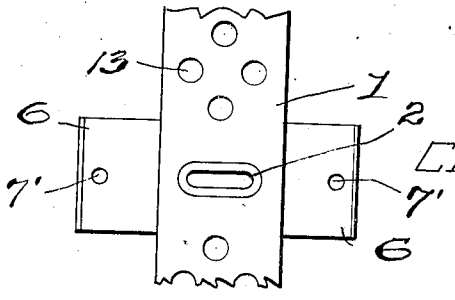

Fig. 5.

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Fig. 8.

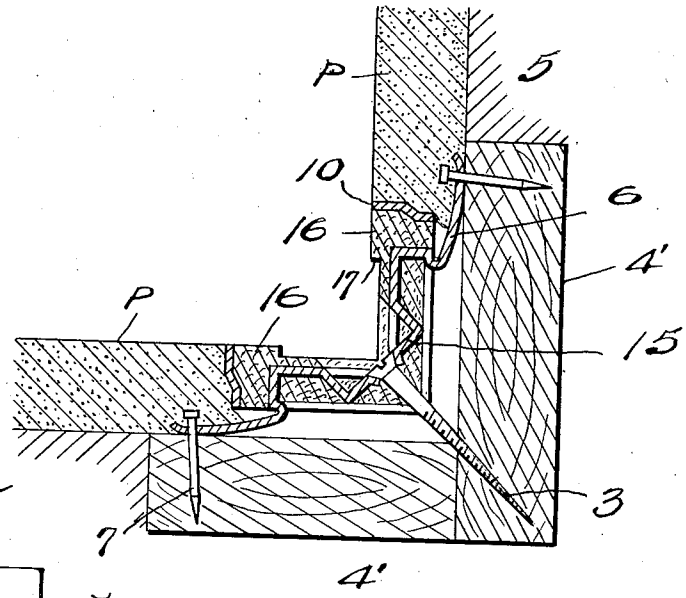


Fig. 7.

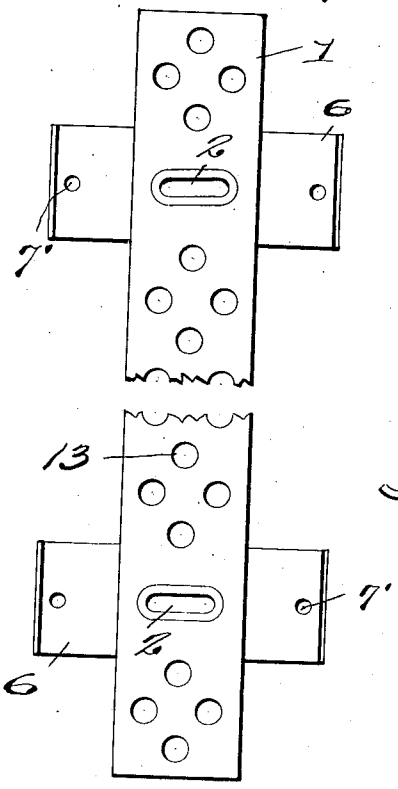
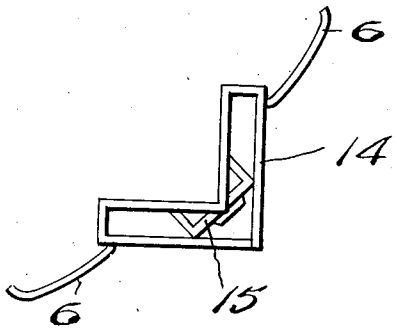


Fig. 9.



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UNITED STATES PATENT OFFICE

2,174,940

EXPANSION STRIP

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Application May 4, 1939, Serial No. 271,795

5 Claims. (Cl. 72—107)

My present invention relates to an improved expansion strip which while adapted for various uses, is especially designed to form a yielding joint in a plaster wall for the purpose of preventing unsightly cracks in the plaster. As is well known, the finished plaster faces of building walls are frequently cracked, due to various causes developing in the building structure, and especially due to the tendency of the plaster or similar material to shrink as it dries out in the side walls and ceiling of a room. These undesirable crooked cracks frequently occur at or near side wall openings, as for instance above and below the window openings or frames, and above the door frames, as well as in the ceilings and corners of a plastered room.

The primary object of my invention is to locate an expansion strip to form a yielding joint in the plaster wall where a crack is likely to occur, so that in the event of contraction or expansion of the plaster wall, the expansion strip will prevent the appearance of an unsightly crack. In this manner the usual crooked cracks frequently seen in plaster walls are eliminated, and by the use of my expansion strip the joints between opposite side edges of the strip and the adjoining edges of the plaster wall are sealed to compensate for the tendency of the formation of cracks in the plaster wall.

While the expansion strip of my invention may be constructed of various materials suitable for the purpose, I have for convenience illustrated in the accompanying drawings one exemplifying form of the strip embodying a composite construction.

My invention consists in certain novel combinations and arrangements of parts in the expansion strip, which forms a yielding joint in the plaster wall, as will hereinafter be more fully set forth and claimed. In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention wherein the parts are combined and arranged according to one mode I have devised for the practical application of the principles of my invention, but it will be understood that changes and alterations may be made in the illustrated structures, within the scope of my claims, without departing from the principles of my invention.

Figure 1 is a view showing a fragmentary part of a plaster wall in one end of a room, with the expansion strip in place between the top of a door frame and the ceiling of a room.

Figure 2 is a similar view with an expansion strip in place between a windowsill and the wash-board at the floor of a room.

Figure 3 is an enlarged detail horizontal sectional view as at line 3—3 of Figure 6.

Figure 4 is a top edge view of the metal core of the composite expansion strip.

Figure 5 is an outer face view of a portion of the metal core of the expansion strip, showing a pair of spring arms for anchoring the strip to a building wall, together with a slot for a screw for attaching the strip to the building wall.

Figure 6 is an outer face view of a portion of the expansion strip forming a yielding joint between the opposite edges of the plaster wall.

Figure 7 is an outer face view of the metal core, broken away for convenience of illustration.

Figure 8 is a horizontal detail sectional view showing the expansion strip forming a yielding joint in the plaster walls in a corner of a room.

Figure 9 is a top plan view of the metal core used in the yielding joint of Figure 8.

In order to illustrate the general arrangement and utility of the expansion strip I have shown in Figures 1 and 2 complete yielding joints in the plaster walls, the expansion strips having been placed in position and secured to the building wall prior to the plastering operation, and as shown the yielding joints form parts of the finished plaster walls.

In Figure 1 the yielding joint is located in the plaster wall between the top of the door-frame D and the ceiling, and as the joint is substantially flush with the face of the plaster wall, the picture molding M passes across the upper end of the joint. In Figure 2 the finished yielding joint, substantially flush with the face of the plaster wall P, extends from the bottom of the window sill W to the wash-board.

It will be understood that these yielding joints may be employed in various places to form parts of other plaster walls; the joints may be of various lengths; and the joints may be used to form panel designs, if desired, in plaster walls.

In the specific disclosure of the construction of the expansion strip I have shown a tubular metal core 1, preferably of flattened rectangular shape in cross section, and cut in desired lengths from a suitable blank. The core is fashioned with transverse screw-slots 2, 2' in its front and rear walls respectively, and by means of screws 3 the metal core is attached to the building wall, the screws being threaded into wood blocks 4 that are firmly fixed in the building wall or frame 5 for such purpose.

By means of the screw slots 2, and 2' in the core,

the expansion strip may be plumbed to correct position before the screws 3 are threaded home.

A suitable number of laterally extending spring blades 6, at opposite sides of the core, are also employed for anchoring the core and the expansion strip to the building wall. These outspreading springs are depressed or placed under tension, as the screws are run down or turned home in the wood block or blocks, and then nails, as 7, are driven through the nail holes 7' of the spring blades into the block for anchoring the expansion strip at its opposite sides, against lateral movement. These laterally extending spring blades also permit adjustment of the expansion strip toward or from the building wall in accord with the thickness of the plaster wall P, in order that the face of the yielding joint will be substantially flush with the surface of the plaster wall to be laid on later.

In the expansion strip, herein illustrated as of composition material, the body 8 of the strip, which is built upon the exterior of the metal core as a base, may be fashioned of suitable material, and this material may also form a filler for the interior of the core, except for the screw slots 2 and 2', and the front central portion of the strip is formed with a longitudinally extending face groove 9. As best seen in Figure 3 the width of the body of the expansion strip tapers inwardly from the outer face toward the inner or back face of the strip in order that the adjoining off-set edges of the plaster wall may be retained by these tapered side edges of the expansion strip.

In Figure 3 the body 8 of the expansion strip is shown as of hardened plaster, and the yielding joint, or joints in the plaster wall P is, or are formed by means of outer facings 10 of heavy felt paper or similar yielding material that is glued at the inner side to the body of the strip and at the outer sides of the strip these facings adhere to the adjoining edges of the plaster wall P as the plaster wall dries out.

In the above described construction of the expansion strip the outer felt facings or strips 10 of yielding material form the yielding joints at opposite sides of the strip to permit expansion of the joints in the event the plaster wall shrinks when drying out, or in case the plaster tends to crack due to other causes. Should the plaster wall tend to expand and move its adjoining edges away from the strip, this movement is compensated for by yielding of the felt edge strips 10, and as a result, in either expansion or shrinking of the plaster wall, the appearance of a crack in the wall is avoided.

In the completion of the yielding joint, putty, as at 11, is preferably placed over the screw heads 3, and a finishing strip as 12 in Figures 1 and 2 is placed in the groove. This finishing strip may be of plaster spread over the exposed front face portion of the core, and holes 13 may be cut in the core to anchor and assist in retaining the plaster finishing strip in place, or the finishing strip may be fashioned of other suitable material and fixed in the groove 9 in suitable manner.

In some instances the yielding joint strips 10 may be fashioned of porous rubber, or heavy felt covered with waterproof paper coating, with the outer edges of the yielding body firmly adhering to the yielding edges of the plaster wall. In other instances, to meet various conditions encountered in building walls that are to be plastered, the core of the expansion strip may be of wood, metal, plaster or other suitable material, but in all instances the strip is provided with yielding material on its opposite edges adhering to the adjoining edges of the plaster wall to provide the yielding joint or joints.

As here shown the anchoring spring blades 6 are shown integral with the core, but it will be understood that these spring blades may be otherwise mounted on the expansion strip if desired.

The exposed face of the yielding-joint member will of course be finished to match the plastered walls of the room, and ornamental features may be added to the joint-member as desired.

In Figures 7 and 8 where an angular yielding joint is shown in the corner of a room, the tubular metal core 14 is shown of right-angular shape in cross section, with the spring blades 6 anchored to blocks 4', 4' by nails 7, and the core is attached to the blocks by screws 3 which pass through slotted portions 15 of the core. The body 16 of the angular expansion strip is provided with the yielding strips 10 along the inwardly tapering edges of the body, which yielding strips may be glued to the body and are made to adhere to the adjoining edges of the plastered walls.

In Figure 8 an angular groove 17 is shown in the body of the expansion strip, in which a suitable angular finishing strip is placed, in a manner similar to the plane, straight, finishing strip of Figures 1 and 2.

Such an arrangement of the expansion strip and its yielding joints, it will, be apparent will prevent spreading of cracks from the corner of the plastered walls.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a yielding joint for a plastered building wall, the combination of an expansion strip forming part of the face of the plastered wall, centrally located and longitudinally spaced means for attaching the strip to the building wall preparatory to plastering, laterally disposed tension means rigid with the strip and bearing on the building wall at opposite sides of the strip, and said strip having laterally yielding opposite edges adhering to the hardened plaster wall.

2. In a yielding joint for a plastered building wall, the combination of an expansion strip forming part of the face of the plastered wall, adjustable means for attaching the strip to the building wall whereby the strip may be plumbed, laterally disposed tension means rigid with the strip and bearing on the building wall at opposite sides of the strip, and said strip having laterally yielding opposed edges adhering to the adjoining edges of the plaster wall.

3. In a yielding joint for a plastered building wall, the combination of an expansion strip forming part of the face of the plastered wall, said strip including a slotted core, screws attaching the slotted core to the building wall, laterally extending tension means rigid with the core and bearing against the building wall at opposite sides of the strip, means for anchoring the free ends of the tension means to the building wall, and said strip having laterally yielding opposite edges adhering to the hardened plaster of the wall.

4. In a yielding joint for a plastered building wall, the combination with an expansion strip having a central slotted core and a body mounted on the core as a base, screws for attaching the core to a building wall, opposed laterally extending spring blades rigid with the core and having their outer free ends bearing against the building wall, nails for anchoring said free ends of the blades, and the body of the strip having lat-

erally yielding opposed side edges adhering to the adjoining edges of the plastered wall.

5. In a yielding joint for a plastered building wall, the combination with an expansion strip having a central core, means for attaching the core to the building wall, a body monuted on the core as a base and forming a front central groove, a finishing strip fixed in said groove, and the body of the strip having laterally yielding opposed side edge portions adhering to the adjoining edges of the plaster of the building wall.

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