April 23, 1963 J. W. SCHNELLER 3,086,329

WALL LATH ATTACHMENT

Filed Oct. 7, 1957 3 Sheets-Sheet 1

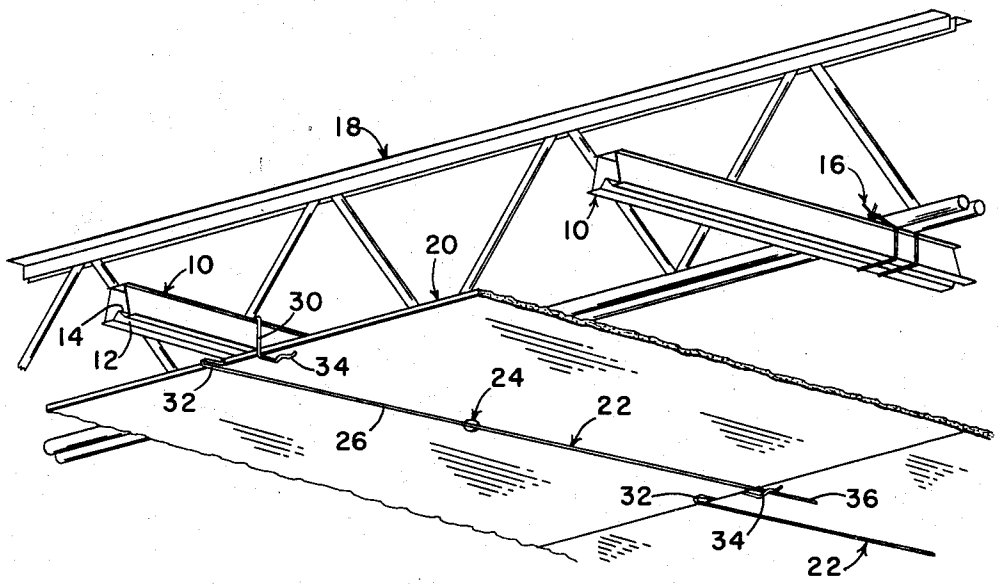


Fig. 1

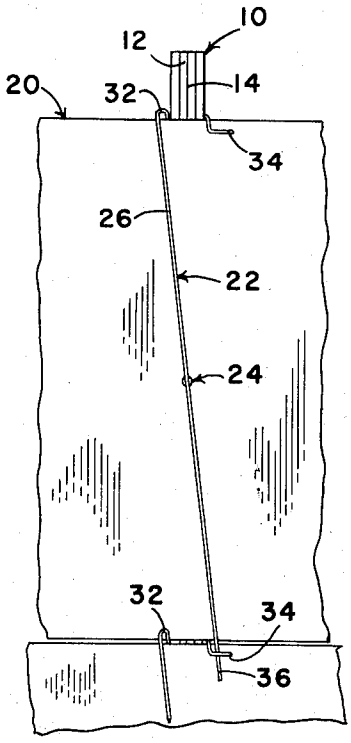


Fig. 3

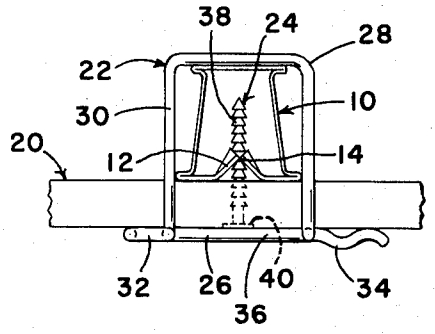


Fig. 2

INVENTOR.
Joseph W. Schneller
BY Robert F. Hause
ATTORNEY

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WALL LATH ATTACHMENT

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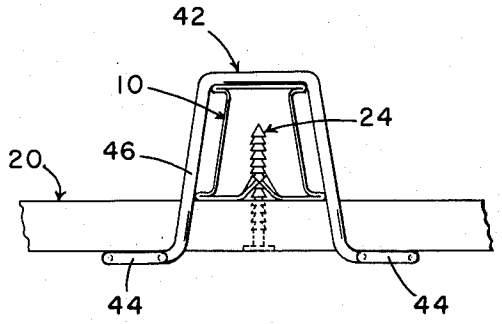


Fig. 4

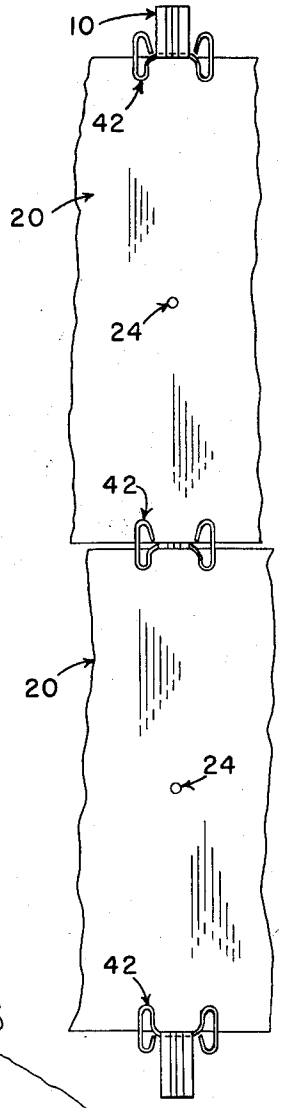
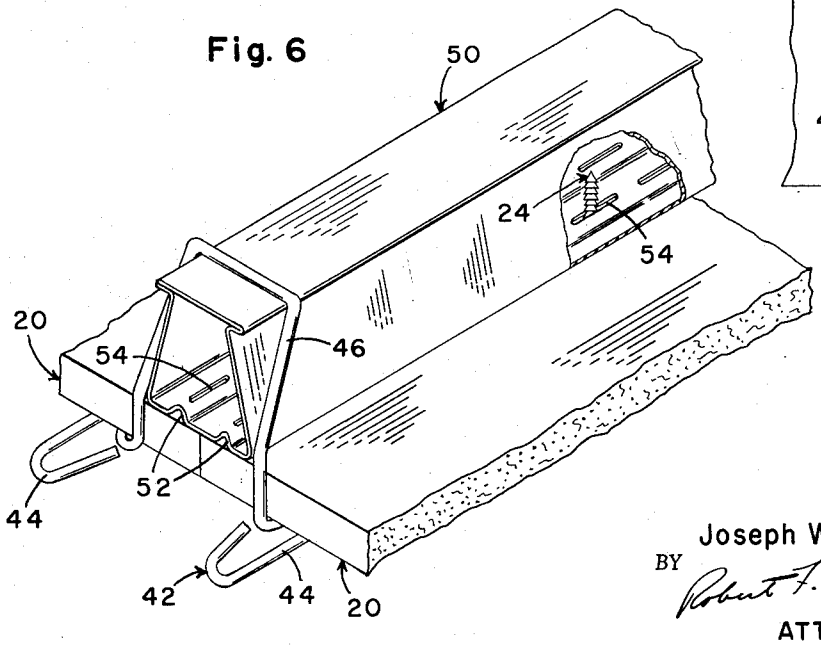


Fig. 5

Fig. 6



INVENTOR.
Joseph W. Schneller
BY
ATTORNEY

April 23, 1963 J. W. SCHNELLER 3,086,329

WALL LATH ATTACHMENT

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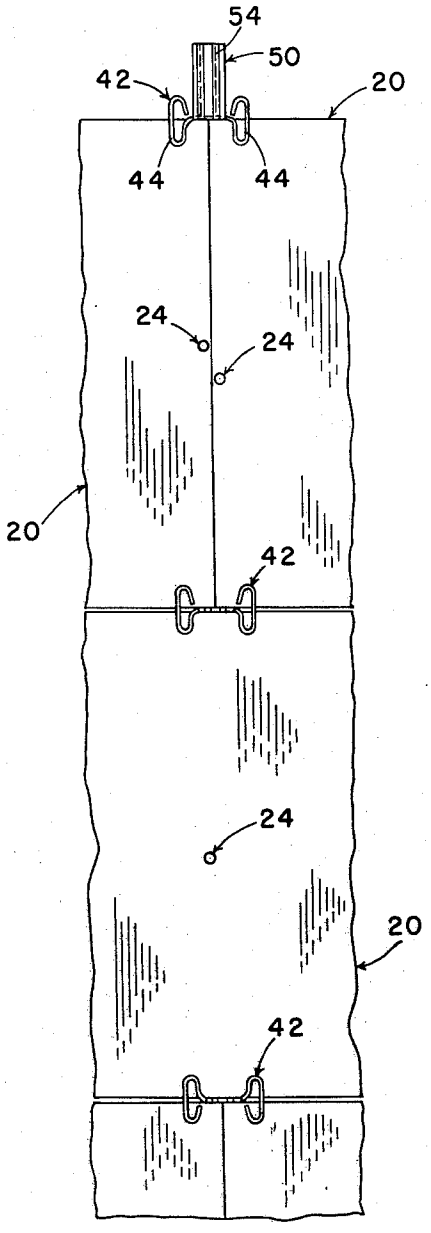


Fig. 7

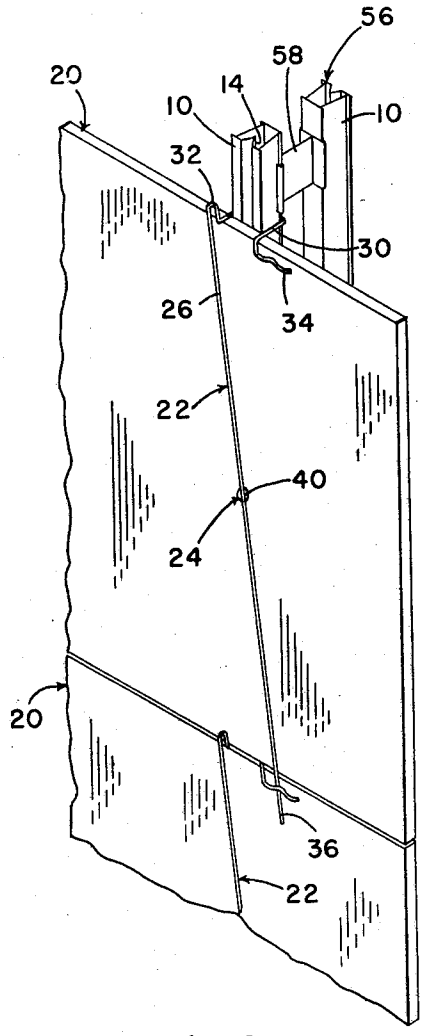


Fig. 8

INVENTOR.
Joseph W. Schneller
BY Robert F. Hause
ATTORNEY

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3,086,329

WALL LATH ATTACHMENT

Joseph W. Schneller, Eggertsville, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

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5 Claims. (Cl. 50—314)

This invention relates to the attachment of lath sheets to lightweight metal frame elements in the construction of lath and plaster walls and is particularly directed to the structural combination of channel engaging lathing clips and nailable metal channels adapted for nailing attachment of center portions of lath sheets.

Lightweight, elongate, metal framing channels are commonly used for attachment thereto of lath sheets by hook-type wire clips. Such channels are commonly of a C-shaped cross section, for ceiling purposes, and are suspended by wires from a roof or other overhead structural element. Various forms of channels, angle irons and wire combinations are also employed in vertical walls, usually as a portion of a unitary open-webbed metal stud, for hooking attachment thereto of lath sheets.

Such hook-type clip attachment of lath sheets may include a relatively awkwardly applied center hook-clip which is inserted through a punched hole in the center of a lath sheet to provide more evenly distributed support throughout the lath sheet. In present day practice, however, such center clips are usually avoided, because of the excessive additional cost and trouble resulting from the difficulty of application. The various hook-clip systems, when used without the center clip, are clearly weaker, and result in a structure highly subject to sagging and having relatively poor fire retardant qualities.

An alternative prior form of lath attachment consists of horizontally suspended nailable metal channels for the nailing attachment thereto of ceiling lath sheets. With respect to vertical walls, such nailable metal channels are commonly vertically disposed, individually or as a portion of a unitary vertical stud, for the nailing attachment thereto of vertical wall lath sheets. The nailing attachment of lath sheets is relatively difficult in comparison to hook-type clip attachment insofar as the original positioning and holding of the lath sheet until held sufficiently to require no further manual holding of the lath sheet during completion of attachment.

It is an object of the present invention to provide a system for the attachment of lath sheets wherein lath sheets are readily and easily initially affixed in a partially attached self-supporting condition, and wherein, by subsequent steps, a lath sheet center support is then readily and easily affixed.

It is a further object of the invention to provide a novel lath and plaster wall structure of superior strength and fire retardant characteristics. Briefly, the present invention contemplates the structural combination of lath sheets suspended directly substantially solely from nailing channels wherein the edge portions of the lath sheets are supported substantially solely by hook-type wire clips attached about the nailing channel and wherein the center portion of the lath sheets are held closely adjacent and supported by the nailing channel by nailing channel engaging nails.

The above and other objects of the invention will be more readily apparent when considered in relation to the preferred embodiments as set forth in the specification and shown in the drawings in which:

FIG. 1 is an isometric view of a section of lath sheets attached to horizontal channel in accordance with the invention.

FIG. 2 is an end view of the combination of FIG. 1.

FIG. 3 is a bottom view of the combination of FIG. 1.

FIG. 4 is an end view, similar to FIG. 2, of a modification of the invention.

FIG. 5 is a bottom view, similar to FIG. 3, of the modification of FIG. 4.

FIG. 6 is an isometric view of a further modification of the invention.

FIG. 7 is a bottom view of the modification of FIG. 6.

FIG. 8 is an isometric view of a still further modification of the invention.

Referring now to FIGS. 1 to 3, there is shown a horizontally disposed, downwardly opening, elongate, formed metal nailing channel **10** having upwardly and inwardly directed opposed bottom lips **12** forming a nail receiving slot **14** therebetween. Channel **10** is suspended by any usual suspending means, such as tie wires **16**, tied to bar joists **18**.

Lath sheets **20** are horizontally disposed adjacent and below channels **10**, a plurality of such channels being disposed in spaced parallel relation throughout the area in which the lath sheets **20** are to be mounted.

Lath sheets **20** are attached to channels **10**, in accordance with the invention, by a combination of spanning wire clips **22** and nails **24**. The lateral edge portions of lath sheets **20** are supported solely by the clips **22**. Nails **24** are substantially the sole support of the center portions of the lath sheets **20**. It will be seen, however, that in case of a nail failure the spanning wire clips **22** would provide a certain degree of support directly to the center portions.

The spanning wire clips **22**, in the embodiment shown, include a body portion **26** extending across a lath sheet, a head **28** having a hook **30** extending over and around three sides of nailing channel **10**, a receiving lip **32** extending outwardly in a direction opposite from body portion **26**, and a sidewardly directed tail holding prong **34**. The tail portion **36** of each body portion **26** is held under the tail holding prong **34** of the adjacent clip **22**.

Nail **24**, having a toothed body **38**, is driven through the center portion of lath sheet **20** and is caused by lips **12** of nailing channel **10**, to be directed into slot **14**, wherein the toothed body **38** is engaged and held by lips **12**, and the nail head **40**, driven tightly against lath sheet **20**, holds the center of lath sheet **20** tightly against channel **10**.

In FIGS. 4 and 5, a modification of the invention is shown, wherein the spanning clips **22** are replaced by joint edge clips **42**, having an enlarged loop **44** at each end of a hook portion **46**. The hook portion **46** extends over and around three sides of nailing channel **10** and loops **44** each engage and support the edge portions of two adjacent lath sheets **20**. A nail **24**, with toothed body **38** extends through the center portion of lath sheet **20**, lockingly engaging nailing channel **10**, and the nail head **40** supports the center of lath sheet **20** tightly against channel **10**.

In FIGS. 6 and 7, a further modification of the invention is shown wherein a dual nailing channel **50** is shown with joint edge clips **42** hooked thereover having an enlarged loop **44** at each end thereof, each loop **44** disposed against the remote faces of the edge portions of adjacent lath sheets **20**. The spanning clips **22** of FIGS. 1 to 3 are equally applicable for use with dual nailing channel **50** in accordance with the invention.

Dual nailing channel **50** is an elongate formed sheet metal channel having on the bottom face thereof two inwardly depressed parallel grooves **52** with a plurality of discontinuous slits **54** disposed along each groove bottom. Dual nailing channels **50** provide means for improved lath sheet center portion support at the longitudinal end joints thereof, in that, as shown, nails **24** are driven through the end portion of each end abutting lath sheet,

the nail 24 for each respective lath sheet projecting into and lockingly engaging one slit 54 each of the two respective parallel grooves 52.

FIG. 8 shows the preferred embodiment of the invention in respect to vertical walls. A lightweight, non-load-bearing unitary, metal stud 56 is shown having two oppositely-directed, outwardly opening nailing channel portions 10 affixed in spaced relation by clamps 58. Spanning wire clips 22 have hook 30 disposed around the adjacent nailing channel portion 10 of stud 56, and body portion 26, receiving lip 32, tail holding prong 34 and tail portion 36 are disposed on the face of lath sheet 20 remote from stud 56, providing the sole holding means for the lath sheet lateral edge portions. A nail 24 is driven through the lath sheet center portion lockingly engaging the slot 14 of the stud nailing channel portion 10 with nail head 40 providing the substantially sole holding means for the lath sheet center portion.

The mounting of lath sheets 20, in all the above embodiments of the invention, consists of a relatively rapid initial placement of the lath sheets wherein in one manual step of placing the first clip on the properly positioned lath, namely the clip nearest the longitudinal center of the lath sheet, the lath sheet will be sufficiently held, without further manual support needed, for an applicator to rapidly proceed with all subsequent steps in the lath sheet attachment. With 16" x 48" lath sheets and 16" on center spacing of nailing channel, lath sheets will each abut three or four nailing channels, dependent on the positioning of the lath sheet end joints. Thus following the above initial attachment of a lath sheet, either two or three more clips are applied and thence either three or four nails 24 are rapidly driven through the lath sheet center portion, one into each respective nailing channel.

After application of all lath sheets in a given wall structure, plaster is applied over the lath sheets, embedding all exposed portions of the wire clips. Such embedded portions of wire clips not only provide a more widely distributed means of support throughout their extent over the lath sheet face, but they further provide an internal reinforcement in the subsequently applied and hardened plaster coating. Such wire embedded reinforcement across lath edge joints provides additional strength where most desired and the additional reinforcement across the width of lath sheets, provided by spanning clips 22, provides an additional degree of reinforcement advantageous in the strength of the ultimate wall structure.

The combined use of nails for supporting lath sheet center portions with lock-type wire clips supporting the edge portions all tightly against the nailng channel members provdes a highly simplified means for obtaining the additional center portion support without undue additional costs or difficulties of application, which have caused applicators to avoid the highly desirable additional center support, with prior lath attachment systems.

The term "wall" will be understood to include both ceilings and vertical walls. A lathed and plastered wall, in accordance with the invention, is provided having a strength and fire retardance equal to equivalent prior walls, susceptible to substantial savings in cost by its novel simplification of application and structure.

Having completed a detailed disclosure of the preferred embodiments of my invention so that those skilled in the art may practice the same, I contemplate that variations may be made without departing from the essence of the invention or the scope of the appended claims.

I claim:

1. A lath attaching system, comprising an elongate formed metal nailing channel having means for receiving and holding ribbed nails driven thereinto, lath sheets disposed over the face of said channel, formed wire clips disposed at and between abutting edges of lath sheets extending behind the remote side of said channel and having portions disposed on the face of said lath sheet holding said lath sheet edge portions tightly against said nailing channel, and a ribbed nail disposed extending through said lath sheet engaging said nailing channel at a point spaced from said lath sheet edge and holding portions of said lath spaced from said lath sheet edges tightly against said nailing channel.

2. A system for attaching lath to a building framework wherein said framework includes elongate formed metal nailing channel having means for receiving and holding ribbed nails driven thereinto, lath sheets affixed to the outer faces of a plurality of said channels, the edge portions of said lath sheets being tightly held against said channels solely by formed wire clips extending from the outer faces of said lath sheets between the edges of said lath sheets and behind the inner face of said channels, and the portions of said lath sheet generally midway between said lath sheet edges being tightly held against said channels substantially solely by ribbed nails extending through said lath sheets and lockingly engaging said nailing channels.

3. In a lath and plaster building wall, the combination with sheets of lath of formed wire clips hooked around elongate formed metal nailing channel and providing the sole attaching means holding the edge portions of said lath sheets tightly against said nailing channel, ribbed nails extending through said lath sheets at points spaced from said edge portions and lockingly engaging said nailing channel and providing the substantially sole attaching means holding the portions of lath sheet spaced from said edge portions tightly against said nailing channel, and a layer of hardened plaster disposed upon the face of said lath sheets having embedded therein portions of said wire clips.

4. A ceiling structure comprising a plurality of parallel, horizontally disposed, elongate, formed metal nailing channels having means for receiving and holding ribbed nails driven thereinto, lath sheets horizontally disposed suspended under the faces of said channels, formed wire clips disposed at and between abutting edges of lath sheets extending behind the remote side of said channel and having portions disposed on the face of said lath sheet holding said lath sheet edge portions tightly against said nailing channel, and a ribbed nail disposed extending through said lath sheet engaging said nailing channel at a point spaced from said lath sheet edge and holding portions of said lath spaced from said lath sheet edges tightly against said nailing channel.

5. A vertical wall structure comprising a plurality of vertically disposed studs, said studs being formed to include elongate metal nailing channels having means for receiving and holding ribbed nails driven thereinto, lath sheets vertically disposed adjacent the faces of said channels, formed wire clips disposed at and between abutting edges of lath sheets extending behind the remote side of said channel and having portions disposed on the face of said lath sheet holding said lath sheet edge portions tightly against said nailing channel, and a ribbed nail disposed extending through said lath sheet engaging said nailing channel at a point spaced from said lath sheet edge and holding portions of said lath spaced from said lath sheet edges tightly against said nailing channel.

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