April 24, 1956 O. J. OLMSTEAD 2,742,778

FURRING DEVICES

Original Filed Jan. 31, 1952

Fig. 1.

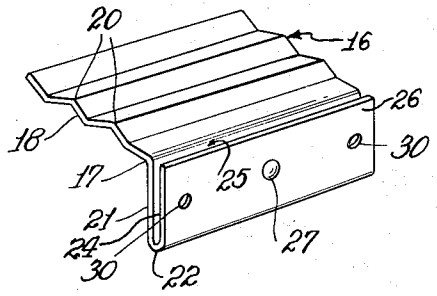


Fig. 2.

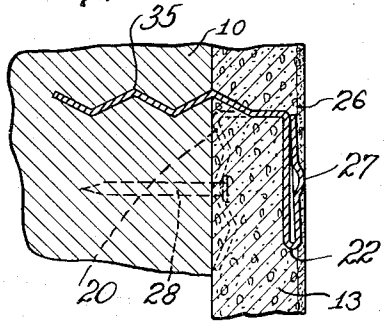


Fig. 3.

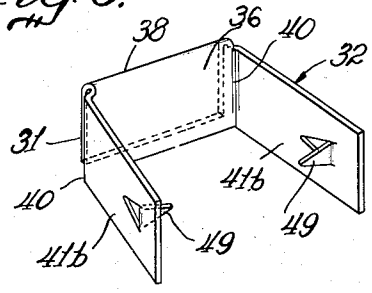


Fig. 4.

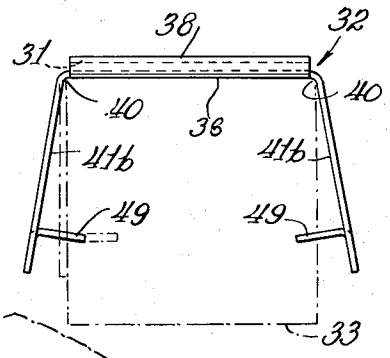


Fig. 6.

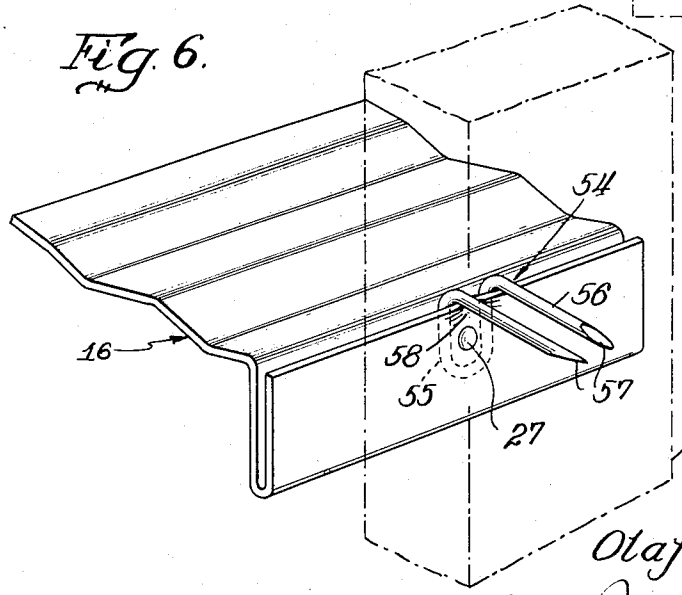
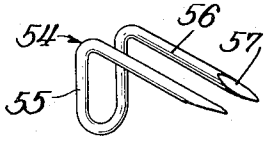


Fig. 5.



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2,742,778

FURRING DEVICES

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Original application January 31, 1952, Serial No. 269,199. Divided and this application February 2, 1955, Serial No. 485,716

4 Claims. (Cl. 72—118)

The present invention relates to furring and wall reinforcement generally, and more particularly to devices by which coverings may be secured to vertical or horizontal walls. This application is a division of application Serial No. 269,199, now abandoned, which is a continuation-in-part application of application Serial No. 31,629, now abandoned, filed June 8, 1948, for Furring Devices.

Where a covering is to be supported upon walls made of cement, masonry, or the like, fasteners are secured to the wall after the material in the wall has set, and furring strips of metal, or preferably wood, are secured to the fasteners so that the covering can be supported in conventional ways as upon studding or joists spaced sixteen or twenty inches from center to center.

Most homes and office buildings pour the cement or lay the masonary in a wall without any fasteners in them, and leave furring applications until later, at which time holes are driven in the wall to receive fasteners, or other elements are driven into the wall with or without expansion or wedging actions to support the furring strips. The holes and driving elements shatter or weaken the wall and cause other damage. Not only this, but the strain upon the wall by the fasteners is limited to a restricted, already weakened, area and the fasteners pull loose repeatedly.

Although some efforts have been made to embed furring fasteners in cement or the mortar joints of brick walls when the wall is made, none of them strengthens the wall as by reinforcing it, nor do they distribute the support load carried thereby over a wide area of the wall. This is significant because not only does the present invention remedy these defects and deficiencies but also eliminates the need for accurately spacing the fastener member upon joist or studding centers which requirement heretofore has entailed additional time-consuming efforts with conventional devices. In the present invention, approximate spacing is all that is required, and the furring can be easily and expeditiously secured to the wall unvaryingly upon conventional joist centerings with no more than the top of a hammer.

The probable reason why walls including floorings have not been provided with furring supports when made is that conventional devices extend out from the wall too far to be used with concrete forms and are unsightly and dangerous or become damaged if furring and covering are not applied immediately.

In the present invention, the outer surface of the embedded wall support is practically flush with the face of the wall, and cannot be damaged by crushing nor by side blows, yet preserves its necessary form to support wall coverings when applied, even after many years, as where recreation rooms or the like are not paneled or finished until long after the building is occupied.

Furthermore, the invention is also characterized by the ease with which devices embodying same can be attached to the inside face of concrete forms when the concrete is poured and left embedded in proper position when the forms are removed, yet can also be used in mortar joints of masonry. In fact, devices embodying the invention can be embedded in walls or plaster prior to setting to serve as supports for dadoing, shelving, etc., after the wall has set, and can also be located just below the finishing coat of plaster on walls where it is readily available for use whenever needed to anchor anything on the wall.

The invention also contemplates brackets which are easily mounted to support furring strips against dislodgment whether the wall is wholly or partially covered.

The invention is further characterized by embodiments which receive and support furring strips in a way easily established without any need for additional elements such as nails and screws.

The invention also contemplates the use of elements which can be located with snap line accuracy to penetrate and secure furring strips rigidly in place when the strips are forced into place.

Another object of the invention is to provide a support device for furring strips which supports the strips in place just as they come from the mill without any need for drilling or notching, and when supported the furring strip is free from any obstruction on its front surface.

Another object of the invention is to provide improved furring constructions and arrangements which are rugged and sturdy, inexpensive to make and install, semi-concealed prior to ultimate use, and easily handled and applied by unskilled labor.

These being among the objects, other and further objects will appear from the drawings, the description relating thereto, and the appended claims.

Referring now to the drawings, in which several embodiments as shown—

Fig. 1 is a perspective view of one of the cooperating members of the fastener element embodying a preferred form of the invention;

Fig. 2 is a transverse section through the member shown in Fig. 1 illustrating how it is embedded in the plaster or concrete wall and how a preferred form of the furring engaging bracket is mounted in place to support the furring strip;

Fig. 3 is a perspective view of the furring supporting member shown in Fig. 4;

Fig. 4 is a top plan view of the embodiment shown in Fig. 3;

Fig. 5 is a perspective view of another device engaging the furring strip embodying the invention; and

Fig. 6 is a side elevation showing how the embodiment shown in Fig. 5 is used to support the furring strip.

The invention contemplates two cooperaing members, one an elongated sheet metal member corrugated longitudinally for about one-half of its width and reversely doubled upon itself over the other half to provide a pocket or channel along the initial bend bordering the corrugated portion, and the second element having a tongue or base portion receivable in the pocket and preferably anywhere along its length has a plurality of rigid or bendable straps to engage and penetrate furring strips to secure them in place. At opposite ends of the furring strip the members may be disposed with the channels opening in opposite directions so that the furring strips, when secured in place by the straps, hold the elements in correct positions against displacement.

Whether used at corners or along the wall, the member reinforces the wall by its corrugated portion becoming bonded with the cement products used in walls, and a firmer securement is provided for furring, the strain of which is distributed over a wide area of the wall.

Referring now to the drawings in further detail, the

walls whether made of cement, brick or plaster are indicated by the numeral **10**.

In Fig. 1 one of the cooperating elements embodying the invention in one form is shown as preferably made from galvanized sheet metal to form a good, nonrusting bond with cement products. The member **16** is essentially rectangular in shape, being cut from flat stock and form-stamped or cut from strip stock rolled to the section shown in Fig. 2 of any length desired.

The member **16** has a right angle bend along a line indicated at **17** which extends longitudinally thereof at approximately the center line of the blank. The portion **18** which is embedded in the wall is preferably corrugated with five or six wave bends as indicated at **20** along lines parallel with the fold line **17**, while the other portion **21** is provided with a reverse bend **22** by which a channel **24** is provided within the mouth thereof indicated at **25** extending along the folded edge **17**.

In the preferred embodiment as shown in Figs. 1 and 2, the face portion **26** is provided with one or more spherical-like protrusions **27** which extend outwardly from the face about the thickness of a finishing coat of plaster, as indicated at **14** in Fig. 2, to serve as telltales whose outer extremity is exposed if the member **16** is to be embedded in plaster walls shown in Fig. 2. A hammer blow upon the telltale flexes the face or front wall **26** enough to loosen the plaster over the area of the bracket without need for guessing or chipping.

If the plastering shown in Fig. 2 is spread upon a brick or concrete surface the corrugated portion **18** of the member **16** need not be embedded as deeply either in the mortar of the brick wall or in the cement of the concrete wall, but may be left as shown in full lines in Fig. 2 with the channel portion spaced from the wall a distance approximately the thickness of the rough plaster **13** to serve both as a plaster screen and also as a plaster reinforcing element whose presence is detected by the telltale dome **27** being exposed slightly at the surface of the finishing coat **14** of the plaster.

In event the plaster is spread upon a lath wall, the corrugated portion can be nailed thereto by a nail **28** driven through the corrugated portion with the channel portion thereafter pried and bent downwardly about one of the bend lines **20** to serve in a manner as already described in connection with a cement wall. Then whenever it becomes desirable to support shelving upon a plastered wall the telltales **27** are looked for and the plaster chipped out just above them, whereby access can be had to the mouth **25** of the channel **24** for reception of the tongues or bases of cooperating elements as hereinafter described.

Holes **30** are preferably punched through both layers so that nails can be driven from the inside outwardly to support the member **16** upon concrete forms while the concrete is being poured. The nails employed would not be large nails and when the concrete forms are pulled away from the concrete, leaving the member **16** embedded therein, the nails would pull free of the form and their exposed ends clipped off.

When the corrugated portion **18** is embedded either in the concrete or in the mortar of the brick wall the mortar and the cement are pressed and flow into the corrugations and become adhered to the galvanized surface of the member **16** to such an extent that the member **16** is an integral part with the wall. The member, being impervious to moisture, is not swollen thereby as when wood blocks are embedded and, therefore never loosen.

Where the cement is poured against a concrete form upon which the member **16** is supported, the face of the cement will be flush with the outer surface of the wall. Thereafter, access to the mouth **25** is had by chipping away the cement present and the outer portion defining a channel **24** is sprung just enough to receive therein the tongue **31** of a cooperating bracket member **32** whose

structural characteristics will be described shortly. In those instances where the member **16** is used with brick walls, the inner face of the folded portion is flush with the wall, and the channel portions extend out a slight distance of a little over three times the thickness of the metal, in which case the mouth **25** is exposed to access without any need of chipping away mortar other than droppings that might have been caught thereon and are readily removable.

The protrusion **27** is preferably located at the longitudinal center of the member **16** so that it serves also as an indicator when roughly measuring the spacing between consecutive members **16** along the wall when it is desired to locate wooden strips such as furring strips **33** at points exactly 16″ or 20″ from center to center as is the standard spacing of joists and studding in the building trades. Although approximate spacing of the elements is all that is required since the brackets **32** can be located initially any place along the member **16**, if need be the protuberances **27** can be relied upon for a high degree of accuracy.

In using the member **16** to support furring upon conventional centers, same may constitute continuous reinforcing strips extending the full length of the wall as a single strip or as abutting units, but it is preferred to provide single members **16** of a length ranging from three to eight inches spaced apart eight to twelve inches. Then, when it is time to mount the brackets as hereinafter described to receive the furring strips, accurate measurements can be made and marked either by pencil or by snap lines to locate the furring with great accuracy. The bracket **32** is formed from a blank cut from a strip of metal in accordance with a pattern that is substantially T-shaped. The blank constitutes a central body portion **36** with longitudinally extending wings **41***b* and a lateral tongue portion **31**. In the forming dies the tongue **31** is bent along the line **38** back upon the body portion **36** with sufficient space at the bend to accommodate the fold **23** in the member **16** in snug relationship. The wings **41***b* are folded at right angles along lines **40** to provide sides **41***b* which are so spaced and positioned as to receive the furring strip **33** therebetween.

It will be seen from the construction thus discussed in connection with the ultimate assembly that the tongue **31** of the bracket **32** can be slipped through the throat **25** of the member **16** to be supported thereby by the outer wall **26** along the channel **24** with the outer wall **26** resting snugly between the tongue **31** and the body portion **36** of the bracket **32**. When this is done, if the bracket **32** is not located at the correct position it can be tapped along the channel **24** to the correct position where it is to support a furring strip at a predetermined point. If the brackets **32** are not correctly located before the furring strip has been secured in place, the furring strip can be tapped in either direction to so locate the bracket, the bracket being free to slide lengthwise of the channel with the furring strip in it as easily as the bracket alone. However, once the wall covering **15** is secured to the furring strips the complete assembly is rigidly supported in place.

The sides **41***b* are not bent to lie in parallel planes but diverge slightly outwardly so that the furring strip can be received easily between them and guided by them into place. Each side **41***b* has a triangular section of its metal stock cut and upset inwardly to form a sharp pointed triangular ear **49**, the plane of which is parallel with the grain of the furring strip to be engaged thereby. In this way, once the furring strip is inserted between the sides **41***b* to rest against the body portion **36**, the sides **41***b* are pressed toward each other by clamping or hammering until the ears **49** penetrate deeply and to their full length into the grain of the wood, thereby providing a wide expanse engaging the grain of the wood to hold it in place. It will be noticed that the exposed face of the furring

strip is clear of any obstructions so as to provide a smooth surface against which a wall finish may be secured as by nails without any offset of elements or notching of the furring strip.

In the embodiment illustrated in Figs. 5 and 6 a U-shaped wire member **54** is shown with its rounded end or base **55** bent at right angles to its legs **56**. The ends of the legs are sheared diagonally when formed to provide sharp points **57** to penetrate the furring strip. The U-shaped rounded portion **55** when mounted in place is forced through the mouth **25** of the bracket until the upper edge **23** rests against the legs **56**. In this position the legs **56** extend outwardly from the wall to be driven into a furring strip as a furring strip is either pressed or hammered toward the wall against the points **57**. One of the advantages of this embodiment is found in the ability of a user to upset or offset the upper edge of the front wall of the bracket inwardly as at **58** toward the wall between the legs **56** once the device is located in place. This upsetting of the upper edge does not prevent the removal of the bracket if necessity requires but it does hold or lock the bracket against inadvertent movement while the furring strip is being forced into place. This embodiment also leaves the exposed surface of the furring strip free of any obstruction on its front face so that there is no interference with wall elements nailed thereon.

If the embodiment shown in Figs. 5 and 6 has to be removed before the furring strip is forced into place it can be forcibly removed by a pair of pliers gripping the legs **56** followed by a twisting motion. Once removed, the bracket can be restored to its original shape by flattening the upset **58** in the front wall thereof by a hammer blow. Thereafter the bracket can be reinserted in the mouth **25** at a new location and another upset made to hold it in place. With this embodiment of the invention the bracket can be located any place desired and changed if need be in a very easy manner.

Consequently, having described several embodiments of the invention and indicated how same can be used to accomplish the many purposes mentioned, it will be understood how the objects of the invention are accomplished. Furthermore, it will be readily apparent to those skilled in the art how various and further modifications and changes may be made therein without departing from the spirit of the invention, the scope of which is commensurate with the appended claims.

I claim:

1. A device for securing a furring strip to a wall, said device comprising the combination of an elongated sheet metal member having a first portion adapted to be embedded in the wall, said member having a second portion reversely bent upon itself and disposed at a right angle to the first portion, said reversely bent portion forming a channel along the edge of said first portion, said channel being adapted to lie approximately flush with a face of the wall, a substantially U-shaped wire element having a base portion and a pair of legs extending therefrom, said base portion being disposed in said channel and said two legs extending from said channel and disposed at substantially right angles thereto, said legs being in spaced relation to each other, and penetrating means adjacent to the free ends of said legs for attaching the furring strip to said wall when the furring strip is secured to said device.

2. The construction called for in claim 1 wherein said wire is relatively stiff and said penetrating means comprise sharp points.

3. The combination recited in claim 1 wherein the U-shaped element includes a substantially right angle bend intermediate the length of said legs wherein a first section of the legs adjacent the free ends thereof lie in a first plane and a second section of said legs adjacent the base thereof lie in a second plane, said planes being in perpendicular relationship to each other, the length of the legs in the first section being equal, and said penetrating means comprising integral points on the free ends of the legs.

4. The combination recited in claim 3 wherein the material of the free wall of said channel which is disposed between the legs forming the second section of said element is offset towards the other wall of said channel, said offset locking said element in said channel.

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