No. 626,003. Patented May 30, 1899.

O. R. DAHL.

COMBINED SHEATHING AND LATH.

(Application filed Nov. 23, 1895.)

(No Model.)

Fig. 1

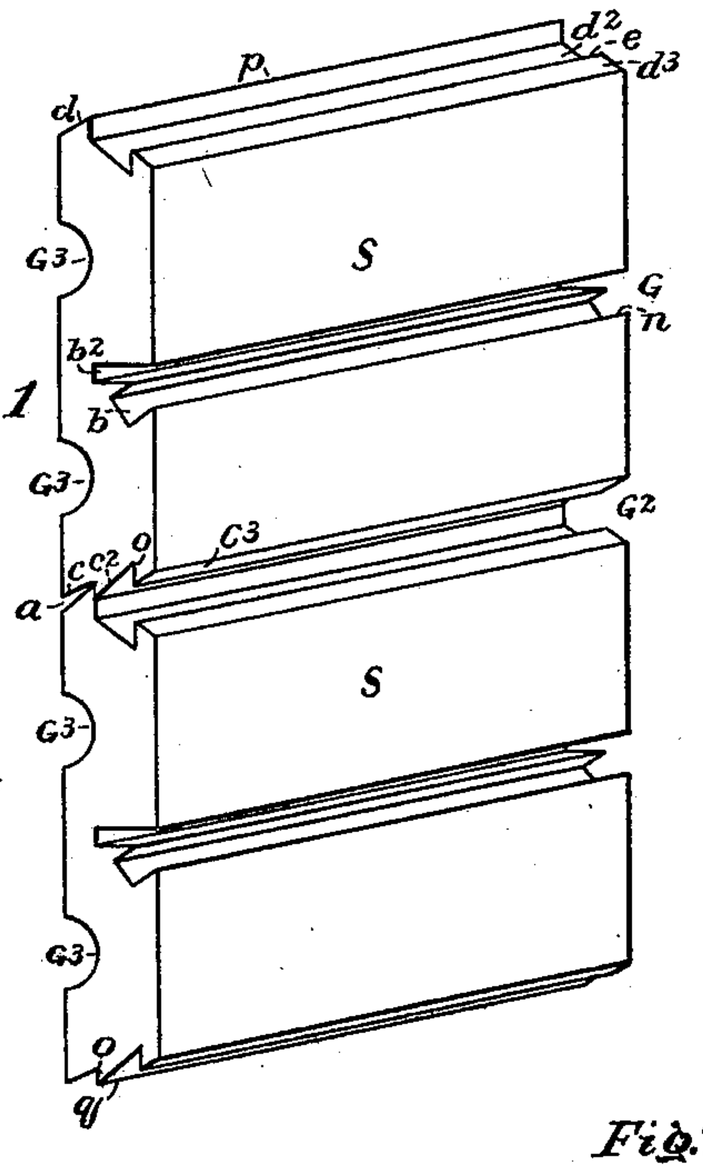


Fig. 2

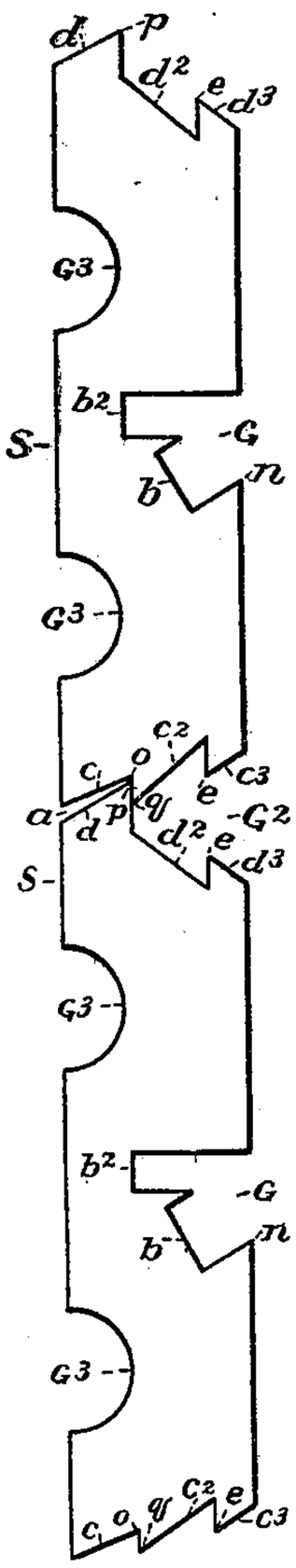


Fig. 3

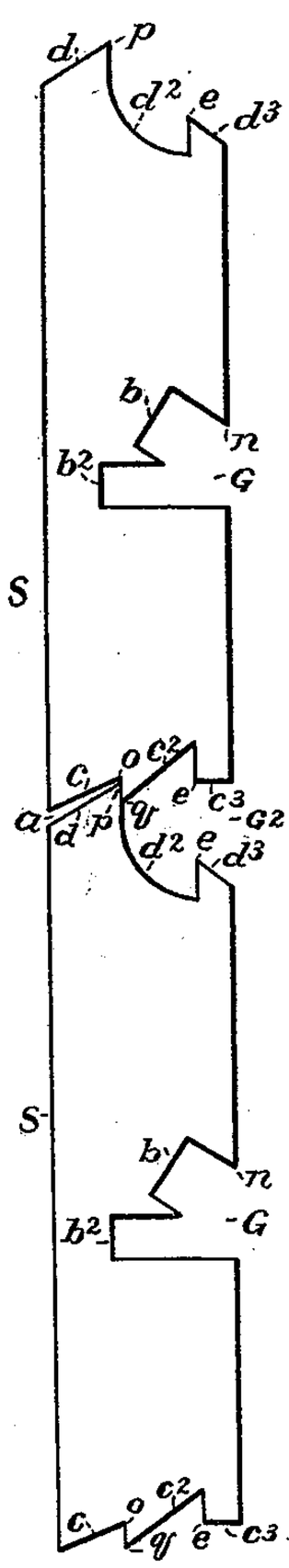


Fig. 7

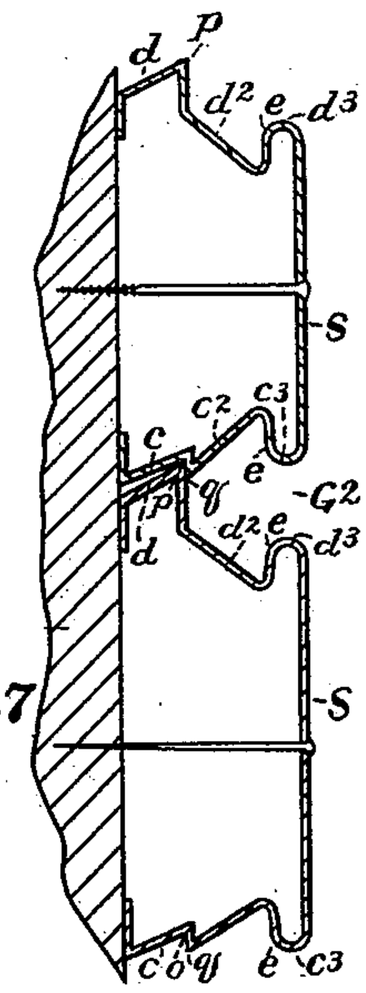


Fig. 4

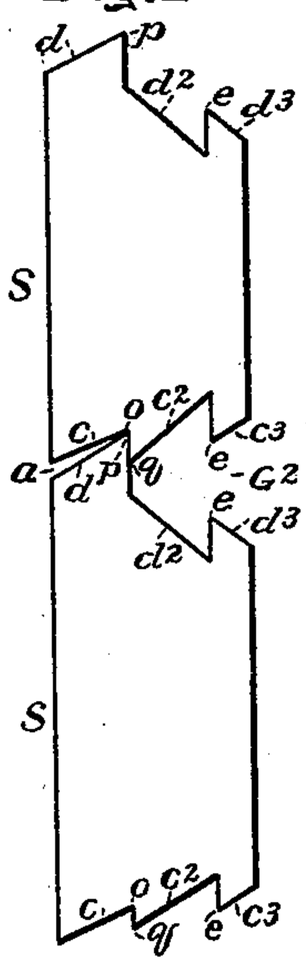


Fig. 5

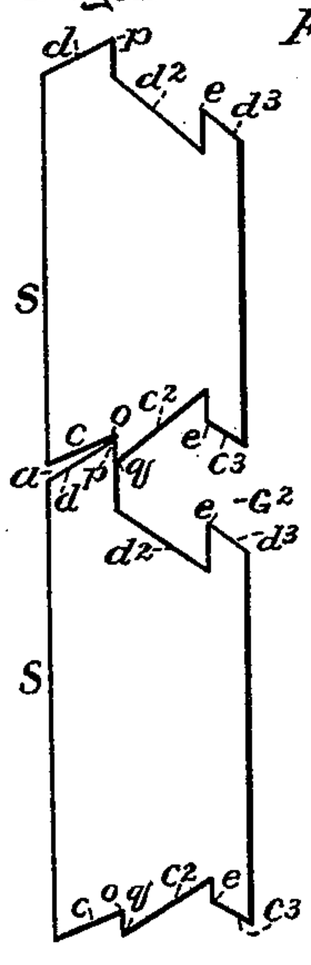
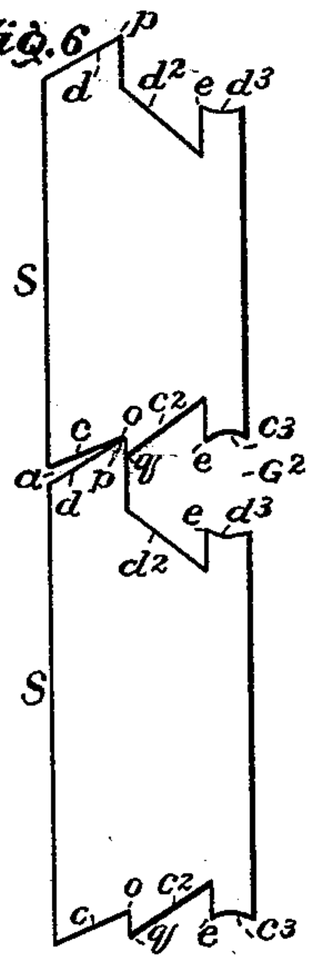


Fig. 6



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UNITED STATES PATENT OFFICE.

OLE ROBERT DAHL, OF SEATTLE, WASHINGTON.

COMBINED SHEATHING AND LATH.

SPECIFICATION forming part of Letters Patent No. 626,003, dated May 30, 1899.

Application filed November 23, 1895. Serial No. 569,932. (No model.)

To all whom it may concern:

Be it known that I, OLE ROBERT DAHL, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a new and useful Improvement in a Combined Sheathing and Lath; and I do hereby declare that the following specification, taken in connection with the accompanying drawings and letters of reference marked thereon, is a full, clear, and exact description of the invention, such as will enable any person skilled in the art to which it appertains to make and use the same.

My invention relates to the building material known as "sheathing-lath," (a combined sheathing, lath, and furring-strip,) which is made of boards, culls, or any available lumber provided with grooves for clenching the plaster. When nailed to the studdings, joists, or to strips of wood in brick walls it takes the place of ordinary sheathing, furring-strips, and common laths, thus effecting a great saving in the expense of material and labor, besides affording a better wall and ceiling wherein nails can be driven at any place for pictures, brackets, store-fixtures, &c.

The object of my invention is to produce a sheathing-lath free from the many objections to other sheathing-laths, plastering-strips, and all kindred devices by whatever name heretofore patented, in which I have discovered the following defects: With the so-called "dovetailed" or "wedge-shaped" grooves in sheathing-laths the grooves cannot be cut deep enough to make a good clench for plaster, and to prevent shrinking of laths cannot be made of knotty cheap lumber without tearing or breaking, except with very shallow grooves. Plasterers have difficulty in filling such grooves with mortar sufficiently to hold the plaster on ceilings. The clenches are weakest on the face of the lath where they should be strong, and no better clench was provided for at the joint of the lath-sections. I have also found that all sheathing-laths and combined lathing and furring-strips have defective joints. Some have the tongue-and-groove joint. Others have about a quarter of an inch of wood closely adjoining each other, neither of which will admit of swelling of lath without bulging—hence breaking of plaster. Experience has shown that a kerf in the back of sheathing-laths does not prevent swelling, so provision for it must be made at the joint. I find no sheathing-lath or plastering-strip with a firm joint (excepting the objectionable tongue-and-groove joint) nor one with such a clench for plaster as will bind the two lath-sections together and strengthen the joint in resisting vibration; but I find that nearly all of these devices are so constructed that if rain comes through the outside siding of a frame house it may run along the studdings and through the defective joints of the sheathing-laths or plastering-strips, and thus wet the plaster the same as if common laths were used.

In a former application, filed April 16, 1895, Serial No. 545,919, I pointed out some of the above defects in sheathing-laths. I have discovered and invented grooves and a joint to overcome them.

In this application I furnish different grooves with a stronger joint to overcome all the aforesaid objections, and I claim the additional advantage of this sheathing-lath that it can be made with cheaper machinery. I also recommend this sheathing-lath to be used on the outside in place of siding with the grooves facing the studdings, as rain will not go through the joint, and plaster can be applied on inside between the studdings. It should then again be used on the inside of studdings, and a warm good house is the result at small cost. Those who wish a house plastered on the outside can use this device with the grooves out, as rain cannot go through the joint from either side of my lath.

In the accompanying drawings, Figure 1 represents a perspective view of two sheathing-laths embodying my invention. Fig. 2 is an enlarged end view of the same. Fig. 3 is likewise an end view with a modification of structure applying the same principle. Figs. 4, 5, 6, and 7 are modifications of the construction of the joint and present end views with narrow sheathing-laths. Fig. 7 also shows two sections as made of sheet-iron or other metal and fastened to the studding.

Like letters of reference indicate corresponding parts throughout the several views.

S represents the board or strip of lumber about an inch thick in the rough of any de-

sirable width, which may be dressed on one side and serve as sheathing, in which the double cuts or grooves b and b^2, as indicated in drawings Figs. 1, 2, and 3, are cut or sawed longitudinally in the face of said board or sheathing to form rabbets for clenching the plaster, as designated by G. One edge of said board or sheathing is cut or dressed as represented by the letters c, o, q, c^2, e, and c^3 and the other edge as shown by the letters d, p, d^2, e, and d^3. It will be seen that each edge is provided with three specific cuts made as follows: The rear cut in lower edge of board as nailed on the wall is represented in the drawings by c and is made with a bevel forming an acute angle with the back of lath and with cut c^2. It is about three-eighths of an inch wide and forms a groove in the shape of an acute angle, as indicated by the reference-letter o. The middle cut (represented by c^2) is about five-sixteenths of an inch wide and cut with more bevel than cut c in such a manner that there will be a middle edge or point forming an acute angle with cut c, as indicated by the reference-letter q. Cut represented by c^3 is about three-sixteenths of an inch wide from the face of lath extending to cut c^2 and can be made with a bevel, forming an obtuse angle with face of lath, as shown in Fig. 2, at right angle, as seen in Fig. 3, with acute angle, as indicated by Fig. 5, with a concave cut or a convex cut, as represented by Figs. 6 and 7, respectively. It is cut so as to form a cleat for holding the plaster, as represented by the reference-letter e. The beveled cut in the rear upper edge of the board (represented by d) is made about three-eighths of an inch wide or so that the point, as indicated by reference-letter p, will fit into the groove indicated by the reference-letter o in cut c and tightly against the middle edge, (represented by q.) The cut represented by d^2 near the middle of the upper edge of board is made about five-sixteenths of an inch wide. It is cut on a bevel or curve inclining toward the face of lath, as seen in position on wall, and with two parallel sides with face of lath. The rear side from the point p to the bevel or curve is from one-eighth to about one-fourth of an inch deep, forming an acute angle with cut d. The front side of said cut is made from about three-sixteenths to one-fourth of an inch deeper than the cut represented by d^3 to afford a strong key for clenching the plaster. Cut d^3 is about three-sixteenths of an inch wide and can be cut on a bevel forming any angle with face of lath, preferably greater than a right angle, or may be a concave cut, as indicated in Fig. 6, or convex, as seen in Fig. 7. When two such strips of lathing or furring-strips are properly placed together, with the upper rear cut d abutting the lower rear cut in board, as represented by c, so that the point p, as indicated in cut d, shall fit into the groove o of cut c, there will be a joint equally as strong as a tongue-and-groove joint for resisting vibration, and yet one that will permit of swelling of the boards without bulging, because cut d is made with a greater bevel than cut c, so as to leave the opening at rear, (designated by the reference-letter a,) which allows swelling on the minimum meeting edge p. It will also be seen that water cannot run through the joint from rear, as the beveled cut c is made so it drops from about three-sixteenths to one-fourth of an inch lower at rear of lath than the grooves o, and water cannot run through from face of lath, because the overlapping point q comes from one-eighth to one-fourth of an inch below the point p. So I have with all a joint through which water cannot run in on wall and one that presents a strong rabbet for holding plaster, as indicated by reference-letter G^2. The curve or slant at the rear in this rabbet in both the lower and upper cuts, inclining so as to make the rabbet smallest at the rear, makes it easy to plaster on to fill the grooves made by cuts c^2 and d^2, and a good clench on cleats e and e is assured. The width of the cuts c, c^2, c^3, d, d^2, and d^3 is taken at right angle with the face of lath. The double cuts or channels b and b^2 are made on different angles, one of which is cut at right angle with face of lath, as represented by b^2, while the other is cut on an inclination forming an acute angle on face of lath, as indicated by b, which gives a cleat, as shown at n, for clenching the plaster. One of said cuts should be made deep and narrow and the other shallow and wide. The wide cut is made by a saw about three-eighths of an inch thick. The narrow deep cut is made with a saw or knife about half as thick, but is cut about twice as deep. Either cut may be made deep and the other shallow; but the form given in the drawings is preferable. The rabbet G thus formed is fully one-half inch wide on face of lath, and the deep cut in it (indicated by b^2) is about five-eighths of an inch deep. The depth of this cut, however, is according to the depth of the concave grooves (indicated by G^3) in the back of the sheathing, as seen in Fig. 2. I make these grooves in the back concave (or any other shape that will answer the purpose) and about one-fourth to three-eighths of an inch deep and about one-half inch wide at the surface or back of lath. They are made for a double purpose. One is to reduce the weight without weakening the lath, which saves freight expenses in shipping the material, and the other is to give ventilation between the back of sheathing-lath and the studding without holding water from rain that might drive through or leak through defective outside weather-boards and strike the sheathing-lath, (used as inside lathing.) It will readily be seen if these grooves in my sheathing-lath should be made with a saw (like a kerf) at right angle with the board they would allow rain to enter the back of sheathing-lath the full depth of said kerf and soak said sheathing-lath, there-

by defeating the object for which invented. It is important, then, that the said grooves shall be made concave, or, if made with parallel sides, as with a saw, that they shall be cut on a downward slant toward the back of sheathing-lath as placed on the wall, so that the lower edge of said cut or kerf shall form an obtuse angle with back of sheathing-lath, thus preventing any water from entering or settling and soaking into the back of said sheathing-lath. With these concave grooves in my sheathing-lath I do not make cut b^2 quite as deep as without them to not reduce the strength of sheathing. This deep cut b^2 is made for the purpose of preventing shrinking and bulging of sheathing-lath.

If the concave grooves are more than three-eighths of an inch deep, cut b^2 may be less than five-eighths of an inch deep in one-inch boards, and for thinner material the same proportion shall be maintained. When cut b^2 is made as deep as three-fourths through the board, the concave cuts should be at least one-fourth through the board; but to reduce the weight as much as possible for shipping without reducing the strength of sheathing-lath I prefer to make the concave grooves in the back at a depth of about one-third through the board with cut b^2 at the depth of two-thirds through the board.

When two rabbets G are made in each board, as in wider sheathing-lath, I cut one more of concave grooves G^3 in the back intermediate to the rabbets G on face of lath.

Another advantage I claim for this sheathing-lath is that I can make it of sheet-iron for fireproof purposes, secured to studdings or girders by screws or rivets, as shown in Fig. 7.

Having thus fully described my invention, I claim and desire to secure by Letters Patent—

1. The herein-described sheathing-lath having one or more of the rabbets, G in the face of the board with rabbet, G^2 at each joint and concave grooves, G^3 in the back, also provided with a joint having cut, d of rear, upper edge of board made on greater bevel than cut, c, on lower edge into which acute angle, p, fits firmly at groove, o and against acute angle, q in middle of lower edge of board, giving a firm joint that while it allows swelling on the minimum meeting edge, p, it prevents water running through the joint, substantially as specified and shown for the purposes set forth.

2. An improved sheathing-lath, or furring-strip having one edge dressed as specifically described and indicated by reference-letters, c, o, q, c^2, e and c^3 and the opposite edge dressed as represented in the drawings by d, p, d^2, e and d^3 as herein fully specified, giving the rabbet, G^2 when two such lath-sections are placed in position, so the acute angle, p shall enter the groove, o, and said rabbet, G^2 being provided with the cleats, e and e, for holding and clenching the plaster, substantially as shown and described for the purposes set forth.

3. An improved sheathing-lath, or plastering-strip with the double cuts, or channels for mortar, b and b^2, one wide and shallow, the other deep and narrow, made longitudinally on the face of the board, so that one is cut at right angle with face of lath, the other obliquely and forming an acute angle with face of lath to provide one substantial cleat for clenching the plaster as indicated by reference-letter, n, in rabbet G, substantially as described and shown for the purpose set forth.

4. An improved sheathing-lath with the cuts, channels and cleats for holding plaster, made in the face and edges of a board longitudinally with the grain in such a manner as to present a firm joint, provided by the middle edge, or acute angle, q in lower edge of board against which the upper edge of adjoining lath is placed, so that the point, or acute angle, designated by the reference-letter, p, shall fit into the groove, o, in rear cut, c of lower edge of board, made on a less bevel than cut, d, leaving the small opening, a, at back of lath to allow swelling on the acute angle, p, but beveled sufficiently so that water cannot run through the joint on wall from the back of lath, nor from the front, because of projecting angle, q, and directly in front on face of lath the rabbet, G^2 which has the two cleats, e and e, for securely clenching the plaster, substantially as shown and specified for the purpose set forth.

5. A wall sheathing or lath combining the parts or boards, S, S, having, at its lower edge, when in position on the wall, the beveled form or cut, c, about three-eighths of an inch wide from back of lath, inclining downward toward the back of lath, forming an acute angle with back of lath; next to this the middle form or cut, c^2, about five-sixteenths of an inch wide, made with greater bevel than the form or cut, c, forming the acute angle, q with form or cut c; and in front of this the form or cut, c^3, three-sixteenths of an inch wide; at the upper rear edge of said lath or sheathing the beveled form, or cut, d, forming an obtuse angle with back of lath and being about three-eighths of an inch wide with acute angle, p, to fit against acute angle, q, of adjoining lath; nearer to the front the beveled form or cut d^2 about five-sixteenths of an inch wide, made with a slant or curve inclining toward the face, making the rabbet, G^2, widest near the cleats, e and e, and gradually smaller toward the rear of said rabbet; and in front near the face of lath the form, or cut, d^3, about three-sixteenths of an inch wide, all substantially as specified and shown for the purposes set forth.

6. An improved sheathing-lath having the combination of the boards, S, S, in which are cut the rabbets, G, G, in the face of the boards, and at each joint the rabbet, G^2, for keys to hold the plaster and in the back of said boards

the shallow, concave grooves, G^3, G^3, to give ventilation, lighten the material without weakening same, and to prevent any rain that might come through the roof, or outside siding from soaking into the sheathing-lath, all substantially as shown and for the purposes specified.

In testimony whereof I sign my name to this specification in the presence of two subscribing witnesses.

OLE ROBERT DAHL.

Witnesses:

FRANK E. ADAMS,

ELLSWORH D. BENSON.