

BELT *v.* CRITTENDEN AND OTHERS.

*Circuit Court, D. Minnesota.*

February, 1880.

PATENT—WANT OF NOVELTY—CORRUGATED IRON APPLIED TO THE ROOF OR SIDES OF A BUILDING.—If the ordinary form of corrugated iron, when applied to the roof or sides of a building, does not give sufficient air spaces, there is no novelty in making them larger, and diminishing the surface of iron at the point where it is nailed to the wood-work, although the objection may be thereby remedied.

SAME—SAME—THICKNESS OF IRON—NAIL HOLES—FORMATION OF JOINTS.—There is no novelty in the fact that the iron, at the point of contact with the wood, is double in thickness, or that the nail holes at the joints may be made elongated in order not to interfere with the nails in case of expansion or contraction, lengthwise, of the corrugations: nor in the manner of forming the joints connecting the several sections of sheathing.

Suit in Equity on final hearing upon pleadings and proof.

*Homer C. Eller*, for complainant.

*Henry J. Horn* and *Harvey Officer*, for defendants.

NELSON, D. J. This suit is brought to recover damages for the infringement of letters patent No. 177,386, granted to the complainant and F. E. Perkins May 30, 1876, and an injunction is prayed. The interest of Perkins was assigned to the complainant May 22, 1878.

The patent was granted “for an improvement in metallic 83 coverings for buildings.” The specification says: “Our invention consists in a novel construction of a metallic sheathing for buildings, and similar structures, and is designed, more especially, to render the same fire-proof, although it is of great value as a protection against rain and snow. In the drawing, figure 1 represents a building with our improved sheathing applied to a portion of it; figure 2, a view showing the manner of making the joints; figures 3, 4

and 5, sectional views showing different forms of our improved device. Great inconvenience has heretofore been experienced in applying metal sheathing to buildings, bridges, and similar structures, owing to the fact that the expansion and contraction of the metal cause the nails to work out, and the metal to draw apart or wrinkle. The shrinkage and swelling of the wood to which the metal is nailed also tends to produce the same result, while the metal, coming against the wood, forms but little protection against fire. In addition to these difficulties, rain or snow, and even fire or flames, often find their way in at the joints as they are at present constructed.

“In order to obviate these difficulties, and produce a sheathing which shall be proof against both water and fire, we make our sheathing of sheet metal, and provide each section with one or more corrugations, as shown in figures 1, 3 and 5; or it may be made in the form shown in figure 4, in which case the metal is turned directly backward at each side, at a right angle to the face of the metal, and a flange then turned outward on each side, parallel to the face of the sheathing. It will be observed that in each case a space is left between the metal and the boards to which it is secured, which space is, of course, filled with air. It will also be seen that only a very small surface of the metal comes in contact with the wood, and that, as the joints are formed by lapping the flange of one section over that of the adjoining section, there will in every case be a double thickness of metal at those points at which the metal and the wood do come in contact. The joints between sections, falling one below the other, are formed as shown in figure 2, in which the sections each have the metal 84 turned backward upon themselves, and the flanges thus formed are hooked or locked into each other, and hammered down to make a close joint. As the lower edge of the section is always turned inward towards

the building in making the flange, as shown in figure 2, it will be seen that it is impossible for the water to beat into or through this joint, for the reason that the face of the sheathing comes below the joint, and thus protects it; and it will also be impossible for fire to find its way into the joint, because of its being so close. It would even be impossible for it to find its way through the same when made comparatively open or loose, on account of the circuitous passage which it would be obliged to make. The manner of forming the joints at the ends of the different rows or sections of sheathing is shown in figure 1, in which A represents the boarding, and B the metal. As there shown the upper end is slit at the center of the corrugations, and the two parts drawn in and lapped one over the other, as shown, thus forming a beveled surface and a good joint.

“It will readily be seen that this construction will form an excellent protection against fire and water; and the expansion and contraction of the metal, and the shrinkage and swelling of the wood, are provided against by the corrugations in the metal, which will allow it to take up or give out, by reason of its elasticity, enough to entirely compensate for these difficulties. It is obvious that instead of running the sections up vertically they may be placed horizontally, that being especially convenient and desirable where the corrugations are made of the form shown in figure 5, which, when placed in a horizontal position, would present the appearance of clapboards. It is also apparent that the joints, which are here represented as simply lapped and nailed through, may be made as shown in figure 2 if desired. This construction, as before stated, forms a very efficient protection against fire and water, and compensates for expansion and contraction of metal, and for shrinkage and swelling of wood, and presents, withal, a very neat and pleasing appearance. If desired, the nail holes at the joints

may be made elongated in order not 85 to interfere with the nails in case of the expansion or contraction, lengthwise, of the corrugations.

“This invention is applicable to wooden structures of any kind, and we propose to use it on bridges, cars and the like. We are aware that buildings have been made in which the walls, both inside and out, were composed of corrugated sheet metal, secured to metal bars and wooden frames, and we do not claim such.”

The claim is “a metallic covering for wooden structures composed of the metallic sheets, B, applied to the surface of the structure, in the manner shown, whereby an air space is left between the metal sheets and the wall or structure at all points except the edges of the sheets, substantially as and for the purpose set forth.”

The defendants rely, among other defences, on want of novelty, and, in my view of the case, it will not be necessary to consider any other defence.

In the drawings accompanying the letters patent are three different shaped metallic sheathings, showing as many different corrugations, or air spaces, and the defendants submit exhibits and designs of corrugated iron sheets which had been in use long anterior to the complainant's patent. The only difference between the form of the complainant's drawings and exhibits and these is that in the former the iron is so shaped or corrugated that the spaces between the wood-work and the iron are larger, and at the point where the sheathing is nailed only a small surface of iron comes in contact with the wood, and, as the air chamber is larger, the shape of the complainant's sheathing is, perhaps, a better protection against fire, and a more serviceable covering. But any person has the right to increase or diminish the size of corrugations or wrinkles in iron sheathing. There is no novelty in doing this. If the ordinary form of corrugated iron, when applied to the roof or sides of a building, does not give

sufficient air spaces, there is nothing new in the idea of making them larger, and diminishing the surface of iron at the point where it is nailed to the wood-work, although it might remedy the objection.

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Neither discovery nor invention was necessary to do this. The defendants' witnesses, upon the defence of want of novelty, refer to several forms of corrugated iron previously used, and all would fill the specification and claim made by the complainant.

The fact that the iron, at the point of contact with the wood, is double in thickness, or that the nail holes at the joints may be made elongated in order not to interfere with the nails in case of expansion or contraction, lengthwise, of the corrugations, will not sustain the patent; nor will his manner of forming the joints connecting the several sections of sheathing aid him. There is no novelty in the latter.

The bill is dismissed, with costs.

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