

Aug. 14, 1934.

N. P. WRIGHT
ROOF DECKING

1,969,918

Filed Nov. 14, 1931 2 Sheets-Sheet 1

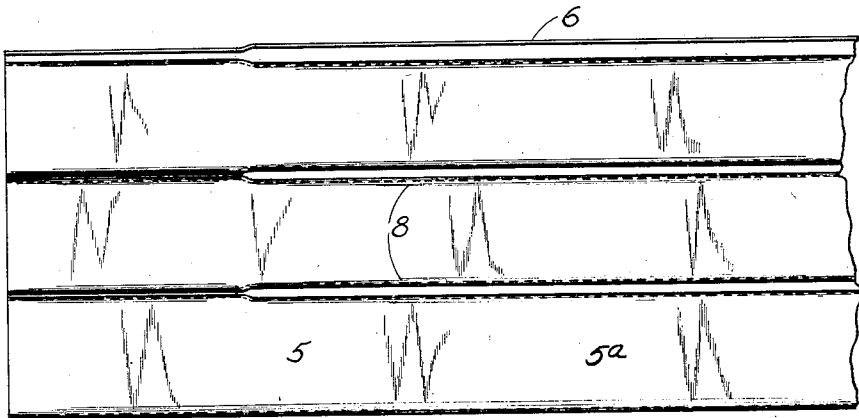


Fig 1

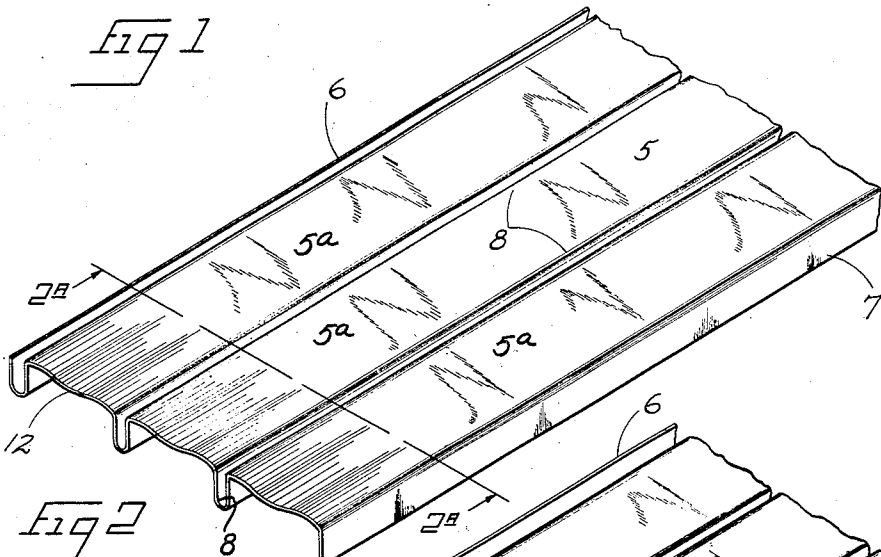


Fig 2

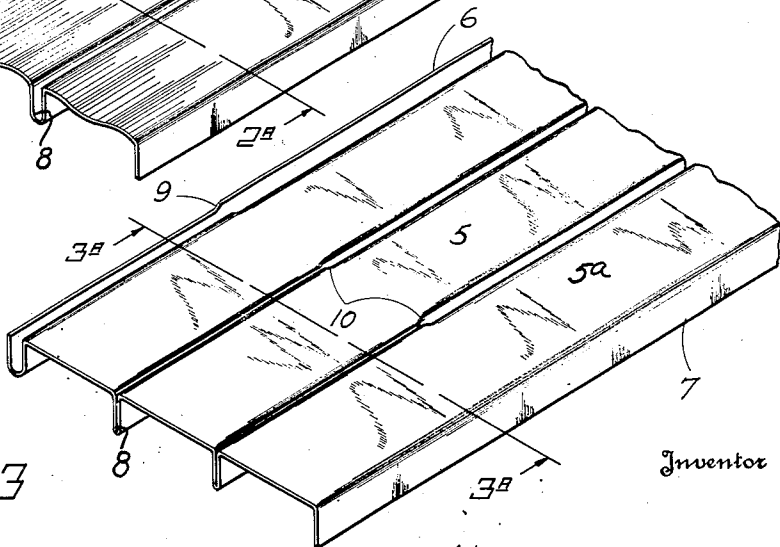


Fig 3

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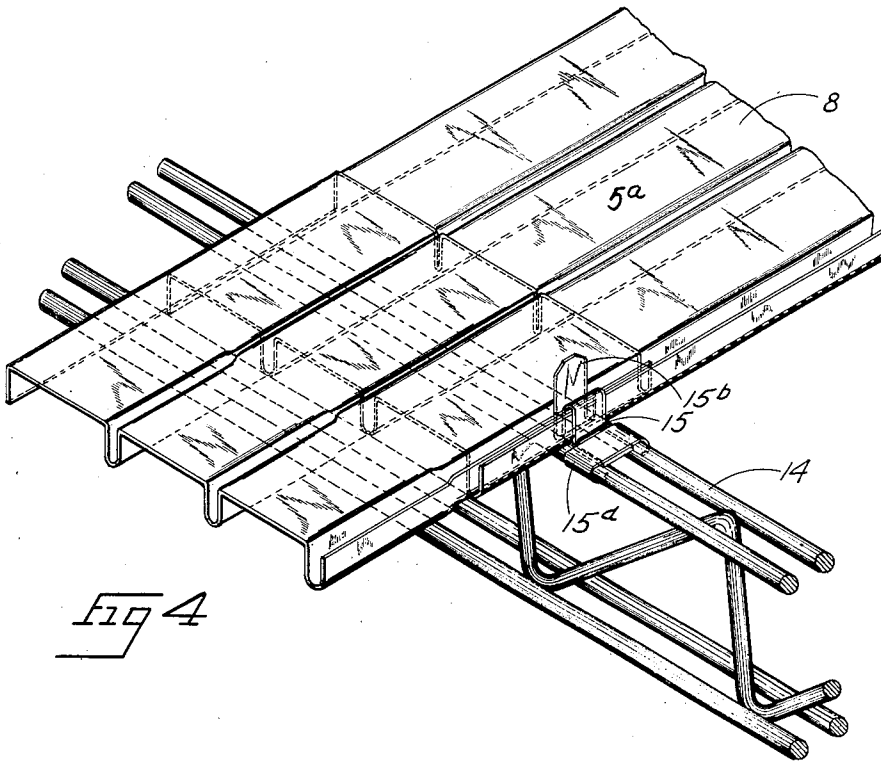


Fig 4

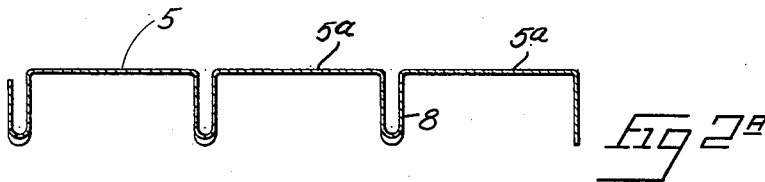


Fig 2a

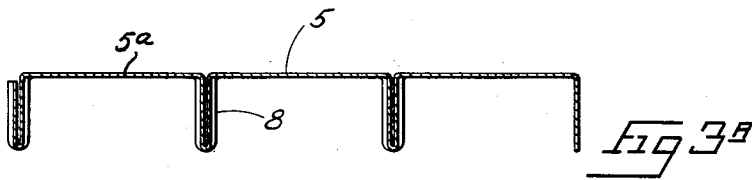


Fig 3a

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UNITED STATES PATENT OFFICE

1,969,918

ROOF DECKING

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Application November 14, 1931, Serial No. 574,988

4 Claims. (Cl. 108—13)

This invention relates broadly to metallic building structure and more particularly to metallic roof decking and analogous roof or side wall covering, and a method of fabricating same.

The invention has in view the provision of roof decking which may be fabricated from sheet or plate metal in the form of strips or units having a particularly advantageous and novel reinforcing and interlocking rib construction, and a novel method of forming such ribs. The decking is preferably attached to the supporting structure by means of fasteners which are adapted to the contour of the side ribs of the deck strips or units and may be easily and quickly applied, and when in place, hold the decking securely in position without interfering with the interlock of the strips.

The various features of novelty and advantage will become apparent in view of the following description taken in conjunction with the drawings, wherein:—

Figure 1 is a plan view of a section or unit of decking constructed in accordance with the invention;

Fig. 2 is a perspective view of a section in a partially fabricated condition;

Fig. 2a is a sectional view taken on the line 2a—2a of Fig. 2;

Fig. 3 is a view similar to Fig. 2, showing the section in finished condition;

Fig. 3a is an end view, as indicated by the line 3a—3a of Fig. 3; and,

Fig. 4 is a perspective view of the extremities of two interfitting sections, showing the manner of laying same on the skeleton framework of a building.

Referring to the drawings, the reference numeral 5 generally indicates a section or strip of decking of channel-like configuration which may be made of any suitable length and width, depending upon specifications of the customer; these sections or strips preferably being machine fabricated, as by stamping in finished form at the mill. The one side of each section is formed with an interlocking rib 6, while the other side is formed with a straight wall or depending flange 7. The body portion of the strip 5 intermediate the rib 6 and the depending flange 7 is provided with a plurality of flat portions 5a which are connected by integral ribs 8 of reversely bent metal. Any number of these ribs may be provided, as indicated. At the one extremity of the unit or strip, the rib 6 is converged, forming shoulders 9, the said rib being of reduced width from these shoulders to the end of the section. The ribs 8 are

also converged at the one extremity of the strip, forming shoulders 10. The part of the section which lies between the shoulders 9 and 10 and the end of the strip is the interlocking extremity of the section. When the sections are laid with their ends overlapping, as shown in Fig. 4, the cooperating interlocking extremities of each section fit into one another with the end of one section preferably abutting against the shoulders 9 and 10. This forms an interlocking, firmly braced overlapping joint which provides a maximum of resistance against distortion or bending of the end portion of the sections should a weight be imposed thereon.

In order that the interlocking extremities of the sections may lie flush with one another, it is desirable that the rib 6 and intermediate ribs 8 of each section be of substantially the same depth throughout the length of the section. Since the channels which define the greater length of the ribs 8 are made relatively narrow to provide a practical reinforcing rib construction, it is essential that the interlocking extremities of these ribs be still narrower in order that they will fit into the end portions of the ribs of the section in end alignment therewith. The side walls of the narrowed extremities of these ribs are, therefore, substantially together or in contact so that it is impractical to stamp out these extremities during the fabricating operation.

I have devised a method of forming the ribs 8 and rib 6 which involves a minimum of time and labor and which at the same time ensures uniform depth of said ribs throughout their length. This method consists in first stamping or otherwise forming each section 5 with a rib 6 and reinforcing ribs 8 of substantially the same width but of less depth at one extremity of the strip, namely, the interlocking extremity, as will be seen from Figs. 2 and 2a, showing a section after the stamping operation. This difference in depth leaves a certain amount of slack metal between or in the region of the shallow portions of the ribs at one extremity of the section, as indicated at 12 in Fig. 2, the amount of slack being substantially equal to the amount of contraction to be given the ribs. The stamping die is preferably given sufficient clearance at one extremity to permit such slack. Preferably by a separate operation, the side walls of the shallow portions of the ribs 8 and 6 are pinched together, drawing the slack metal taut and increasing the depth of said ribs to substantially the same depth as the remaining portions thereof. Due to the slack metal, there is a minimum of resistance to contraction so that

the bottom walls of the ribs drop into alignment without slipping of the metal on the pinch dies. Upon the completion of the second operation, the strip is in the form shown in Fig. 3 with the bottom and top of each rib 6 and intermediate reinforcing ribs 8 lying in the same longitudinal plane.

Fig. 4 shows a method of laying the decking. As heretofore specified, the strips are laid with their extremities in interlocking relation. The decking is secured to the framework, such as the rod beams 14, by means of fasteners 15. These fasteners are preferably made in two parts, a base 15a and a double U-shaped clip portion 15b. The base and U-shaped portion could obviously be made in one piece but in this instance the base is attached to the U-shaped portion by welding or in any suitable manner. The base is bent around the beams 15, while the upper double U-shaped portion fits into the interlocking extremities of the rib 6 with the top projecting vertically. When the adjacent sections are laid side by side, with the side wall or depending flange 7 fitting into the ribs 6, the ends of the clip or fastener are then bent over onto the adjacent strips or towards the observer as viewed in Fig. 4.

What I claim is:

1. A metallic roof or deck structure comprising cooperative interfitting strips of sheet metal, each being of channel configuration and including a plurality of flat portions connected by integral ribs of reversely bent metal, the width of the ribs

being reduced at one end to fit in the ribs of the adjacent strip.

2. A metallic roof or deck structure comprising cooperative interfitting strips of sheet metal, each being of channel configuration and including a plurality of flat portions connected by integral ribs of reversely bent metal, the width of the ribs being reduced at one end to fit in the ribs of the adjacent strips, said ribs being of substantially the same height for the full length of the strip.

3. A metallic roof or deck structure, comprising cooperative interfitting strips of sheet metal, each being of channel configuration and including a plurality of flat portions connected by integral ribs of reversely bent metal, the width of the ribs being reduced at one end and the width of the flat portions being correspondingly enlarged so that the reduced ribs will fit in the ribs of the adjacent strip with the enlarged flat portions fitting over the flat portions of the adjacent strip.

4. A strip of sheet metal for roof or deck structure of channel-like configuration having a plurality of flat portions extending for the full length thereof and reversely bent open topped ribs between and integrally connecting the flat portions, the ribs being of decreased width and the flat portions being correspondingly increased in width at one end of the strip, said ribs being of substantially the same height from end to end.

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35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150