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H. E. McCOY

2,038,437

METHOD OF MAKING CORRUGATED METAL ROLL ROOFING

Filed Jan. 3, 1933

2 Sheets-Sheet 1

Fig. 1

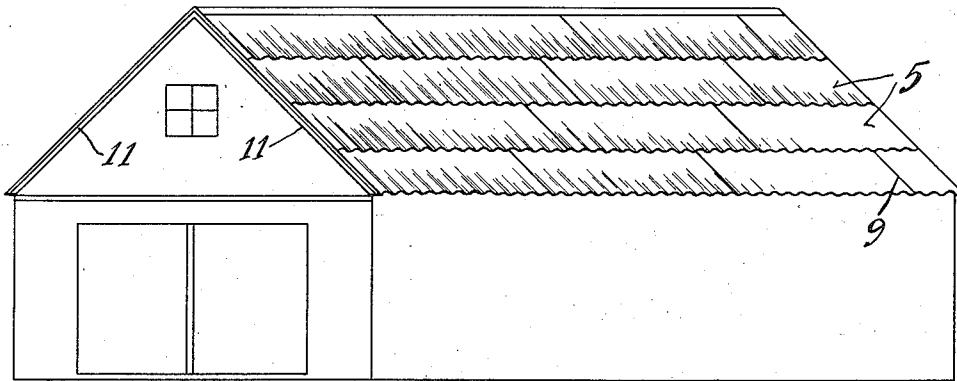


Fig. 2

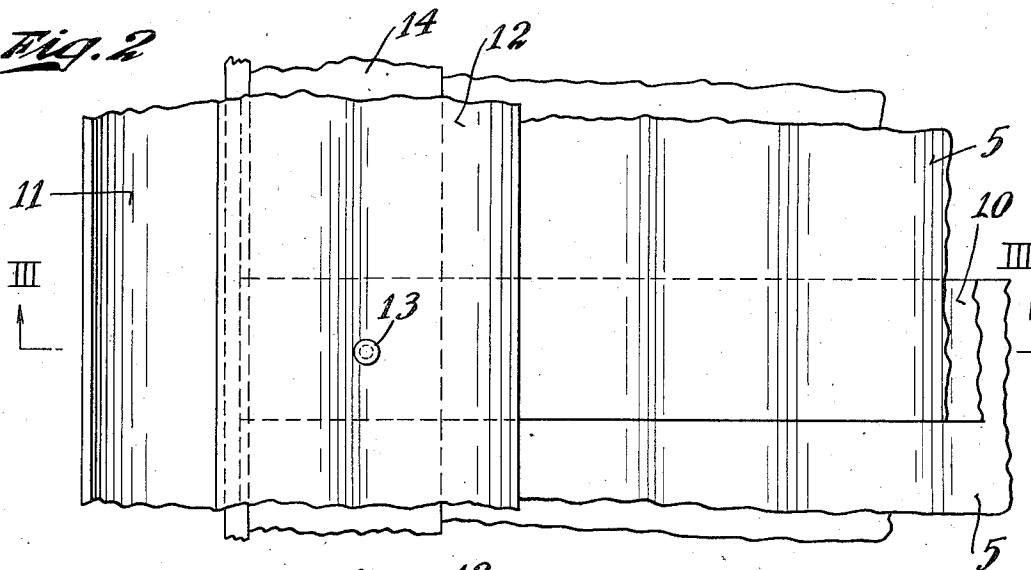
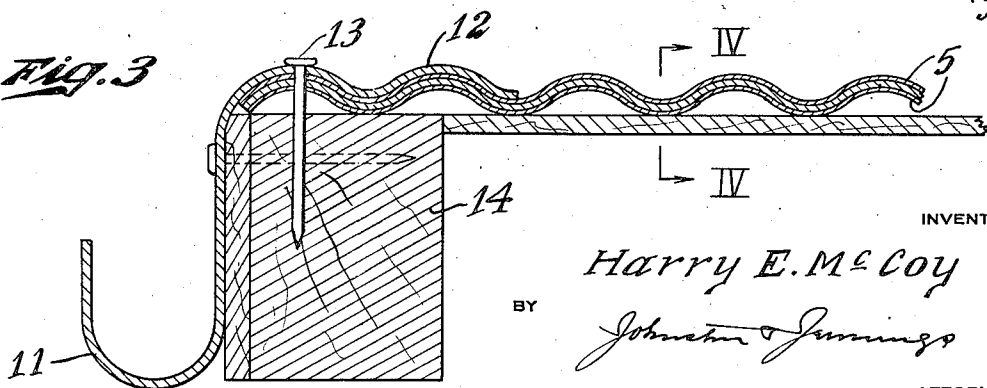


Fig. 3



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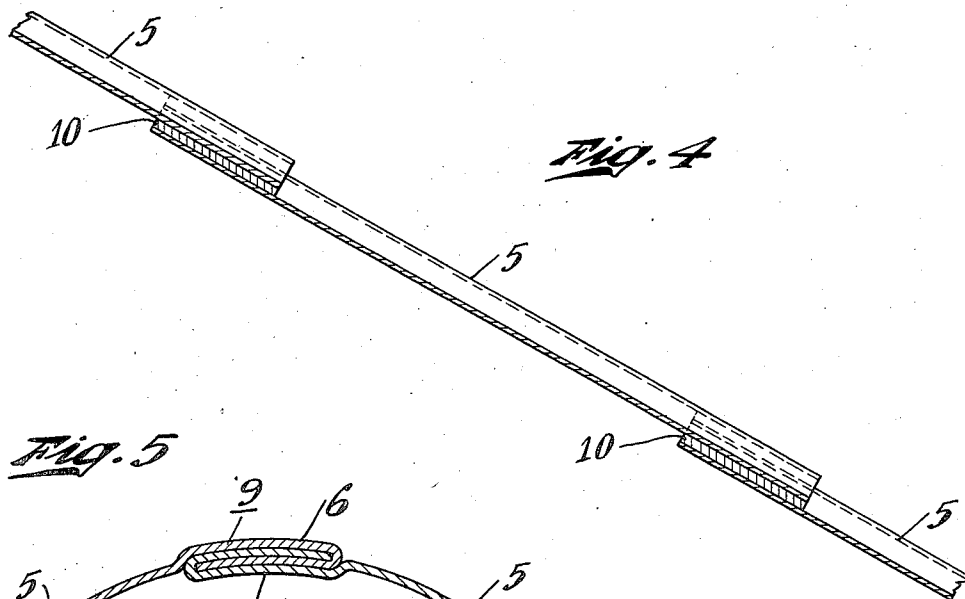
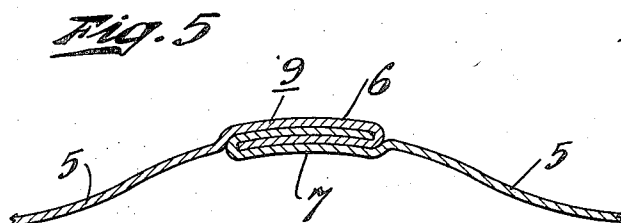
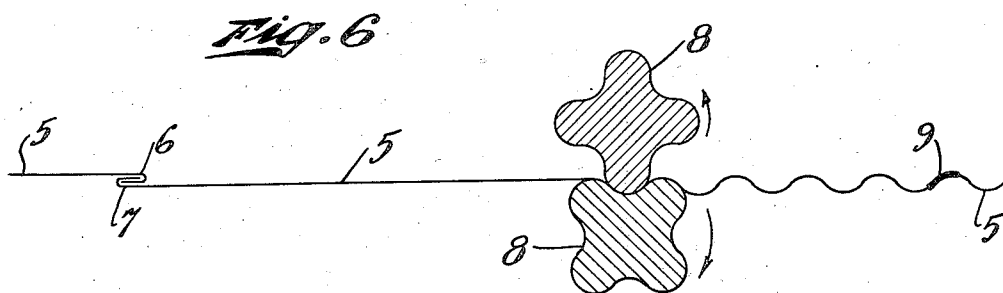
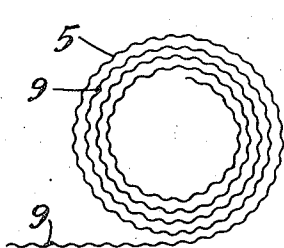
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METHOD OF MAKING CORRUGATED METAL ROLL ROOFING

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2 Sheets-Sheet 2



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METHOD OF MAKING CORRUGATED METAL
ROLL ROOFINGHarry E. McCoy, Alabama City, Ala., assignor to
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Application January 3, 1933, Serial No. 649,784

2 Claims. (Cl. 153—77)

My invention relates to an improved method for producing a novel type of corrugated metal roofing.

Heretofore, corrugated metal roofing has been made in the form of plain or galvanized sheets which are corrugated lengthwise of the sheet and are assembled in flat packages which are difficult to handle and inconvenient to transport. These sheets, disposed so that their corrugations run from eaves to ridge, are laid to lap endwise about 6" and sidewise from 2" to 3" to provide the requisite end and side joints. The end lap joints at top and bottom of the sheets will ordinarily be water-tight, as the only problem involved is the end lapping of sheets having a 24" width and such slight variations of the corrugations as may occur will not materially affect the shedding of the rain water as it flows downwardly over these end joints by gravity. Usually three nails or other fasteners are used to pull the end lap joint sections tightly together, one nail being placed at each edge and one in the middle.

With the side lap joints, however, a different condition obtains as the joints are longer, their lap is less, and the purlins which support the sheets are usually spaced on 2' to 6' centers according to the thickness of the sheets. It is difficult to prevent blowing rains from causing leaks at these side joints and many so called leak-proof joints have been devised which are more or less successful but all of which add to the cost of the roofing.

I have conceived that the leakage trouble at these side joints can be completely eliminated by the provision of the novel corrugated roofing which forms the subject matter of my present invention which contemplates corrugating the roofing sheets crosswise rather than lengthwise as has heretofore been customary and interlocking, with a permanent water-tight joint, the ends of the sheets or strips thus corrugated.

My invention contemplates that corrugated metal roofing may thus be formed in lengths like composition roll roofing and, as lighter gauge metal is customarily used, it may be put up in a roll and hence handled with more ease than large flat sheets, stacked on end to great advantage, and transported with more ease as by automobile or truck.

While my invention may be practiced by the corrugating of long strips which many rolling mills are now equipped to produce and which can be interlocked by the preformed end joints, its more general utility will be found to exist with respect to the production of continuous, pre-

formed joint, corrugated metal strips from the standard galvanized sheets which are jointed end to end and passed through the corrugating rolls which serve to press the joints to make them flat and water-tight.

In the accompanying drawings I have illustrated the method by which my improved type of roofing is produced. In the drawings:—

Fig. 1 is a perspective view of a building roofed with my improved type of corrugated prejointed strip roofing.

Fig. 2 is an enlarged plan view of a section of the roofing at one end showing the bottom lap joint.

Fig. 3 is a sectional view taken on the line III—III of Fig. 2.

Fig. 4 is a fragmental view showing several lapped strips taken on the line IV—IV of Fig. 3.

Fig. 5 is a detailed cross sectional view taken through one of the preformed locked end joints connecting the sheets or strips that form the roofing.

Fig. 6 illustrates the method of prejointing and locking the strips showing the short loose interlocked joint with which the ends of strips or sheets are adapted to be connected with the joint formed and pressed tight so as to permanently interlock it in a roll pass, preferably in the pass through the corrugating rolls.

Fig. 7 is a plan view showing a roll of my improved type of roofing.

Similar reference numerals refer to similar parts throughout the drawings.

In the practice of my novel method of forming continuous, prejointed, corrugated metal roofing, I take either strips or sheets of plain or galvanized metal, which are indicated by the numerals 5 in Fig. 6, and these strips or sheets are interlocked by end joints to form the sectional roofing strips. When strip stock is used it may be of any length and width adapted to be conveniently rolled. When sheet stock is used, any standard size and gauge of plain or galvanized metal roofing sheets may be selected. The strips or sheets forming sections of the roofing have their ends 6 and 7 bent as shown in Fig. 6 so that they can be readily engaged and interlocked loosely with a joint having an overlap approximately three-eighths to one-half inch. These interlocking end flanges 6 and 7 are bent so that the sheet or strip sections may be readily engaged and passed through the corrugating rolls 8, which form therein corrugations disposed transversely or across the narrow width of the resulting jointed roofing strip. The jointed elements are pressed tightly

together on a curved plane across the joint and are thus permanently interlocked with a narrow, water-tight preformed joint 9, such as is illustrated more clearly in Fig. 5. The jointed strips of roofing as thus formed are provided in any suitable length and are put up in rolls, as shown in Fig. 7, for convenient handling and transportation.

In applying the roofing, it is laid from end to end of the roof, starting up from the eaves, with the customary lap joints after the fashion in which composition roll roofing is laid. The customary side lap joint is formed, with about a three inch overlap, where the ends of rolls meet, but all other corresponding joints 9 in the sectional roofing strips are preformed, small and water-tight.

Preferably a sealing strip 10 of suitable composition is laid in the bottom lap joint of the strips of roofing and the nails are applied in the customary manner through these bottom lap joints in the purlins or decking to secure the roofing in position.

The sheets may be rolled with enough spring in the corrugating roll mounting to pass the preformed joints. Several sheets may be rolled at a time but preferably with their joints 9 staggered. The novel roofing as an article of manufacture which is produced in accordance with my present process, because of divisional requirements, forms no part of my present invention.

What I claim is:—

1. The method of forming a roll of corrugated metal roofing, which consists in providing a pair of corrugating rolls adapted to produce corrugations entirely across the width of the roofing strip and to accommodate themselves to the passage between them of four thicknesses of the sheet metal forming the strip to be corrugated, feeding an initial plain sheet endwise to the rolls, and interlocking by a loose lock seam the ends of each of a series of plain sheets in succession each, to the end of the preceding sheet being corrugated to form the roofing strip, pressing the corrugations and closing the transverse lock seams in a single pass of the jointed sectional strip between said rolls until the required length of sectional transversely corrugated roofing strip is produced, and forming said strip into a roll.

2. The method of forming in one operation a sectional transversely corrugated metal roofing strip, characterized by the bonding of the strip sections by interlocked joint elements, and in a single operation both corrugating the jointed strip uniformly across its full width and for its full length and pressing the joints wherever they fall along the corrugations to form an uninterrupted and substantially uniformly corrugated lock-jointed strip.

HARRY E. McCOY.