

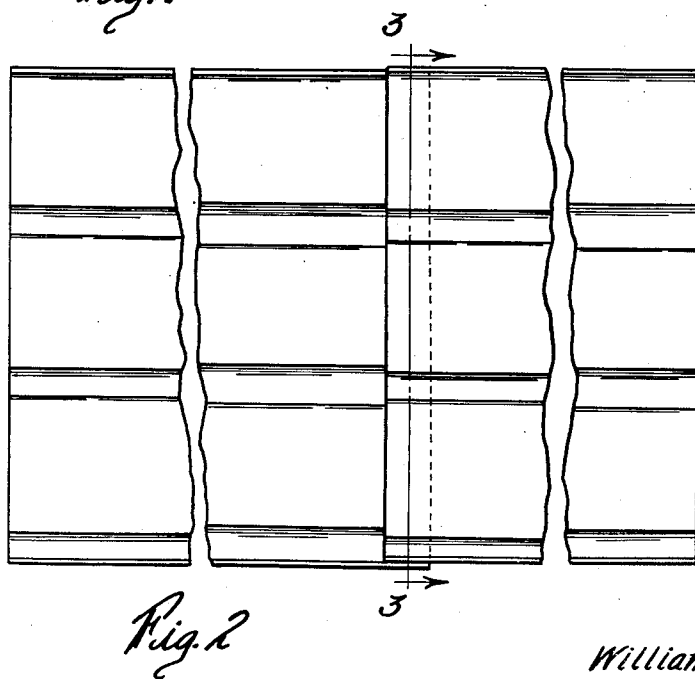
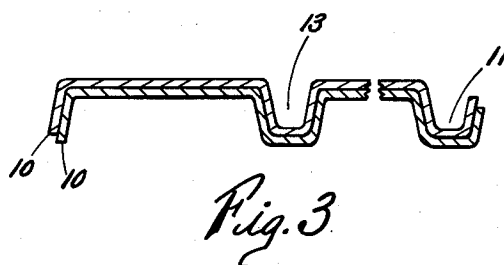
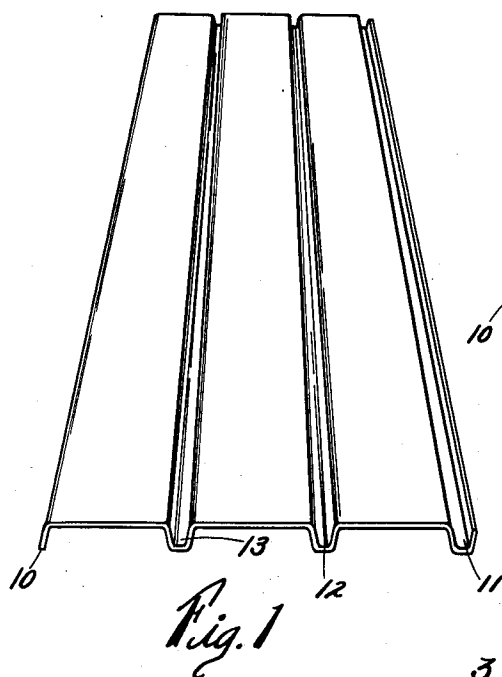
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ROOF DECKING

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ROOF DECKING

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1 Claim. (Cl. 108—13)

This invention relates to so called steel roof decks.

Roof decks of the character with which this invention is concerned, comprise generally rectangular, corrugated or ribbed, sheet metal plates that are positioned in overlapping relation and are secured to purlins or other roof supporting members, in various ways and by various means. This invention is not concerned with any specific means or method of securing the plates although the invention is such as readily adapts the deck plates of the invention to the various methods and means used for securing the deck plates in position.

Deck plates heretofore used are objectionable in various regards such as making it necessary to force the ribs on one deck plate within the ribs of adjacent plates end for end, which in turn caused buckling of the sheet metal between ribs and which also involved tedious and slow placement of the deck pans.

It is common practice to place insulation material of the board or rigid type over the deck plates and water proof roofing, such as various roofing materials commonly applied to any type of roof construction. The buckling of deck plates prevents the insulation from lying flat and consequently considerable difficulty is encountered in obtaining effective unification of the roof forming elements and drainage is also effected.

An object of the invention is to obviate the objectionable features mentioned as being present in deck plates now in commercial use.

Another object of the invention is to facilitate and expedite the laying and securing of deck plates.

Another object is to obviate, in a simple manner, any possibility of buckling of the deck plates.

Another object is to provide deck plates that can be overlapped to varying degree without interfering with the ease or rapidity of placement, and without interference to the utilization of means employed for securing the decks to the purlins and the like.

These and other objects are attained by the means described herein and disclosed in the accompanying drawing wherein Fig. 1 is a perspective view of a deck plate embodying the invention.

Fig. 2 is a plan view of a plurality of deck plates embodying the invention, parts being broken away and showing the plates in overlapping relation.

Fig. 3 is a fragmental sectional view on line 3—3 of Fig. 2.

Deck plates are made of sheet metal of various gages. Generally the variation is confined to materials of gages from 18 to 24 inclusive. The

sheet metal is generally in length to span from purlin to purlin or multiples of this spacing and about 1½ to 2 feet wide, although the width can be wider, and is ribbed or grooved longitudinally. The ribs are used to strengthen the sheet metal, to space the main or body portion of the plate from the understructure or purlins and to provide means for receiving clips or the like whereby the deck plates are secured to the supports.

The deck plates of the invention are provided with longitudinal ribs providing grooves of uniform depth that taper in width from end to end of the plate, and taper also from the closed bottoms of the grooves to the open tops thereof. The degree of taper is such that the smaller ribs at one end of one deck plate will telescope into the larger ends of the grooves of the subjacent overlapped deck plate end to end of adjacent deck plates. The taper of the groove is sufficient to allow the ribs to move and lug within one another without forcing them. For example, if the larger end of a groove is one inch across its widest part, viz., the open upper end or mouth thereof and about three quarters of an inch at its base or closed end, whereas the same groove at the other end of the plate, assuming the plate to be 10 feet long, is three quarters of an inch wide at its mouth and one-half an inch wide at its base. The depth of the groove is constant. The side walls of the grooves taper downwardly. Along one of the longitudinal edges of the plate, there is provided a flange adapted to be received in a longitudinal groove of an adjacent plate. The groove is similar to the other grooves. The longitudinal center lines of the grooves are parallel.

From the foregoing description and explanation it is now obvious that the plates can be so assembled over purlins and the like that the overlap of plates will be positioned at the purlins or other supporting understructure, whereby firmly to secure the plates together and to the understructure by the customary clips and the like. The telescoping feature of the plates permits overlapping of the plates to various degrees as may be necessary or desirable and permits centering of the plates upon the purlins without any forcing of one plate into another.

What is claimed is:

A roof deck plate comprising a sheet of metal formed to provide a series of spaced channel-like ribs extending across it, the width of the ribs tapering uniformly from one end to the other, the walls of the ribs converging toward one another from the open top to the closed bottom portions of the ribs, and the depth of each rib being uniform throughout the length of the rib.

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