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(54) **Trapezoidal metal roofing sheet**

Trapezförmiges Metalldachblech

Plaque de recouvrement trapézoïdale en métal

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(56) References cited:
**GB-A- 978 142**
**US-A- 3 660 482**
**US-A- 3 760 549**
**US-A- 4 453 364**

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## Description

**[0001]** This invention refers to a trapezoidal metal roofing sheet with upper and lower flanges and intermediate webs. This type of roofing is known for example from US 3 660 482 or US 3 760 549.

### Object of invention and brief description of the invention

**[0002]** It is an object of the invention to provide for a more efficient utilisation of the material. This is possible when at least portions of the flanges have sheet in three layers, which makes it possible to use thinner sheet material. The invention is defined by the claims.

### Brief description of the drawings

**[0003]**

**Figure 1** is a transverse section of a roofing sheet of metal shown as an example of the invention.
**Figure 2** is an enlargement of a portion of figure 1.
**Figure 3** is a portion of the roofing sheet of figure 1 during its manufacturing.

### Description of the illustrated example of the invention

**[0004]** The figures 1 and 2 show a roofing sheet of metal which has a trapezoidal profile. It has upper flanges 11, lower flanges 12 and intermediate webs (sides) 13,14. The webs have two steps 15,16 serving as reinforcements. The upper flanges as well as the lower ones have two side portions 17,18 where the sheet is folded into three layers. These portions with three layers reinforce the flanges. The flanges may have a central groove 20, which serves as an additional reinforcement of the flanges.

**[0005]** Thinner sheet can be used due to the reinforcement of the flanges, which reduces the roofing weight per square meter. This reduces the cost and makes the roofing operation easier.

**[0006]** The roofing sheet is roll formed and figure 3 shows a suitable intermediate step in a possible manufacturing process. At first, the side portions 17,18 are folded as shown before the roll forming continues to shape the entire profile. The roll forming may be carried out by first starting the shaping of a central profile and then sequentially starting the shaping of new side portions and new profiles from the central profile.

**[0007]** The reinforcement of the flanges may have other appearances although the illustrated design is preferred. It is not necessary to have the central groove 20 and it is not necessary to have two narrow reinforcements on each flange, but a single centrally placed wider reinforcement can be used. Reinforcement in the form of three layers is preferred but more layers can be used. It is also possible to reinforce some but not all of the flanges.

### Claims

1. Trapezoidal metal roofing sheet with upper and lower flanges (11,12) and intermediate webs (13,14), **characterised in that** at least portions (17,18) of the flanges comprise longitudinal folds in which the sheet is folded into three parallel superposed layers.

2. Roofing sheet according to claim 1, **characterised in that** the flanges (11,12) have a central portion (20) with a single sheet layer and on both sides thereof sheet in three layers.

3. Roofing sheet according to claim 2, **characterised in that** the flanges (11,12) have a central groove in the central portion (20).

### Patentansprüche

1. Trapezförmiges Metalldachblech mit oberen und unteren Gurten (11, 12) und Zwischenstegen (13, 14), **dadurch gekennzeichnet, dass** zumindest Abschnitte (17, 18) der Gurte Längsfalze umfassen, in denen das Blech in drei parallele übereinander angeordnete Lagen gefalzt ist.

2. Dachblech nach Anspruch 1, **dadurch gekennzeichnet, dass** die Gurte (11, 12) einen mittigen Abschnitt (20) mit einer einzigen Blechlage und auf beiden Seiten davon Blech in drei Lagen aufweisen.

3. Dachblech nach Anspruch 2, **dadurch gekennzeichnet, dass** die Gurte (11, 12) eine mittige Nut in dem mittigen Abschnitt (20) aufweisen.

### Revendications

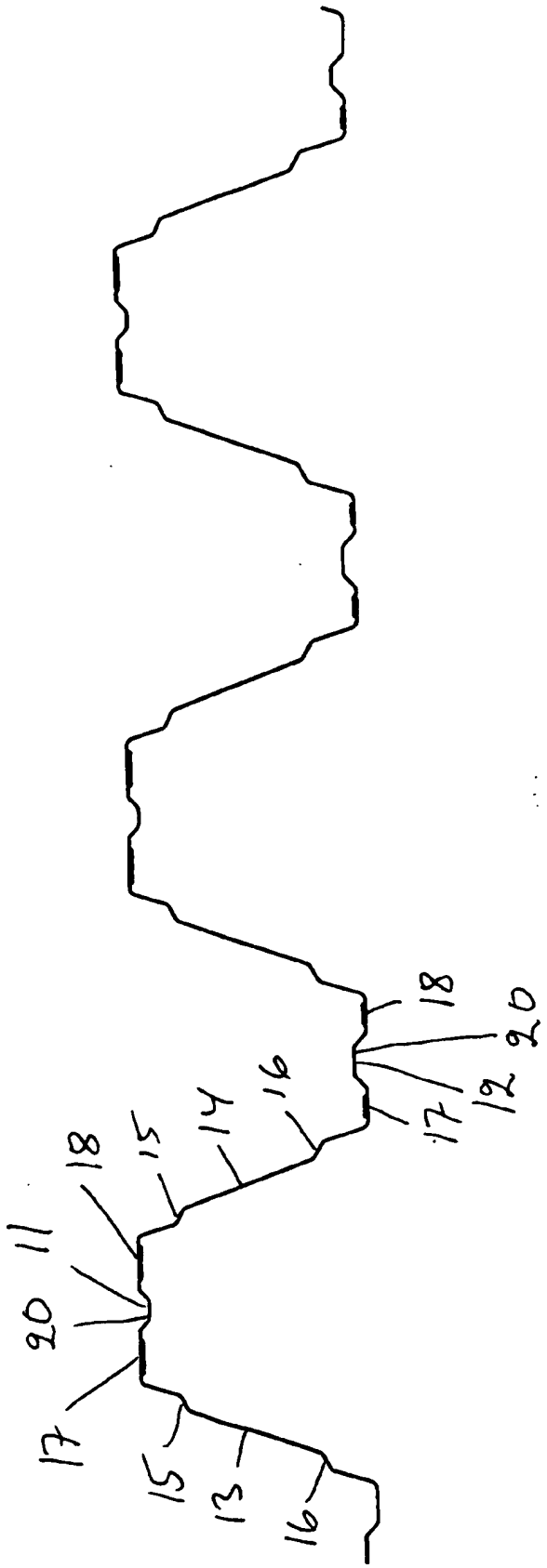
1. Plaque de recouvrement trapézoïdale en métal comprenant des semelles supérieures et inférieures (11, 12) et des âmes intermédiaires (13, 14), **caractérisée en ce qu'**au moins des parties (17, 18) des semelles comprennent des plis longitudinaux dans lesquels la plaque est pliée en trois couches parallèles superposées.

2. Plaque de recouvrement selon la revendication 1, **caractérisée en ce que** les semelles (11, 12) présentent une partie centrale (20) avec une couche unique de plaque et des deux côtés de celle-ci trois couches de plaque.

3. Plaque de recouvrement selon la revendication 2, **caractérisée en ce que** les semelles (11, 12) pré-

sentent une rainure centrale dans la partie centrale (20).

FIG 1



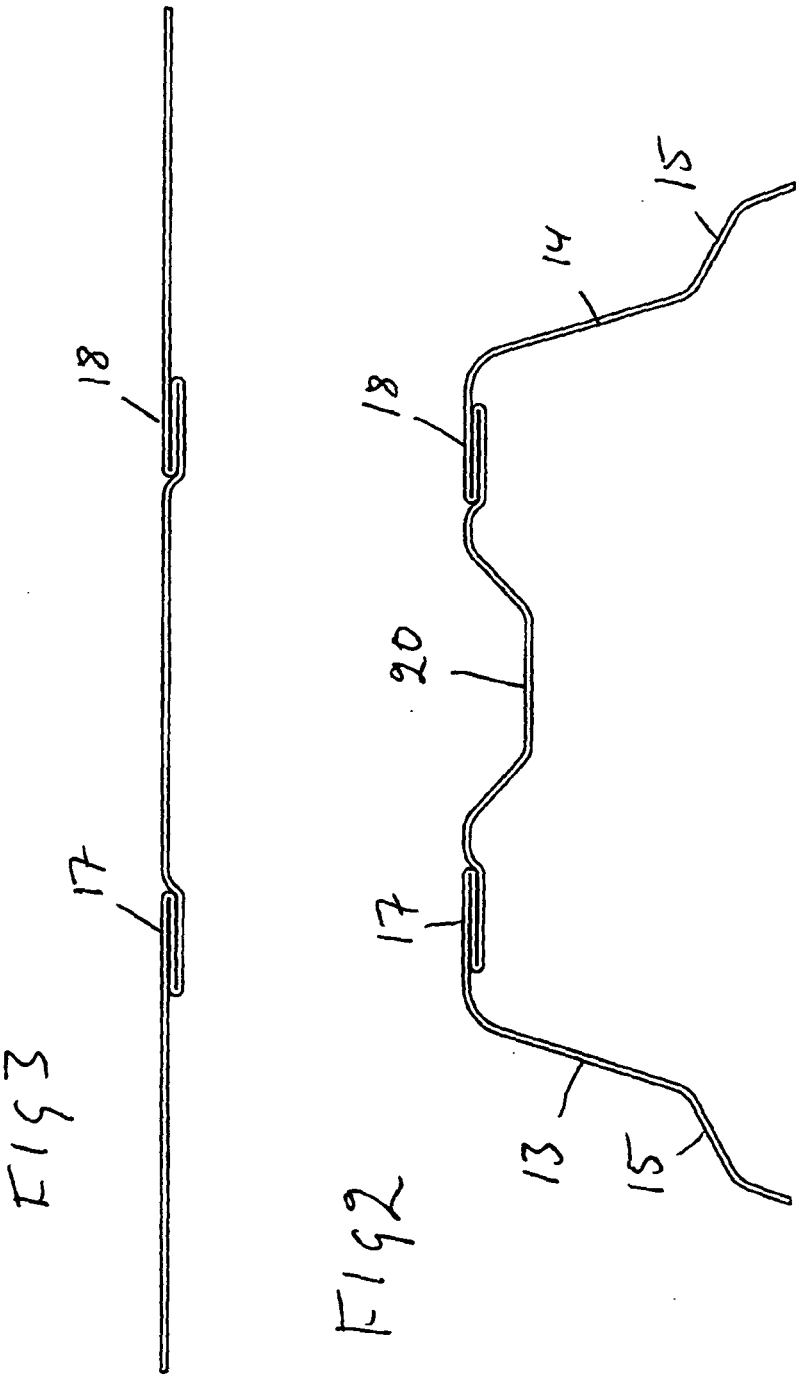



FIG 3

FIG 2

## REFERENCES CITED IN THE DESCRIPTION

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### Patent documents cited in the description


- US 3660482 A **[0001]**
- US 3760549 A **[0001]**