(12) UK Patent Application (19) GB (11) 2 184 757 (13) A

(43) Application published 1 Jul 1987

(21) Application No 8531566

(22) Date of filing 21 Dec 1985

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(51) INT CL[4]
E04D 3/361

(52) Domestic classification (Edition I)
E1D 2023 2035 2140 501 505 905 LEQWDV

(56) Documents cited
GB 1350518 GB 1330005 GB 1088988

(58) Field of search
E1D
Selected US specifications from IPC sub-class E04D

(54) Sheet-clad structures

(57) Fixing clips 1 for the concealed fixing if castellated or corrugated sheet material to underlying structural members have at least two projections 2a which engage with centre ribs of the cover sheet 3 and an end feature 1a which locates and secures a male rib of an adjacent sheet 4.

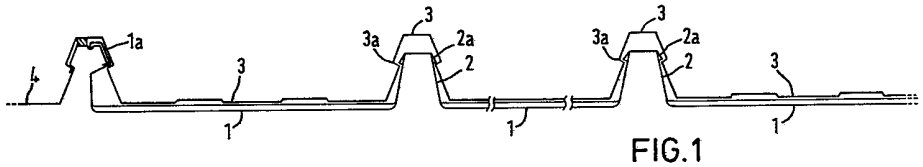

FIG.1

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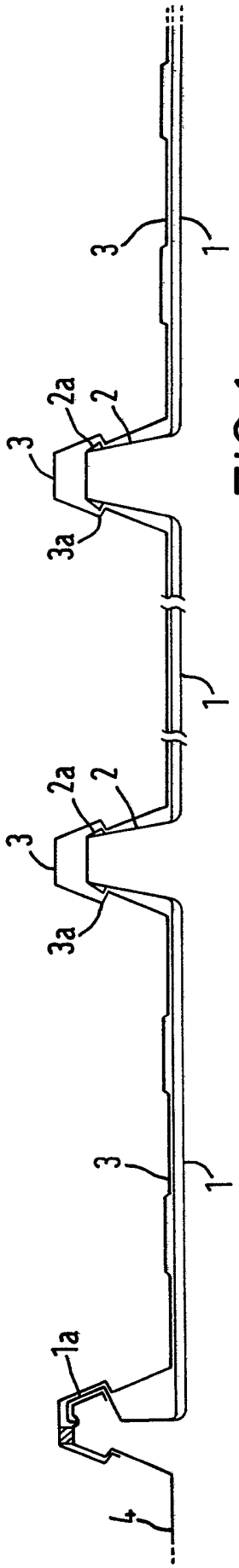

FIG.1

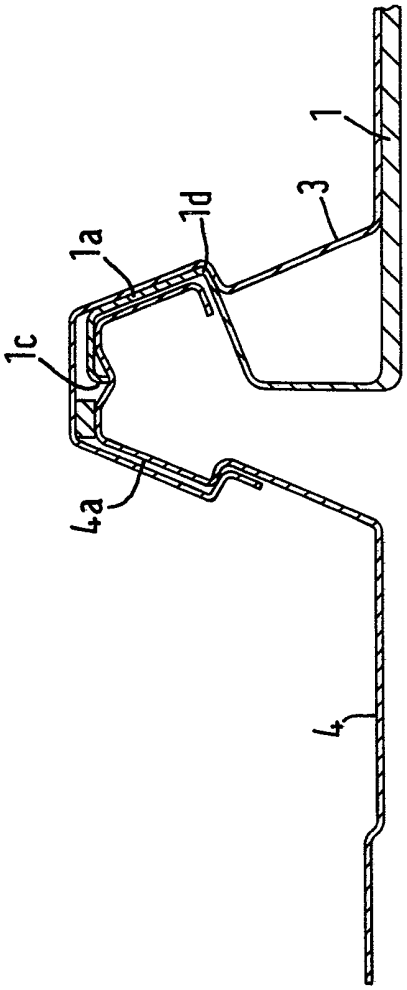

FIG. 2

SPECIFICATION

Improvements in or relating to sheet-clad structures

The invention relates to the cladding of structures having an underlying structural framework and cover sheets normally of corrugated or castellated form, supported on this framework.

It is known to fix such sheets to the framework by fastening means e.g. bolts or rivets which pass through the cover sheets.

It is also known to fix mounting clips to the underlying structural members and to fasten the ends of these clips so that they co-operate to lock with features such as shoulders on the castellations or ribs of the high strength cover sheets.

However, previously-used clips have usually had identical end features which are arranged to fit into hollows or recesses in the sheet material. This system has certain disadvantages, particulary—

(a) Limited to two pitches between ribs
(b) Limited cover width (approx. 500 mm)
(c) Differing side lap detail

We have now devised a sheet-clad building system in which the cladding sheets are not perforated during fixing of the sheets to the underlying purlins or sheeting rails and which can accommodate a greater width of cover sheet than has hitherto been the case.

This invention consists in a sheet-cladding system for a building wherein corrugated or castellated sheet material, having male and female edge ribs, is attached to underlying structural members, by means of clips mounted on said members which co-operate with features on interior surfaces of the cover sheets, characterised in that the clips have at least two projections which engage internally with centre ribs of the cover sheet, and an end feature which locates and secures the male edge rib of an adjacent sheet.

Preferably, the clip end engaging with the male rib of the adjacent sheet has an 'S' shape which supports the male rib of the adjacent sheet and engages with a groove in the centre of the rib.

Preferably the clips are attached to the underlying structure with bolts or screws.

Preferably cover sheets have four raised hollow ribs at intervals and the hollows of these ribs form the recesses within which the clip projections are received.

Preferably the cover sheet has additional ridges between those receiving fixing-clip projections.

The invention will be further described by reference to the accompanying figures of drawing in which:

Figure 1 shows a section through a cladding construction according to the invention; and

Figure 2 shows a detail of the cladding system of Figure 1.

With reference to Figure 1, the fixing clips 1 having end features 1a and two castellated features 2 with projecting tangs 2a are secured to the underlying sheeting rails or purlins by means of through fixings (not shown on drawing), so as to provide upwardly projecting castellated features on to which the two centre ribs of the cover sheet 3 are clipped by virtue of the resilience of the high strength steel cover sheet, shoulders 3a on the cover sheet engaging with tangs 2a of the fixing clip. The end feature 1a locates and engages with the adjacent sheet 4.

With reference to Figure 2 details of the co-operating end features of the fixing clips 1 are shown. The 'S' shaped section 1a engages with the male rib of the adjacent sheet 4, feature 1a locating against the angled face of the male rib with the end 1c locating in a groove or recess in feature 4a. The shoulder of the clip 1d supports the male rib of adjacent sheet 4 precisely, over which cover sheet 3 is clipped.

In this way the cover sheet 3 does not require to be drilled or perforated and the cooperating clip end shoulder 1d and the shoulder on adjacent sheet 4 provides locations over which the following cover sheet 3 clips rigidly.

Also, in this way a cover sheet width of 3 pitches can be accommodated providing a cover sheet width of 750mm or more.

CLAIMS

1. A sheet cladding system for a building wherein corrugated or castellated cover sheets having male and female edge ribs are attached to underlying structural members by means of clips mounted on said members, which co-operate with features on the interior surfaces of the cover sheets, characterised in that the clips have at least two projections which engage internally with centre ribs of the sheet and an end feature which locates and secures the male edge rib of an adjacent cover sheet.

2. Sheet cladding system as claimed in 1 wherein the clip end engaging with the male rib of the adjacent sheet has an 'S' shape which supports the male rib of the adjacent sheet and engages with a groove in the centre of this rib.

3. A cladding system as claimed in claims 1 or 2 wherein the cover sheets have four spaced hollow ridges, the interior of which form recesses within which the clip projections are received.

4. A sheet cladding system as claimed in Claim 3 wherein there are additional ridges between those receiving fixing clip projections.

5. A sheet cladding system for a building substantially as herein described with reference to Figures 1 and 2 of the accompanying drawings.

Printed in the United Kingdom for Her Majesty's Stationery Office by the Tweeddale Press Group, 8991685, 7/87 18996. Published at the Patent Office, 25 Southampton Buildings, London WC2A 1AY, from which copies may be obtained.