Improved panel for false ceilings

An improved panel consisting of a plate (2) with its four edges bent at 90°, the edges having their ends (8, 8') cut to a determined shape, wherein:
- a lower rectangular appendix (12) of dimensions I x h,
- an upper rectangular appendix (14) of dimensions c x b,
- an L-shaped segment (16) of dimensions z x s,
- a segment joining the end Q of the L-shaped segment (16) to the end of the appendix 12 and having a height "a" such that h+a+z+b corresponds to the height H of the bent edge (6),

this segment assuming different shapes depending on the angles α and β which the segment forms respectively with the vertical passing through the point P of the appendix (12) and with the horizontal passing through the point Q of the L-shaped segment (16),

the end (8') presenting:
- a lower rectangular appendix (18) of dimensions n x h,
- a second upper appendix (20) of dimensions b x c, and
- a segment (22), joining the point R to the point S, which is of height t = a+z.

FIG. 1
Description

[0001] The present invention relates to an improved panel for false ceilings.

[0002] Structural elements for false ceilings are known consisting of profiles of inverted T cross-section provided at their end with coupling elements either formed directly in the central web of the T-profile or formed separately and applied to each profile section during its manufacture.

[0003] In a central region of the web, these profiles comprise slots in which the coupling element of a profile perpendicular thereto engages so as to be able to form a lattice structure which is suspended from the ceiling, generally by steel hangers, and which, by means of the horizontal flanges of the profiles, functionally supports panels and/or staves or whatever else is required to form the false ceiling.

[0004] The object of the invention is to provide a panel which is highly reliable in its connection to the T elements, such as to present anti-disengagement characteristics.

[0005] This object is attained according to the invention by a panel as described in claim 1.

[0006] The present invention is further clarified hereinafter with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a panel,
Figure 2 shows the end of two panels anchored to a T element,
Figure 3 is a longitudinal section through one end of the panel,
Figures 4 and 5 show two different forms of said end,
Figure 6 is a longitudinal section through the other end of the panel,
Figure 7 shows a different form of this latter end,
Figure 8 shows six steps in coupling the panel to the T-profile, and
Figure 9 shows a modified embodiment of the panel.

[0007] As can be seen from the figures, the improved panel of the invention comprises a plate 2 with its four edges 4, 4', 6, 6' bent at 90°, the edges 6, 6' having their ends 8, 8' cut to a certain shape.

[0008] Specifically, the end 8 is cut such as to form:
- a lower rectangular appendix 12 of dimensions I x h,
- an upper rectangular appendix 14 of dimensions c x b,
- an L-shaped segment 16 of dimensions z x s,
- a segment joining the end Q of the L-shaped segment 16 to the upper end P of the appendix 12 and having a height "a" such that h+a+z+b corresponds to the height H of the bent edge 6.

[0009] This segment assumes different shapes (see Figures 3, 4 and 5) depending on the angles α and β which the segment forms respectively with the vertical passing through the point P of the appendix 12 and with the horizontal passing through the point Q of the L-shaped segment 16. The values of the parameters are defined as follows (expressed in millimetres):

\[ 0 < z < 4, \]
\[ 0 < c < 6, \]
\[ 0 < s < 3, \]
\[ c < 1, \]
\[ a < 1, \]
\[ 0 < \alpha < 33°, \]
\[ 0 < \beta < 59°10'. \]

[0010] The end B' presents a lower rectangular appendix 18 of dimensions n x h, a second upper appendix 20 of dimensions b x c, and a segment 22, joining the point R to the point S, which is of height t = a+z with n = m+Δ, where Δ lies between 0 and 4, and 80° < γ < 83°.

[0011] The panels formed in this manner are then connected to the inverted T-profile as shown in Figure 8, from which it can be seen that after arranging the individual panels 2 between the various inverted T-profiles by resting the ends 8, 8' on the flanges 26 of these profiles, the final closing panel is inserted by a succession of steps comprising:

1 inserting the appendix 12 into the groove 28 of the end 8';
2) then inserting the appendix 18 into the groove 30 of the end 8;
3) translationally moving the panel such that the appendices 14 and 20 become positioned above the flanges 26 of the T-profile;
4) lowering the panel so that the appendix 14 rests on the flange 26;
5) translationally moving the profile;
6) resting the profile on the flanges.
[0012] In the embodiment illustrated in Figure 9 a panel is shown having its ends similar to the preceding ends but bent twice through 90°.

Claims

1. An improved panel consisting of a plate (2) with its four edges bent at 90°, the edges having their ends (8, 8') cut to a determined shape, characterised in that:

   the end 8 is cut to form:
   - a lower rectangular appendix (12) of dimensions l x h,
   - an upper rectangular appendix (14) of dimensions c x b,
   - an L-shaped segment (16) of dimensions z x s,
   - a segment joining the end Q of the L-shaped segment (16) to the upper end of the appendix 12 and having a height "a" such that h + a + z + b corresponds to the height H of the bent edge (6),

   this segment assuming different shapes depending on the angles α and β which the segment forms respectively with the vertical passing through the point P of the appendix (12) and with the horizontal passing through the point Q of the L-shaped segment (16),

   the values of the parameters being defined as follows (expressed in millimetres):

   \[ 0 < z < 4, \]
   \[ 0 < c < 6, \]
   \[ 0 < s < 3, \]
   \[ c < 1, \]
   \[ a < 1, \]
   \[ 0 < \alpha < 33°, \]
   \[ 0 < \beta < 59°10', \]

   the end 8' presenting:
   - a lower rectangular appendix (18) of dimensions n x h,
   - a second upper appendix (20) of dimensions b x c, and
   - a segment (22), joining the point R to the point S, which is of height t = a+z with n = m+Δ, where Δ lies between 0 and 4, and 80° < γ < 83°.

2. A panel as claimed in claim 1, characterised in that the edges are bent twice through 90°.