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(54) Improvements relating to cabinets or cubicles, suitable for switchgear

(57) In a cabinet for housing switchgear, a mounting plate 6 for the equipment has, on its side edges, recesses 8, 10 which are open towards the rear and which receive inwardly directed pins 11, 12 on vertical supporting beams 5 between which the plate is mounted. It then becomes possible for the mounting plates to be hung between the beams from the front, without using special tools, and also to be removed therefrom.

FIG.1

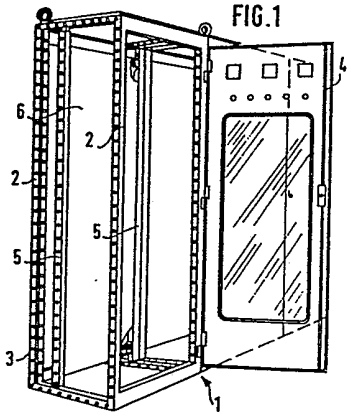

FIG.2

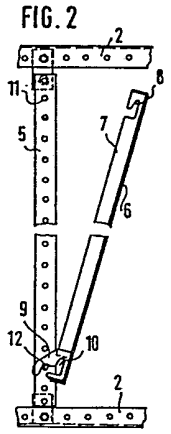

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FIG. 1

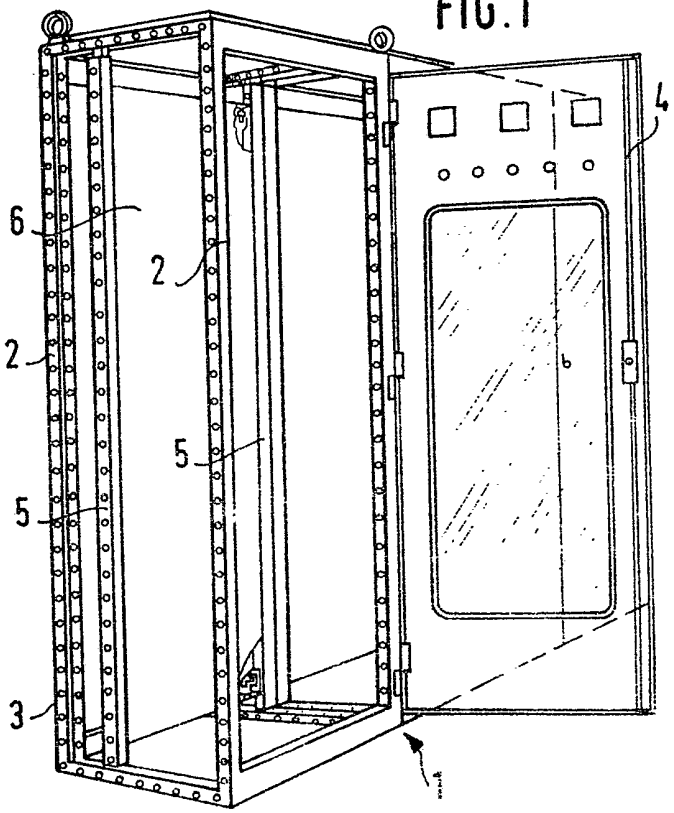


FIG. 5

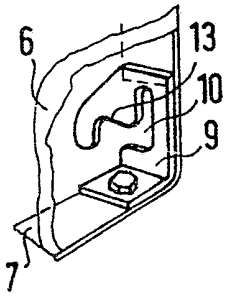


FIG. 6

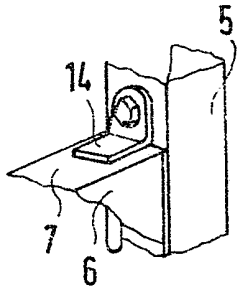


FIG. 2

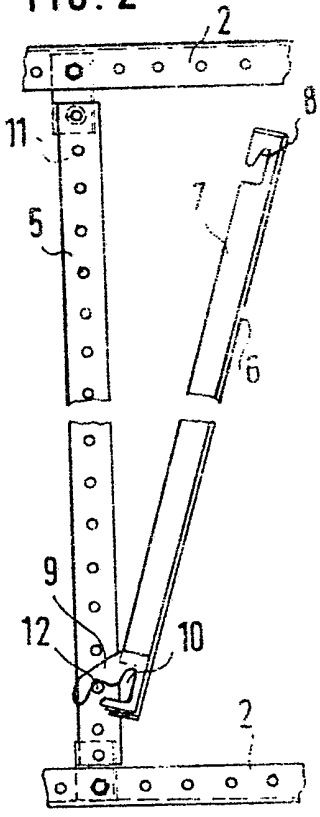


FIG. 3

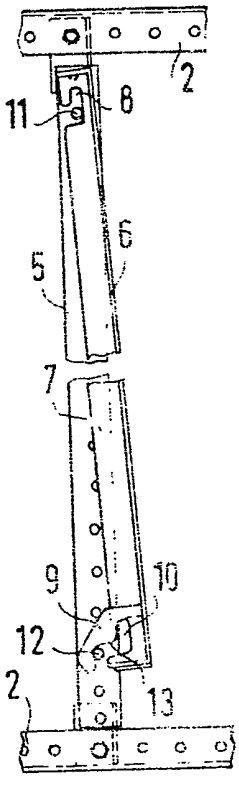
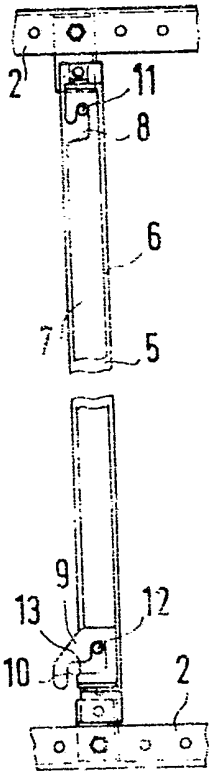


FIG. 4



SPECIFICATION

Improvements relating to cabinets or cubicles suitable for swtichgear

This invention relates to a cabinet or cubicle suitable for swtichgear, and to a series of such cubicles, such cubicles may comprise a frame-like and at least partially clad structure with a fitted door, for example a folding door, and at least one pair of vertical beams which can be fixed laterally in the structure and which are for supporting a mounting plate of like surface or area, which plate is fitted between the beams and which can be connected with its side edges to the said beams.

With such known switchgear cubicles, the upright beams supporting the mounting plate are formed of U-section members which, depending on the instrumentation of the mounting plate, can have a screw-threaded connection at different depths with the frame. The mounting plate comprises side edges which are bent over at right angles and which are so screwed to the sides of the beams that the front side of the mounting plate is coincident with the flanges of the beams. This is of particular advantage when several such switchgear cubicles are arranged in a row and all mounting plates are arranged at the same depth. By this procedure, a closed mounting surface is produced between the individual switchgear cubicles. However, cubicles which are constructed in this manner have the disadvantage that when the said cubicles are no longer accessible from the rear side, it is no longer possible for these mounting plates to be loosened.

However, switchgear cabinets or cubicles are already known, with which the mounting plates are not fixed directly to the beams, but by means of Z-angled elements. On the one hand, these Z-angled elements make it possible, firstly, for the mounting plates to be provided with instruments and wired externally of the cubicles and, secondly, to be subsequently detached again from the front. However, on account of the Z-angled members, the mounting plates are located in front of or behind the flange surfaces of the upright beams, so that the same are unable to form closed surfaces with the mounting plate. This is seen to be a disadvantage, particularly when several switchgear cabinets or cubicles are arranged side by side in a row. Because of the beams, there are then to be found projections or depressions between the mounting plates of the individual switchgear cubicles.

The invention accordingly seeks to construct a cubicle suitable for switchgear comprising a frame-like and at least one partially clad structure with a fitted door and at least one pair of substantially vertical beams which can be fixed laterally in the structure and which support a mounting plate of like surface or area, which plate is fitted between the beams and which can be connected at its side edges to the said beams, wherein the beams are each provided, in their upper and lower regions, with at least two pins directed towards the mounting plate and the mounting plate comprises, on its side edges, recesses which are open towards the rear and which are adapted to receive the pins.

The pins and the recesses make it possible for the mounting plate to be hung or fitted without any particular tools from the front between the upright beams and for the plate to be in one plane with the surface of the beams. A subsequent removal and then re-fitting of the mounting plate is likewise possible.

The recesses are suitably angle-shaped with the lower recesses of double-angle form. The lower recesses may be formed by mounted plates. The recesses may be reinforced by fitted plates. The mounting plate preferably has a locking bolt or member associated therewith.

The invention is hereinafter more fully described by reference to one constructional example which is shown in the drawing, wherein:

Figure 1 is a perspective view of a switchgear cabinet or cubicle according to the invention,

Figures 2 to 4 show the fitting of a mounting plate,

Figure 5 is an enlarged view of a portion of a mounting plate with a recess, and

Figure 6 shows an arrangement of a locking bolt.

Shown in Figure 1 of the drawing is a cabinet 1 suitable for switchgear, which consists of a frame-like structure 3 comprising U-section rails 2 which are assembled or welded together. The rear side and also the top and bottom surfaces of this structure or frame 3 are covered by plates, which are, for example, screwed to the frame. Mounted on the front surface of the frame 3 is a hinged door 4, which may be a folding door.

Arranged between the horizontal U-section rails 2 of the side surfaces is a beam 5 which is U-shaped in cross-section and which is screwed to the horizontal U-section rails 2, it being possible for the depth of said beam to be altered according to the fitting of a mounting plate 6. The mounting plate 6 comprises edges 7 which are bent over at right angles. Formed in each case in the upper region of the vertical lateral edges 7 is an angular recess 8 (Figures 2 to 4). In the lower region of the side edges 7, these are recesses shown in dotted lines in Figure 5. As can be seen from Figure 5, a plate 9 bent at an angle is fitted, and this plate can for example be screwed to the bottom edge 7. It is also possible for the plate 9 to be connected to the edge or rim 7 by welding.

The plate 9 comprises a double-angled or Z-shaped recess 10, which is open in a downward direction.

Provided on the inner sides of the beams 5 are pins 11, 12, which are directed inwardly or towards the mounting plate 6. By means of the recesses 10 of the plates 9, the mounting plate 6 is now fitted on to the pins 12 in such manner that the recess 10 rests by means of a so-called latching step 13 on the pin 12 (Figure 2). The mounting plate 6 is now swung from its position according to Figure 2 into the position of Figure 3. In this movement, the pins 11 reach the horizontal region of the recesses 8 (Figure 3). Thereafter, the lower region of the mounting plate 6 is pressed against the pins 12, so that now both the pins 12 and also the pins 11 are located in the vertical region of the recesses 8, 10 and the mounting plate 6 is latched by a vertical movement in these recesses 8, 10 as shown in Figure 4.

In order to secure the mounting plate 6 in this

latched position, at least one beam 5 can have a locking bolt 14 screwed thereon (Figure 6). After the release or removal of the locking bolt or member 14, the mounting plate 6 can be raised and, by reverse swinging movements, it can be removed from the pins 11, 12 and from the region between the beams 5 and then re-fitted. As can be clearly seen from Figures 1 and 4, the mounting plate 6, in its latched position, is disposed in one plane with the front web surface of the beams 5. When several switchgear cabinets or cubicles are arranged side by side in a row, as indicated in Figure 1, the mounting plates 6 and the beams 5 of the neighbouring cubicles 1 form a common through surface without any depressions or protuberances.

CLAIMS

1. Cabinet or cubicle, suitable for switchgear comprising a frame-like and at least one partially clad structure with a fitted door and at least one pair of substantially vertical beams which can be fixed laterally in the structure and which support a mounting plate, which plate is fitted between the beams with the surfaces of the beams and plate planar and which can be connected at its side edges to the said beams, wherein the beams are each provided, in their upper and lower regions, with at least two pins directed towards the mounting plate and the mounting plate comprises, on its side edges, recesses which are open towards the rear and which are adapted to receive the pins.

2. Cabinet or cubicle according to claim 1, wherein the recesses are made angle-shaped.

3. Cabinet or cubicle according to claim 1 or 2, wherein the lower recesses are of double-angled form.

4. Cabinet or cubicle according to any one of claims 1 to 3, wherein the lower recesses are formed by mounted plates.

5. Cabinet or cubicle according to any one of claims 1 to 3, wherein the recesses are reinforced by fitted plates.

6. Cabinet or cubicle according to any one of claims 1 to 5, wherein the mounting plate has a locking bolt or member associated therewith.

7. A series of associated cabinets or cubicles according to any one of the preceding claims.

8. A cabinet or cubicle substantially as shown in the accompanying drawing and described herein with reference thereto.

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