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54 Complex of structural elements for realizing composable furniture.

57 The complex of structural elements for realizing composable furniture, comprising stiles, shelves and plugging panels, is characterized in that every stile has a substantially rectangular section and it comprises, on each face, grooves (2,8) for the insertion of pins (4, 4') engaging horizontal panels and for the housing of vertical panels or seals.

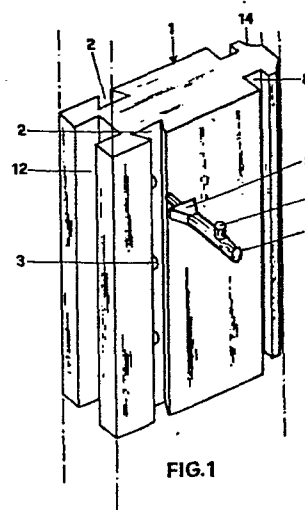


FIG.1

The present invention relates to a complex of structural elements for realizing composable furniture.

Well known are structural elements for realizing composable furniture essentially comprising stiles, shelves,
5 plugging panels and members for the reciprocal jointed, fixed or movable connection of said elements.

Such elements are generally realized with the height corresponding to the height of traditional rooms, and with the width and depth corresponding to standardized
10 values allowing the manufacturer and the seller to limit the range of products to be stored at the warehouse.

Such known structural elements still present some drawbacks and in particular:

- the impossibility to fit the furniture exactly to certain
15 rooms of unusual sizes,
- the need to disassemble wholly or partially an already realized piece of furniture in order to alter its configuration or in order to enlarge it,
- the need however to store elements of various sizes
20 corresponding to different standardized measures.

Object of the invention is to eliminate such drawbacks and to realize complexes of structural elements for the formation of furniture of any height and with

functional features, variable according to their arrangement and utilization.

Another object of the invention is to realize complexes of semifinished and pre-varnished structural elements ready for the use.

According to the invention these objects are achieved with a complex of structural elements for realizing composable furniture comprising stiles, shelves and fixed or movable vertical plugging panels characterized in that every stile, has a substantially rectangular section and a conformation symmetrical with respect to a vertical plane parallel to the widest faces and that it comprises, on each of said faces, a groove, with multiple non-passing drilling, for the bayonet-engagement of pins of fixture of horizontal panels, and a further groove for choicely housing vertical fixed panels or seals, and furthermore it comprises, on one of the two narrowest vertical faces, at least a mortise groove of side panels.

Advantageously the groove provided with the drilling can have a dove-tailed conformation.

In another embodiment the groove provided with the drilling can have a cross-like conformation.

Advantageously each pin can be provided at one end

with a flare-shaped stretch according to a profile substantially complementary to the section of the groove.

Still according to the invention each pin can be provided at the other end with an orthogonal projecting portion engaging itself removably into a corresponding hole foreseen in the shelves.

Advantageously the multiple drilling can have a fixed pitch.

Still according to the invention the front edges of each stile can be provided with cylindrical grooves.

The invention is hereinafter further clarified in a preferred embodiment given for purely exemplificative and not limitative purpose with reference to the enclosed drawings in which:

The fig. 1 shows in partial exploded perspective view a stretch of stile of the complex according to the invention,

the fig. 2 shows partially in plan view a piece of furniture realized by the complex of elements according to the invention,

the fig. 3 shows partially the stile according to the longitudinal section III-III of fig. 2, and

the fig. 4 shows in section view a stile in another

embodiment.

As shown in the drawings, the complex of structural elements according to the invention comprises a stile or post 1 constituted by a board of length compatible with the machines for its formation and with the spaces for its storing; it is preferably realized in pre-varnished wood, and it presents a longitudinal dove-tailed groove 2 on every larger face.

On the bottom of groove 2 a number of non-passing holes 3 are foreseen with fixed pitch for the bayonet-engagement of a pin 4,4' provided at one end with a stretch 5 flare-shaped according to a profile substantially complementary to the section of the groove 2.

At the opposite end each pin 4 is provided with an orthogonal projecting portion 6, while each pin 4' is provided with a conical niche 7; the function of the projecting portion 6 and of the niche 7 will be clarified later on.

Furthermore on each largest face of the stile 1 a further groove 8 is foreseen substantially rectangular for insertion of back panels 9 or for the housing of seals with doors 11.

Near groove 2, the stile 1 is moreover provided

with a further groove 12 with rectangular section for the insertion of the side panel 13 of the piece of furniture. The edges of the smaller face nearest to the groove 8 have a cylindrical groove 14 for the eventual partial housing of hinges 15 of articulation of the doors 11.

Besides, the invention comprises a number of panels constituting respectively, besides the already indicated side panels 13 and the back panels 9, boards making up partitions 16, shelves 17, the top cap and the bottom 18 of the piece of furniture. In particular the top cap and the bottom 18 of the piece of furniture are provided near each shorter side with a cylindrical hole 19 orthogonal to the side itself and complementary to the pin 4'.

The said hole communicates with the lower surface of the cap, respectively with the upper surface of the bottom 18, through a further cylindrical hole 20 housing as internally threaded bushing 21. The distance between the side of the cap or of the bottom 18 and the axis of the threaded bushing corresponds exactly to the distance between the face of the stile and the axis of the conical niche 7 of the pin 4'. A screw 22 with conical tip complementary to the conical niche 7 engages itself into each threaded bushing 21.

In order to realize a piece of wall furniture according to the invention one may proceed in the following way:

the boards 1, cut in the prefixed length, are placed on the
5 edges of the prefixed development of the piece of furniture to be assembled. With the elements pre-arranged in such a manner, the pins 4,4' are bayonet-engaged to the holes 3, according to the configuration of the piece of furniture.

Thus the pins 4' are introduced into the holes 19
10 of the panels constituting the cap and the bottom 18 and one tightens the screws 22 which, by penetrating with their conical tip into the corresponding conical niches 7 of the pins 4', bind such panels to their corresponding stiles.

Afterwards one fits the shelves 17 which, bound to
15 the pins 4, are sustained by these and, in their turn, act by means of these as pull-rods between the couples of facing stiles. Hence one inserts the side panels 13 and the eventual partitions 16 inside the appropriate grooves 12 foreseen in the boards themselves. In such an embodiment it
20 is preferable to use as side boards, panels having a thickness equal to the width of board 1 and provided with vertical ribs 23 which are inserted into the grooves 12, whilst as partitions 16 it is preferable to use panels

having a thickness equal to the width of the grooves 12 themselves.

Subsequently are applied to the back panels 9, which are housed in the corresponding grooves 8, and the
5 doors 11, which are engaged to stiles 1 by hinges 15 jointed near the grooves 14.

Finally seals 10 are applied to the vertical grooves near the openings that must be shut.

In order to realize double faced furniture, one
10 operates in the same way, except that the fitting of the backs 9 should be eventually limited to only the openings with access to only one of the two faces.

From all that has been said above, it results that the complex of structural elements according to the
15 invention presents numerous advantages and in particular:

- the possibility to adapt the furniture exactly to the sizes of the room and in any case to choose any height,
- the possibility to realize wall-furniture and double faced furniture,
- 20 - the possibility to enlarge pre-existing furniture without intervening on the already assembled parts,
- the possibility the manufacturer to store pre-varnished stiles ready for use and to be cut to measure according to

requirements, as well as the possibility to store large sized sheets from which the panels with prefixed dimensions can be cut,

- the possibility to assemble side and back panels without
5 having to trim their borders,
- the possibility to utilize interchangeable accessories of different type in order to vary use of the furniture,
- a perfect dust-seal owing to the presence of the non-passing drilling.

10 In another embodiment the longitudinal groove 2' has a cross-like conformation (cf. fig. 4).

C L A I M S

1. Complex of structural elements realizing
composable furniture comprising stiles, shelves and fixed or
movable vertical plugging panels characterized in that every
stile (1) has a substantially rectangular section and a
5 conformation symmetrical with respect to a vertical plane
parallel to the widest faces, and that it comprises, on each
of said faces, a groove (2,2'), with multiple non-passing
drilling (3), for the bayonet-engagement of pins (4,4') of
fixture of horizontal panels (17,18), and a further groove
10 (8) for choicely housing vertical fixed panels (9) or seals
(10), and furthermore it comprises, on one of the two
narrowest vertical faces, at least a mortise groove (12) of
side panels (13).

2. Complex according to claim 1 characterized in that
15 the groove (2) provided with the drilling has a dove-tailed
conformation.

3. Complex according to claim 1 characterized in that
the groove (2,2') provided with the drilling has a cross-
-like conformation.

20 4. Complex according to claim 1 characterized in that
each pin (4,4') is provided at one end with a flare-shaped
stretch according to a profile substantially complementary

to the section of the groove (2).

5. Complex according to claims 1 and 4 characterized in that each pin (4) is provided at the other end with an orthogonal projecting portion (6) engaging itself removably into a corresponding hole foreseen in the shelves.

6. Complex according to claims 1 and 4 characterized in that each pin (4') is provided with a conical niche (7) at the other end.

7. Complex according to claim 1 characterized in that the horizontal panels constituting the top cap and the bottom (18) of the piece of furniture to be assembled are provided near each shorter side with a cylindrical hole (19) orthogonal to the side itself and complementary to the pin (4').

8. Complex according to claims 1 and 7 characterized in that the cylindrical hole (19) communicates with the lower (upper) surface of the cap (of the bottom (18) of the piece of furniture) respectively, through a further cylindrical hole (20) orthogonal to the previous one housing an internally threaded bushing (21).

9. Complex according to claims 1, 6 and 8 characterized in that a conical-tipped screw (22) complementary to the conical niche (7) engages itself into

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each threaded bushing (21).

10. Complex according to claim 1 characterized in that the multiple drilling (3) has a fixed pitch.

11. Complex according to claim 1 characterized in that
5 the front edges of each stile are provided with cylindrical
grooves (14).

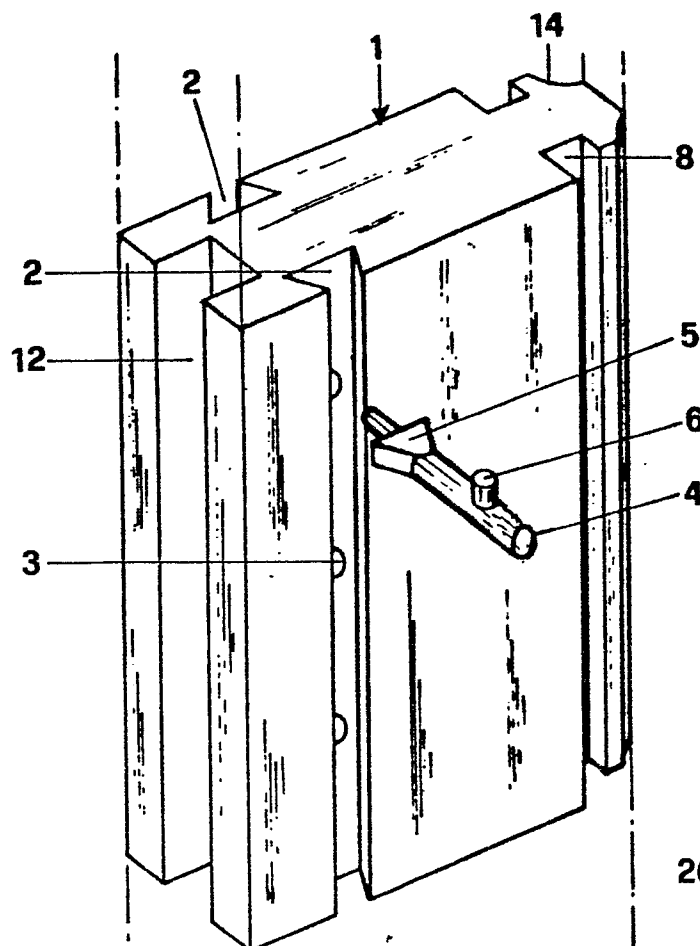


FIG.1

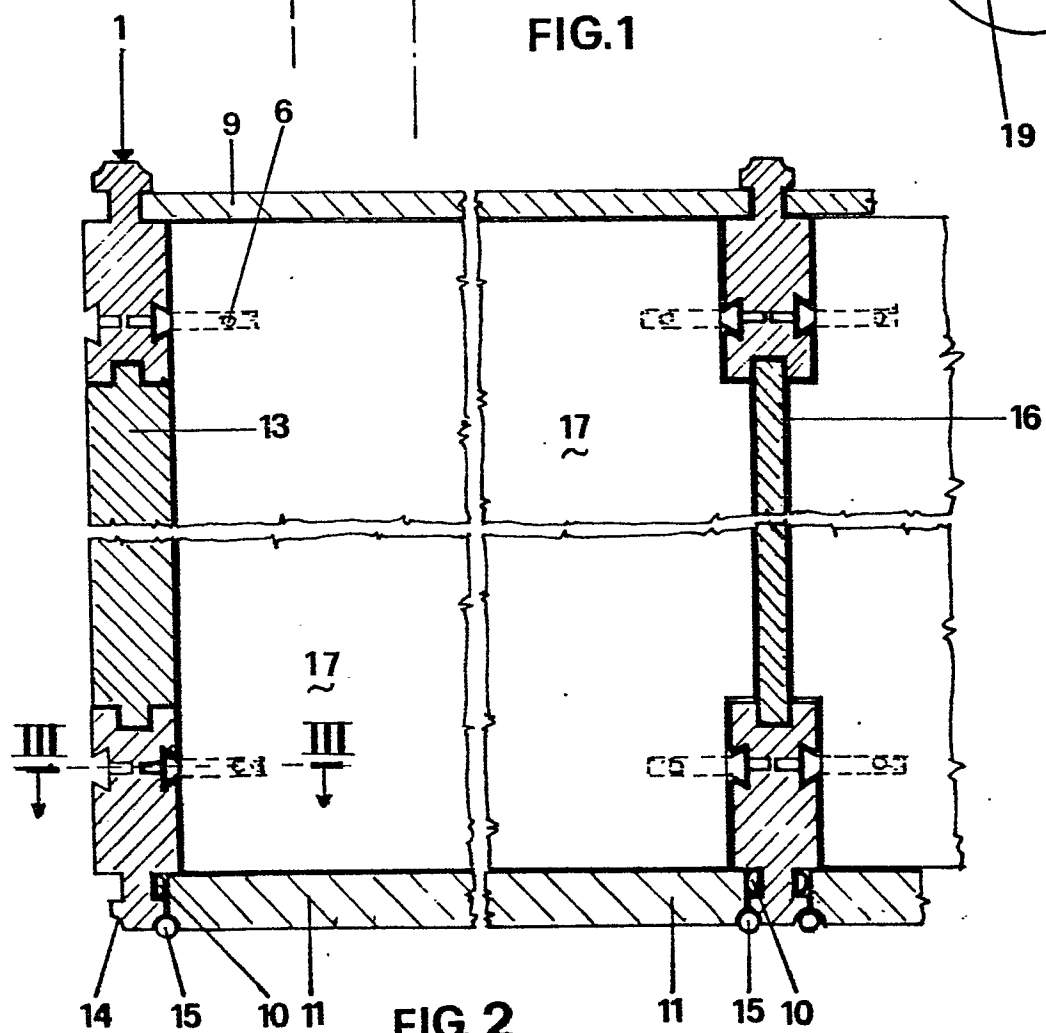
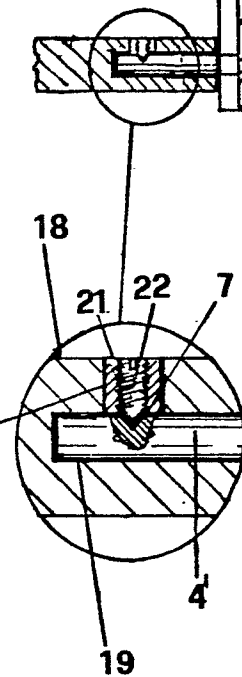


FIG. 2

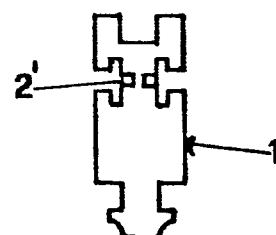


FIG. 4