JUXTAPOSABLE AND SUPERPOSABLE FURNITURE PIECES

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ABSTRACT
This set of furniture pieces comprises essentially a standard unit of substantially parallelepipedic or box configuration, so designed that several units of this type can be superposed or juxtaposed to constitute at will any desired wall storage assembly or the like. The upper side edges of each unit are notched to accommodate coupling keys locked in position by the superposition of other units. The bottom of each unit comprises a downwardly projecting rim fitting around a thinned-down and therefore shoulderled upper edge of an underlying unit. Drawers adapted to be easily fitted into said units comprise at the top of their rear wall a lug adapted to engage a retaining or stop lug depending from the bottom of the next unit above. The rear portion of the drawer bottom is inclined to permit the tilting of said drawer and its removal from the unit by raising its front end, thus allowing its lug to clear the stop lug of the next unit above. Caster-supported base units and top cover units are provided for completing the assembly.

5 Claims, 10 Drawing Figures
JUXTAPOSABLE AND SUPERPOSABLE FURNITURE PIECES

BACKGROUND OF THE INVENTION:

1. Field of the Invention:

The present invention relates to furniture consisting of mutually complementary pieces adapted to be assembled to constitute more or less extended structures such as wall storage units and the like.

Many types of furniture pieces designed for this purpose have already been proposed. As a rule, the units constituting these assemblies have substantially the appearance of parallelepipedic cases or boxes comprising interfitting means for assembling them above one the other. In most instances other fastening means are provided for assembling several units side by side or even back to back to constitute furniture comprising several vertical tiers of such pieces.

2. Description of the prior art:

However, in hitherto known structures of this last-mentioned horizontal assembling method, a number of inconveniences are encountered. Thus, in many cases these fastening means are relatively complicated and expensive. Besides, these fastening means are generally visible they impair the general appearance of the furniture.

SUMMARY OF THE INVENTION:

It is therefore a primary object of the present invention to provide a set of furniture pieces designed with a view to permit the easy assembling thereof both horizontally and vertically, without the above-mentioned inconveniences. These pieces of furniture are also designed with a view to permit their juxtaposition and superposition, and also to receive storage drawers when necessary.

To this end, the furniture pieces according to this invention comprise units generally of parallelepiped or box shape open on one lateral side and having formed in the upper edge of each side wall a notch adapted to register with an identical notch of a juxtaposed unit, substantially H-shaped assembling keys being provided for engaging the registering notches of a pair of juxtaposed units. Besides, the bottom of each unit comprises a downwardly projecting rim adapted to fit around the top edge of an underlying unit and thus hold in position, if necessary, the coupling key or keys assemblin of this unit with one or a plurality of other juxtaposed units.

Thus, the units constituting a plurality of adjacent vertical tiers can be assembled horizontally as these tiers are erected, with the assistance of said coupling keys. Now these keys are subsequently completely concealed and locked in position, thus precluding any undesired release therefrom.

Preferably, the means contemplated for assembling the units in the vertical direction consist of notches or openings formed in the upper edge of each unit and snappily engageable by matching hooks or like anchoring projections carried by the corresponding inner surfaces of the downwardly projecting rim of said units.

According to another feature characterising the furniture pieces of this invention, drawers are also provided; each drawer is adapted to be fitted into one of said units, and has its upper back edge formed with a projecting lug adapted to abut against a retaining lip carried by the lower surface of the bottom of the next overlying unit with respect to the unit containing the drawer.

BRIEF DESCRIPTION OF THE DRAWINGS:

FIG. 1 is a perspective view of a plurality of furniture units according to this invention, shown in exploded view, i.e. before assembling them;

FIG. 2 is a fragmentary vertical section showing the same units, the section being taken along a transverse plane;

FIG. 3 is a similar view showing the same units in their assembled condition;

FIG. 4 is a fragmentary vertical section taken along a longitudinal plane of a drawer-containing unit;

FIG. 5 is a plane view from beneath showing on a smaller scale a furniture element or unit according to this invention;

FIG. 6 is a cross sectional view showing two juxtaposed units pertaining to two adjacent tiers and assembled by means of a coupling key 9;

FIG. 7 is a fragmentary plane view from above illustrating the assembling of two juxtaposed units;

FIG. 8 is a perspective view showing a typical embodiment of a coupling key;

FIG. 9 is a perspective view showing a castersupported base unit adapted to carry the furniture pieces of this invention; and

FIG. 10 is a perspective view showing a typical assembly of furniture units according to this invention for constituting a unitary storage structure.

DESCRIPTION OF THE PREFERRED EMBODIMENTS:

The furniture piece assembly according to this invention comprises primarily a plurality or series of units 1 of substantially parallelepiped or box configuration, open on one side (preferably the front side) to facilitate the access thereto. These units 1 are advantageously made of molded plastic material of any suitable composition.

The upper edge 2 of each unit is thinner than the remaining wall portions in order to provide a peripheral shoulder 3. Now the bottom 4 of each unit comprises a downwardly projecting rim adapted to fit around the upper edge 2 of an underlying identical unit when two such units are superposed in an assembly.

Notches or openings 6 are formed on either side of the upper edge 2 of each unit and matching anchoring projections 7 are formed on the inner surface of each downwardly projecting rim 5 (FIGS. 2 and 3). Thus, it is possible to assemble a plurality of these units in superposed relationship by fitting downwardly projecting rim 5 of each unit around the shouldered upper edge 2 of the next unit beneath and causing the corresponding anchoring projections 7 to engage the openings 6.

However, the three upper edges 2 of each unit further comprise a central notch 8 adapted to register with a similar notch of an adjacent, identical unit when two such units are juxtaposed or placed in side by side relationship as shown in FIGS. 6 and 7 of the drawings. A number of coupling keys 9 adapted simultaneously to engage a pair of registering notches 8 of juxtaposed units 1 are also provided.

As illustrated in FIG. 8, each key 9 consists of a substantially H-shaped plate of which the central web 9a is adapted to be engaged into said pair of complen-
tary notches 8 of two adjacent vertical walls of juxta-
posed units 1, i.e. units 1 disposed in a common hori-
zontal plane. Under these conditions, the side branches
9b of the key extend within the relevant unit 1 and the
two units 1 thus assembled are safely held against each
other as clearly illustrated in FIGS. 6 and 7.

When disposing one unit 1 above another identical unit
1 already assembled horizontally by means of a key 9
with a same unit 1, said key 9 is locked in position by
the downwardly projecting rim 5 of the upper element
or elements. Under these conditions, any untimely re-
move of key 9 is safely prevented and the assembled
units are positively coupled with one another in the
horizontal direction without any possibility of accident-
unal uncoupling thereof. It will also be seen that the cou-
pling keys 9 are thus properly concealed within the
units 1 so that their presence cannot impair the aes-
thetic appearance of the furniture pieces thus obtained.

Besides, the coupling keys 9 facilitates greatly the
side-by-side assembling of the above-described units 1,
i.e., in a horizontal plane, without using any tool what-
soever. Thus, these units can be assembled by any un-
skilled person without difficulty.

As already explained in the foregoing, the furniture
pieces according to this invention are also designed with
due view to accommodate storage drawers of a specific
type as designated by the general reference numeral 10
in FIG. 1. Preferably, but not compulsorily, these draw-
ers consist likewise of a suitable molded plastic ma-
terial.

The dimensions of said drawers are such that each of
them can slide freely in a unit 1, so that all conventional
guiding members and slideways can be dispensed with.
However, to prevent any undesired and complete re-
lease or removal of a drawer of this character during its
forward sliding movement, a retaining lug 11 is pro-
vided on the upper edge of the rear wall 12 of each
drawer. This lug 11 is adapted to engage a stop lug 13
depending from the underface of the bottom 4 of the
next superimposed unit 1, this stop 13 being so posi-
tioned that the drawer can normally be opened only
partially, as illustrated in FIG. 4.

In an advantageous form of embodiment the furni-
ture pieces according to this invention have a square
configuration when seen in plane view from above, so
that they can be assembled one above each other with
different relative angular settings. Under these condi-
tions, the access opening of one unit may be disposed
in one direction and the access opening of an adjacent
unit in another direction, for example at 90° or 180°
from the direction of said one unit. However, in this
case the relative arrangement of the retaining lugs and
stops 11, 13 for each drawer must be modified accord-
ingly.

To this end, the lower or underface of the bottom 4
of each unit 1 comprises four crossed stiffening ribs 13
each provided with a projecting lug 14 (FIG. 5), the po-
tions of these lugs 14 being therefore off-set. Thus, a
pair of lugs 14 of the parallel, opposed ribs 13 extend
on either side of the axis X-X' and the pair of lugs 14
of the other pair of ribs 13 are disposed on either side
of the perpendicular axis Y-Y' (see FIG. 5).

Now the retaining lug 11 carried by the rear wall 12
of each drawer is also off-set in relation to the longitu-
dinal axis of the drawer, on the same side as the stop
lug 14 of rib 13 located near the opening of the unit 1
overlying the unit containing the drawer concerned.

Thus, when the drawer is pulled out this retaining lug
11 engages the stop lug 14 irrespective of the angular
setting of the units in a same vertical tier.

The bottom 15 of each driver 10 comprises an incl-
inclined portion 16 having its highest level at the base
of rear wall 12, as shown in FIG. 4. Thus, when this
drawer 10 is moved to its open position shown in thick
lines in this Figure, it can be tilted to the position 10a
shown in dash and dot lines by raising its front end.
Under these conditions, the retaining lug 11 can clear
the corresponding stop lug 14 of the unit 1 overlying
unit 1 from beneath, so that the user can easily remove
the drawer when necessary.

In addition to the box-shaped units 1, a series of ele-
ments 17 adapted to constitute covers therefor are pro-
vided. Each cover or top plate 17 comprises a plate
formed with a downwardly projecting rim 18 similar to
the rim 5 of units 1. Besides, the inner face of this rim
18 comprises anchoring projections 7 identical with
those formed on the lower rim 5 of said units 1 and
these projections 7 are also adapted snappily to engage
openings or notches 8 formed in the upper edge 2 of
the top most unit 1 of a tier of such units. Thus, each
tier can be closed at its top by a cover plate 17.

Due to the specific design and constructional details
of the furniture pieces according to this invention, it is
possible to arrange these pieces to suit any desired as-
sembly varying in size and relative position. Besides, in
addition to the basic or standard box-shaped units 1 de-
scribed hereinabove, other units 1a of same shape but
having twice the modular height may be provided; fi-
nally, a wide range of combinations may be contem-
plated without departing from the basic principle of
the invention. Thus, FIG. 10 illustrates by way of exam-
ple one of these multiple combinations in which such dou-
ble-height units 1a and standard units 1, with or with-
out drawers 10, are associated.

In order to further increase the versatility of use and
the field of applications of the furniture pieces of this
invention, base units 19 supported by casters 20 may be
provided, each base unit 19 being adapted to carry one
or several tiers or units 1 or 1a. To this end, each base
unit 19 comprises an upper rim 21 adapted to serve
the same purpose as the upper edge 2 of units 1. Each side
of said rim 21 has formed therein openings 6 adapted
to be snappily engaged by the anchoring projections 7
of units 1. Besides, each side of said rim 21 comprises
a notch 8 engageable by a coupling key 9 for assem-
blying the caster-supported base unit 19 with another
base unit 19 in side by side relationship.

However, many other accessory and ancillary ele-
ments or units may be contemplated with a view to fur-
ther extend the range of possible applications and com-
binations of the furniture pieces of this invention. In
any case these furniture pieces should not be construed
as being strictly limited to the specific forms of embodi-
dement described and illustrated herein, since these are
given by way of example, not of limitation.

What is claimed is:
1. A set of furniture pieces to be assembled compris-
ing substantially box-shaped units adapted to be juxta-
posed and superposed, each unit comprising a bottom,
a pair of sidewalls, a backwall and a front access aper-
ture, each of said walls having an upper edge portion
which is thinner than the remainder of the respective
wall, a rim projecting downwardly from said bottom of
each unit and adapted to fit around an edge portion of

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an underlying unit, a notch in said upper edge portion of at least one of said walls adapted to register with a similar notch formed in a juxtaposed unit, at least one substantially H-shaped flat key comprising a central web and a pair of flanges projecting substantially normal to said web from opposite ends and respectively to opposite sides of said web, said web being adapted to be located in the notches of said upper edge portions of a pair of juxtaposed units with the flanges thereon engaging the inner surfaces of abutting walls of said units, and an additional notch in said rim in vertical alignment with each notch in said upper edge portion, said web being adapted to be also located in the additional notches of a pair of units superimposed upon said pair of the juxtaposed units.

2. Set of furniture pieces as set forth in claim 1 wherein a notch is formed in each sidewall.

3. A set of furniture pieces to be assembled comprising substantially box-shaped units adapted to be juxtaposed and superposed, each unit comprising a bottom, a pair of sidewalls, a back wall and a front access aperture, each of said walls having an upper edge portion which is thinner than the remainder of the respective wall, a rim projecting downwardly from said bottom of each unit and adapted to fit around the edge portion of an underlying unit, a notch in said upper edge portion of at least one of said walls adapted to register with a similar notch formed in a juxtaposed unit, at least one substantially H-shaped flat key comprising a central web and a pair of flanges projecting substantially normal to said web from opposite ends and respectively to opposite sides of said web, said web being adapted to be located in the notches of said upper edge portions of a pair of juxtaposed units with the flanges thereon engaging the inner surfaces of abutting walls of said units, a plurality of drawers each adapted to fit easily into one of said units to be guided by said side walls, said drawers having upper edges which are located below said keys when said drawers are inserted in said units, the rear wall of each drawer comprising an integral lug projecting upwardly from the upper edge of the rear wall of the drawer and being offset in relation to the axis of the drawer, four crossed stiffening ribs carried by the lower face of the bottom of each unit and each provided with a downwardly projecting stop lug, said stop lug being offset in relation to the axis of the drawer in an underlying unit so that one of said stop lugs is adapted to engage the lug projecting upwardly from the upper edge of the rear wall of the drawer in an underlying unit when said drawer is partly withdrawn from the respective unit, regardless whether the access openings of the superimposed units face in the same or in different directions.

4. Set of furniture pieces as set forth in claim 3, wherein the bottom of each drawer comprising an upwardly inclined rear portion adapted to facilitate the tilting of the drawer by raising the front end thereof and thus enable its projecting lug to clear the corresponding stop lug when it is desired to remove the drawer from its unit.

5. Set of furniture pieces as set forth in claim 3, wherein each of said units is, in a cross-section parallel to said bottom, of square configuration, and in which the upper edge portion of each of said walls is provided with a central notch.

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