This invention relates to a new concept for plastic modular furniture using a unique system to combine individual modular components into a plurality of combinations for seating, sleeping, or storage. The invention comprises a plurality of individual molded plastic base modules having a plurality of grooves formed on one face thereon, and a plurality of shells for sitting, sleeping, storage, and table tops, having a perimetral ridge suitable for engaging anyone of the plurality of grooves on said base module. The positioning of the perimetral ridge into the grooves enables a plurality of combinations to be formed into sitting, sleeping, and storage units.
PLASTIC MODULAR FURNITURE

BACKGROUND OF INVENTION

This invention relates to a new and useful apparatus that combines individual modular components into a plurality of combinations for seating, sleeping, and storage and in particular to a system of mass produced movable modules using several basic forms for bases, seating shells, storage units and so on.

Modular furniture is fast becoming the life style of modern America. Its versatility, uniqueness of design and most of all its cost lends itself to furnishing any apartment or home inexpensively and in good taste. The simplicity of modular furniture makes it easy to move it, not only from one room to another, but from one abode to another. It eliminates the back breaking drudgery of lifting heavy furniture which is generally of a clumsy design. The existing modular furniture uses the unit design to form one piece of furniture. Existing modular furniture generally requires some mechanical fabrication of elements to create the final piece; such mechanical fabrication being by the positioning of fasteners to connect one element to another or by the use of cumbersome tools. The elements that form one piece of furniture are not interchangeable nor adaptable to form a different piece of furniture. The elements that make up the existing modular furniture known to the inventor can only be assembled into a specific furniture design. Further, the modular design of large pieces of furniture only enable the interchangeability of the smaller elements within the larger frame or base. There are modular furniture systems incorporating specific individual elements to form a piece of furniture. However, they are individual pieces used to form seating groups and are not able to be transformed into other pieces of furniture.

To the best knowledge of the inventor there presently is no modular furniture that enables the modular elements to be interchanged with one another to form a plurality of sitting, sleeping, and storage units. Modular furniture that is comprised of individual modules that can be formed into a variety of furniture units is very advantageous over the existing forms of modular furniture. It enables a person to furnish his, hers, or their home inexpensively and when they want to change, to recombine their existing modular elements into a whole new arrangement of different pieces.

The present invention is an innovation in the modular furniture art enabling one to create a plurality of different furniture pieces from the same basic modular units without the necessity of cumbersome tools, fasteners or the like.

The present invention is the first in the modular furniture art to have the ability to be transformed easily and inexpensively from one piece of furniture into another.

SUMMARY OF INVENTION

The present invention incorporates a plurality of basic module forms, that when combined form a plurality of seating, sleeping, and storage facilities. The component nature of the system enables one to form a great variety of unique furniture by simply rearranging the modular units.

The individual modules comprise bases, seating shells, top shells, storage units, cushions, top inserts, door plugs. It is the combination of these units that form the seating, storage, and sleeping units.

The invention uses a system of grooves on one face of the modular base elements suitable for engagement by a perimetal rim of a modular shell designed for sitting, sleeping, or the like. The perimetal rim frictionally engaging the groove.

The principal object of this invention is to provide a plurality modular elements that can easily be transposed into one of a plurality pieces of furniture for sitting, sleeping, or storage.

A further object of this invention is to provide a versatile, inexpensive means for creating a plurality of different furniture pieces from the same modular units.

Still a further object of this invention is to provide modular furniture pieces formed from individual modular units that does not requires the use of tools, fasteners, or the like.

IN THE DRAWINGS

FIG. 1 illustrates, in perspective a plurality of modular elements.

FIG. 2 illustrates in perspective a series of basic modular bases and shells in combination.

FIG. 3 illustrates in plan view a series of modular bases with grooves placed thereon.

FIG. 4 is a side elevation view of a series modular furniture embodied by this invention.

FIG. 5 is a cross-sectional side view of a lounging unit as embodied by this invention.

FIG. 6 is a cross-sectional side view of a storage unit and table as embodied by this invention.

FIG. 7 is a cross-sectional side view of a chair as embodied by this invention.

FIG. 8 is a cross-sectional view of a storage unit as embodied by this invention.

DESCRIPTION OF PREFERRED EMBODIMENT

FIGS. 1 and 2 illustrate, in perspective, a plurality of modular elements, the grouping of said elements being designated by the numeral 10. The grouping 10 is comprised of a base module 12, storage module 14, seating shell 16, top shell 18, and cushions 20. The base module 12 is comprised of a plurality of grooves 22 that are integral therewith. The base module 12 as well as the storage module 14, seating shell 16, and top shell 18 are molded from a plastic composition which has suitable qualities, such as hardness, durability, texture, and strength, for furniture use. There are many such plastic compositions well known in the art, and I will not elaborate further on them. It is understood that other materials than plastic can be used, however, plastic is the most desirable due to its flexibility and ease of molding. It is also possible to use wood, or metal, however wood cannot be molded and metal of any kind is more expensive than plastic. The grooves form a plurality of rectangular and/or square elements 24 as best illustrated in FIG. 3. It is understood that other shapes such as circles, trapezoids, and so on could be used if the corresponding geometrical configuration of the perimetal rim of the shells is also changed so as to be compatible for engaging the groove 22. The base units 12 illustrated in FIG. 3 are coupled together by means of a plurality of slots 23 and flexible clips 25. The clips are easily inserted into the slots of adjacent base units and when a new piece of furniture is desired, the clips are easily removed.
The seating shell 16 is comprised of a vertical upright member 26 and a horizontal member 28, said members being coupled together and angularly disposed to one another. A perimetal ridge 30 of the shell 18 matingly engages the grooves 22 of the base module to which it is being applied to. A seating member 32 is comprised of a vertical support element 34, and a horizontal support element 36, having a soft filling material 38 attached thereto and a fabric 40 attached to each of the support elements 34 and 36. The filling material 38 is interposed between said fabric 40 and each of the support elements 34 and 36. An elongated flange 42 coupled to the vertical support element 34 suitable for engaging the upright member of the seating shell 18. The vertical and horizontal support elements 34 and 36 are angularly disposed to one another 50 that when the flange 42 is engaging the vertical member 26, the width of the filling material 38 and fabric 40 attached thereto abuts the material 40 attached to the horizontal member 36 enabling one to sit comfortably on the seating shell 18. It is understood that the seating member 32 can be made of two separate elements adaptable to be attached to the sitting shell 16 without deviating from the spirit and scope of the invention.

In FIG. 4, a series of base modules 12a, 12b, and 12c are illustrated with various shells being placed thereon, and coupled together by means of base clips 25. A storage unit shell 44 having a perimetal rim 46 is coupled to base module 12a. The perimetal rim 46 matingly engages the grooves 22 of the base module 12a. A table top shell 48 having a perimetal ridge 50 is illustrated being coupled to the base modules 12a and 12b engaging the grooves 22 of said base modules. The table shell is designed with a recess suitable for receiving a table insert 49. The insert 49 could be of various materials and finishes. A table top shell 52 is also illustrated on top of the storage cabinet 44 and is suitable for receiving a table insert 49. Seating shells 54 and 56 having perimetal ridges 58 and 60 respectively are illustrated in FIG. 4; the perimetal ridges engaging the grooves 22 of the base modules 12c and 12d.

FIG. 5 illustrates a combination shell unit 62 suitable for housing a combination of a seating shell 18 illustrated in FIG. 7, similar numerical designations being used in both figures and a cushion shell 20. The cushion shell 20 has perimetal ridges 64 suitable for engaging the grooves 22. A filling material 66 and fabric 68 similar to the material and fabric 38 and 40 is attached to the cushion shell 20; the filling material 66 being interposed between the cushion shell 20 and the fabric 68.

FIG. 6 illustrates the storage unit 44 and table top shell 52 in the combination illustrated in FIG. 3. The storage unit is comprised of a plurality of shelves 70 and a grooved top 72 having molded grooves 74; the top 72 being similar to the base module 12. The table top shell 52 has a perimetal ridge 76 suitable for engaging grooves 72.

FIG. 8 illustrates a sleeping unit 80 comprised of a plurality of base units 12. The base units or modules 12 are coupled together by means of base clips 25 inserted into slots 23. A sleeping member 82 is comprised of material similar to a mattress and is attached to a sleeping shell 84 suitable for positioning on said base units. The height of the sleeping unit 80 is adjustable by adding or subtracting base units in elevation. The storage units can also be used for achieving a desired elevation, a base unit 12 being coupled to the top of the storage unit and the sleeping member 82 being coupled thereto.

The elevation of the seating shell 16 is adjustable relative to the floor by simply adding or subtracting base units 12. It is also possible to adjust the elevation of all pieces of furniture by combining, in elevation, base units and/or storage units. Only a few of the several combinations of base modules 12, and shells for storage, seating, cushions and table tops have been illustrated in the drawings. It is understood that with a plurality of said base modules and shells a myriad of combinations for seating, sleeping, and storage can evolve and the artistic nature for each possible combination is up to the individual, and that any of said possible combinations does not deviate from the spirit and scope of this invention.

The modules and shells will be available at furniture stores or other retail outlets. The purchaser decides on what pieces he wants and then buys or rents the base modules 12 and suitable shells to form the desired pieces of furniture. The cushions will come in a choice of fabrics and colors and the table top shells with inserts in a choice of finishes. The modules and/or shells are either taken by the purchaser or the retailer will deliver it. It must be remembered that the modules and shells are durable, lightweight, inexpensive and easy for one person to pick up and carry. Once the modules and shells arrive at the purchaser's home he simply forms the furniture pieces he desires. When the purchaser tires of the existing combinations all that is required is for him to interchange base modules and shells to form new combinations. The perimetal rims of all the shells are suitable for matingly engaging the grooves 22 of the base modules.

It is believed that the invention has been described in such detail as to enable those skilled in the art to understand the same, and it will be appreciated that variations or modifications may be made without departing from the spirit and scope of the invention.

What is claimed and desired to be secured by letters patent in the United States is:

1. Modular styled furniture suitable for combining a multiple of modules into a plurality of furniture combinations, each module comprising, in combination:
   one of a plurality of base modules, said base module having a plurality of grooves integral therewith;
   and
   one of a plurality of shells having a perimetal ridge for engaging the integral grooves of the base module;
   wherein the combination of the base module and shell forms a modular piece of furniture, said modular piece of furniture being a chair, couch, bed, table, lounge, and the like, said shells being interchangeable with said base modules and said modules being interchangeable with one another by engagement of the perimetal rim of the shell with one of the plurality of grooves of the base module.

2. Modular styled furniture as defined in claim 1 wherein one of said plurality of shells is a seating shell having means for receiving a seating member, said seating member having a horizontal support member and a vertical support member, wherein said horizontal and vertical support members have a filling material coupled thereto and a fabric material covering said filling material.
3. Modular styled furniture as defined in claim 1 wherein one of said plurality of shells is a storage shell having an enclosed shelf unit with a perimetral rim suitable for engaging the base module at one end thereof and having means at the opposite end for receiving a table top shell.

4. Modular styled furniture in claim 1 wherein one of said plurality of shells is a top shell having a perimetral rim suitable for engaging the base module, said top shell having means for receiving one of a plurality of removable table top inserts of different grains and finishes.

5. Modular styled furniture as defined in claim 1 wherein said base modules have a plurality of slots for receiving a clip enabling said base modules to be coupled together.

6. Modular styled furniture as defined in claim 2 wherein a plurality of base modules are coupled together to receive a sleeping shell.

7. Modular styled furniture as defined in claim 6 further comprising a sleeping member coupled to the sleeping shell said sleeping member having a mattress type filling and cover fabric.

8. Modular styled furniture as defined in claim 1 wherein a plurality of base modules and storage units are positioned one on the other to adjust the height of the modular furniture.

9. Modular styled furniture comprising in combination:
   a plurality of base modules each of said plurality of base modules having a plurality of grooves integral therewith on one face therewith;
   a plurality of shells for sitting, sleeping, storage, table tops and the like for engaging the base modules;
   means for coupling said base modules to form a plurality of furniture pieces, wherein each of the plurality of shells has means for engaging the base modules;
   a plurality of slots positioned perimetally on the sides of said base modules, wherein said means for coupling said base modules are clips suitable for engaging the slots of said base modules, said clips being removable when base configuration is changed;
   a seating member coupled to one of the plurality of shells;
   a storage member coupled to one end of the plurality of shells; and
   a sleeping member coupled to one of the plurality of shells.