Sept. 8, 1970 J. E. MOBERG 3,528,096

MODULAR FURNITURE

Filed Feb. 28, 1968 2 Sheets-Sheet 1

Fig. 1.

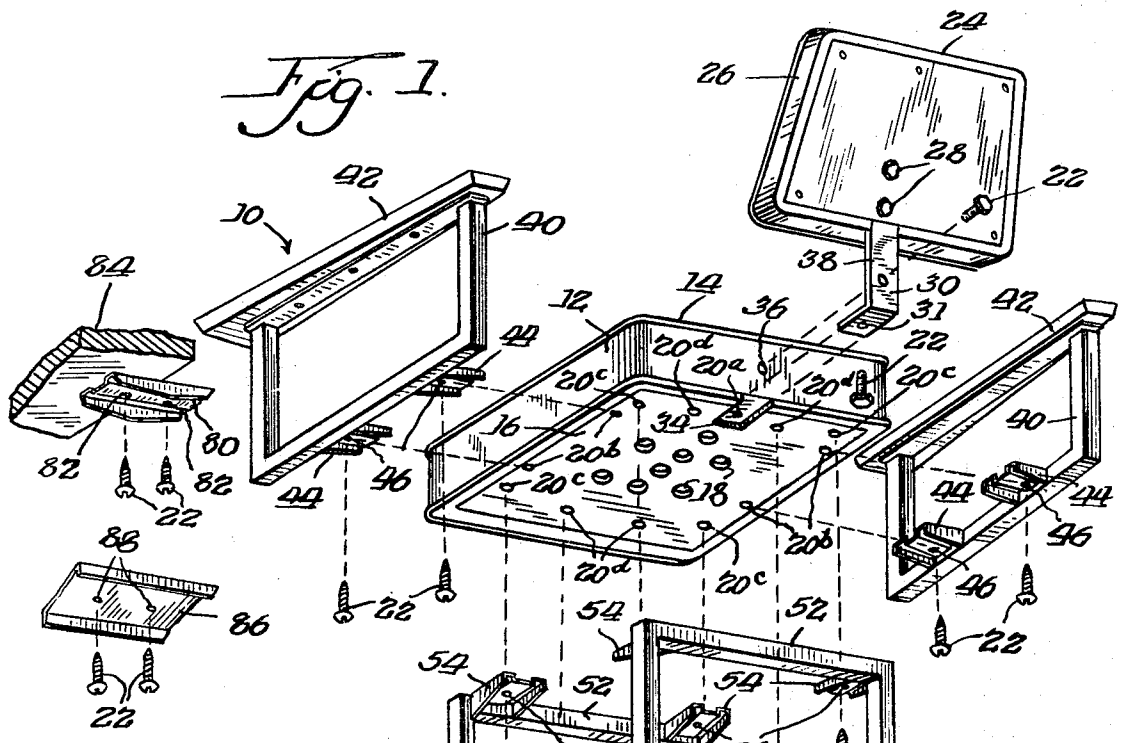
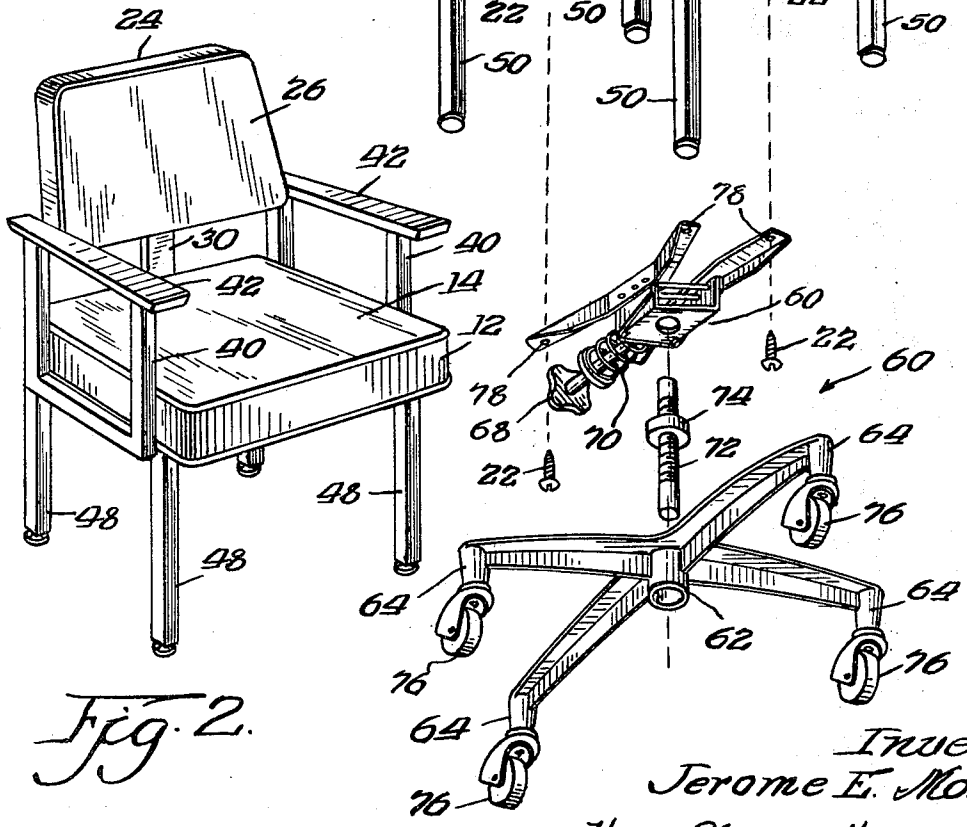


Fig. 2.



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Filed Feb. 28, 1968 2 Sheets-Sheet 2

Fig. 3

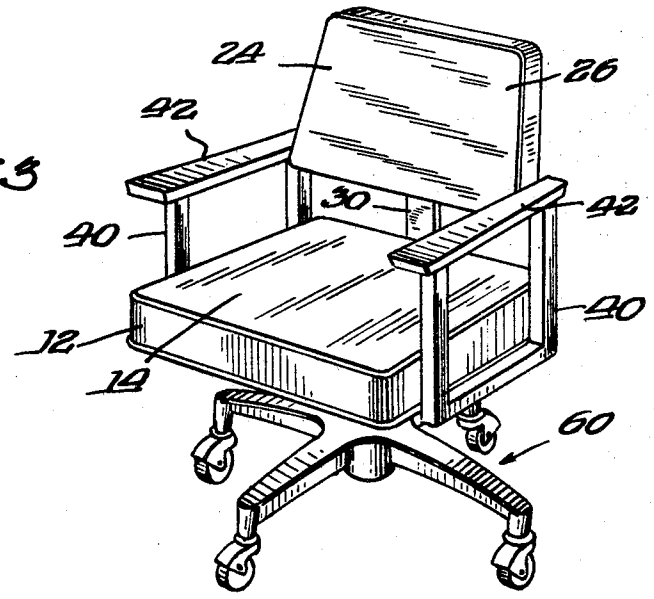


Fig. 4

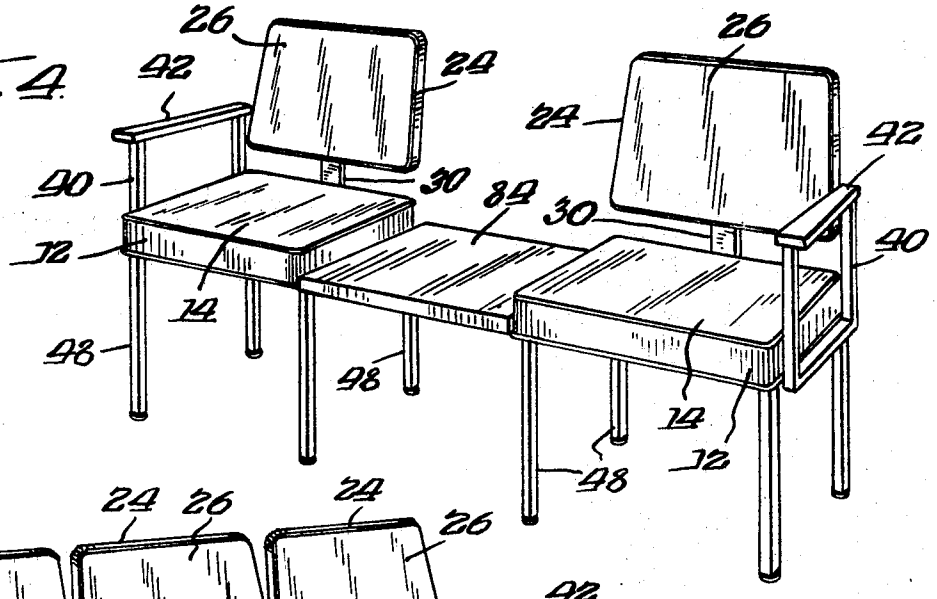
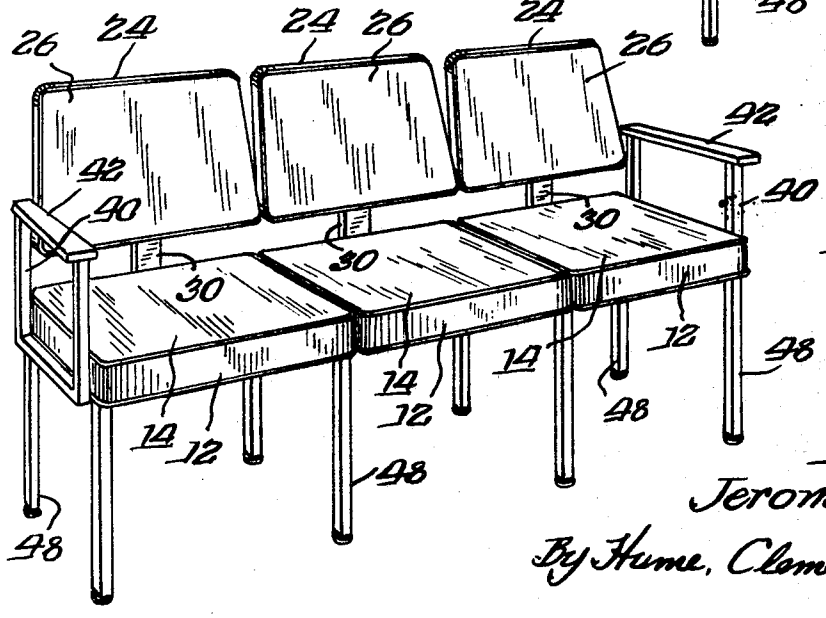


Fig. 5



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United States Patent Office 3,528,096 Patented Sept. 8, 1970

3,528,096

MODULAR FURNITURE

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Filed Feb. 28, 1968, Ser. No. 709,032
Int. Cl. A47c 13/00
U.S. Cl. 297—130 3 Claims

ABSTRACT OF THE DISCLOSURE

A method for producing and apparatus assembleable into any one of a multiplicity of furniture pieces from a small number of basic components comprises the construction of a chair seat having component receiving means in its base adapted to receive a multiplicity of components which may be selectively mounted to assemble various pieces of furniture. The components may be added in groups of one or more, and include a chair back component, leg components, a tilter base component, an interconnection component for connecting a pair of seats or other components in side-by-side relationship with a seat, and a table top component for connecting between a pair of seats. These various components are selectively assembled into furniture pieces, examples including tiltable or rigid chairs, a stool, a settee, and a settee-table top combination.

The present invention relates to improvements in the art of assembling furniture, and more specifically to a method and apparatus that can be utilized for assembling any one of a multiplicity of furniture pieces from a small number of basic components.

Especially in the field of office furniture, there is a demand for a wide variety of furniture pieces following a single styling theme. It is, for example, desirable for an office to have similarly styled desk chairs that can tilt upon a conventional tilter base, non-tiltable chairs to accommodate office visitors, secretarial chairs, and larger pieces of furniture such as settees. In order to satisfy this desire, it has heretofore been necessary for furniture manufacturers, distributors, and dealers to maintain relatively large stocks. Accordingly, it would be desirable if a complete line of office chair-type furniture could be provided that is easily assembleable from a relatively small number of individual components. In this way, the distributor or dealer can simply stock the components, assembling them into the necessary furniture pieces as required by customers.

Generally, the present invention relates to apparatus assembleable into any one of a multiplicity of furniture pieces, together with a method for manufacturing such a variety of pieces from relatively few components. The apparatus includes a chair seat as a basic component, the chair seat having receiving means in its base adapted to receive numerous additional components. These additional components include a chair back component, an arm component, a rigid leg component, and a tilter base component, as well as specialized components useful in making larger pieces of furniture. These specialized components include an interconnection component for attaching two or more seats in side-by-side relationship to form a sofa-like device, and a table top component that can be fastened between two chair seats. The table component is preferably attached to a chair seat by means of the aforementioned interconnection component.

The invention, both as to its organization and method of operation, together with the advantages thereof, will be best appreciated from the following detailed description taken together with the drawings in which:

FIG. 1 is an exploded, perspective view of the preferred embodiment of the present invention, illustrating various components that may be selectively assembled into furniture;

FIG. 2 is a perspective view of a standard office chair assembled according to the present invention;

FIG. 3 is a perspective view of a desk chair assembled according to the present invention;

FIG. 4 is a perspective view of a combination settee and table combination assembled according to the present invention; and

FIG. 5 is a perspective view of a settee assembled according to the present invention.

More specifically, the method of the present invention centers around the construction of a chair seat component having component receiving means in its base and adapted to receive a multiplicity of components which may be selectively mounted to assemble various pieces of furniture. The components, which may be added in groups of one or more, include a chair back, arms, rigid legs, a tilter base, an interconnecting component for connecting two or more seats and table tops in side-by-side relationship, and a table top for connecting between a pair of seats. These components may be selectively assembled, for example, into a tiltable or rigid chair, with or without arms, a stool (chair without back or arms), a settee (two or more chairs interconnected in side-by-side relationship, with or without arms), a settee including a table (two or more chairs with a table top connected between a pair of chairs), etc. Additional furniture items can also obviously be assembled. For example, a bench could be assembled by leaving the backs off the settee construction.

Referring now to the drawings, and more specifically to FIG. 1, there is depicted furniture component apparatus in accordance with the present invention, and generally indicated by reference numeral **10**. The basic component of the apparatus **10** is the chair seat **12**, preferably having a cushioned upper portion **14** and a component receiving base **16**. In the embodiment shown, the base **16** has numerous central ventilation apertures **18** to allow the escape or influx of air when the cushioned upper portion **14** is compressed or released. Located on the component receiving base **16** are component receiving means, in the embodiment shown comprising apertures **20** positioned for alignment with similar apertures in components to be connected to the base **16**, and adapted to receive screws **22** for securing components to the base **16**. It will of course be understood that, although the component receiving means shown includes apertures **20** and screws **22**, any component receiving means adapted to receive and rigidly retain a multiplicity of components may be utilized with success.

One of the components that may be utilized with the chair seat **12** of the present invention is a chair back component **24**. The back component **24** preferably includes a cushioned, forward-facing portion **26** to contribute maximum comfort to the user. Attached to a lower portion of the back component **24** by bolts **28** is a bracket **30** extending below said back component, and angled in a forward direction, i.e., toward the front of the chair. The forwardly projecting portion includes a mounting aperture **32** alignable with a chair back receiving aperture **20***a* in the component receiving base **16**. In the most preferred embodiment, for maximum rigidity of the chair back component **24**, there is also a bracket receiving slot **34** at the rear of the component receiving base **16**. Finally, an additional component receiving aperture **36** is on the back of the chair seat **12**, aligned with a mounting aperture **38** in the vertical portion of the angled bracket **30**.

As also shown in FIG. 1, the present invention includes arm components **40** of generally rectangular configura-

tion, and having upper arm rests **42** and arm mounting brackets **44** on the lower portion. Each of the arm mounting brackets **44** has a central mounting aperture **46** positioned for alignment with arm receiving apertures **20***b* in the component receiving base **16**. It can be seen that both of the arm components **40** shown in FIG. 1 are identical except that the arm rests **42** face in opposite directions. Thus, a right or left arm may easily be assembled simply by altering the orientation of the arm rest **42**. The arm components **44** are easily mounted on the component receiving base **16** by screws **22** penetrating the aligned apertures **46**, **20***b*.

Shown below the chair seat **12** are a pair of leg components **48** designed for substantially vertical mounting below and in support of the chair seat **12**. It is preferred that the leg components **48** each include a pair of leg members **50** and a horizontal member **52** joining the leg members **50** at the top thereof. Attached to each of the leg components **48**, at an upper portion thereof, is a pair of horizontal brackets **54** projecting outwardly from the horizontal members **52**, each having a central mounting aperture **56**. In assembled relationship these mounting apertures **56** are aligned with leg receiving apertures **20***c*. The leg receiving apertures **20***c* are located so that each of the leg components **48** is mounted with the horizontal member **52** passing along either the front or rear of the chair seat **12**. In such a manner, the leg components **48** will not interfere with the mounting of the arm components **40**, or with other components that are mounted to the arm receiving apertures **20***b* at the sides of the base **16**, as hereinafter described.

As an alternative to the leg components **48**, which provide a rigid chair, it is often preferable to provide a chair that can be tilted back for comfort, and can also be easily moved around. Thus, instead of the leg components **48** described above, the chair seat **12** of the present invention may be provided with a tilter base component, generally indicated by reference numeral **60**. The tilter base component **60** includes a support pedestal **62** having legs **64** and a titltable mounting means **66**. The tiltable mounting means **66** is of basically conventional design, including an adjustment knob **68** and spring **70** for setting the amount of resistance to tilt. The tiltable mounting means **66** is connected to the pedestal **62** through a spindle **72** including a washer **74** which can be adjusted to regulate the height of the chair seat **12**. While the tilter base component **60** may be stationary, it will generally be assembled with casters **76** so that the entire chair can be easily moved around.

Referring again to the tiltable mounting means **66**, the upper portion of the embodiment shown is of horizontal, flared H-shaped configuration, having mounting apertures **78** at the tips of the H, and tiltable about the cross members of the H. These mounting apertures **78** are positioned for alignment with tilter base component receiving apertures **20***d* in the component receiving base **16**. Of course, the tilter base component **60** would be used as an alternative to the leg components **48**.

As previously mentioned, the arm components **40** are optional, depending upon the piece of furniture desired. Additionally, in place of the arm components an interconnecting component may be mounted on the component receiving base **16** at the arm receiving apertures **20***b* normally utilized for the arm components **40**. A suitable interconnecting component comprises an interconnecting bracket **80** which has a pair of mounting apertures **82** positioned for alignment with the arm receiving apertures **20***b* on the bases **16** of a pair of adjacent chair seats **12** in side-by-side relationship. Alternatively, the interconnecting bracket component **80** may be employed to mount a table top **84** between a pair of chair seats **12**. Where great rigidity is required for a table top **84** or chair seats **12** in side-by-side relationship, a channel-type interconnecting bracket **86** may be employed as the interconnecting component. The channel bracket **86** runs the length of the assembled furniture, and has apertures **88** alignable with the arm receiving apertures **20***b* of each seat **16**, along with receiving apertures in underside of the table top **84**. In this way, the components will receive additional support from the channel bracket **86**. Of course, one channel bracket **86** can be used to interconnect a plurality of chair seats **12** in side-by-side relationship, the number depending upon the length of the channel bracket **86**.

FIGS. 2–5 illustrate some of the preferred furniture combinations that may be assembled in accordance with the present invention. FIG. 2 illustrates an arm chair including a chair seat **12**, a chair back component **24**, arm components **40**, and substantially vertical leg components **48**.

FIG. 3 illustrates a chair similar to FIG. 2, but substituting the tilter base component **60** for the leg components **48**. A chair such as illustrated in FIG. 3 would be suitable for use as a desk chair. It will be appreciated that numerous modifications are available in addition to those shown in FIGS. 2 and 3. For example, the arms could be eliminated on either chair, and if a stool were desired, the back could also be eliminated.

FIGS. 4 and 5 illustrate two settees that can be assembled according to the present invention. Referring to FIG. 4, a pair of chair seats **12** are each connected to a table top component **84** by interconnecting bracket components **82**. The interconnecting bracket components **82** are illustrated in FIG. 1, and are mounted to the component receiving base **16** by screws **22** penetrating the aligned apertures **82**, **20***b*. In addition, each chair seat **12** has a back component **24**, leg components **48**, and an arm component **40**. As can be appreciated from FIG. 4, the settee-table combination may be altered, including additional adjacent chair seats 12 and/or table top components **84**.

FIG. 5 illustrates a settee including a plurality of adjacent chair seats **12**. The chair seats **12** are connected together by interconnecting bracket members **80** having apertures **82** aligned with receiving apertures **20***b*, thus coupling a pair of adjacent seats **12**. As shown in FIG. 5, an arm component **40** may be installed on each end of such a settee. It is preferred that a settee such as that shown in FIG. 5 include an odd number of seat components **12**, so that leg components **48** are installed only on alternate chair seats including both end seats. Again, it will be appreciated that the arm components **40** and/or the back components **24** may be omitted to produce settees of varying designs, tailored to individual needs. It will also be appreciated that a settee may be formed in combination with a table top **84**, as shown in FIG. 4, and that the table top may suitably be employed as a corner component, so that a pair of chair seats **12** may be supported in angled relationship to one another, as to fit the corner of a room.

Obviously, many modifications and variations of the present invention as hereinabove described will occur to those skilled in the art, and it is intended in the appended claims to cover all such modifications and variations as fall within the true spirit and scope of the invention.

I claim:

1. Apparatus assembleable into any one of a multiplicity of furniture components comprising: a unitary basic chair seat component, said seat component having apertures formed in the underside thereof, including a chair back receiving aperture, arm receiving apertures, and leg receiving apertures; a chair back component including bracket means extending below said back, said bracket means having mounting means, said chair back adapted for upright mounting behind said chair seat component when said chair back bracket mounting means are connected to said seat component by fastening means penetrating said chair back receiving aperture; an arm component including arm mounting means, said arm

component adapted for upright mounting at the sides of said seat component when said arm mounting means are connected to said seat component by fastening means penetrating said arm receiving apertures; a rigid leg component including leg mounting means on the upper portion thereof, said leg component adapted for substantially vertical mounting below and in support of said seat component when said leg mounting means are connected to said seat component by fastening means penetrating said leg receiving apertures; an interconnecting component adapted to be connected to said seat component by fastening means penetrating said arm receiving apertures, said interconnecting component being adapted to engage a plurality of seat components in side-by-side relationship; and a table top component adopted to be connected to said arm receiving apertures by said interconnecting component for mounting said table top component alongside said seat component and substantially parallel thereo.

2. The apparatus as defined in claim 1 further including a bracket receiving slot at the rear of said seat component adapted to receive said chair back bracket mounting means.

3. The apparatus as defined in claim 1 wherein said apertures in said seat component further include tilter

base component receiving apertures formed in the underside thereof, and wherein said apparatus further includes a tilter base component including a support pedestal and tilter base mounting means connected thereto, said tilter base mounting means being adapted for connection to said seat component by fastening means penetrating said tilter base component receiving apertures.

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U.S. Cl. X.R.

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