



US 20040070319A1

(19) **United States**
(12) **Patent Application Publication** (10) **Pub. No.: US 2004/0070319 A1**
Miller (43) **Pub. Date: Apr. 15, 2004**

(54) **ARTICLE OF FURNITURE HAVING STORAGE COMPONENTS**

(52) **U.S. Cl. 312/208.1; 312/223.6**

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(57) **ABSTRACT**

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A furniture unit such as a desk is provided with a slidably mounted storage drawer located under a work surface of the desk. The storage drawer is sized to support at least a laptop computer and a standard-sized alphanumeric computer keyboard. Additionally, a rear portion of the drawer supports a power and data module providing an AC power outlet and a phone and/or a data outlet for the computer. A front edge of the drawer folds down extending the drawer bottom and includes a wrist support pad for use with the computer keyboard. The furniture unit may also be supplied with a rotatable carousel storage unit located under the work surface, especially under the corner work surface of an L-shaped desk. The carousel storage unit includes one or more circular shelves rotatably mounted beneath the work surface and at least one pair of wire supports mounted to an protruding above each circular shelf. The wire supports provide lateral support for a row of books, binders and the like.

(21) **Appl. No.: 10/459,679**

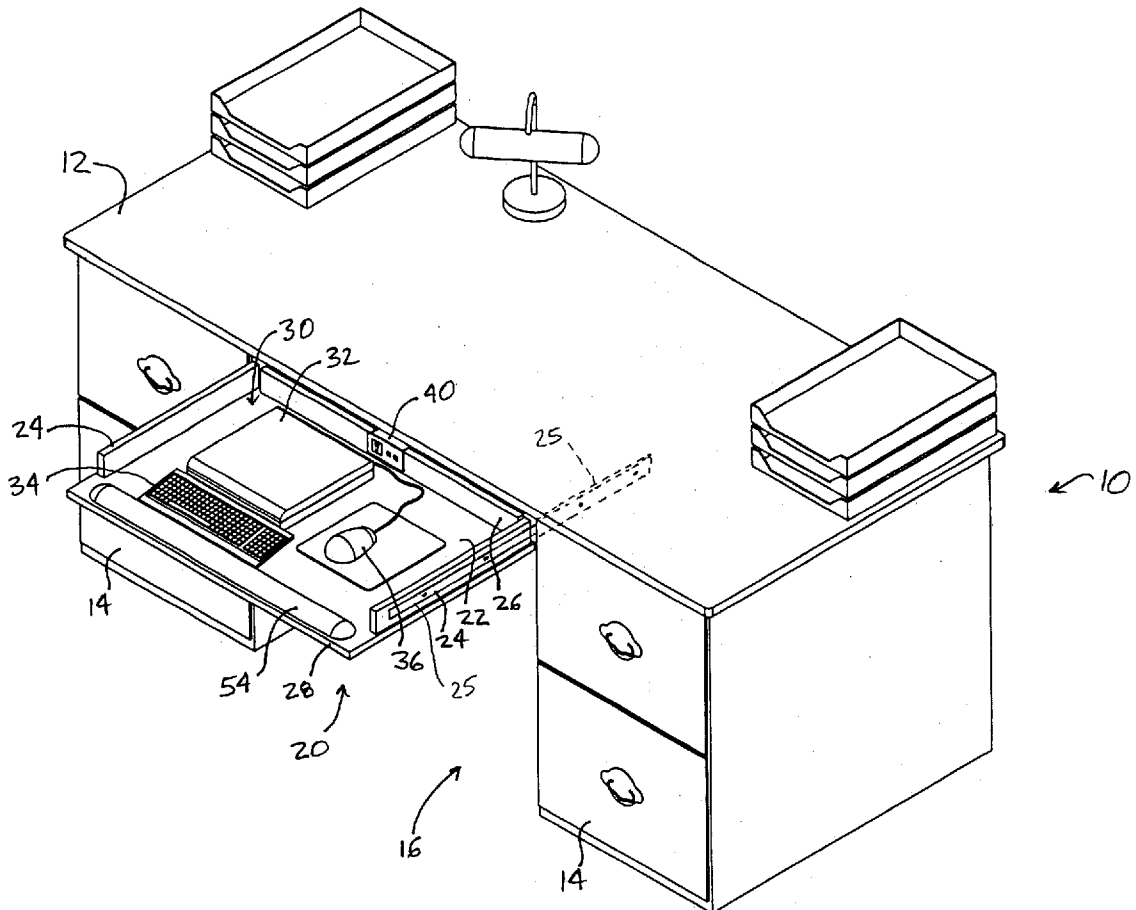
(22) **Filed: Jun. 11, 2003**

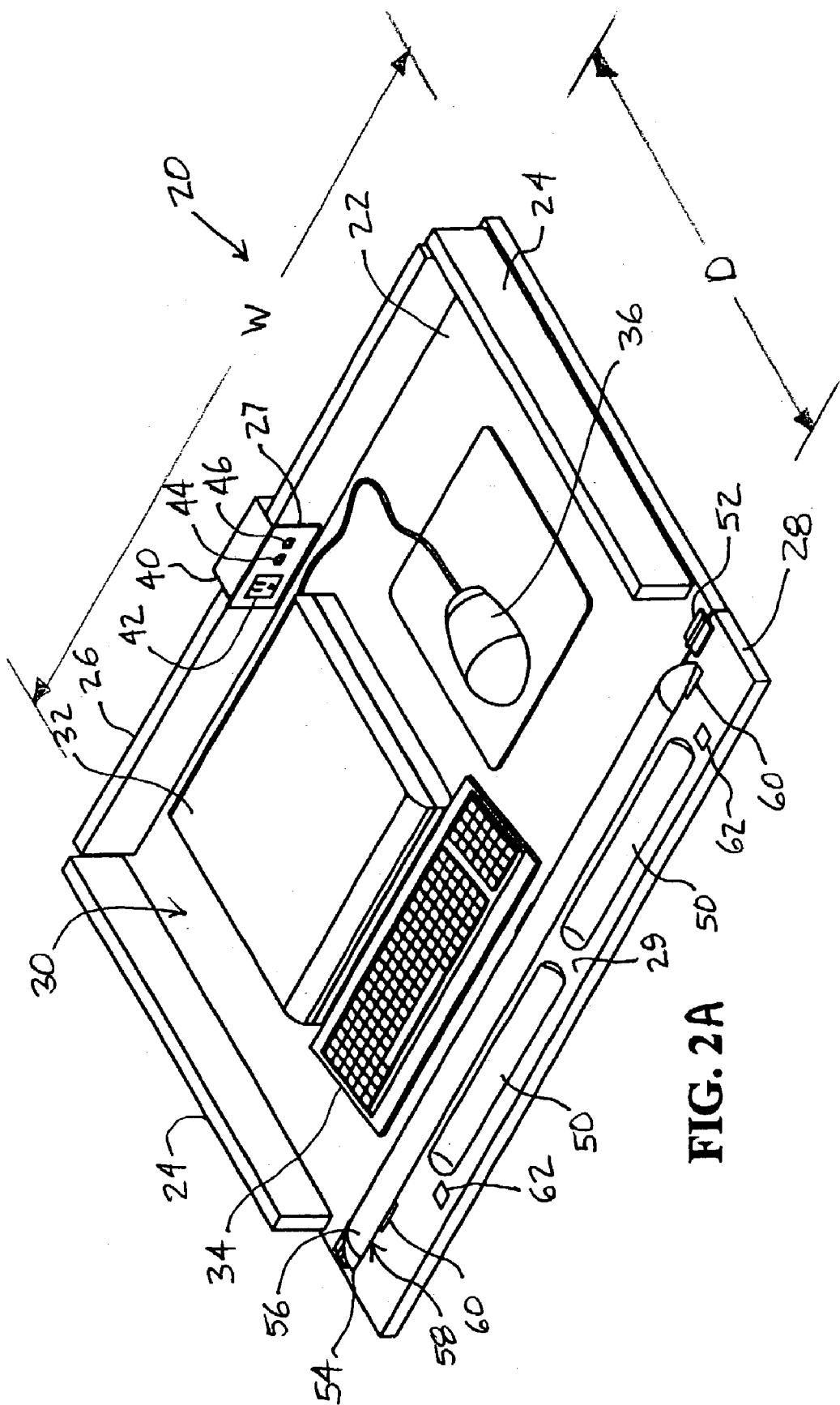
Related U.S. Application Data

(60) **Provisional application No. 60/417,996, filed on Oct. 14, 2002.**

Publication Classification

(51) **Int. Cl.⁷ A47B 81/00**





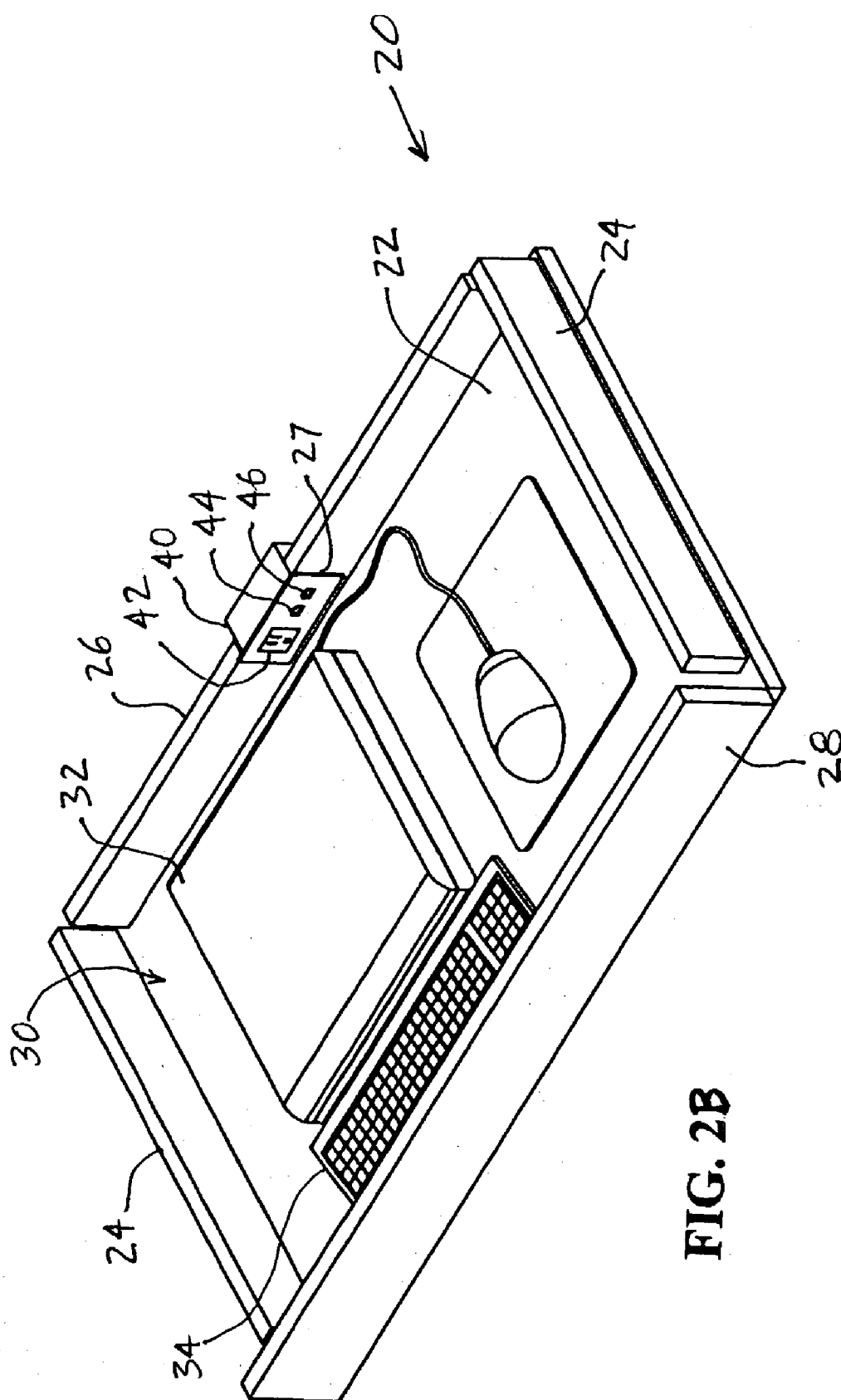
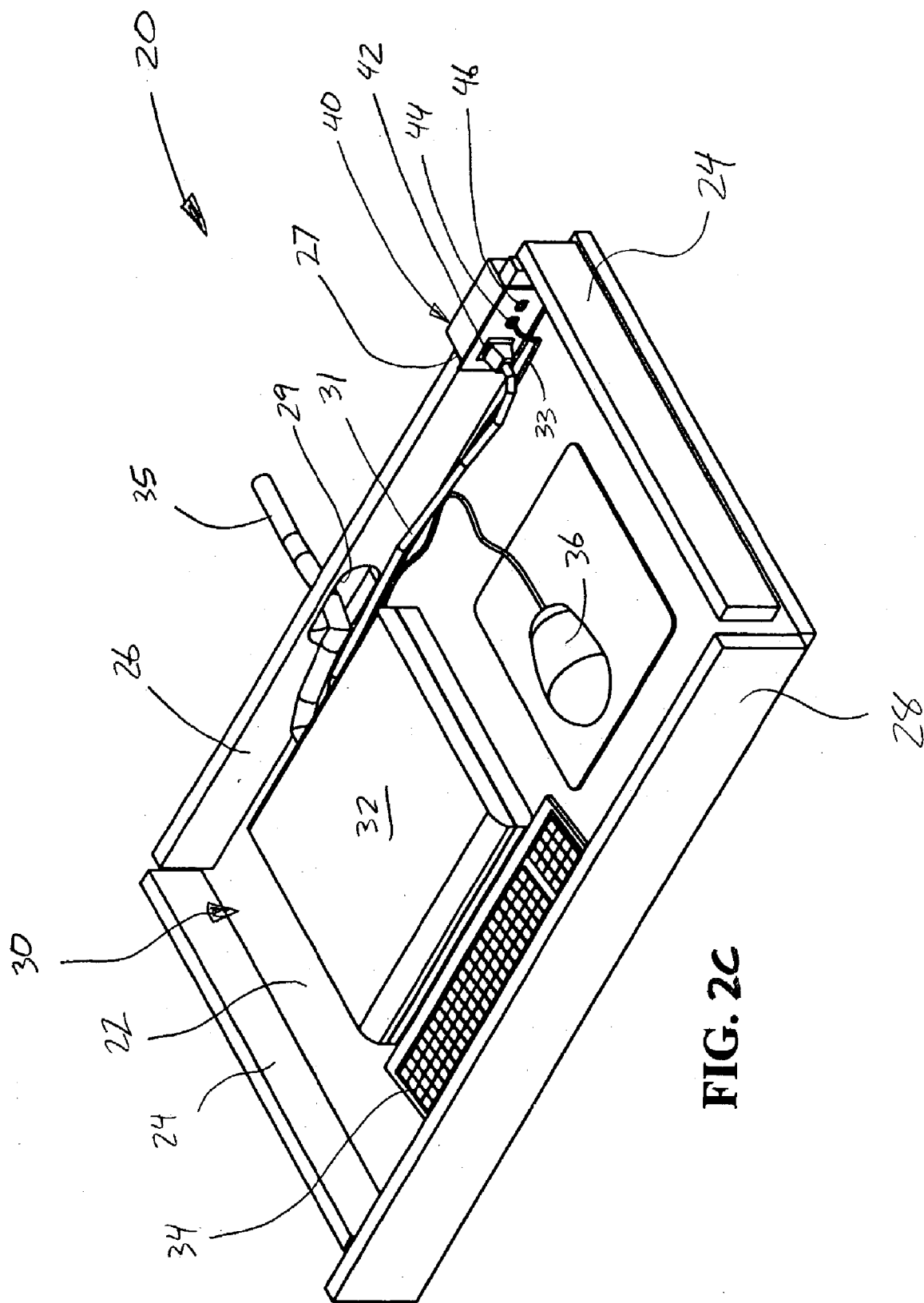
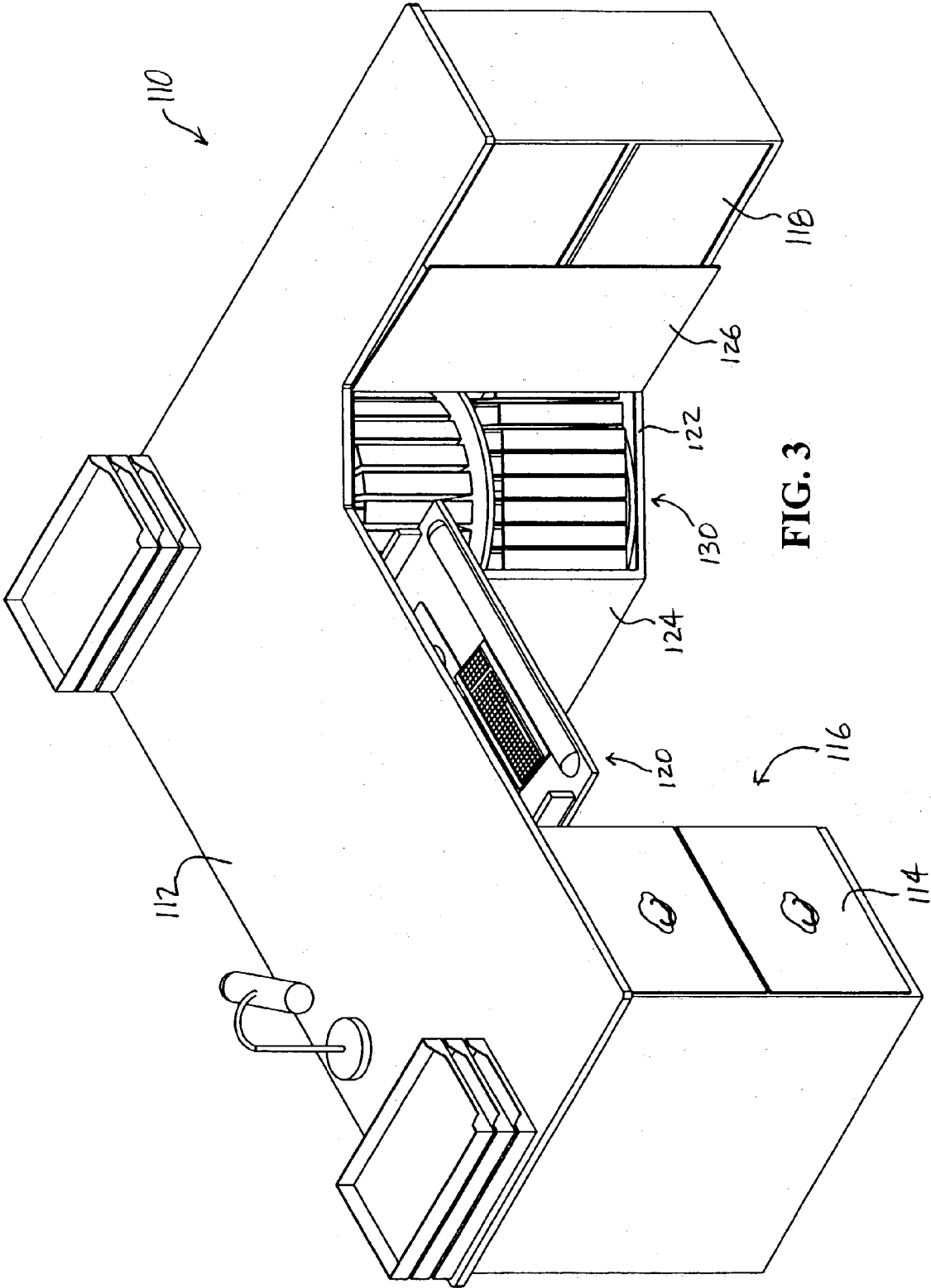


FIG. 2B





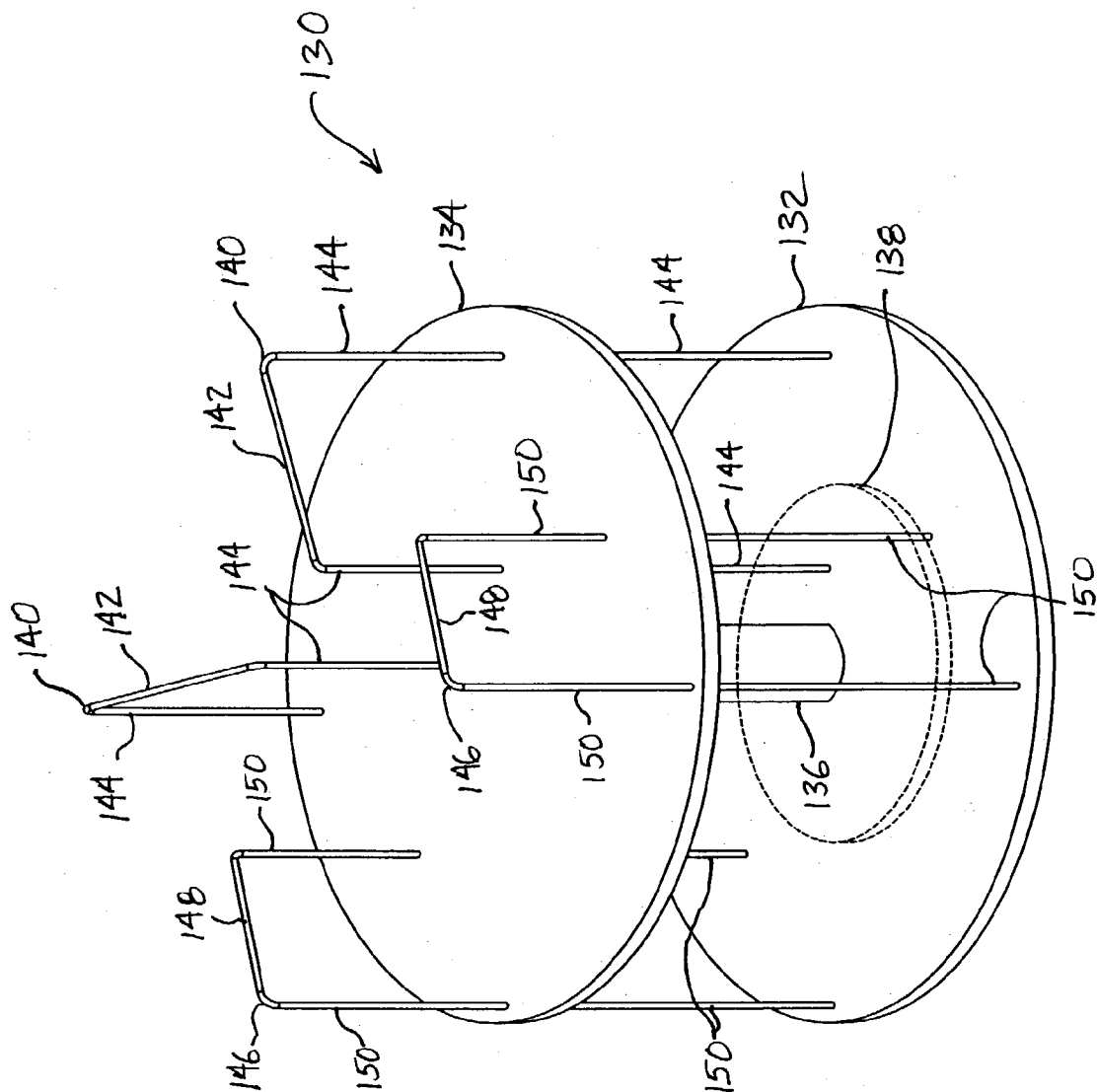


FIG. 4

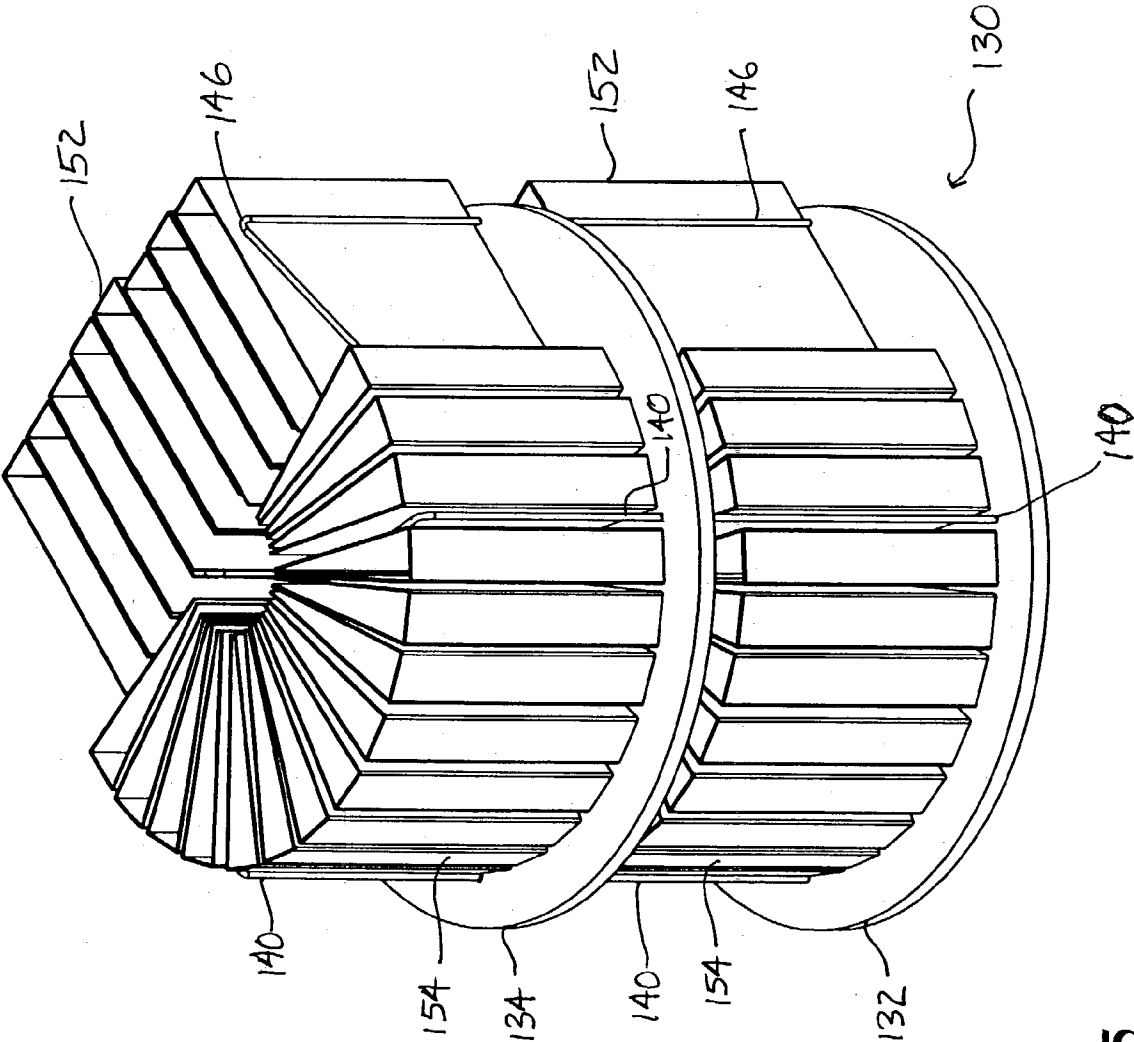


FIG. 5

ARTICLE OF FURNITURE HAVING STORAGE COMPONENTS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit under Title 35, U.S.C. § 119(e) of U.S. Provisional Patent Application Serial No. 60/417,996, entitled DESK STORAGE COMPONENTS, filed on Oct. 14, 2002.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to storage components for articles of furniture, such as desks, workstations, credenzas, hutches, and entertainment centers.

[0004] 2. Description of the Related Art

[0005] Desks and other furniture units which are specifically adapted for use with computer components and/or for storing books, binders and the like often provide open shelving and other storage components above the work surface. However, many users prefer a more traditional look to a desk or other article of furniture and prefer that computer components and books and other materials be stored under the work surface and thus out of sight. This preference is especially true for desks and other furniture components that are used in a home office.

[0006] One known furniture unit includes a pullout storage drawer located below the work surface and above the knee-hole in a pedestal-type desk. The drawer is capable of slidably extending outward from under the work surface and supporting a computer keyboard. In addition, the front face of the drawer is rotatable from a vertical position to a horizontal position and provides a support pad for supporting the wrists of a user while operating the keyboard.

[0007] Another known furniture unit having a work surface includes a fixed support shelf for a laptop computer. The support shelf is located under the work surface. A portion of the work surface located above the support shelf folds open and back onto the top of a remaining portion of the work surface, therefore providing access to the laptop positioned on the fixed support shelf. Additionally, an electrical receptacle unit is provided adjacent a rear portion of the support shelf.

[0008] Yet another known furniture unit having a work surface includes a hutch positionable on top of a work surface of a desk. The hutch includes a rotatable rectangular storage cabinet providing various organizers on each side, for example, a CD rack, a corkboard, sliding trays, and vertically stacked angular storage pockets.

[0009] What is needed is a furniture unit including storage components for computer components and/or books and other materials which is an improvement over the foregoing.

BRIEF SUMMARY OF THE INVENTION

[0010] The present invention provides a furniture unit, such as a desk or credenza, for example, which includes storage components under its work surface for computer components and books, binders and the like. Additionally,

the furniture unit includes a power and data receptacle for powering and providing a data connection to a computer.

[0011] In one form of the invention, a drawer is provided, which is slidably located under a work surface and above the knee-hole space between support pedestals which are located under opposite ends of the work surface. The drawer slides outward from under the work surface and is dimensioned to receive a laptop computer and a full-sized auxiliary computer keyboard. A power and data receptacle is located at the rear of the drawer and provides power and data connections for the computer. The drawer may include a front portion for concealing the contents of the drawer when the drawer is slid entirely under the work surface. The front portion advantageously folds from a vertical position to a horizontal position that serves as an extension of the drawer base. A hinged wrist support may be included along the drawer front. Rotating the wrist support about its hinges reveals at least one storage depression or pocket defined in the drawer front.

[0012] In a further form of the invention, a furniture unit such as a desk is provided having a rotatable storage component or carousel located under the work surface. For example, the rotatable storage component may be located under the corner portion of an L-shaped work surface. The carousel includes at least one circular shelf rotatably mounted under the work surface and having pairs of wire support brackets adapted to laterally support books, binders and the like. Each pair of wire supports may be oriented parallel to each other, thus supporting a linear row of books, or oriented angularly along two ends of an arcuate section of the circular shelf for supporting an arcuate row of binders and the like. Optionally, the carousel may include a second shelf spaced above the first shelf and attached to the first shelf by a central support structure and/or extensions of the wire supports.

[0013] In one form, the present invention provides an article of furniture, including a furniture housing; and a drawer slidably mounted within the furniture housing, the drawer having a front portion and a rear portion and defining a storage area dimensioned to support at least a laptop computer and an auxiliary computer keyboard; said drawer rear portion including a power and data module, the power and data module having an AC power outlet and at least one of a phone and a data outlet.

[0014] In a further form thereof, the present invention provides an article of furniture, including a furniture housing; a storage component rotatably mounted within the furniture housing, the storage component including a first shelf and at least a first pair of support members mounted to and protruding above the first shelf, the support members adapted to laterally support therebetween a plurality of books and the like.

[0015] Advantageously, the furniture unit drawer concealingly supports a laptop computer, full-sized keyboard, wrist support pad, and power and data module.

[0016] Additionally, the furniture unit advantageously provides a rotatable storage carousel located under the work surface. The carousel is capable of supporting linear and arcuate rows of books, binders and the like.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The above-mentioned and other features and advantages of this invention, and the manner of attaining

them, will become more apparent and the invention will be better understood by reference to the following description of the embodiments of the invention taken in conjunction with the accompanying drawings wherein:

[0018] FIG. 1 is a perspective view of a furniture unit having a laptop drawer according to the present invention;

[0019] FIG. 2A is a top perspective view of the laptop drawer of the furniture unit of FIG. 1 showing a front portion thereof in a horizontal position;

[0020] FIG. 2B is a top perspective view of the laptop drawer of FIG. 2A showing a front portion thereof in a vertical position;

[0021] FIG. 2C is a top perspective view of a laptop drawer of the furniture unit of FIG. 1, according to an alternative embodiment;

[0022] FIG. 3 is a perspective view of an L-shaped furniture unit having a carousel unit and a laptop drawer according to the current invention located under the furniture unit work surface;

[0023] FIG. 4 is a top perspective view of the carousel storage component of the furniture unit shown in FIG. 3; and

[0024] FIG. 5 is a top perspective view of the carousel storage component shown in FIG. 4 having an arcuate row of binders and a linear row of binders or books.

[0025] Corresponding reference characters indicate corresponding parts throughout the several views. The exemplifications set out herein illustrate exemplary embodiments of the invention, and such exemplifications are not to be construed as limiting the scope of the invention in any manner.

DETAILED DESCRIPTION

[0026] Referring to FIG. 1, a first exemplary embodiment of furniture unit 10 is shown. Furniture unit 10, which is shown in exemplary form as a desk, includes work surface 12, support pedestals 14 located under opposite ends of work surface 12, and drawer 20 slidably mounted below work surface 12 and above knee hole 16, which is defined between support pedestals 14 beneath work surface 12. Drawer 20 advantageously supports and stores laptop computer 32, a full-sized alphanumeric auxiliary computer keyboard 34, and power and data module 40. Additionally, drawer 20 may include wrist support pad 54 and other computer-related items such as mouse 36. Although furniture unit 10 is shown as a desk, the features of the present invention may also be used in other furniture components such as credenzas, bookcases, hutches, and entertainment centers, for example.

[0027] Referring to FIG. 2A, drawer 20 includes planar drawer base 22, rear panel 26, and side panels 24 vertically protruding above base 22 to form storage area 30. Suitable drawer slides 25 (FIG. 1) may be attached to side panels 24 and to furniture unit 10 to slidably mount drawer 20 to furniture unit 10 in a known manner. Drawer base 22, and thus storage area 30, are advantageously dimensioned or sized to support and store laptop computer 32, as well as a full-sized alphanumeric auxiliary computer keyboard 34. For example, referring to FIG. 2A, the size of storage area 30 is defined by width W and depth D. In most applications,

width W may vary from about 25 inches to about 38 inches, and depth D may vary from about 17 inches to about 26 inches, for example. Some suitable dimensions for width W and depth D, which define storage areas 30 varying from a rectangular shape to a square shape, are: (1) 17" D×38" W; (2) 19" D×35" W; (3) 21" D×31" W; (4) 23" D×28" W; and (5) 26" D×25" W.

[0028] Computer keyboard 34 and other peripheral items, such as mouse 36, are often attached to portable computers such as laptop 32 in order to provide easier ergonomic use of the computer in view of the fact that laptop computer keyboards are often small and uncomfortable when used for an extended period of time.

[0029] Drawer rear panel 26 defines aperture 27 for receipt of power and data module 40. Power and data module 40 includes AC power outlet 42 and may also include data outlet 44 and/or telephone outlet 46. Laptop 32 may advantageously be plugged into AC power outlet 42 for power, and may be connected in a suitable manner to data outlet 44 or telephone outlet 46 for network or Internet connectivity. An exemplary power and data module 40 is part # LP1000 manufactured by Furnlite of Fallston, N.C., which may be connected to suitable AC power, telephone, and data sources external of furniture unit 10. Power and data module 40 may alternatively include a DC power outlet or other computer connections, such as, for example, a universal serial bus (USB) port.

[0030] As shown in FIGS. 2A and 2B, aperture 27 and power and data module 40 are centrally disposed within drawer rear panel 26. Alternatively, as shown in FIG. 2C, aperture 27 and power and data module 40 may be disposed in an offset manner toward one of the left or right sides of drawer rear panel 26. In this manner, the positioning of power and data module 40 may be selectively varied in order to suit the particular needs of a user or the particular configuration of the electrical and data connections of computers or other devices which are stored within storage area 30. Also, drawer rear panel 26 may include access hole 29 through which wires and cords may pass.

[0031] As shown in FIG. 2C, power cord 31 connects laptop 32 with power outlet 42 of power and data module 40 for supplying power to laptop 32, and data cord 33 connects laptop 32 with data outlet 44 of power and data module 40 to connect laptop to a suitable data source, such as a local area network ("LAN"), a wide area network ("WAN"), or the Internet, for example. Additionally, another cord 35 connected to laptop 32 is shown passing through access hole 29 for connecting laptop 32 to a peripheral device, such as a printer, for example.

[0032] Drawer 20 also includes front 28 which is attached to drawer base 22 with one or more front hinges 52. In FIG. 2A, drawer front 28 is shown in an open or extended horizontal position such that front 28 forms an extension of base 22. Advantageously, as shown in FIG. 2B, front 28 may be folded upward to a closed or vertical position in which front 28 conceals drawer storage area 30 and the contents thereof when drawer 20 is slid entirely under work surface 12.

[0033] Referring again to FIG. 2A, surface 29 of drawer front 28, which faces upward when drawer front 28 is in the open extended position, may define storage depressions or

pockets 50 along the length of drawer front 28 for storing pencils, paper clips, and other items. Advantageously, wrist pad 54 may be attached by hinges 60 to surface 29 of front 28 so that flat lower surface 58 of wrist pad 54, which is opposite wrist support top 56, may close over storage pockets 50, retaining the contents therein. Wrist pad 54 supports the wrists of a user when the user types on keyboard 34, and may be retained to surface 29 of drawer front 28 using magnetic or other fasteners 62.

[0034] Referring to FIG. 3, a second exemplary embodiment of furniture unit 110 is shown. Furniture unit 110, which is shown as an L-shaped desk, includes L-shaped work surface 112, support pedestals 114 and 118 located beneath opposite ends of L-shaped work surface 112, and carousel storage component 130 located under work surface 112 and between support pedestals 114 and 118. Furniture unit 110 may also include laptop drawer 120 located under work surface 112 in accordance with the first exemplary embodiment, as described above.

[0035] In the exemplary embodiment, carousel 130 is shown rotatably supported on support 122 and concealed by sidewalls 124 and door 126. However, carousel 130 may be located under work surfaces of non-L-shaped desks and may also be open to view rather than being concealed by sidewalls 124 and door 126.

[0036] Referring to FIG. 4, carousel 130 generally includes bottom shelf 132 supported on rotational apparatus 138, with bottom shelf 132 including wire support bracket pairs 140 and 146. Rotational apparatus 138 may rest on a floor surface or may be formed as a base panel within furniture unit 110. Center support 136 extends upwardly from, and is rotatably mounted to, support plate 138. Additionally, carousel 130 may include one or more top circular shelves 134 supported above shelf 132 by center support 136 and/or wire supports 140 and 146.

[0037] Wire supports 140 and 146 are generally provided in pairs. For example, wire supports 140 each include horizontal portion 142 linking vertical leg portions 144. Leg portions 144 are attached to shelves 132 and 134. Alternatively, shelves 132 and 134 may respectively include separate wire supports 140 and 146. Although shelves 132 and 134 are shown herein as circular, shelves 132 and 134 may have a square shape, or any other desired shape.

[0038] Wire supports 140 are each disposed along a respective radius which extends from the center of shelf 134 to the outer circumference thereof. Stated otherwise, wire supports 140 are oriented at an angle relative to each other, and along opposite ends of an arcuate segment of carousel 130 so that any book-like items, such as binders 154, may be laterally supported by wire supports 140 in an arcuate manner as shown in FIG. 5. In this configuration, due to the wedge-shaped profile of binders 154, space is conserved on shelves 132 and 134 of carousel 130.

[0039] Additionally, wire supports 146 include horizontal portion 148 linking vertical leg portions 150, which are attached to shelves 132 and 134. A pair of wire supports 146 are oriented parallel relative to each other so that linear row 152 of books and the like, shown in FIG. 5, may be laterally supported by wire supports 146.

[0040] A single or multiple-shelf carousel unit 130 may be located under work surface 112, as the number of shelves

132 and 134 is only restricted by the available space beneath work surface 112 and the height of the items to be stored.

[0041] Advantageously, rotational apparatus 138 allows carousel 130 to rotate relative to furniture unit 110 so that all books and binders 152 and 154 may be readily accessible upon rotation of carousel 130 about rotational apparatus 138 relative to furniture unit 110.

[0042] While this invention has been described as having exemplary embodiments and scenarios, the present invention can be further modified within the spirit and scope of this disclosure. This application is therefore intended to cover any variations, uses, or adaptations of the invention using its general principles. Further, this application is intended to cover such departures from the present disclosure as come within known or customary practice in the art to which this invention pertains and which fall within the limits of the appended claims.

What is claimed is:

1. An article of furniture, comprising:

a furniture housing; and

a drawer slidably mounted within said furniture housing, said drawer having a front portion and a rear portion and defining a storage area dimensioned to support at least a laptop computer and an auxiliary computer keyboard; and

said drawer rear portion including a power and data module, said power and data module having an AC power outlet and at least one of a phone and a data outlet.

2. The article of furniture of claim 1, further comprising a drawer front pivotally attached to said drawer at said front portion.

3. The article of furniture of claim 2, wherein said drawer front includes a wrist support pad on an interior side thereof.

4. The article of furniture of claim 2, wherein said drawer front includes at least one storage pocket defined within an interior side thereof.

5. The article of furniture of claim 2, wherein said drawer front includes at least one storage pocket defined within an interior side thereof, and a wrist support pad pivotally attached to said interior side, said wrist support pad pivotable for accessing said at least one storage pocket.

6. The article of furniture of claim 1, wherein said drawer front is movable between an upright closed position in which contents of said drawer storage area are hidden, and a horizontal open position wherein said drawer front forms an extension of said drawer.

7. The article of furniture of claim 1, wherein said drawer rear portion includes a vertical wall, said power and data module mounted within said vertical wall.

8. The article of furniture of claim 1, wherein said article of furniture is a desk including a work surface, said drawer slidably mounted beneath said work surface.

9. The article of furniture of claim 1, wherein said drawer storage area has a width of between about 25 inches and about 38 inches, and a depth of between about 17 inches and about 26 inches.

10. An article of furniture, comprising:

a furniture housing;

a storage component rotatably mounted within said furniture housing, said storage component including a first shelf and at least a first pair of support members mounted to and protruding above said first shelf, said support members adapted to laterally support therebetween a plurality of books and the like.

11. The article of furniture of claim 10, further comprising at least a second pair of support members extending above said first shelf.

12. The article of furniture of claim 10, wherein said first pair of support members are disposed parallel to one another, said support members adapted to laterally support a linear row of books and the like.

13. The article of furniture of claim 10, wherein said first pair of support members are disposed at a non-parallel angle with respect to one another, said support members adapted to laterally support an arcuate row of books and the like.

14. The article of furniture of claim 10, further comprising:

a second shelf vertically spaced from said first shelf; and

a support structure attaching said second shelf to said first shelf such that said second shelf is rotatable with said first shelf.

15. The article of furniture of claim 14, wherein said first and second shelves are circular.

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