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(54) **COMPUTER DESK**

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(57) **ABSTRACT**

A computer desk including a desktop having an under surface and a top surface, a plurality of legs substantially vertically extending from the under surface of the desktop, at least one shelf element having a plurality of hubs attached thereto, wherein the at least one shelf element is attached to at least one of the plurality of legs via at least one of the plurality of hubs, and a removable stand element on the top surface of the desktop. Additionally, the computer desk may include a keyboard tray, wherein the keyboard tray is slidingly attached to the under surface of the desktop. Furthermore, the computer desk may include a side desk, wherein the side desk is pivotally attached to the under surface of the desktop.

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(60) Provisional application No. 60/370,857, filed on Apr. 8, 2002.

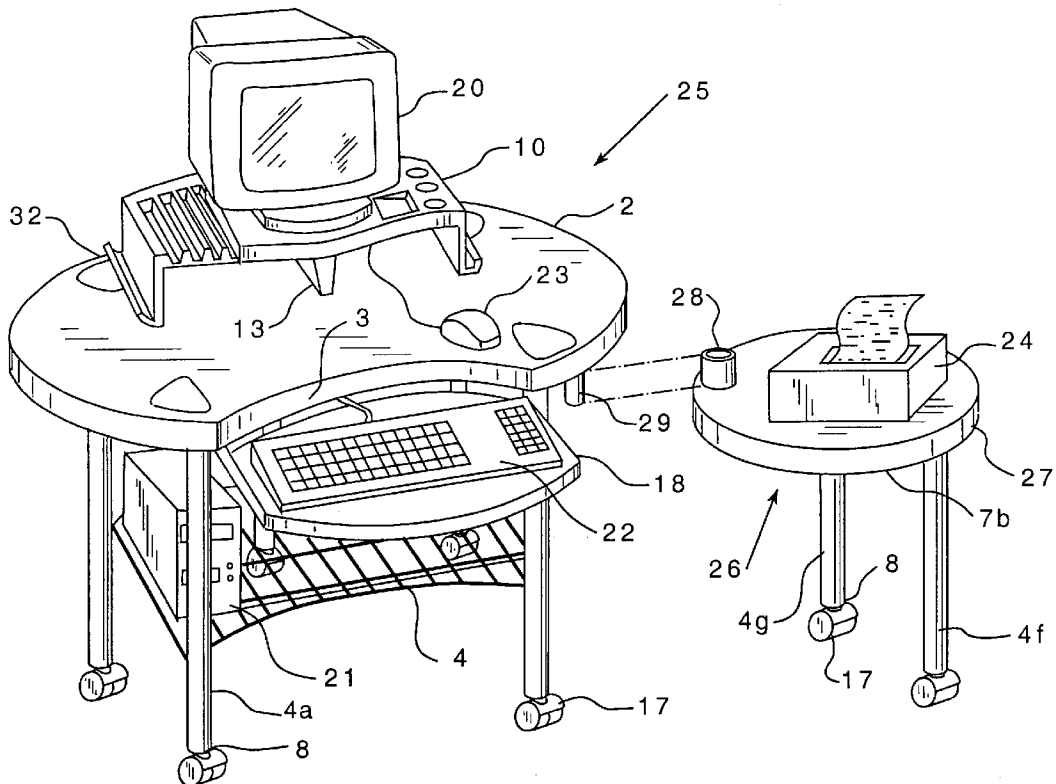


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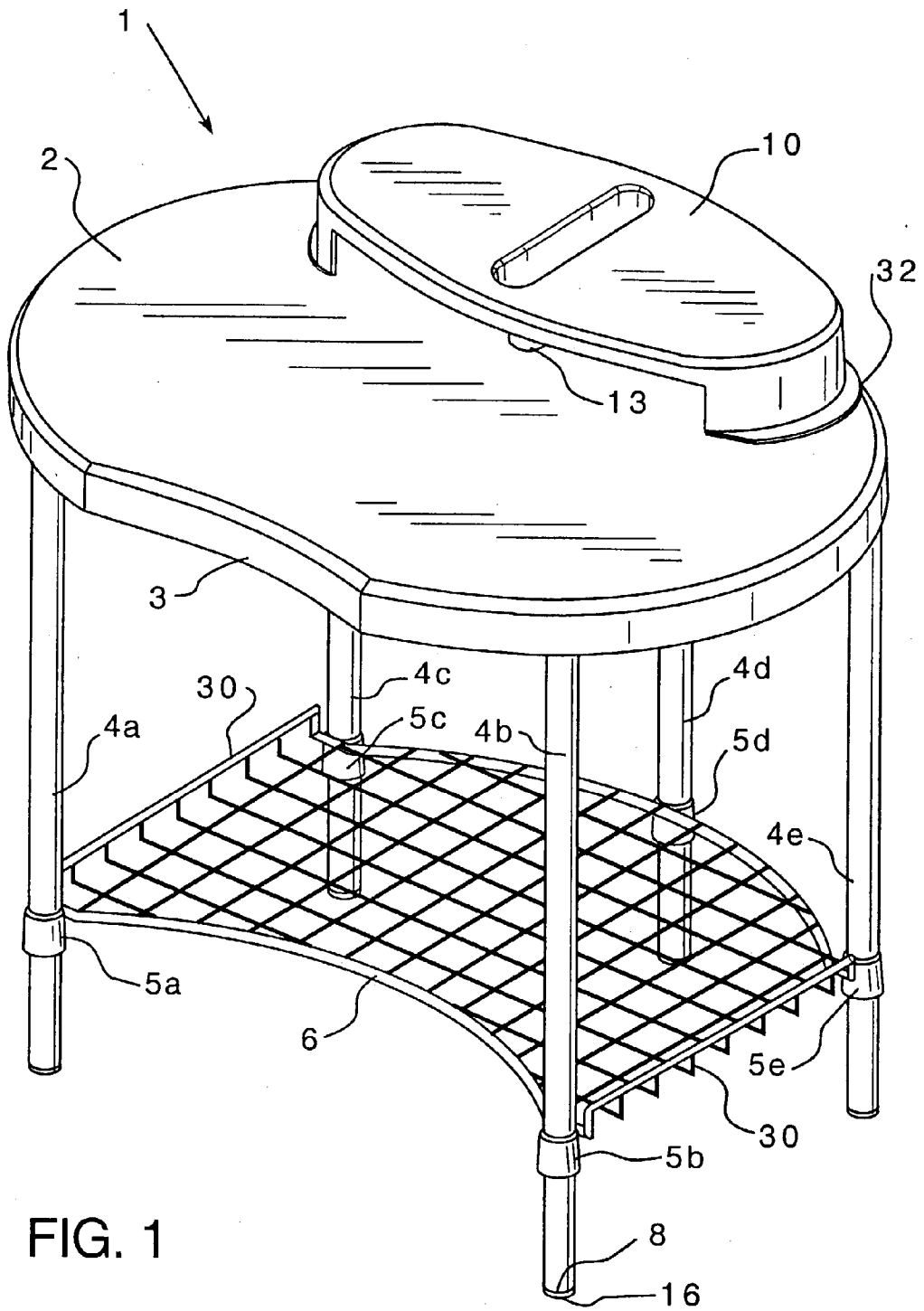


FIG. 1

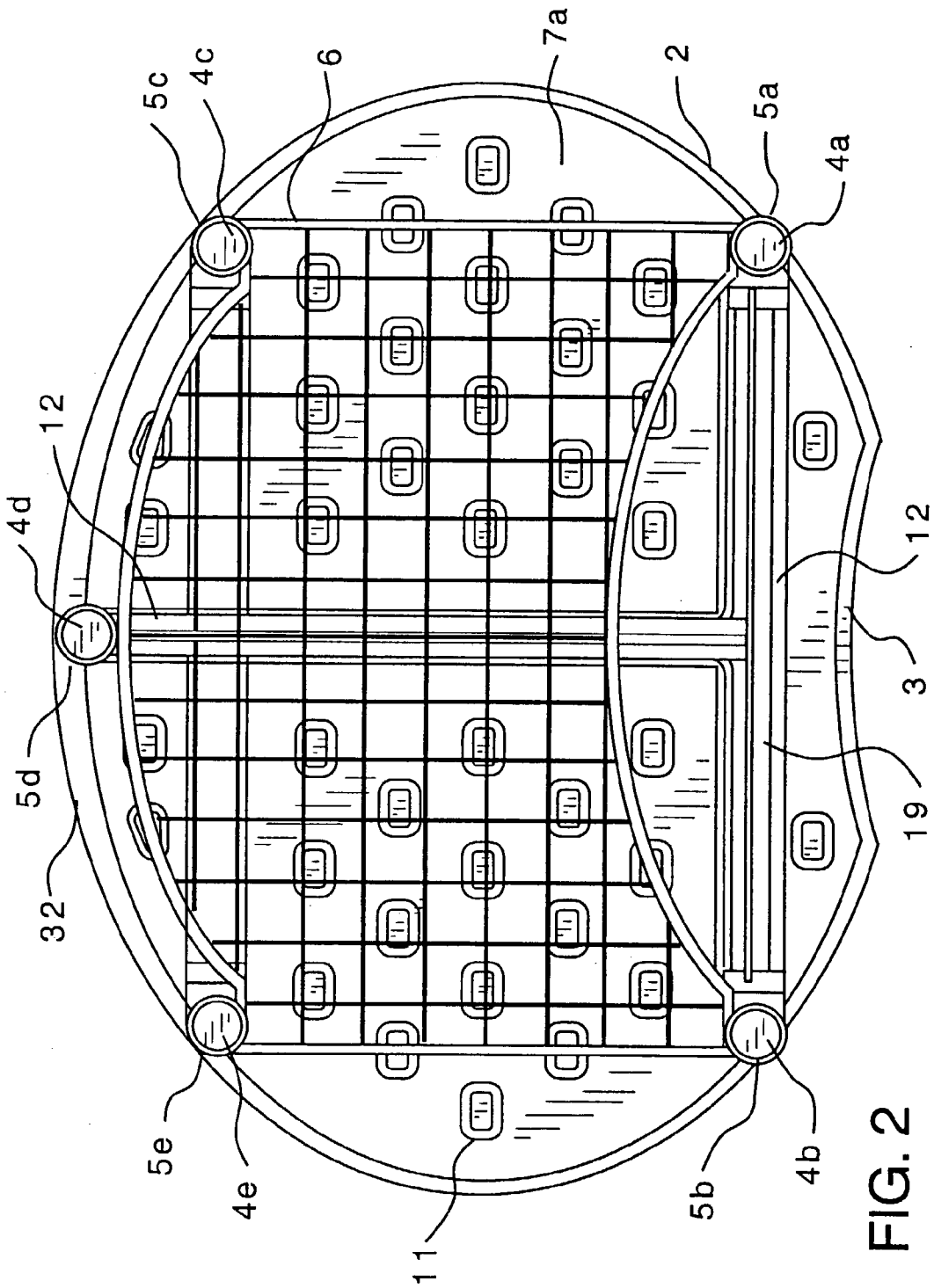
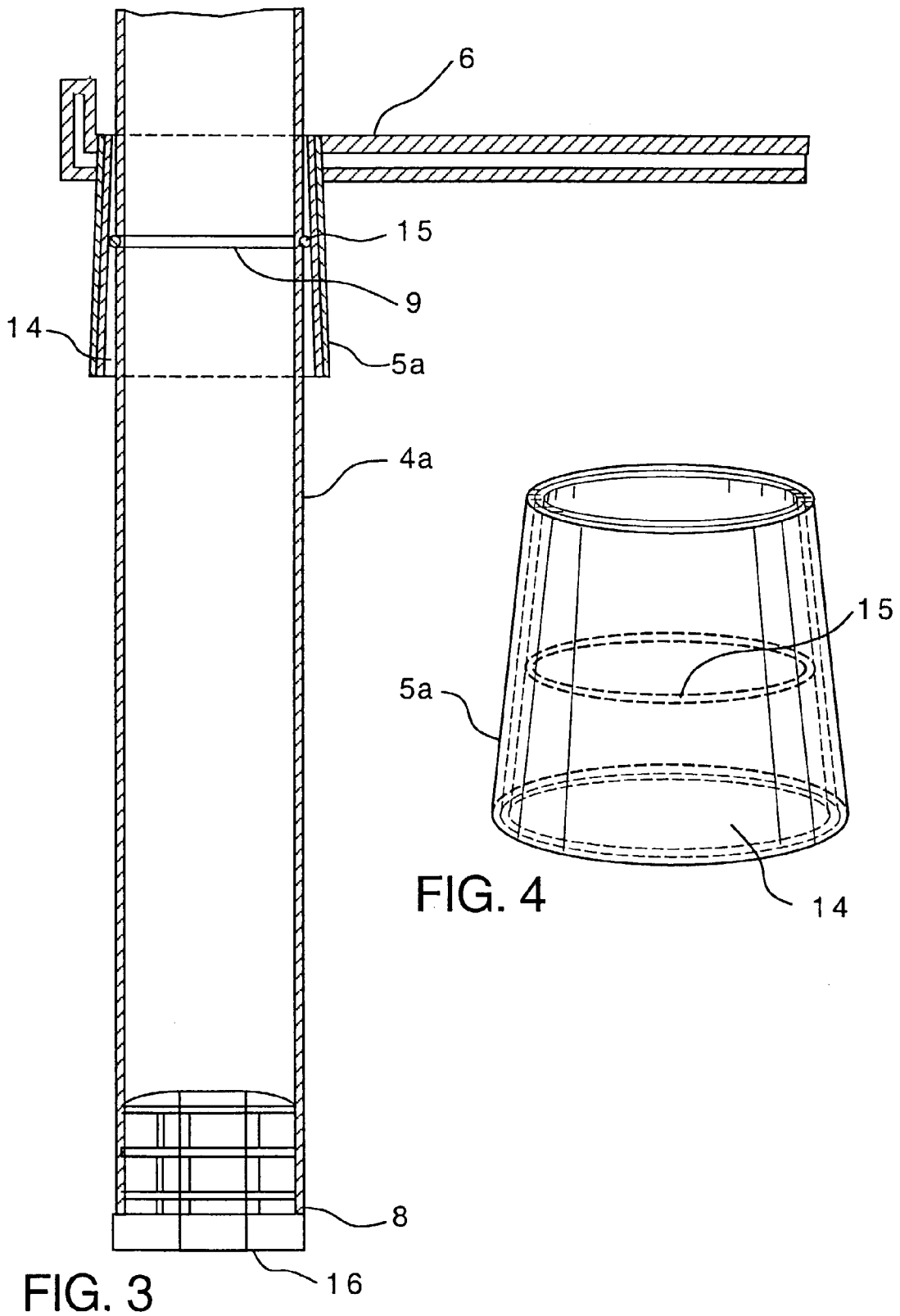


FIG. 2



COMPUTER DESK

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application Serial No. 60/370,857, filed Apr. 8, 2002, and entitled "Computer Cart", the contents of which are hereby incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a computer desk and, more specifically, a desk for supporting a monitor, a computer processing unit, computer-related components, peripherals, and other accessories.

[0004] 2. Description of Related Art

[0005] As the demand for personal computers has increased, a variety of peripheral business activities have emerged as part of the "information age." Among these activities is a substantial market for furniture specially designed to accommodate computers and associated equipment. In general, desks for supporting computers are known in the prior art. For example, U.S. Pat. No. Des. 344,420 to Rodriguez discloses a mobile computer stand and U.S. Pat. No. 5,121,974 to Monson discloses a computer desk apparatus.

[0006] Although the aforementioned prior art can support computer-related components, peripherals, and accessories, the prior art has certain specific drawbacks. For example, the mobile computer stand disclosed in the '420 patent, although highly movable, has little desktop space, resulting in the user being crowded and uncomfortable when using a computer. The computer desk apparatus disclosed in the '974 patent provides sufficient desktop and storage space, but is too large and thus impractical to easily move. This is especially true of modern computer furniture that is typically made of wood or veneered particle boards. Additionally, assembly of such furniture requires several hours and a variety of tools. While these inconveniences are not great, if the unit needs to be assembled only once and most likely will remain in place for several years, for students and homeowners who change residences often or frequently rearrange their furniture, it can be a nightmare.

[0007] Accordingly, what is needed and has not heretofore been developed is an attractive computer desk on which a personal computer and its accompanying peripherals and accessories can be stored and used, that is lightweight yet stable, low in cost, and easy to assemble.

BRIEF SUMMARY OF THE INVENTION

[0008] The present invention is a computer desk and includes, in a preferred embodiment, as illustrated in **FIG. 1**, a desktop, a monitor stand, a plurality of legs, and a grate. Preferably, the computer desk structure has a modified oval-shaped desktop with a concave cutout at the front portion of the desktop. The monitor stand is situated on top of the desktop to support a monitor thereon. The desktop is supported by the plurality of legs. In one embodiment, there are five tubular legs, each of which has a circumferential groove near the lower portion. A floor plug may be inserted

at the bottom end of each leg. The legs are affixed vertically to the under surface of the desktop and extend to the floor.

[0009] Hubs are provided on opposite corners of the grate in relation to the position of each corresponding leg. Each hub comprises a tapered bushing having an interior circumferential rib when the table is assembled. Each of the legs slidably accepts its corresponding hub, until the circumferential rib engages the circumferential groove, thereby positioning the grate in a plane parallel to the plane of the desktop. In use, a CPU and other computer-related components, peripherals, and accessories can be placed on the grate.

[0010] The computer desk is lightweight, yet provides sufficient strength for support and stability under load conditions. This is accomplished by constructing the computer desk as a blow-molded plastic unit. Additionally, the computer desk is small enough to be movable and unobtrusive, yet by means of a multi-tiered design, is large enough to comfortably accommodate a monitor, a computer processing unit, computer-related components, peripherals, and accessories.

[0011] Assembly of the computer desk is easy and uncomplicated since there are a minimal number of parts. No tools are required for assembly. Manufacture of the computer desk is relatively inexpensive in view of the minimal amount of materials and labor required. Accordingly, the computer desk can be made available economically to the buying public.

[0012] In an alternate embodiment of the present invention, a side desk is removably attached to the computer desk. The legs of the computer desk may also include casters instead of being outfitted with floor plugs, thereby increasing mobility of the computer desk on a floor surface.

[0013] These and other advantages of the present invention will be understood from the description of the preferred embodiments, taken with the accompanying drawings, wherein like reference numerals represent like elements throughout.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] **FIG. 1** is a top perspective view of a computer desk according to a preferred embodiment of the present invention;

[0015] **FIG. 2** is a bottom view of the computer desk shown in **FIG. 1**;

[0016] **FIG. 3** is a sectional side view of a leg and hub of the computer desk shown in **FIG. 1**;

[0017] **FIG. 4** is a side perspective view of the hub of the computer desk of **FIG. 1**; and

[0018] **FIG. 5** is a top perspective view of the computer desk according to an alternate embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0019] For purposes of the description hereinafter, the spatial or directional terms, such as "inner", "outer", "front", "rear", "left", "right", "top", "bottom", "under", "vertical", "horizontal", and derivatives thereof, shall relate to the

invention as it is oriented in the drawing figures. However, it is to be understood that the invention may assume various alternative variations, except where expressly specified to the contrary. It is also to be understood that the specific apparatus illustrated in the attached drawings, and described in the following specification, is simply an exemplary embodiment of the invention. Hence, specific dimensions and other physical characteristics related to the embodiments disclosed herein are not to be considered as limiting.

[0020] A computer desk **1** according to the present invention is illustrated in FIGS. 1-5. In the preferred embodiment, as shown in FIG. 1, the computer desk **1** includes a desktop **2**, a monitor stand **10**, multiple legs **4a**, **4b**, **4c**, **4d**, **4e**, and a grate **6**. With reference to FIGS. 1, 2, and 5, desktop **2** has a modified oval shape, wherein the front of the desktop **2** has a concave cutout **3** to provide a user with ergonomic access to the desktop **2**. The desktop **2** is preferably a blow-molded plastic unit which utilizes rectangular stand-ups **11** to support the desktop **2** under load conditions. For additional stability, channels **12** are incorporated on an under surface **7a** of the desktop **2** to accommodate a ribbed framework **19** therein. The desktop **2** is able to support a keyboard **22** and a mouse **23** thereon.

[0021] The monitor stand **10**, for supporting a monitor **20** thereon, is situated on top of the desktop **2**. To prevent the monitor stand **10** from moving off the desktop **2**, the monitor stand **10** may be affixed to the desktop **2** with rivets or other suitable fastening means. The monitor stand **10** is oval shaped, although it can be formed in other shapes, such as round shaped, square shaped, or rectangular shaped. Preferably, the monitor stand **10** is placed close to the rear **32** of the desktop **2** to provide an optimal viewing distance of the monitor **20** and to maximize the available work-space on desktop **2**. To support heavier monitors, the monitor stand **10** may include a central support structure **13**, preferably a standup. A blend of textured and smooth surfaces comprise the surfaces of the desktop **2** and monitor stand **10**. The textured surface is used to mask plastic weldment areas between the top and bottom surfaces, e.g., tack-off areas, to enhance the strength of the desktop **2**.

[0022] With particular reference to FIGS. 3 and 4, and with continuing reference to FIGS. 1, 2, and 5, in a preferred embodiment, the computer desk **1** includes five legs **4a**, **4b**, **4c**, **4d**, **4e**. Each leg is vertically affixed to the under surface **7a** of the desktop **2** and extends to the floor. Legs **4a** and **4b** comprise the front left and right legs, respectively, whereas legs **4c**, **4d**, **4e** comprise the rear left, middle, and right legs, respectively. The rear central leg **4d** provides additional stability to the computer desk **1** by helping to support the weight of a heavier monitor **20**. Each leg **4a**, **4b**, **4c**, **4d**, **4e** is of seamed tubing construction, incorporating an external circumferential groove **9** positioned approximately 4 inches from a bottom end **8** of each leg **4a**, **4b**, **4c**, **4d**, **4e**. Each leg **4a**, **4b**, **4c**, **4d**, **4e** includes a floor plug **16** inserted into the bottom of each leg **4a**, **4b**, **4c**, **4d**, **4e**. Floor plug **16** allows the user to effortlessly push the computer desk **1** across various surfaces, including, but not limited to, a carpeted surface.

[0023] Grate **6** is affixed to the legs **4a**, **4b**, **4c**, **4d**, **4e** of the computer desk **1** and is situated beneath the desktop **2**. The primary function of the grate **6** is for support of a CPU **21** and other computer-related components and peripherals.

The grate **6** is preferably of a metal frame construction and arcuate shaped, although it can be found in other shapes, such as oval shaped, round shaped, square shaped, or rectangular shaped. Each of the sides of the grate **6**, along the planes formed by legs **4a** and **4c** and legs **4b** and **4e** includes a vertical support edge **30**. The support edge **30** is high enough to prevent the CPU **21** and other computer-related components, peripherals, and accessories from falling off of the grate **6** during movement of the computer desk **1**.

[0024] Five hubs **5a**, **5b**, **5c**, **5d**, **5e** are affixed to the grate **6** in relation to the position of each of the corresponding legs **4a**, **4b**, **4c**, **4d**, **4e**. Preferably, each hub **5a**, **5b**, **5c**, **5d**, **5e** is affixed to the grate **6** by welding. Each of the hubs **5a**, **5b**, **5c**, **5d**, **5e** includes a plastic tapered bushing **14** having an interior circumferential rib **15**. The circumferential groove **9** is smaller in diameter than the circumferential rib **15** and can accommodate the circumferential rib **15** therein. Specifically, each of the five legs **4a**, **4b**, **4c**, **4d**, **4e** slidingly accepts its corresponding hub **5a**, **5b**, **5c**, **5d**, **5e** until the circumferential rib **15** of the tapered bushing **14** within each hub engages the circumferential groove **9** of the corresponding leg **4a**, **4b**, **4c**, **4d**, **4e**. Thus, the grate **6** is affixed in a lockable position within a substantially horizontal plane in relation to the desktop **2**. In addition to providing storage space, having the grate **6** affixed to legs **4a**, **4b**, **4c**, **4d**, **4e** increases the stability of the legs **4a**, **4b**, **4c**, **4d**, **4e** once a load is exerted on them from objects placed upon the desktop **2** and monitor stand **10**.

[0025] An alternate embodiment computer desk **25** is illustrated in FIG. 5. This embodiment is of a similar construction as the preferred embodiment, except for minor modifications that extend the utility of the computer desk **25**. A keyboard tray **18** with guide rails to support a keyboard **22** thereon may be attached to the under surface **7a** of the front of the desktop **2**. When not in use, the user may slide the keyboard tray **18** underneath the desktop **2**. Additionally, the monitor stand **10** may further comprise various holders to support CD/DVD-ROMs and office supplies, such as pens and the like.

[0026] Instead of floor plugs **16**, the legs **4a**, **4b**, **4c**, **4d**, **4e** may comprise casters **17**, thereby increasing the mobility of the computer desk **25** on a greater variety of floor surfaces. Once the user has moved the computer desk **25** to a suitable location, the casters **17** may be locked, so as to prevent any rolling movement. Finally, a side desk **26** to support a printer **24** or other component thereon may be removably attached to the computer desk **25**. The side desk **26** includes a desk surface **27** having legs **4f** and **4g** extending from an under surface **7b** of the desk surface **27**. Casters **17** may be inserted into the bottom end **8** of each leg **4f**, **4g** of the side desk **26**. The side desk **26** further includes a pivot receptacle **28** that is attached to the top, preferably at an outermost portion, of the desk surface **27**. A pivot **29** is attached to the under surface **7a**, preferably an outermost portion, of the desktop **2**. The pivot **29** is inserted into the pivot receptacle **28** to pivotally connect the side desk **26** to the computer desk **25**. This allows the side desk **26** to be moved in a rotatable manner towards and away from the user.

[0027] The present invention has been described with reference to the preferred embodiments. Obvious modifications, combinations, and alterations will occur to others

upon reading the preceding detailed description. It is intended that the invention be construed as including all such modifications, combinations, and alterations insofar as they come within the scope of the appended claims or the equivalents thereof.

What is claimed is:

1. A computer desk comprising:
 - a desktop having an under surface and a top surface;
 - a plurality of legs substantially vertically extending from the under surface of the desktop;
 - at least one shelf element having a plurality of hubs attached thereto, wherein the at least one shelf element is attached to at least one of the plurality of legs via at least one of the plurality of hubs; and
 - a removable stand element on the top surface of the desktop.
2. The computer desk of claim 1, wherein the at least one of the plurality of hubs includes a tapered bushing fixed therein.
3. The computer desk of claim 2, wherein the tapered bushing is hollow and includes an interior circumferential rib.
4. The computer desk of claim 3, wherein the at least one of the plurality of legs includes a circumferential groove, the circumferential groove adapted to mate with a respective leg.
5. The computer desk of claim 4, wherein the at least one of the plurality of legs is adapted to slidingly accept the at least one of the plurality of hubs until the circumferential rib mates with the respective circumferential groove.
6. The computer desk of claim 1, wherein the at least one of the plurality of legs is hollow and has one of a floor plug and a caster attached thereto.
7. The computer desk of claim 1, wherein the at least one shelf element is a substantially arcuate-shaped grate.
8. The computer desk of claim 7, wherein the grate includes at least one side rail.
9. The computer desk of claim 1, wherein the under surface of the desktop includes:
 - a plurality of support members extending from the under surface of the desktop; and
 - at least one channel incorporated on the under surface of the desktop.
10. The computer desk of claim 9, wherein the at least one channel contains a framework therein.
11. The computer desk of claim 1, wherein the desktop is one of substantially oval shaped, substantially round shaped, substantially square shaped, and substantially rectangular shaped.
12. The computer desk of claim 1, wherein the removable stand element includes a central support structure and the removable stand element is one of substantially oval shaped,

substantially round shaped, substantially square shaped, and substantially rectangular shaped.

13. The computer desk of claim 1, further comprising a keyboard tray, wherein the keyboard tray is slidingly attached to the under surface of the desktop.

14. The computer desk of claim 1, further comprising a side desk, wherein the side desk is pivotally attached to the under surface of the desktop.

15. The computer desk of claim 14, wherein the side desk is substantially oval shaped and includes at least one leg.

16. A method for supporting a computer, the method comprising the steps of:

providing a desktop having an under surface and a top surface;

providing at least one shelf element having a plurality of hubs attached thereto, wherein at least one of the plurality of hubs includes a tapered bushing fixed therein, the tapered bushing being hollow and comprising an interior circumferential rib;

attaching at least one of the plurality of legs to the under surface of the desktop, such that the at least one of the plurality of legs extends in a substantially vertical direction with respect to the desktop, the at least one of the plurality of legs including a circumferential groove;

inserting at least one of the plurality of legs into a corresponding at least one of the plurality of hubs;

matting the circumferential rib with the circumferential groove; and

placing a removable stand element on the top surface of the desktop.

17. The method of claim 16, wherein the at least one of the plurality of legs is hollow and has one of a floor plug and a caster attached thereto.

18. The method of claim 16, further comprising at least one of:

a keyboard tray, wherein the keyboard tray is slidingly attached to the under surface of the desktop; and

a side desk, wherein the side desk is pivotally attached to the under surface of the desktop.

19. The method of claim 16, wherein the at least one shelf element is a substantially arcuate-shaped grate and includes at least one side rail.

20. The method of claim 16, wherein the under surface of the desktop includes:

a plurality of support members extending from the under surface of the desktop; and

at least one channel incorporated on the under surface of the desktop, wherein the at least one channel contains a framework therein.

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