



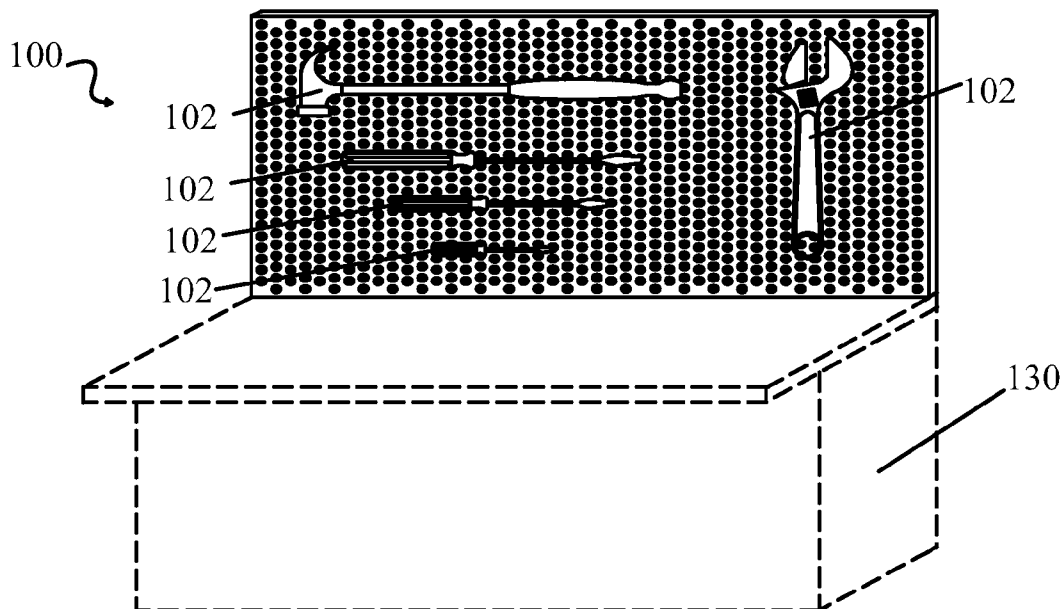
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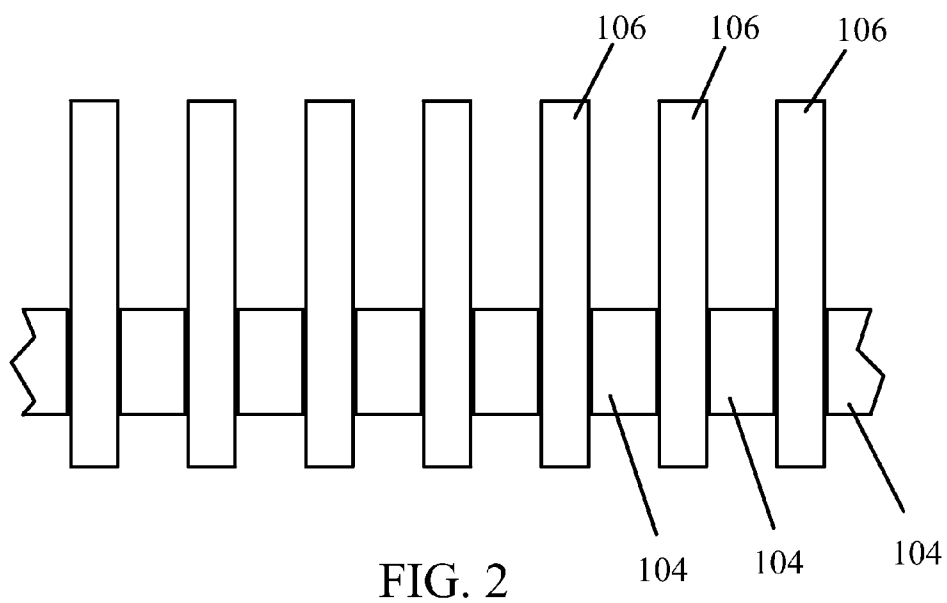
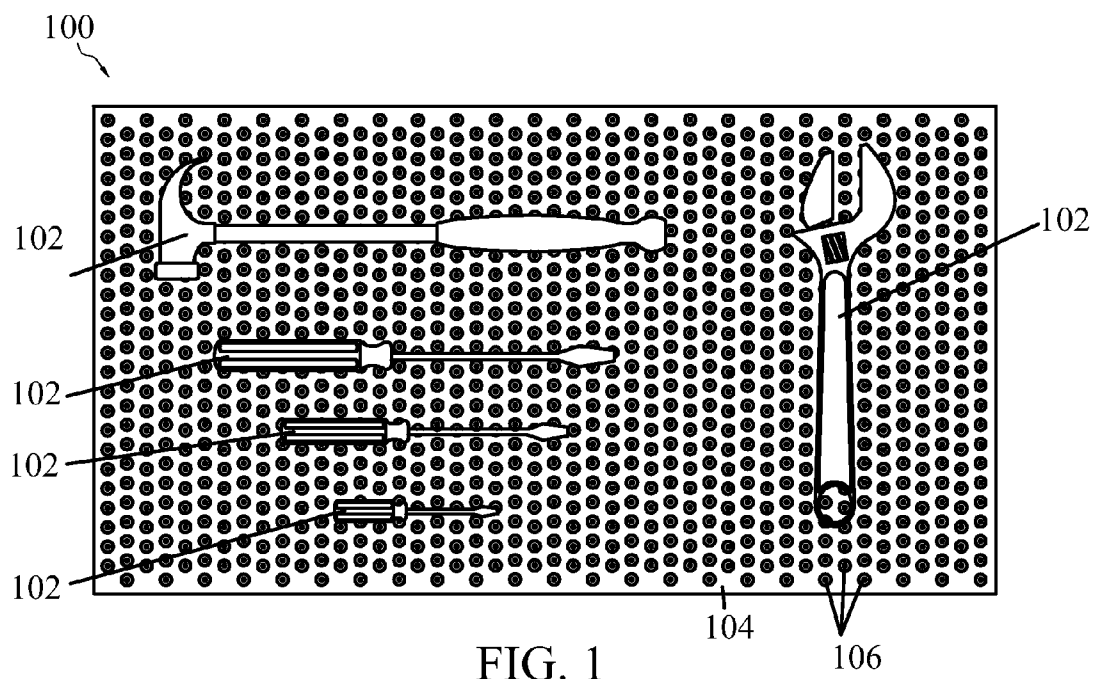
(19) **United States**(12) **Patent Application Publication**
Hill(10) **Pub. No.: US 2007/0144986 A1**(43) **Pub. Date: Jun. 28, 2007**(54) **ADJUSTABLE HOLDER AND ORGANIZER****Publication Classification**(76) Inventor: **Michael John Hill**, Cedar Falls, IA
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(52) **U.S. Cl.** **211/70.6**

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PATWRITE LLC**408 W. MAIN ST.****MARSHALLTOWN, IA 50158-5759 (US)**(57) **ABSTRACT**

An adjustable holder and organizer comprises a plurality of movable pins that fit within a frame having a plurality of pin openings that allow the pins to move from a fully extended position to a fully retracted position. A tool or other item is placed against the pins and pressure applied to move the pins under the tool leaving the other pins extended thus creating a custom space to hold the tool. The pins may be frictionally engaged within the openings by means of O-rings, frictional bushings or spring biased detents. The frame may be placed within a housing to utilize the adjustable holder and organizer within a drawer or other flat surface. A reset panel may be disposed within a housing to enable a user to return the pins to a fully extended position to customize the adjustable holder and organizer for different uses.

(21) Appl. No.: **11/615,644**(22) Filed: **Dec. 22, 2006****Related U.S. Application Data**(60) Provisional application No. 60/752,604, filed on Dec.
22, 2005.



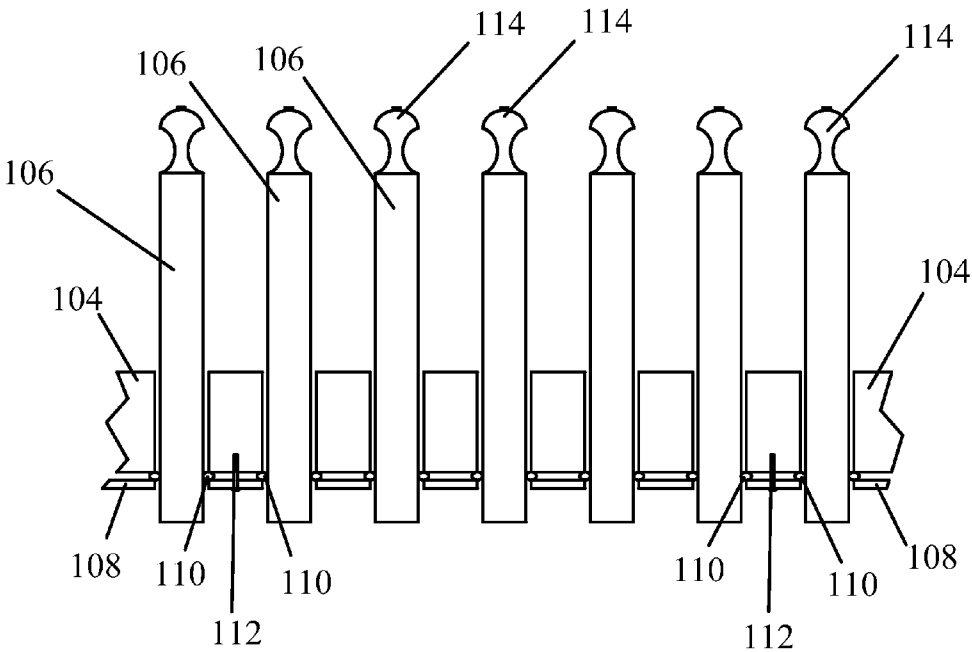
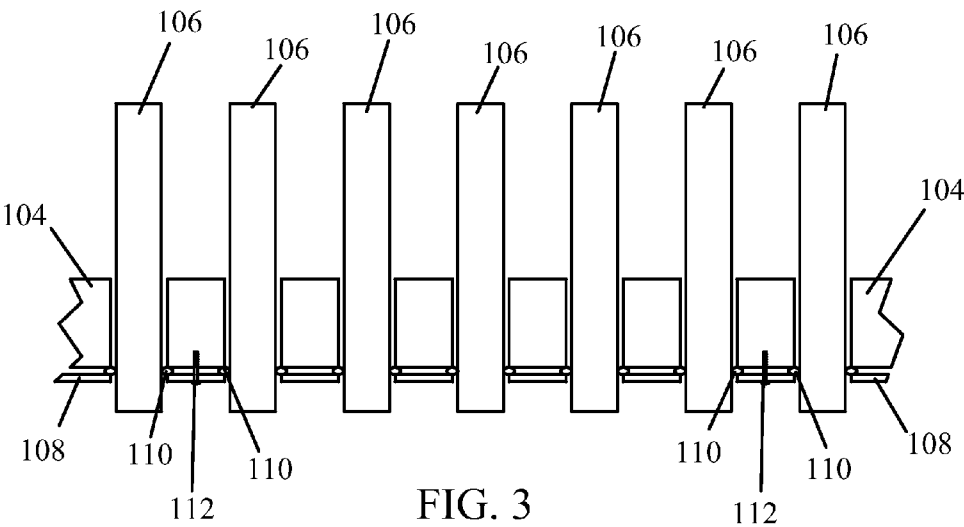


FIG. 4

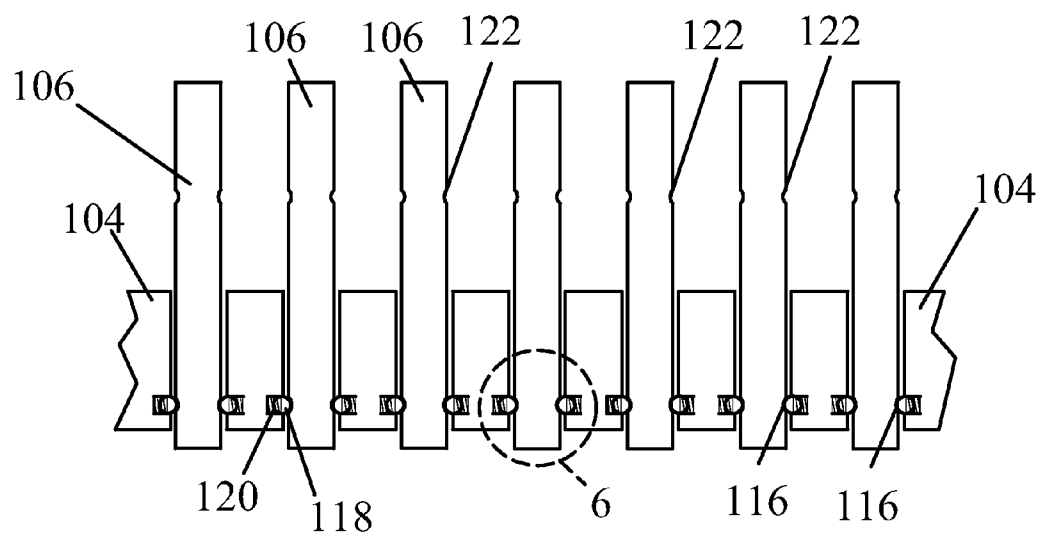


FIG. 5

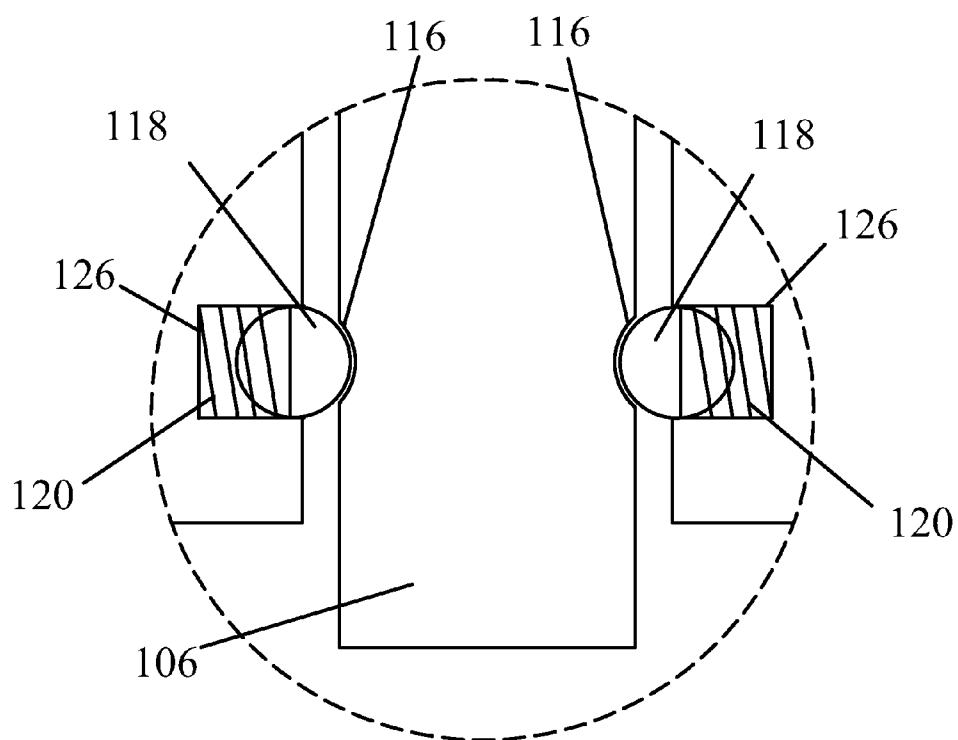


FIG. 6

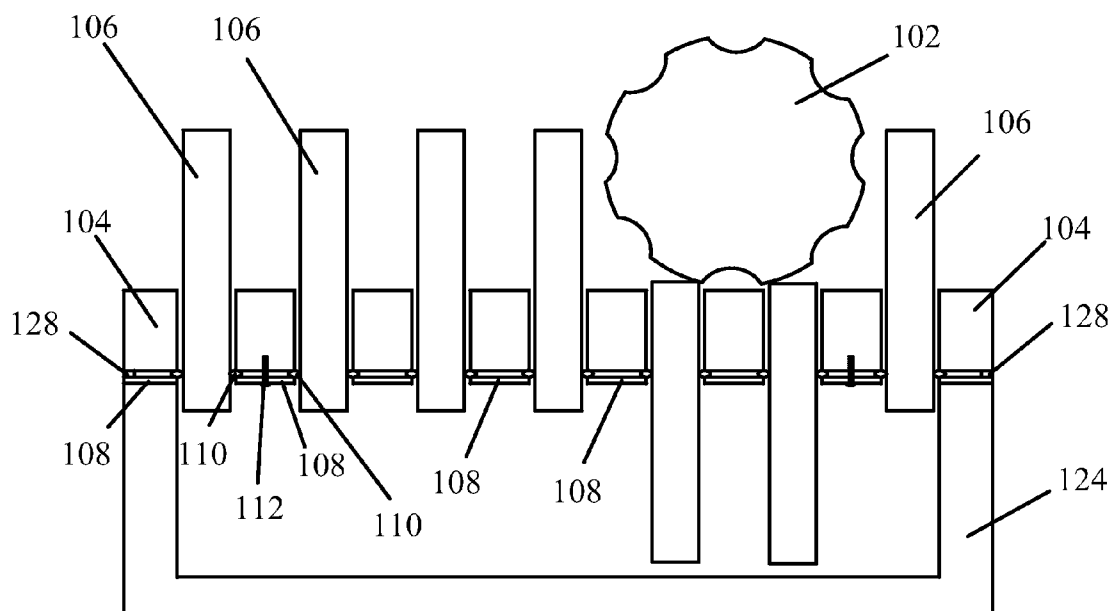


FIG. 7

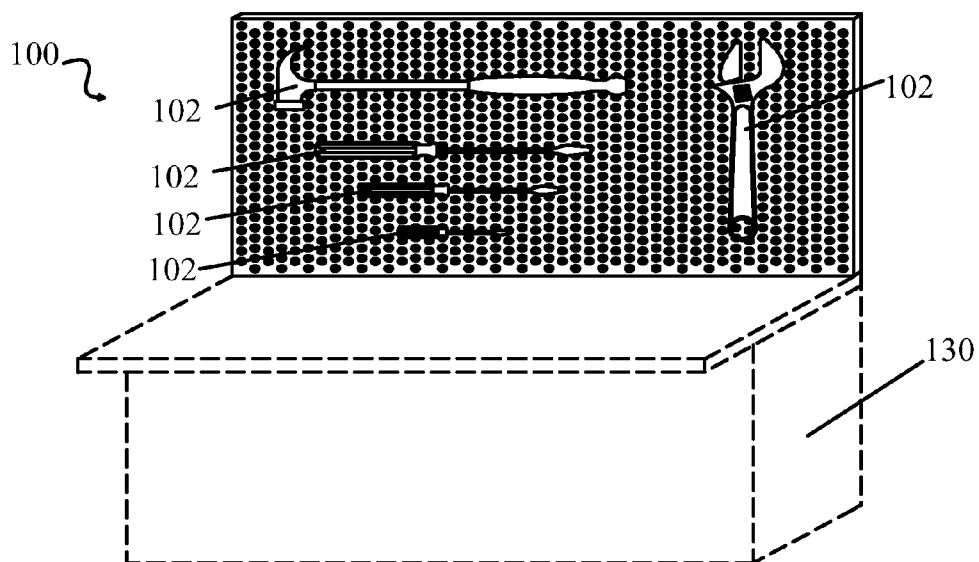


FIG. 8

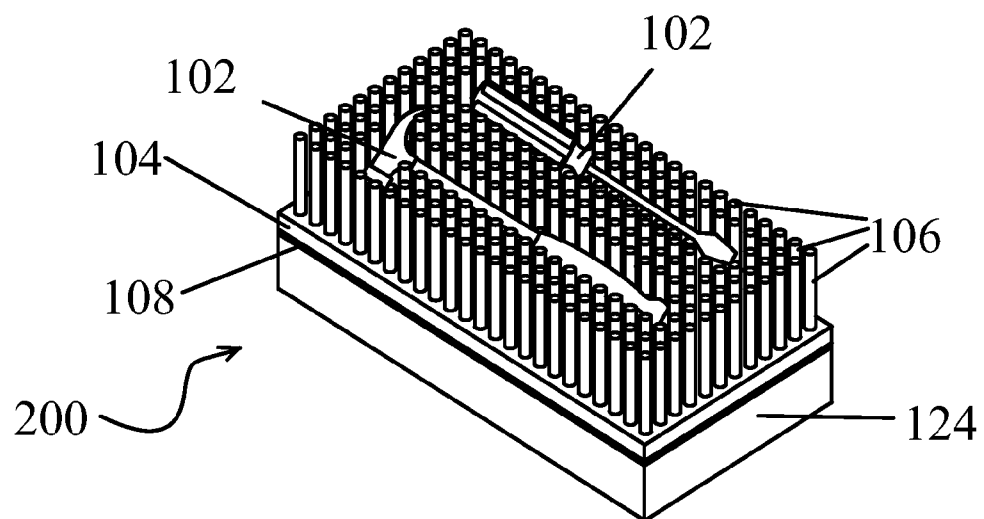


FIG. 9

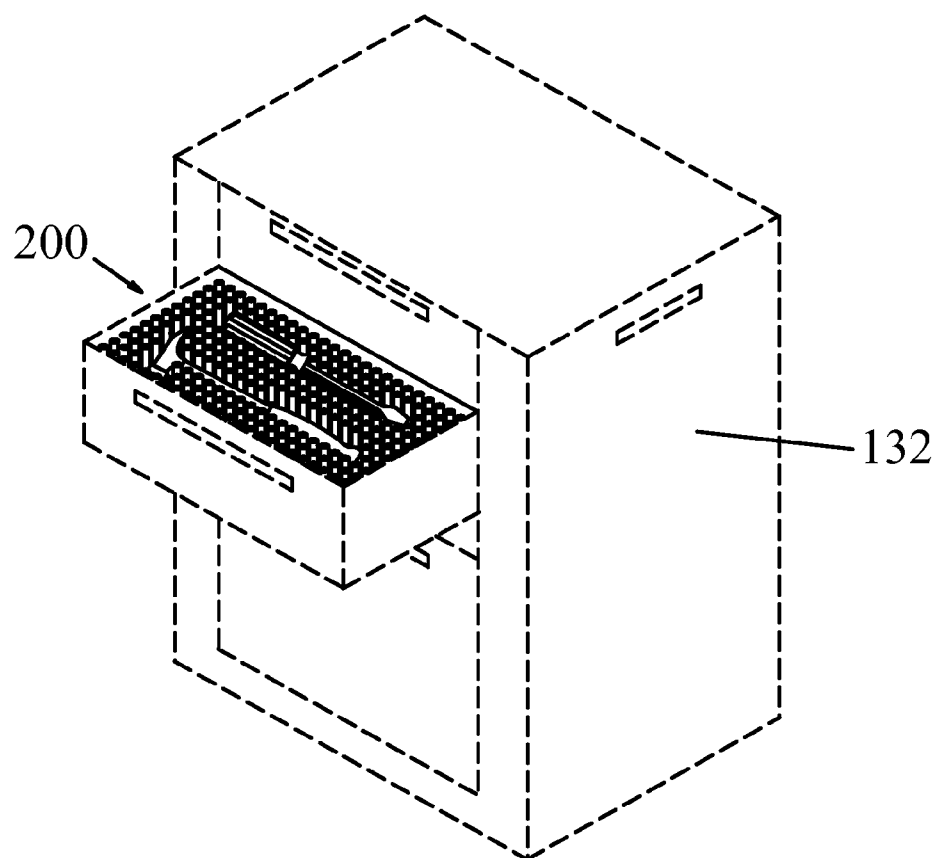


FIG. 10

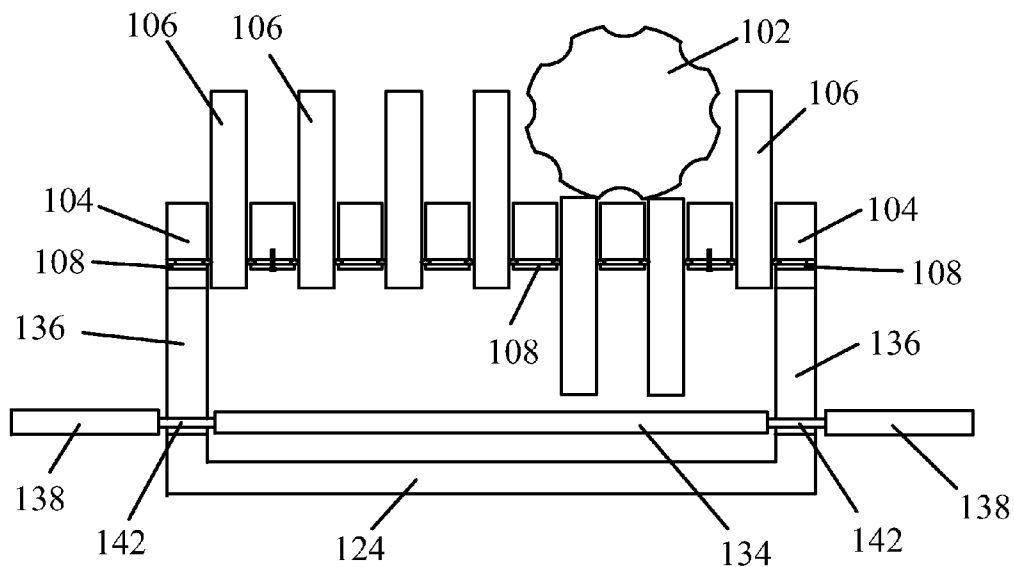


FIG. 11

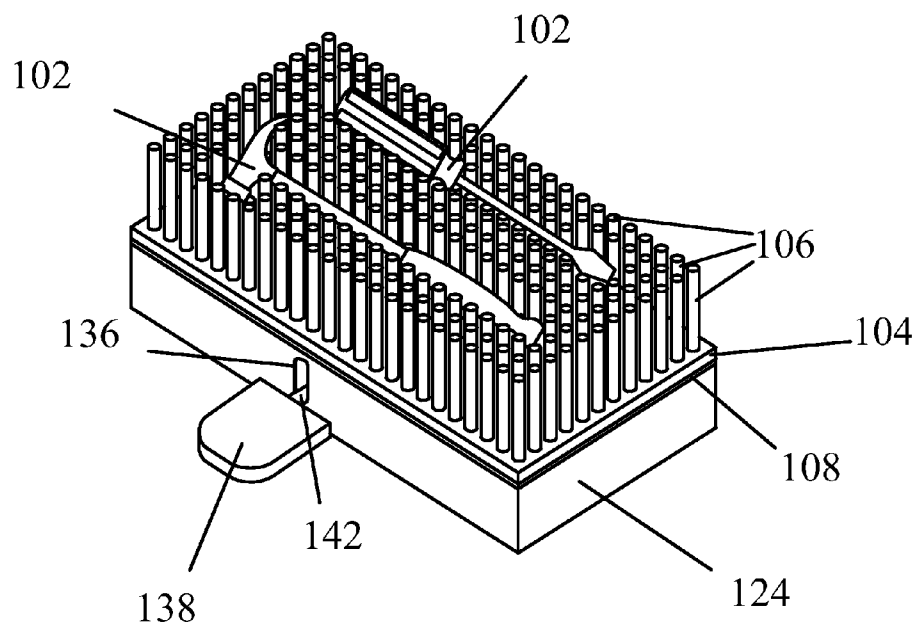


FIG. 12

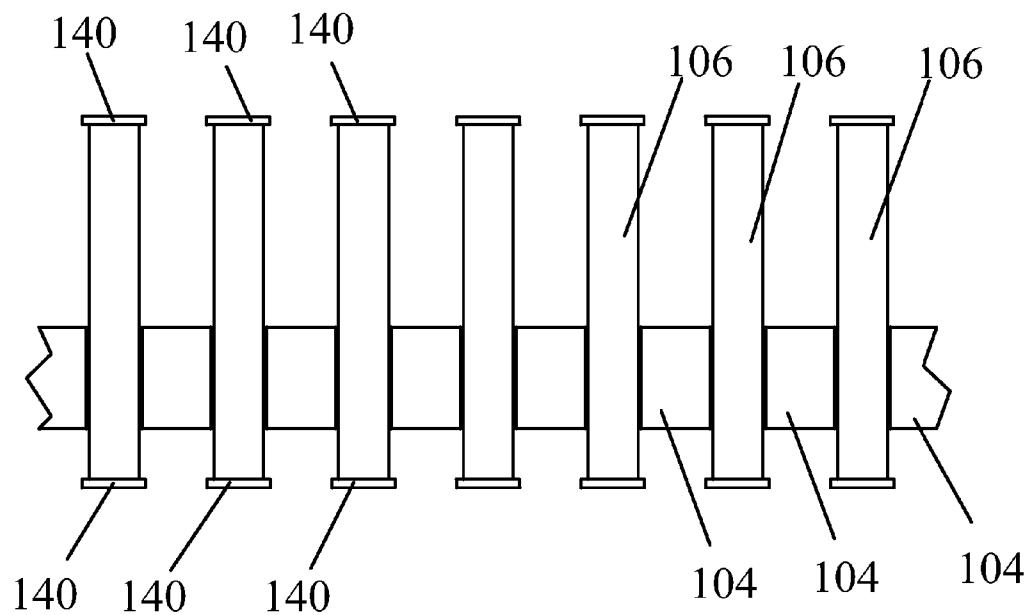


FIG. 13

ADJUSTABLE HOLDER AND ORGANIZER

RELATED APPLICATIONS

[0001] This application claims priority and herein incorporates by reference U.S. provisional patent application 60/752,604, filed Dec. 22, 2005.

BACKGROUND OF THE INVENTION

[0002] Anyone who has experienced the frustration of not being able to locate a tool when needed will appreciate the need for an easy to use organizer. Jobs are made easier by being able to locate needed tools and clutter is eliminated by good organizational aides. Tool cabinets, shelves, workbenches, cabinets and peg boards have all been utilized to help people locate and organize items. It is known to trace an outline around a tool that has been placed on a wall organizer or in a drawer. This is time-consuming and does not easily facilitate moving the tool to a different location or replacing the tool with new model.

[0003] It is also known to utilize foam or some other moldable material to make a custom fitting opening for a tool, but this is relatively expensive and complex and the foam must generally be discarded if rearrangement is desired.

[0004] There is a need for an easy to use, flexible item holder and organizer that overcomes the limitations of the prior art.

SUMMARY OF THE INVENTION

[0005] An adjustable holder and organizer comprises a plurality of movable pins that fit within a frame having a plurality of pin openings that allow the pins to move from a fully extended position to a fully retracted position. A tool or other item is placed against the pins and pressure applied to move the pins under the tool leaving the other pins extended thus creating a custom space to hold the tool. The pins may be frictionally engaged within the openings by means of O-rings, frictional bushings or spring biased detents. The frame may be placed within a housing to utilize the adjustable holder and organizer within a drawer or other flat surface. A reset panel may be disposed within a housing to enable a user to return the pins to a fully extended position to customize the adjustable holder and organizer for different uses.

[0006] Other features and advantages of the instant invention will become apparent from the following description of the invention which refers to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is an illustration of an adjustable holder and organizer according to an embodiment of the present invention.

[0008] FIG. 2 is a detail cutaway side view of a portion of pins and frame according to an embodiment of the present invention.

[0009] FIG. 3 is a detail cutaway side view of a portion of pins and frame according to another embodiment of the present invention.

[0010] FIG. 4 is a detail cutaway side view of a portion of pins and frame with pull knobs according to an embodiment of the present invention.

[0011] FIG. 5 is a detail cutaway side view of a portion of pins and frame with pressure detents according to an embodiment of the present invention.

[0012] FIG. 6 is a detail view of the portion shown in FIG. 5.

[0013] FIG. 7 is a cutaway side view of an adjustable holder and organizer fitted within a housing according to an embodiment of the present invention.

[0014] FIG. 8 is an illustration showing an adjustable holder and organizer vertically mounted according to an embodiment of the present invention.

[0015] FIG. 9 is a perspective view of an adjustable holder and organizer within a housing according to an embodiment of the present invention.

[0016] FIG. 10 is a perspective view of an adjustable holder and organizer fitted within a drawer according to an embodiment of the present invention.

[0017] FIG. 11 is a cutaway side view of an adjustable holder and organizer having a reset plate according to an embodiment of the present invention.

[0018] FIG. 12 is a perspective view of an adjustable holder and organizer having a reset plate according to an embodiment of the present invention.

[0019] FIG. 13 is a detail cutaway side view of a portion of pins and frame according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0020] Reference is now made to the drawings in which reference numerals refer to like elements.

[0021] Referring to FIG. 1, an adjustable holder and organizer is shown having a plurality of pins 106 movably mounted within a frame 104. Tools 102 or other items are pressed against pins 106 moving them toward frame 104, thus leaving a space which custom fits tools 102. In this way various shapes are accommodated and allows a user to visually ascertain the correct space for a selected tool 102. The user can rearrange the tools by simply resetting pins 106 and placing tool 102 in a new location.

[0022] Referring now to FIG. 2, a portion of pins 106 are shown passing through pin openings within frame 104. The openings may have a close tolerance between pins 106 to provide frictional positional support as they are moved. The openings may be lined with a bushing (not shown) to provide consistent frictional resistance as pin 106 moves. The bushing (not shown) could be made of a soft metal such as bronze, rubber or nylon like material or it could be a composite material as is known in the art.

[0023] With reference to FIG. 3, a portion of pins 106 are shown within pin openings on frame 104. A plurality of O-rings 110 are placed around a lower portion of pins 106 to frictionally support pins 106 as they are moved. An O-ring retainer 108 has corresponding openings and holds O-rings 108 in place as pins 106 are moved. A number of fasteners

112 are used to hold O-ring retainer 108 in place. Fasteners 112 may be screws, bolts, rivets or other attaching means as is known in the art.

[0024] FIG. 4 shows the addition of pull knobs 114 attached to a top portion of pins 106. Pull knobs 114 are used to position pins 106. A user grips each pin 106 by pull knob 114 and can, therefore, easily move a retracted pin 106 to an extended position. In this embodiment, the tool or item (102FIG. 1) rests against the top of pull knobs 114 rather than the surface of frame 104, but the functionality remains the same.

[0025] Now referring FIGS. 5 and 6, pins 106 include radially disposed catch grooves 116 and 122 respectively to provide a positive positional orientation from a fully extended to a fully retracted state. A plurality of detents 118 are fitted within detent openings 126 located within frame 104. A detent spring 120 biases each detent 118 against pin 106. In the fully extended state, detent 118 clicks into detent groove 116. As pressure is applied to pin 106, detent 118 is forced inward allowing pin 106 to move. As pin 106 reaches a fully retracted state, detent 118 clicks into detent groove 122. Although the embodiment depicted in FIG. 5 utilizes two detents 118, other arrangements are acceptable such as a single detent per pin or multiple detents, such as three or four detents per pin, would also be acceptable. Additionally, detent spring 120 could also be a leaf spring or other biasing configuration as is known in the art.

[0026] Now referring to FIGS. 7, 9 and 10, an adjustable holder and organizer 200 is shown fitted within a housing 124 to allow adjustable holder and organizer 200 to lie flat against a surface such as a drawer of a toolbox 132. Housing 124 holds frame 104 away from a surface so that pins 106 can move up and down without impinging on the surface. In the embodiment shown, tool 102 is placed against pins 106 displacing them but still containing them within housing 124. Housing 124 fits against O-ring plate 108 and includes spacers 128 which are approximately the same size as O-rings 110. Of course it should be readily apparent that housing 124 could be utilized with any of the embodiments shown even though it is depicted here using O-rings.

[0027] FIG. 8 depicts adjustable holder and organizer 100 mounted in a vertical orientation on a workbench 130. In this way a user can customize a workspace for quick visual identification even when tool 102 is not present. Also because pins 106 may be reset, rearrangement is easily achieved.

[0028] Now referring to FIGS. 11 and 12, a reset panel 134 is movably fitted within housing 124. Reset panel 134 has a handle 138 on each side. Handle 138 is connected to reset panel 134 with a connecting rod 142. Connecting rod 142 slides up and down in reset slot 136 formed within housing 124. This allows a user to reset all the pins 106 at once to the fully extended position rather than having to move individual pins 106. Reset panel 134 may be spring-loaded (not shown) to assist a user in resetting pins 106. In a spring-loaded embodiment, reset panel 134 would be biased against the bottoms of pins 106. To prepare adjustable holder and organizer for use, handles 138 are used to move reset panel 124 away from pins 106 and held in place by a catching mechanism (not shown) as is known in the art. To reset, a user would release the catching mechanism and all pins 106 would automatically be restored to the fully extended position.

[0029] Although the instant invention has been described in relation to particular embodiments thereof, many other variations and modifications and other uses will become apparent to those skilled in the art.

What is claimed is:

1. An adjustable holder and organizer comprising:
 - a frame having a plurality of pin openings;
 - said plurality of pin openings being regularly spaced at selected intervals; and
 - a plurality of pins movably disposed within said pin openings.
2. An adjustable holder and organizer according to claim 1 further comprising:
 - a plurality of frictional engagement members disposed around at least a portion of said pin whereby said pins are held in a selected configuration.
3. An adjustable holder and organizer according to claim 2 whereby said frictional engagement member is an O-ring.
4. An adjustable holder and organizer according to claim 3 further comprising:
 - an O-ring retainer panel having a plurality of pin openings aligned with and corresponding to said frame pin openings whereby said O-rings are held in place.
5. An adjustable holder and organizer according to claim 1 further comprising a plurality of pull knobs disposed on a top of said pins.
6. An adjustable holder and organizer according to claim 1 further comprising:
 - a plurality of pressure detents disposed within said openings; and
 - at least one catch groove radially disposed on said pins whereby said pressure detent movably fits within said catch groove.
7. An adjustable holder and organizer according to claim 6 further comprising a plurality detent springs disposed within a plurality of detent openings disposed around said pin openings within said frame whereby said pressure detents are biased against said pins.
8. An adjustable holder and organizer according to claim 1 further comprising a housing to enclose a lower portion of said frame whereby said frame can lie flat against a surface.
9. An adjustable holder and organizer according to claim 8 further comprising a reset panel movably disposed within said housing and engaging a bottom portion of said pin whereby said pin may be moved together to a fully out position.
10. An adjustable holder and organizer according to claim 9 further comprising a handle outwardly extending from said reset panel.
11. An adjustable holder and organizer according to claim 1 further comprising a plurality of end stops disposed on at least one end of said pins whereby said pins are prevented from passing through said pin openings.
12. An adjustable holder and organizer according to claim 1 whereby said frame is adapted to fit within a drawer.
13. An adjustable holder and organizer according to claim 1 whereby said frame is adapted to be mounted vertically.
14. An adjustable holder and organizer according to claim 9 whereby said reset panel is spring-loaded to bias said reset panel against a bottom of said pins.

15. An adjustable holder and organizer according to claim 14 further comprising a reset panel catch to hold said reset panel away from said bottom of said pins until a user chooses to reset.

16. An adjustable holder and organizer comprising:

a frame having a plurality of pin openings spaced at selected intervals;

a plurality of pins movably disposed within said pin openings; and

a plurality of catching means disposed on said plurality of pin openings whereby said pins are held in a selected position.

17. An adjustable holder and organizer according to claim 16 whereby said catching means is an O-ring.

18. An adjustable holder and organizer according to claim 16 whereby said catching means is a pressure detent.

19. An adjustable holder and organizer according to claim 16 whereby said catching mean is a friction bushing.

20. An adjustable holder and organizer comprising:

a frame having a plurality of pin openings spaced at selected intervals;

a plurality of pins movably disposed within said pin openings; and

a plurality of frictional engagement members disposed around at least a portion of said pins whereby said pins are held in a selected configuration.

* * * * *