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(54) **LATERAL ADAPTOR**

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(57) **ABSTRACT**

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An apparatus is provided which can be inserted into a pegboard and then one or more pegboard devices can be inserted into the apparatus. The apparatus effectively extends the usable area of a pegboard. The apparatus may include first, second, and third sides, which together substantially form a U-shape. The first and second sides are substantially parallel to each other and the first side is substantially perpendicular to the third side. First and second prongs project outwards from the first side. A plurality of openings are provided in the second side, such that one or more prongs of a pegboard device can be inserted into the plurality of openings in the second side in order to attach the pegboard device to the apparatus, while the first and second prongs of the apparatus are inserted into a pegboard.

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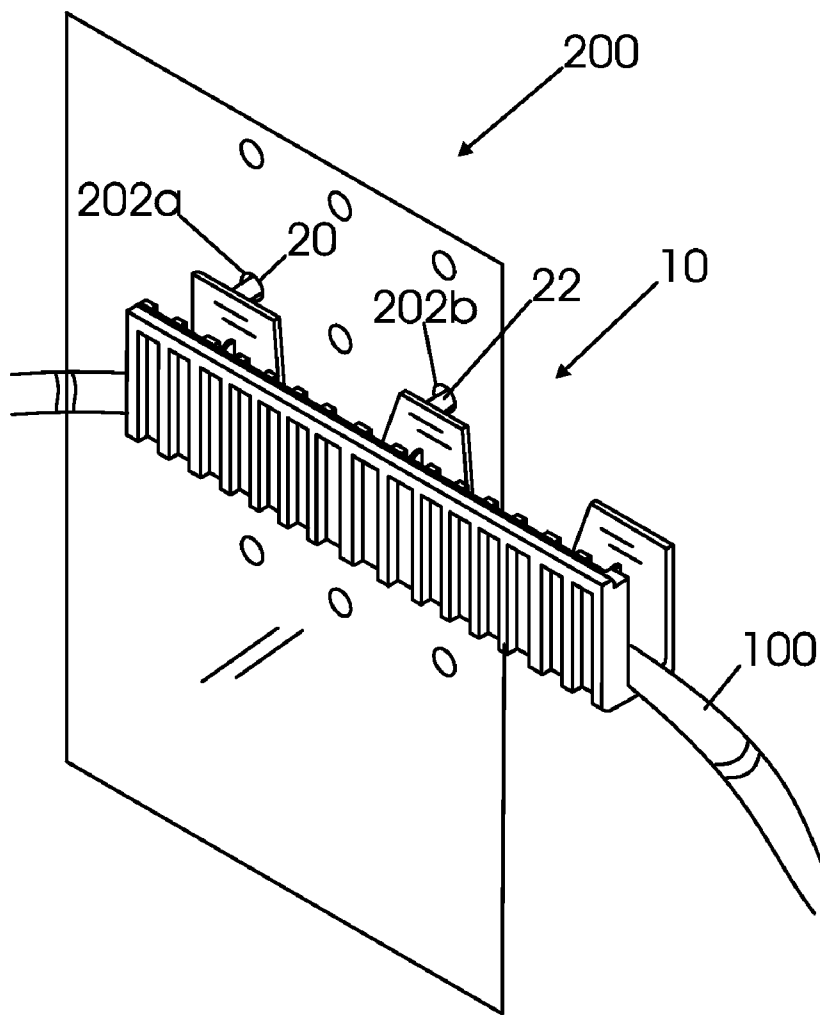


Fig. 1

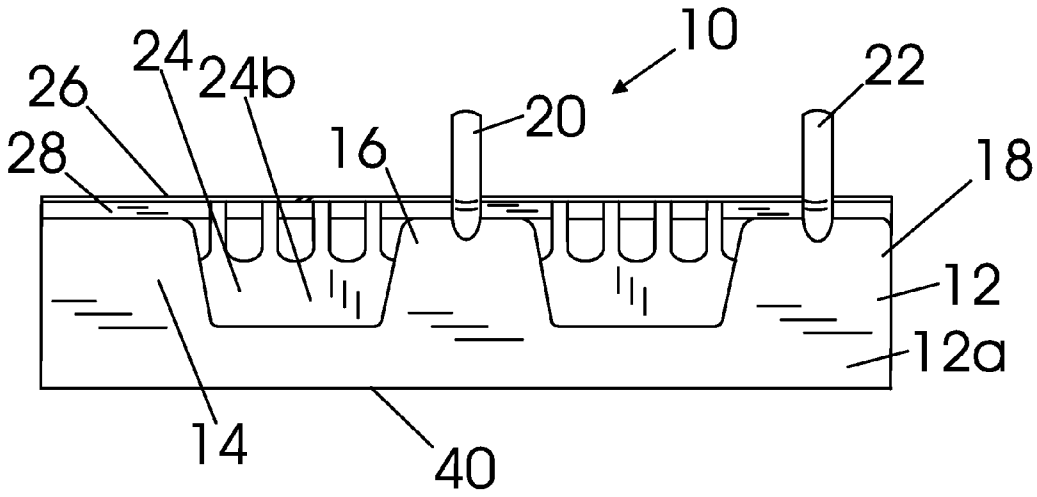
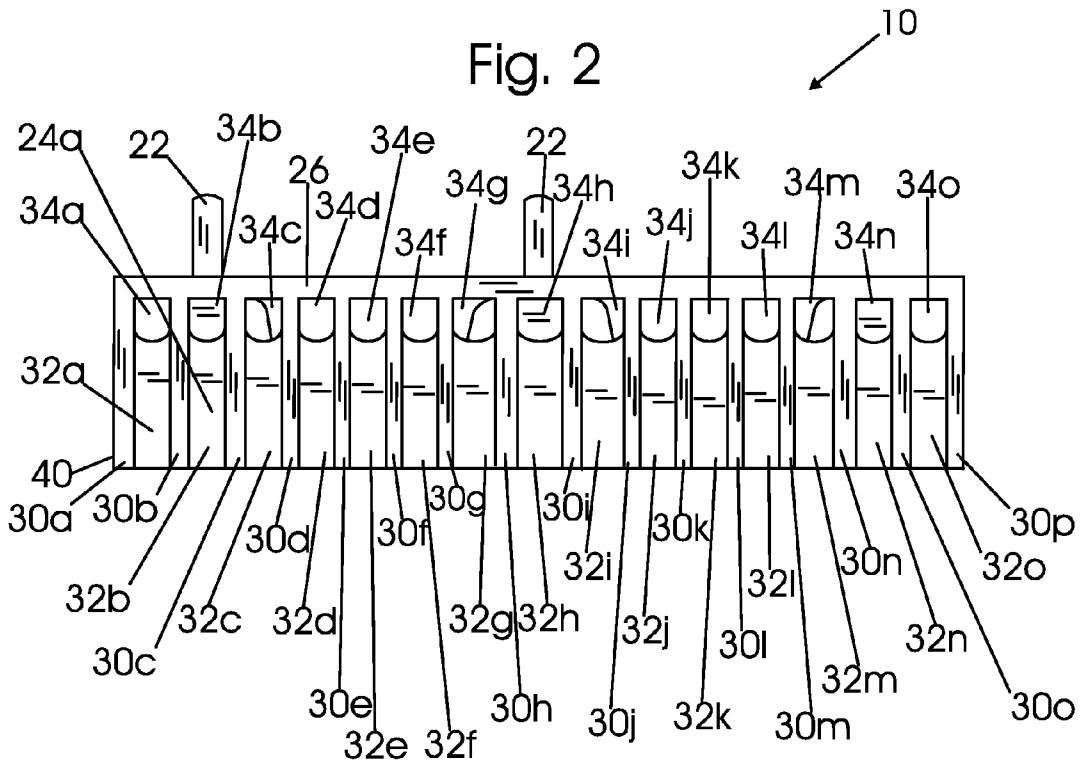


Fig. 2



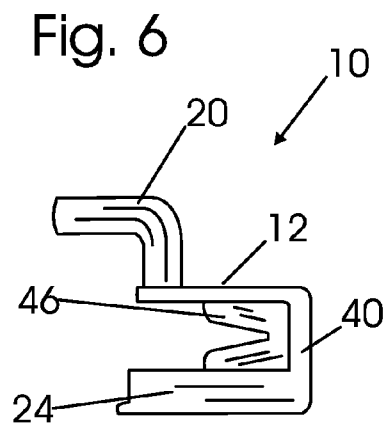
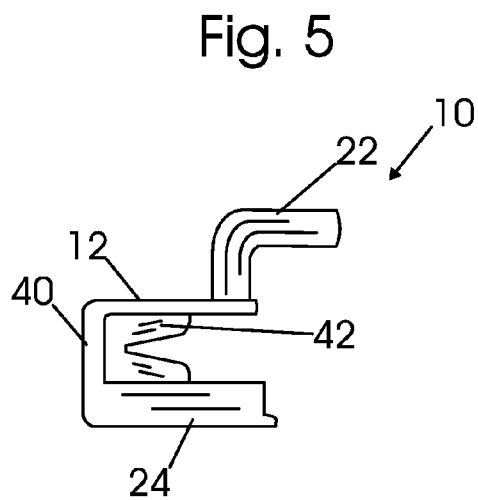
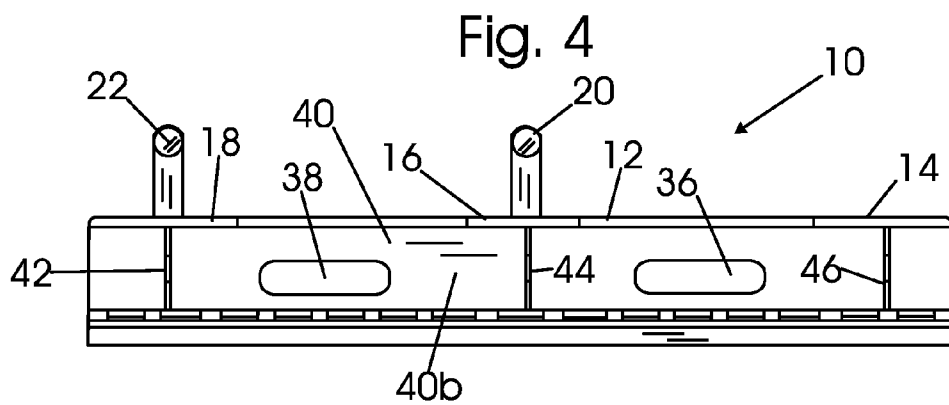
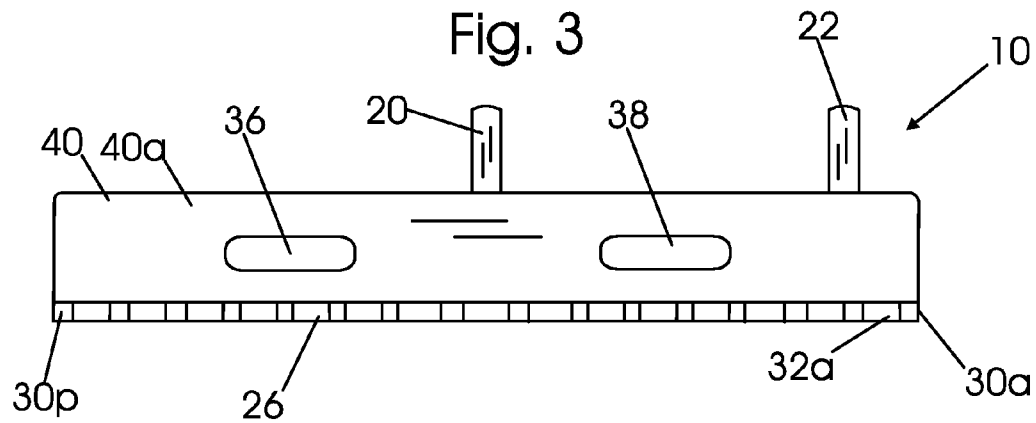


Fig. 7

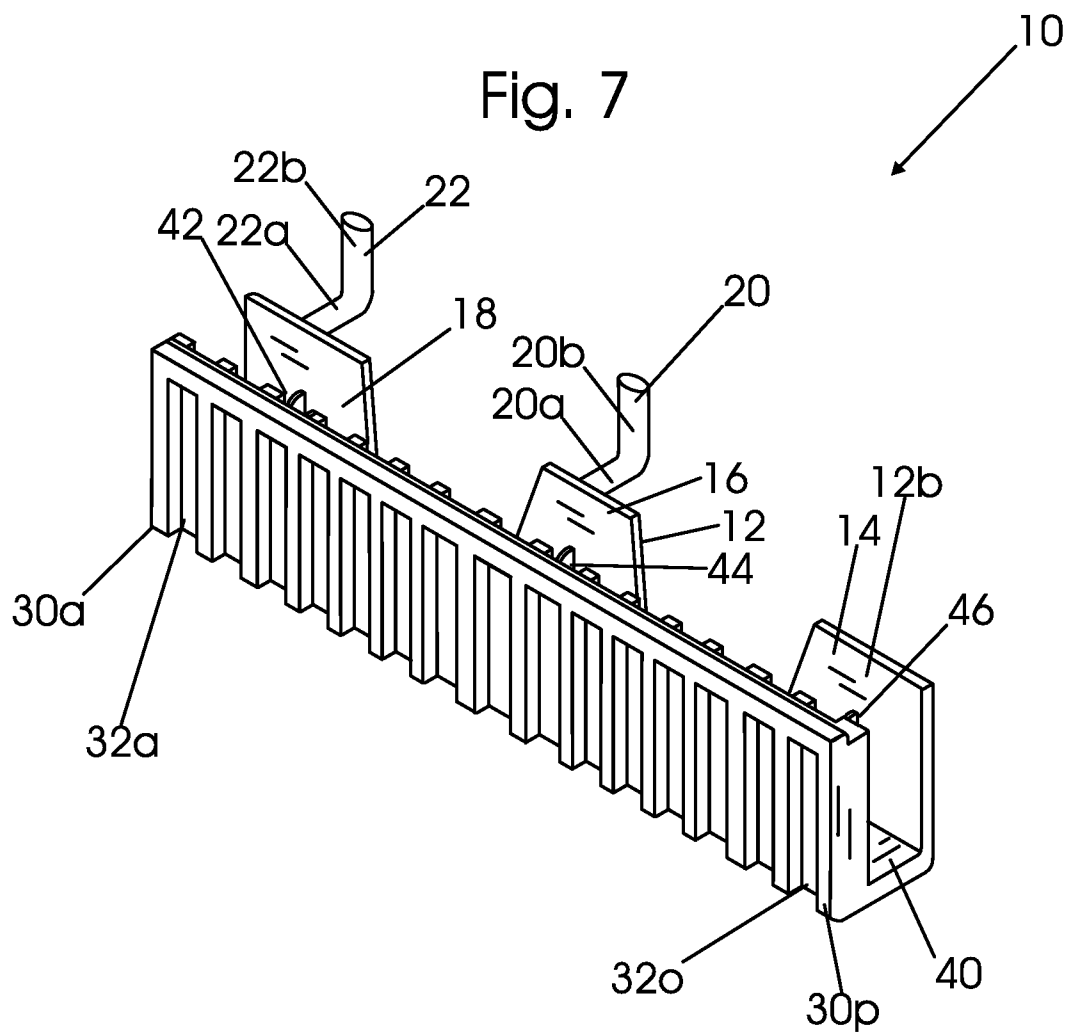


Fig. 8

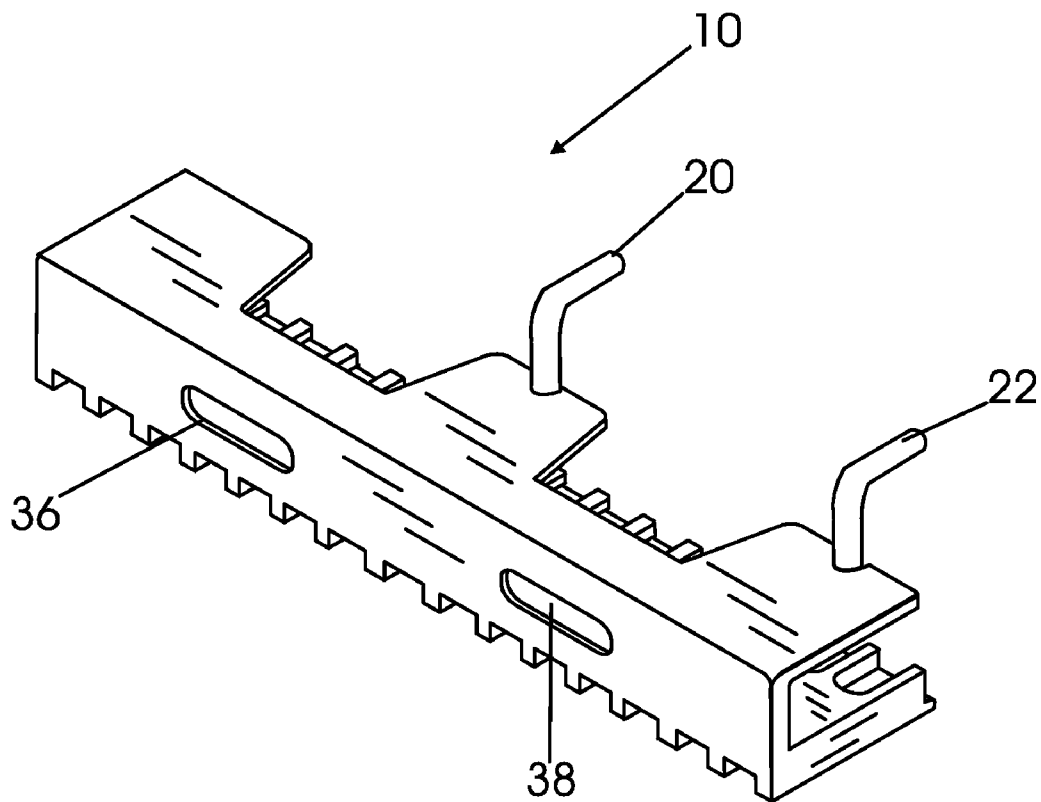


Fig. 9

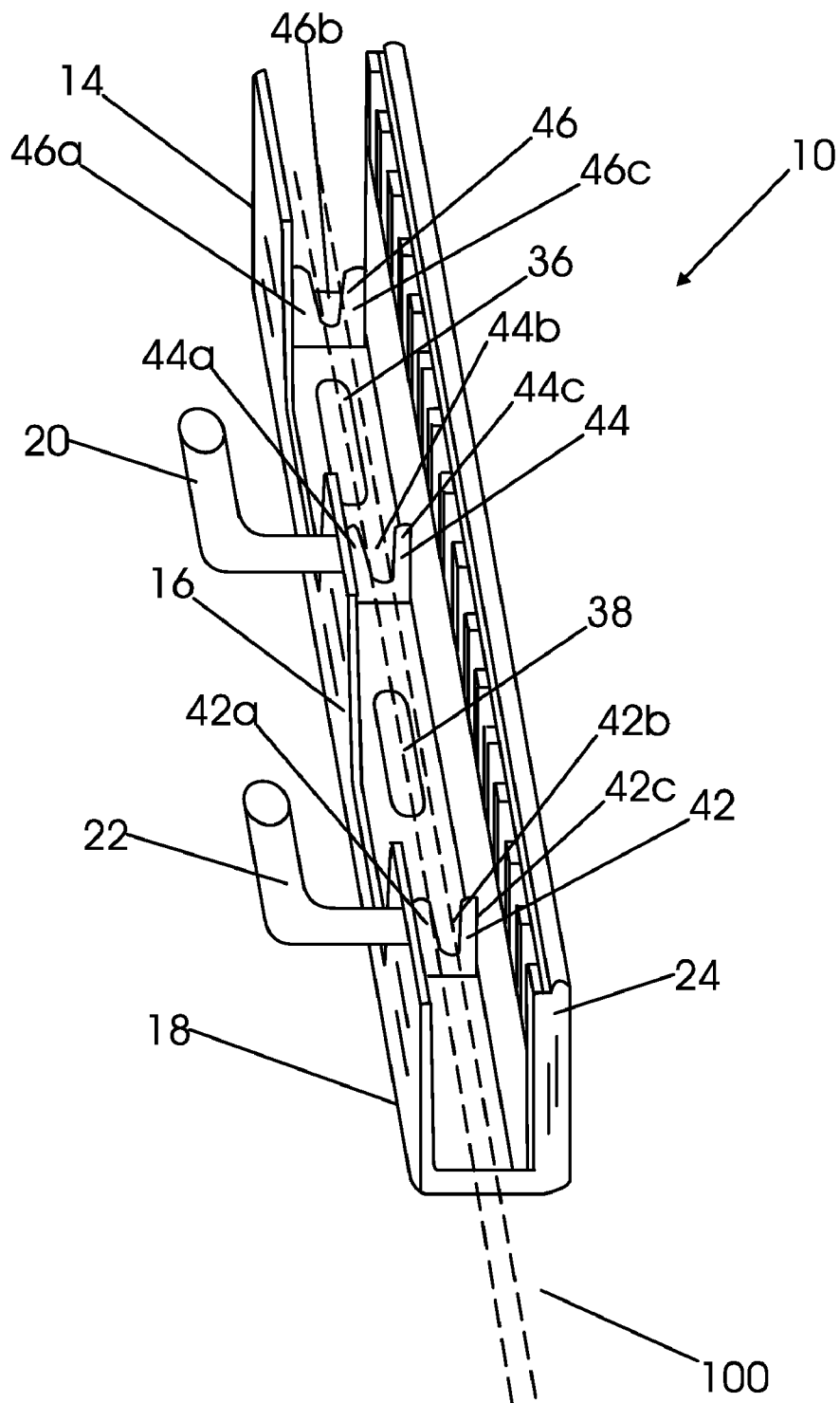


Fig. 11

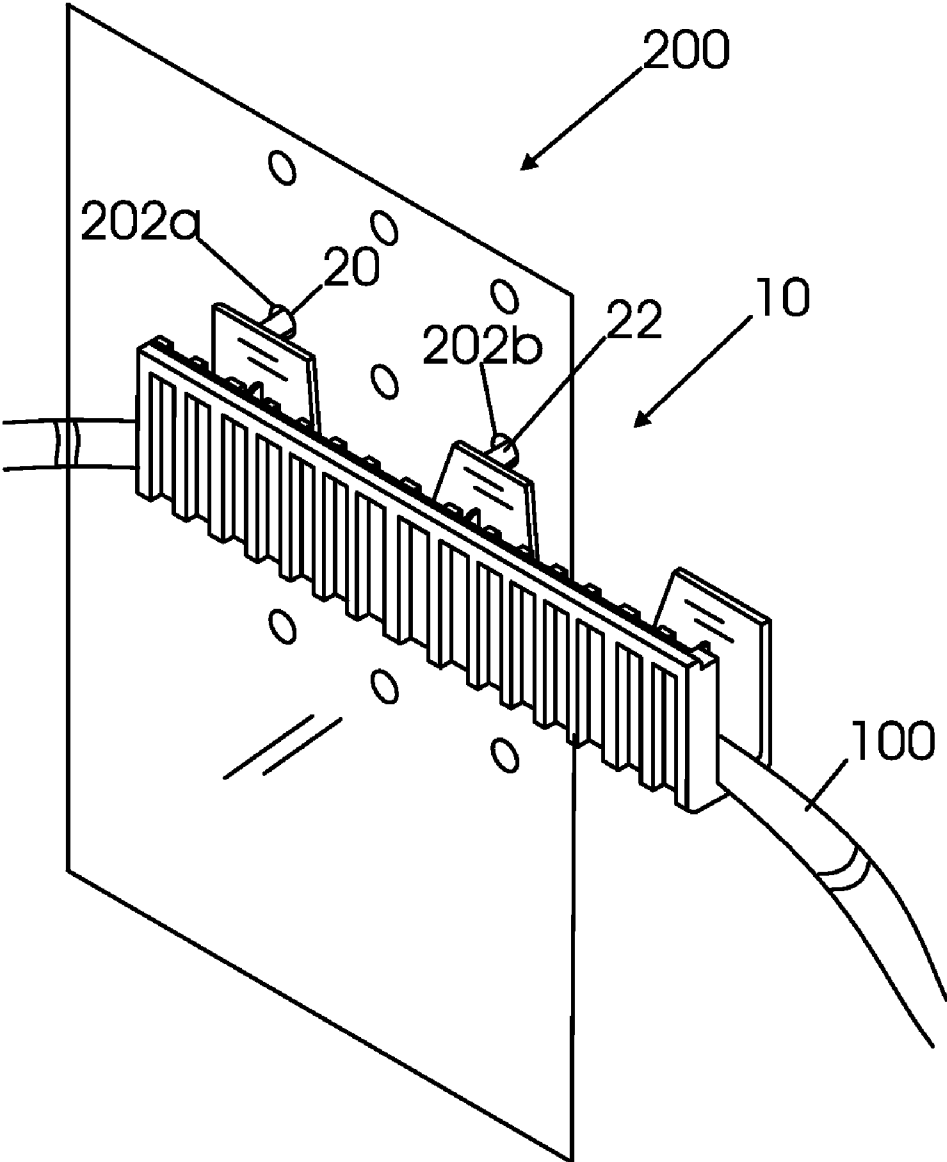
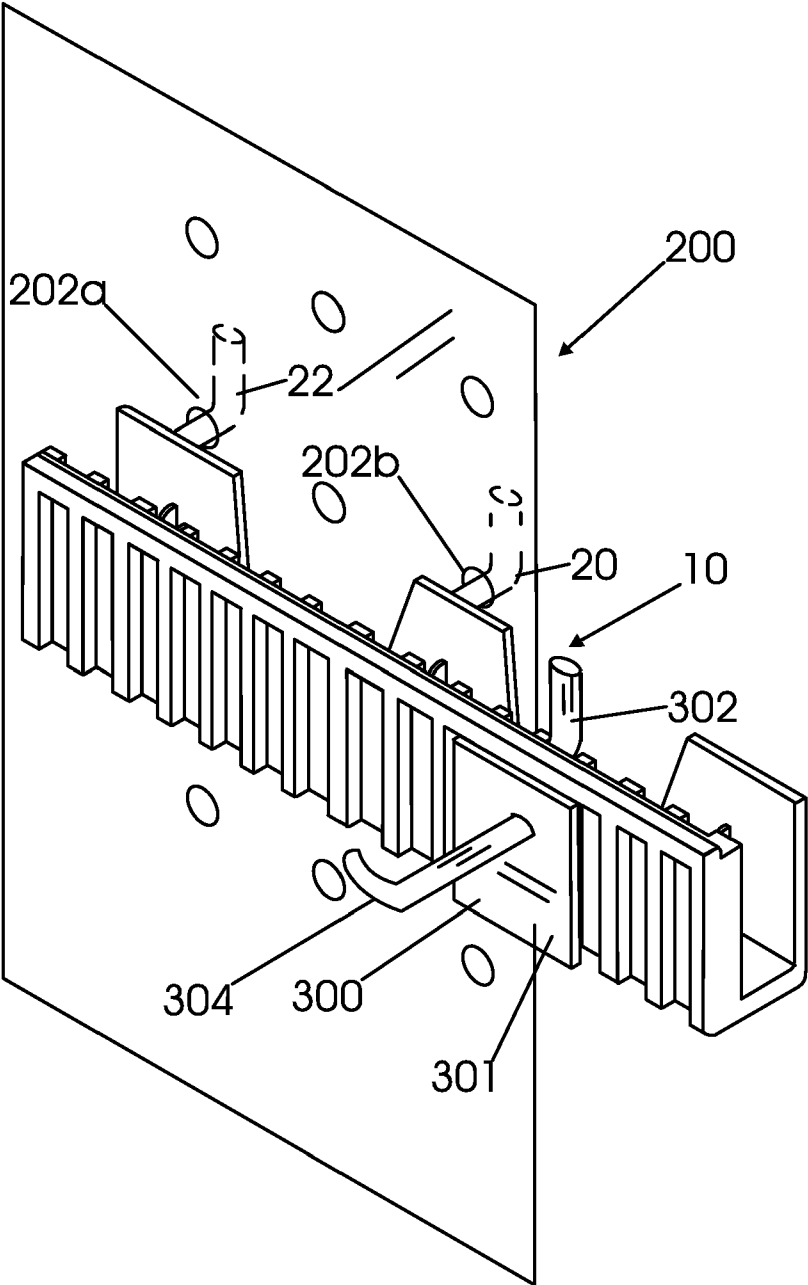


Fig. 12



LATERAL ADAPTOR

FIELD OF THE INVENTION

[0001] This invention relates to improved methods and apparatus concerning devices for inserting into pegboards for holding objects.

BACKGROUND OF THE INVENTION

[0002] There are various devices known in the prior art for inserting into peg boards for holding objects.

SUMMARY OF THE INVENTION

[0003] The present invention, in one or more embodiments, provides an apparatus and method which can extend the usable area of a pegboard. In one embodiment, an apparatus can be inserted into a pegboard and then one or more pegboard devices can be inserted into the apparatus.

[0004] At least one embodiment of the present invention provides an apparatus comprising first, second, and third sides, which together substantially form a U-shape. The first and second sides are substantially parallel to each other and the first side is substantially perpendicular to the third side. First and second prongs project outwards from the first side. A plurality of openings are provided in the second side, such that one or more prongs of a pegboard device can be inserted into the plurality of openings in the second side in order to attach the pegboard device to the apparatus, while the first and second prongs of the apparatus are inserted into a pegboard.

[0005] The apparatus may also include a plurality of substantially U-shaped members having a first portion, a second portion, and a third portion which form the substantially U-shape. Each of the plurality of U-shaped members may be substantially parallel to the U-shape of the first, second, and third sides. The first, second, and third sides may form a gap. The first, second, and third portions of each of the U-shaped members may form a gap. The gap formed by the first, second, and third sides is typically substantially larger than the gaps formed by each of the first, second, and third portions of the U-shaped members,

[0006] The first prong of the apparatus may include first and second portions which are substantially at a right angle with respect to each other. The second prong of the apparatus may include first and second portions which are substantially at a right angle with respect to each other. The first side may include first, second, and third portions which are spaced apart. The first prong of the apparatus may protrude out from the first portion of the first side, and the second prong of the apparatus may protrude out from the second portion of the first side.

[0007] At least one embodiment of the invention includes a method comprising inserting an apparatus into a pegboard, by inserting first and second prongs of the apparatus into first and second holes of the pegboard, and inserting a pegboard device into the apparatus, by inserting a first prong of the pegboard device into a first hole of the apparatus. The apparatus may be as previously described. The method may also include inserting a cord so that it passes through the gaps of each of the plurality of U-shaped members and so that it passes through the gap formed by the first, second, and third sides of the apparatus.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0008] FIG. 1 shows a rear view of an apparatus in accordance with an embodiment of the present invention;
[0009] FIG. 2 shows a front view of the apparatus of FIG. 1;
[0010] FIG. 3 shows a bottom view of the apparatus of FIG. 1;
[0011] FIG. 4 shows a top view of the apparatus of FIG. 1;
[0012] FIG. 5 shows a left side view of the apparatus of FIG. 1;
[0013] FIG. 6 shows a right side view of the apparatus of FIG. 1;
[0014] FIG. 7 shows a perspective view of the apparatus of FIG. 1 which includes the front, the right side, and the top of the apparatus of FIG. 1;
[0015] FIG. 8 shows a perspective view of the apparatus of FIG. 1, which includes the bottom, the rear, and the left side of the apparatus of FIG. 1;
[0016] FIG. 9 shows a perspective view of the apparatus of FIG. 1 which shows the rear, the top, and the left side of the apparatus of FIG. 1;
[0017] FIG. 10 shows a perspective view of the apparatus of FIG. 1 inserted into a pegboard;
[0018] FIG. 11 shows a perspective view of a cord inserted into the apparatus of FIG. 1;
[0019] FIG. 12 shows a perspective view of pegboard hook device inserted into the apparatus of FIG. 1; and
[0020] FIG. 13 shows a perspective view of the apparatus of FIG. 1 and an identical apparatus inserted next to each other into a pegboard.

DETAILED DESCRIPTION OF THE DRAWINGS

- [0021] FIGS. 1-6 show rear, front, bottom, top, left, and right side views, respectively, of an apparatus 10 in accordance with an embodiment of the present invention. FIG. 7 shows a perspective view of the apparatus 10 which includes the front, the right side, and the top of the apparatus 10. FIG. 8 shows a perspective view of the apparatus 10, which includes the bottom, the rear, and the left side of the apparatus 10. FIG. 9 shows a perspective view of the apparatus 10 which shows the rear, the top, and the left side of the apparatus 10.
[0022] Referring to FIGS. 1-9, the apparatus 10 includes sides 12, 40 and 24 which substantially form a U-shape. Side 12 is comprised of portions 14, 16, and 18. The side 12 has a back surface 12a shown in FIG. 1 and an interior surface 12b shown in FIG. 7. The apparatus 10 also includes a side 24 shown in FIG. 1. The side 24 has a front surface 24a shown in FIG. 2 and an interior surface 24b shown in FIG. 1. The front surface 24a is separated into portions 32a-32o by dividing members 30a-30p shown in FIG. 2. The apparatus 10 also includes side 40 shown in FIG. 3, which has a bottom exterior surface 40a and an interior surface 40b. The side 40 has openings or slots 36 and 38 shown in FIGS. 3 and 4.
[0023] Peg board prongs or protrusions 20 and 22 project out from surface 12a and from portions 16 and 18, respectively, of side 12. Prong 20 has portions 20a and 20b, which may be substantially perpendicular to each other. Similarly, prong 22 has portions 22a and 22b, which may be substantially perpendicular to each other. Each of the portions 20a, 20b, 22a, and 22b may be substantially cylindrically shaped and may have a diameter of about 0.187 inches so that each of the portions 20a, 20b, 22a, and 22b can fit into a typical

pegboard hole. The prongs **20** and **22** may be fixed substantially centrally to the portions **16** and **18**, or **14** and **16**, respectively.

[0024] The apparatus **10** also includes members **42**, **44**, and **46**, shown in FIG. 9. The members **42**, **44**, and **46** may be substantially V-shaped and may be identical to each other. The members **42**, **44**, and **46** may be located substantially centrally with respect to the portions **18**, **16**, and **14**, respectively, of side **12**. The member **42** has a portion **42a** fixed substantially centrally to the interior surface **12a** of the portion **18** of the side **12**, a groove, through, or indentation **42b**, and a portion **42c** fixed substantially centrally to the interior surface **24a** of the side **24**. The member **42** is also fixed at its bottom to the interior surface **40b** of the side **40**. Similarly, member **44** has a portion **44a** fixed substantially centrally to the interior surface **12a** of the portion **16** of the side **12**, a groove, trough, or indentation **44b**, and a portion **44c** fixed substantially centrally to the interior surface **24a** of the side **24**. The member **44** is also fixed at its bottom to the interior surface **40b** of the side **40**.

[0025] Similarly, member **46** has a portion **46a** fixed substantially centrally to the interior surface **12a** of the portion **14** of the side **12**, a groove, trough, or indentation **46b**, and a portion **46c** fixed substantially centrally to the interior surface **24a** of the side **24**. The member **46** is also fixed at its bottom to the interior surface **40b** of the side **40**.

[0026] The side **24** has openings **34a-34o** shown in FIG. 2. Each of the openings **34a-o** is typically large enough so that a prong from a pegboard insertion device (such as prong **20** from apparatus **10**) can be inserted into any one of the openings **34a-o**. For example, a second apparatus **200**, identical to apparatus **10** can have its prongs **220** and **222** inserted into openings **32b** and **32h** or **32n** and **32h** shown in FIG. 12. This allows pegboard devices to be attached to each other rather than directly to the pegboard, increasing the available devices which can be hung off of a pegboard. The apparatus **10** includes members **26** and **28** which border the openings **34a-34o**.

[0027] In operation a cord **100** can be inserted into the indentations or through **46b**, **44b**, and **42b** as shown by the dashed lines in FIG. 9 and as shown in FIG. 11. The V-shape of the members **46**, **44**, and **42** helps the members **46-42** to hold the cord tightly inside of the apparatus **10**.

[0028] The apparatus **10** may be made of plastic and may be a one part construction. The apparatus **10** extends the usable peg wall area by having a first pegboard device which allows second pegboard device to be inserted into the first pegboard device. The apparatus **10** can be molded into different sizes to accommodate other types of wall systems. The apparatus **10** can be molded into different styles for prongs or hooks **20** and **22**. Many types of pegboard hooks can be inserted into openings **34a-34o** to increase the effective pegboard space.

[0029] The apparatus **10** allows for finer incremental hook applications than one inch on center hole matrix; typical of peg wall. The apparatus **10** can be molded to be used over left or right store fixture slotted standards which frame out the four foot peg wall sections and usually support the metal shelving. Although the prong portions, such as portions **20a** and **20b**, are shown perpendicular to each other, the apparatus **10** can be molded to accommodate any desired hook angle, such as from ninety to forty-five degrees allowing for usages on the upper most peg wall holes. The apparatus **10** can be

placed continuous left to right with no omissions of the ¼ inch hook spacing. The apparatus **10** can be used as an electric wire management track.

[0030] FIG. 10 shows a perspective view of the apparatus **10** inserted into a pegboard **200**. The pegboard includes a plurality, usually one inch on center, of pegboard holes, such as holes **202a-202b**. Portion **22b** of the prong **22** has been inserted through an opening **202a** of the pegboard **200**, so that the portion **22b** now lies behind the pegboard **200** and is shown by dashed lines. Similarly, prong **20b** has been inserted through an opening **202b** of the pegboard **200**, so that the portion **20b** or prong **20** now lies behind pegboard **200** and is shown by dashed lines.

[0031] FIG. 12 shows a perspective view of pegboard hook device **300** inserted into the apparatus **10**. The pegboard hook device **300** includes a prong or pegboard hook **302**, a base **301**, and a hook or hanger device **304**. The hook can be molded with a hanger device **304** at different heights in relation to **302** allowing for vertical variation along with horizontal variation. The pegboard hook **302** can be inserted into one of the openings **34a-34o** shown in FIG. 3 into order to attach the pegboard hook device **300** to the apparatus **10**. A plurality of hook devices similar to device **300** or having a plurality of prongs or hooks can be inserted into one or more of the openings **34a-34o** in order to increase the effective area of the pegboard **200** so that more objects can be temporarily attached to pegboard **200**.

[0032] The apparatus **10** may be a one part construction. No assembly or articulation may be needed to form the apparatus **10**. The apparatus **10** may extend usable peg wall area (both around perimeter as shown in FIG. 10 and within the peg wall matrix field. For example, FIG. 13 shows a perspective view of the apparatus **10** and an identical apparatus **410** inserted next to each other into a pegboard **500**. The identical apparatus **410** includes prongs **422** and **420** having portions **422a-b** and **420a-b**, respectively.

[0033] The pegboard **500** includes a plurality, usually one inch on center, of pegboard holes, such as holes **502a-502d**. Portion **22b** of the prong **22** has been inserted through an opening **502b** of the pegboard **500**, so that the portion **22b** now lies behind the pegboard **500** and is shown by dashed lines. Similarly, portion **20b** of the prong **20** has been inserted through an opening **502a** of the pegboard **500**, so that the portion **20b** of the prong **20** now lies behind pegboard **500** and is shown by dashed lines. In the same manner, portion **422b** of the prong **422** of the apparatus **410** has been inserted through an opening **502d** of the pegboard **500**, so that the portion **422b** now lies behind the pegboard **500** and is shown by dashed lines. Similarly, portion **420b** of the prong **420** has been inserted through an opening **502c** of the pegboard **500**, so that the portion **420b** of the prong **420** now lies behind pegboard **500** and is shown by dashed lines.

[0034] As shown in FIG. 13, the inserted apparatuses **10** and **410** increase the effective number of peg holes into which pegs can be inserted. For example, between or aligned with prongs **20** and **22** there are about seven openings **34b-34h**, shown in FIG. 2. As shown in FIG. 13, there are only three peg openings (**502b**, **502a**, and one opening between **502b** and **502a**) in the pegboard **500** between or aligned with prongs **20** and **22**. Thus, the apparatus **10** increases the number of usable peg openings, between or aligned with prongs **20** and **22**, by a ratio of seven to three in the embodiment of FIG. 13.

[0035] The apparatus **10** can be molded to accommodate many different types of wall systems. A mold insert for

prongs **20** and **22** can allow for “slat wall” and “uniweb” wall systems merging the use of common inexpensive peg hooks on those wall systems usually requiring their own more expensive hooks.)

[0036] The apparatus **10** can be molded to accommodate all hook styles (for the prongs or hooks **20** and **22**) such as plastic, metal, round, and squared off. The apparatus **10** works with all pegboard hooks such as single, double, short and long pegboard hooks, which may be substituted for or included with the pegboard hook device **300**.

[0037] The apparatus **10** allows for finer incremental hook applications than one inch on center (left and right) $\frac{1}{4}$ inch steps horizontally. The apparatus **10** can be molded to be used over left or right standards not occupied by fixture shelving. For example, portions or planes **14**, **16**, and **18** can all have mold inserted prongs (in FIG. **1**, portion **14** does not have a prong making this version to extend over a right side standard). The apparatus **10** can be molded to accommodate any desired hook angle, such as an angle of ninety to forty-five degrees (for the hooks to be inserted into any one of openings **34a-34p** of FIG. **2**, such as prong **302** inserted into one of openings **34a-p** in FIG. **12**).

[0038] The apparatus **10**, and identical apparatus such as apparatus **410** in FIG. **13**, can be placed continuous left to right with no omissions of the one quarter inch hook spacing (one after the other on the same row horizontally). The apparatus **10** can be used as an electric wire management track such as shown by FIGS. **9** and **11**. The slots **36** and **38**, and/or the members **42**, **44**, and **46**, shown in FIG. **9** of the apparatus **10** can be used to hold graphics cards and aisle violators.

[0039] The apparatus **10** allows for two prong hooks, (inserted into adjacent openings of **34a-p**, because 4 openings equal one 1" on center two prong hook to be placed closer together than ever before since only a $\frac{1}{2}$ inch on center has ever been made prior to our $\frac{1}{4}$ inch on center.

[0040] The apparatus **10** allows for the creation of thinner carded product and tighter piano grams (what are piano grams) or layout of product by retailer on peg wall. The apparatus **10** can be molded with side pulled holes **34a-34p** each version at one of three levels 0.375 inches apart on center to allow for vertical fine adjustment of hooks if common hooks are only available. Instead of one hole **34a** in section **32a**, there can be three holes in a column in second **32a**. Likewise there can be effectively, three rows of holes similar to holes **34a-o** in sections **32a-32o**.

[0041] Although the invention has been described by reference to particular illustrative embodiments thereof, many changes and modifications of the invention may become apparent to those skilled in the art without departing from the spirit and scope of the invention. It is therefore intended to include within this patent all such changes and modifications as may reasonably and properly be included within the scope of the present invention's contribution to the art.

I claim:

1. An apparatus comprising:

first, second, and third sides, which together substantially form a U-shape;

wherein the first and second sides are substantially parallel to each other and the first side is substantially perpendicular to the third side;

first and second prongs, which project outwards from the first side;

and wherein there are a plurality of openings in the second side, such that one or more prongs of a pegboard device

can be inserted into the plurality of openings in the second side in order to attach the pegboard device to the apparatus, while the first and second prongs of the apparatus are inserted into a pegboard.

2. The apparatus of claim **1** further comprising

a plurality of substantially U-shaped members having a first portion, a second portion, and a third portion which form the substantially U-shape;

wherein each of the plurality of U-shaped members are substantially parallel to the U-shape of the first, second, and third sides; and

wherein the first, second, and third sides form a gap;

wherein the first, second, and third portions of each of the U-shaped members form a gap; and

wherein the gap formed by the first, second, and third sides is substantially larger than the gaps formed by each of the first, second, and third portions of the U-shaped members,

3. The apparatus of claim **1** wherein

the first prong of the apparatus includes first and second portions which are substantially at a right angle with respect to each other; and

the second prong of the apparatus includes first and second portions which are substantially at a right angle with respect to each other.

4. The apparatus of claim **1** wherein

the first side includes first, second, and third portion which are spaced apart;

and wherein the first prong of the apparatus protrudes out from the first portion of the first side, and the second prong of the apparatus protrudes out from the second portion of the first side.

5. A method comprising:

inserting an apparatus into a pegboard, by inserting first and second prongs of the apparatus into first and second holes of the pegboard; and

inserting a pegboard device into the apparatus, by inserting a first prong of the pegboard device into a first hole of the apparatus.

6. The method of claim **5** wherein

the apparatus is comprised of first, second, and third sides, which together substantially form a U-shape;

wherein the first and second sides are substantially parallel to each other and the first side is substantially perpendicular to the third side;

wherein the first and second prongs of the apparatus project outwards from the first side;

and wherein there are a plurality of openings in the second side, such that the first prong of the pegboard device can be inserted into any one of the plurality of openings in the second side in order to attach the pegboard device to the apparatus, while the first and second prongs of the apparatus are inserted into the pegboard.

7. The method of claim **5** wherein

the apparatus is comprised of a plurality of substantially U-shaped members having a first portion, a second portion, and a third portion which form the substantially U-shape;

wherein each of the plurality of U-shaped members are substantially parallel to the U-shape of the first, second, and third sides; and

wherein the first, second, and third sides form a gap;

wherein the first, second, and third portions of each of the U-shaped members form a gap; and

wherein the gap formed by the first, second, and third sides is substantially larger than the gaps formed by each of the first, second, and third portions of the U-shaped members,

8. The method of claim **5** wherein

the first prong of the apparatus includes first and second portions which are substantially at a right angle with respect to each other; and

the second prong of the apparatus includes first and second portions which are substantially at a right angle with respect to each other.

9. The method of claim **5** wherein

the first side includes first, second, and third portions which are spaced apart;

and wherein the first prong of the apparatus protrudes out from the first portion of the first side, and the second prong of the apparatus protrudes out from the second portion of the first side.

10. The method of claim **5** further comprising

inserting a cord so that it passes through the gaps of each of the plurality of U-shaped members and so that it passes through the gap formed by the first, second, and third sides of the apparatus.

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