United States Patent

Gordon

[15] **3,682,109**

[45] **Aug. 8, 1972**

[54] ADJUSTABLE WORK TABLE

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[22] Filed: **July 20, 1970**

[21] Appl. No.: **56,406**

[52] **U.S. Cl.** **108/9**

[51] **Int. Cl.** **A47f 5/12**

[58] **Field of Search** 108/1–10

[56] **References Cited**

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[57] **ABSTRACT**

A work table having a supporting frame and a member defining a surface upon which work may be performed which is mounted upon the frame and adjustable to a variety of work positions. The work member is pivotable relative to the frame and may be fixed in any one of a plurality of angular positions. Additionally, the work member may be linearly moved relative to its pivot point and fixed in any one of a plurality of linear positions. The combined angular and linear adjustability provides a work surface offering widened versatility and adjustability in a table which is particularly suitable in the treatment of disabled children.

5 Claims, 4 Drawing Figures

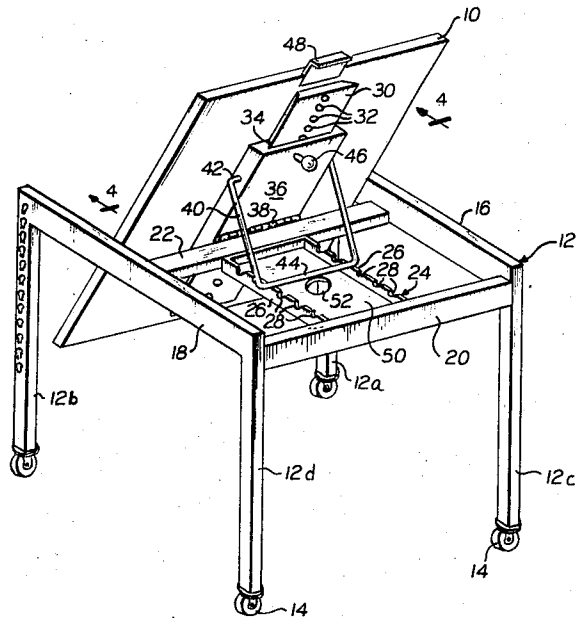


FIG. 1.

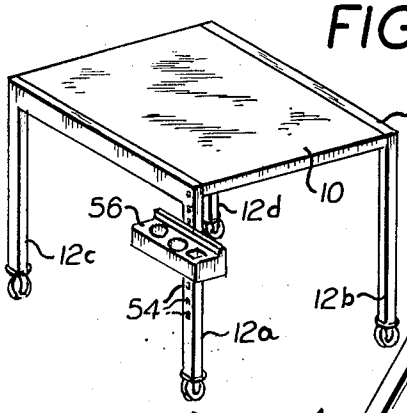


FIG. 2.

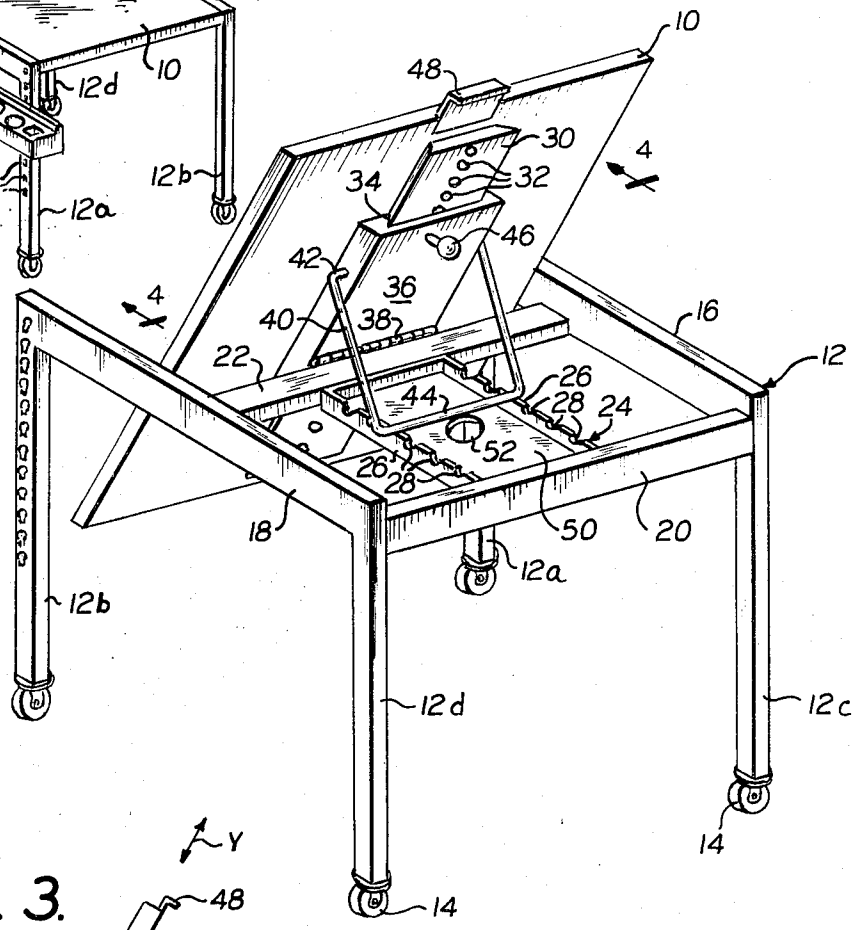


FIG. 3.

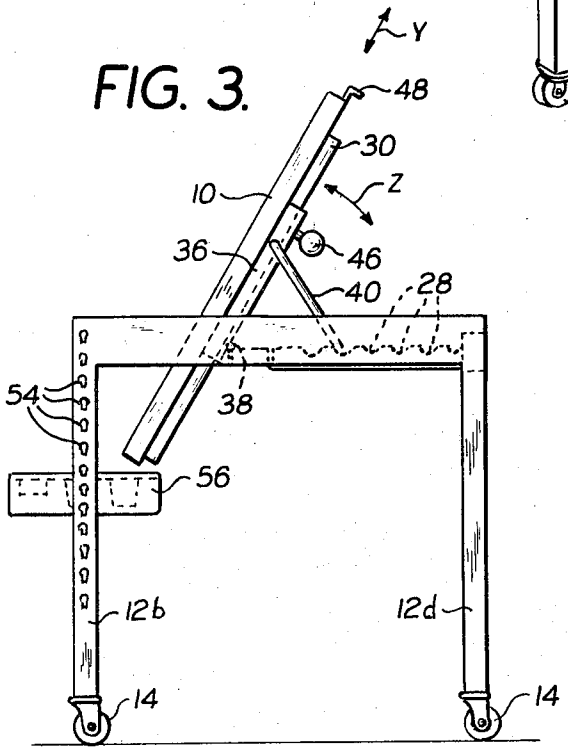
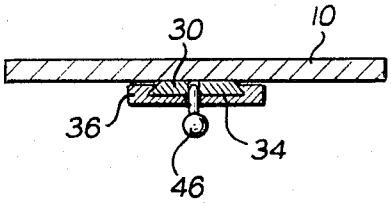


FIG. 4.



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ADJUSTABLE WORK TABLE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to articles of furniture, and more particularly to an adjustable work table especially suitable for use in connection with therapeutic treatment of disabled children.

2. Discussion of the Prior Art

In the treatment of disabled children, occupational therapy plays a major role in connection with rehabilitation efforts aimed at developing a variety of physical skills. The equipment used in the physical therapy of disabled children must be specially designed to be particularly suitable for use in the treatment of the child. Quite often, the facility for movement and the performance of certain physical or occupational efforts, such as drawing, painting or the like, which is enabled by the design and function of the equipment provides significant benefit. In many cases, it would be quite difficult or perhaps impossible for a disabled child to perform certain tasks without the benefit of equipment which is conceived and operable to facilitate and encourage the performance of the rehabilitating functions.

Accordingly, it is considered important that there be derived from furniture used in a therapy work or play room for disabled children certain special beneficial effects which would be difficult or impossible to obtain with ordinary furniture. In the context of the present invention such benefits particularly relate to provision of an appropriate range of adjustability within the limitations and reach of a disabled child to be treated. It is also of importance that the versatility and adjustability of such equipment be provided with simplicity of operation and construction so that manufacture and manipulation thereof may be accomplished within the limits of the treatment environment.

SUMMARY OF THE INVENTION

Briefly, the present invention may be described as an adjustable work table comprising a frame, a member upon which work may be performed, and means adjustably mounting the work member upon the frame, said mounting means including means for pivoting the work member relative to the frame about a pivot point and means for moving said work member relative to the pivot point. Thus, the work member is adjustable to a plurality of angular positions, by pivoting about the pivot point, as well as being adjustable to a plurality of linear positions by linear movement thereof relative to the frame in a manner which changes the relative location of its pivot point.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be better understood by reference to the following detailed description of a preferred embodiment thereof taken in connection with the accompanying drawings wherein:

FIG. 1 is a view in perspective of the work table of the present invention showing the adjustable work member thereof in a horizontal position;

FIG. 2 is a view in perspective taken from the rear of the work table showing the operational mechanisms involved;

FIG. 3 is a side elevation of the work table with arrows to indicate the relative directions of work member adjustability; and

FIG. 4 is a sectional view taken along the lines 4—4 of FIG. 2.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail, there is shown an adjustable work table comprising a work member **10**, in the form of a flat planar table top upon which work can be performed, mounted upon a frame **12** comprising four legs **12***a*, **12***b*, **12***c* and **12***d*. Each of the legs **12***a* – **12***d* is mounted upon a caster **14** to facilitate movement of the work table. The frame **12** comprises a U-shaped upper section including a pair of side walls **16** and **18** and a rear wall **20**. A support strut **22** extends between the side walls **16** and **18**, and a serrated rack **24** is attached to extend between the support strut **22** and the rear wall **20**. The serrated rack **24** is rectangularly shaped and comprises a pair of oppositely positioned serrated side walls **26** each having formed therein a plurality of serrations **28**.

The work member **10**, which may be formed of wood or other suitable material, has fixedly attached upon the rear side thereof a dovetail plate **30** having perforations **32** therein and extending in length almost to opposite sides of the work member **10**. The dovetail plate **30** is slidably engaged within a dovetail mortise **34** defined by a mortise plate **36** which is pivotally attached by a hinge **38** to the support strut **22**. A U-shaped adjustment bracket **40**, having a pair of bent ends **42** which are rotatably embedded in the sides of the mortise plate **36**, comprises a base section **44** which is engageable across the serrated rack **24** by insertion within the serrations **28** to adjust the relative angular position between the work member **10** and the frame **12**.

A plug **46** adaptable to extend through the mortise plate **36** engages the dovetail plate **30** by insertion of the plug into the perforations **32** to fix the relative positioning between the mortise plate **36** and the dovetail plate **30**.

In the operation of the invention, the work member **10** is rotatable about a pivot point defined by the hinge **38** in the directions indicated by the arrows Z and may thereby by adjustably positioned to any one of a plurality of angular work positions by disengagement of the base section **44** from a serration **28** and reengagement thereof within a different serration. It will be apparent that by engagement within a serration **28** the bracket **40** maintains the work member **10** fixed at a relative angular position which is dependent upon the particular serration **28** within which the bracket **40** is engaged. When it is desired to change the angular position of the work member **10** by reengagement of the bracket **40**, the bracket **40** will be pivoted relative to the mortise plate **36** by virtue of the connection between the bent ends **42** of bracket **40** and the mortise plate **36**.

Accordingly, it will be clear that the work member **10** is readily pivotable about a pivot point defined by the hinge **38** and that when so pivoted, the bracket **40** may be engaged and disengaged to maintain the work member **10** in any one of a plurality of angular work positions. It will hinge means be seen that the pivot

point defined by the hinge **38** is fixed relative to the frame **12**.

With the work member **10** in a given angular position, there may also be effected movement thereof relative to the pivot point defined by the hinge **38**. With the plug **46** engaged within a perforation **32** on the dovetail plate **30**, the work member **10** is fixed in a particular position relative to the hinge **38**. By withdrawal of the plug **46** from a perforation **32**, the dovetail plate **30** may be slidably moved within the dovetail mortise **34** to place the work member **10** in any other desired position relative to the hinge **38**, whereupon the plug **46** is reinserted into an appropriate aligned perforation **32** to maintain the work member **10** in that desired position.

Accordingly, it will be seen that the work member **10** is movable in a linear direction indicated by the arrows Y, as well as in an angular direction indicated by the arrows Z. Since the work member **10** essentially comprises a planar configuration, it will be clear that the linear motion indicated by the arrows Y may be said to occur along its plane.

One of the angular positions to which the working member **10** may be moved is the horizontal position, which is depicted in FIG. **1**. When moved to this position the base section **44** of the bracket **40** is engaged upon the rearmost serration **28** and there is provided a clip **48** which is perpendicularly shaped to extend over the rear wall **30** of the frame **12** thereby to prevent undesired forward sliding movement of the work member **10** which might occur as a result of inadvertent disengagement of the plug **46** from within a designated perforation **32**. Inadvertent rearward sliding motion of the work member **10** will be prevented by engagement of the base section **44** against the rear wall **20** or against the rear most serration **28**.

In the formation of the serrated rack **24** a base plate **50** extending across the bottoms of the serrated side walls **26** may be provided. If so, it will be necessary to also provide an opening **52** to permit the plug **46** to extend therethrough when the work member **10** is in the horizontal position. Of course, the serrated rack **24** may be comprised merely of a pair of serrated side walls **26** extending across the frame member as shown without provision of a base plate **50**, whereupon there would be no obstruction to the plug **46** when the base member **10** is in the horizontal position.

The front legs **12*a*** and **12*b*** have on the outer sides thereof a plurality of orifices **54** upon which may be mounted a tray **56** useful for containing materials or utensils required in the performance of a task upon the work member **10**. For example, if the work member **10** is to be used as a surface upon which painting or drawing is to be performed, then the tray **56** may be utilized to contain paints, brushes and the like. The height and location of the tray **56**, whether upon the left leg **12*a*** or upon the right leg **12*b***, may be readily altered by engagement and disengagement of the tray **56** within an orifice **54**. Accordingly, the tray **56** may be easily adjusted to a position related to the positioning of the work member **10** thereby enhancing the facility with which tasks may be performed on the adjustable work table of the present invention.

From the foregoing it will be apparent that the present invention provides a work surface with a wide range of adjustability, both as to angulation and as to linear positioning within a particular angular location. The work table of the present invention is considered particularly useful and effective in connection with the treatment of disabled children. Due to the wide range of adjustability, the work surface provided by the work member **10** may be contractures, to a disabled child at a position most convenient to the child. Children with motor limitations such as might be caused by paralysis or contractures. as well as youngsters who require prosthetic devices which may lack wrist flexion, all can perform tasks upon a work surface provided by the work member **10** which could be placed at an optimal linear location while in any appropriate angular position. The tray **56** may be located to accommodate either a right or left handed child and at the same time it may be adjustable as to height in cooperation with the positioning of the work member **10** thereby to further enhance the applicability of the invention in the treatment of disabled children. Although the present invention has been described in connection with a preferred embodiment thereof, it is to be understood that this is merely illustrative of the principles of the invention and that numerous modifications and other embodiments may be derived within the spirit and scope thereof.

What is claimed is:

1. An adjustable work table comprising:
   a. a frame;
   b. a generally planar work member;
   c. a male mounting member affixed to a lower surface of the work member;
   d. a female mounting member pivotally mounted to the frame and including an elongate aperture therethrough and adapted to receive the male mounting member, the male mounting member being slidable through the female mounting member to thereby selectively vary the linear position of the work member relative to the pivot point of the female mounting member about the frame, the pivotal position of the female mounting member defining the pivotal position of the work member about said pivot point when the male mounting member is received within the elongate aperture of the female mounting member: and
   e. hinge means mounted to the female mounting member and the frame for enabling pivotal movement of the work member about the hinge means when the male mounting member is slidably received within the elongate aperture of the female mounting member.

2. The adjustable work table of claim **1**, wherein the male mounting member includes a plurality of spaced, aligned holes therein, and wherein the female mounting member has a hole through a lower surface thereof into the elongate aperture, the female mounting member hole being aligned with the male mounting holes when the male mounting member is slidably received in the elongate aperture of the female mounting member, the work table further comprising a plug adapted to be inserted through the hole in the female mounting member and a selected hole in the male mounting member to fix the linear position of the work member relative to said pivot point.

3. The adjustable work table of claim **2**, wherein the frame is generally U-shaped having a pair of parallel

side walls joined at an end of each by a connecting substantially perpendicular front wall, the frame further including an elongate strut fixed between the side walls substantially parallel to the front wall, the hingemeans being mounted to the strut and to the female mounting member.

4. The adjustable work table of claim 3, further comprising:

a. a serrated member disposed between the strut and front wall of the frame; and

b. bracket means pivotally mounted to the female mounting member and having a portion thereof adapted to cooperate with the serrated member to fix the pivotal position of the female mounting member about the hinge means.

5. The adjustable work table of claim 4, further comprising:

a. receptacle means for holding items to be used while performing work on the work member; and

b. means adjustably mounting the receptacle means on the frame to enable positioning thereof in a desired one of a plurality of vertical locations.

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