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Wright

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[54] ADJUSTABLE EASEL CONSTRUCTION

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[52] U.S. Cl. 248/449

[51] Int. Cl. A47b 97/08

[58] Field of Search 248/448, 449, 463, 248/464, 465

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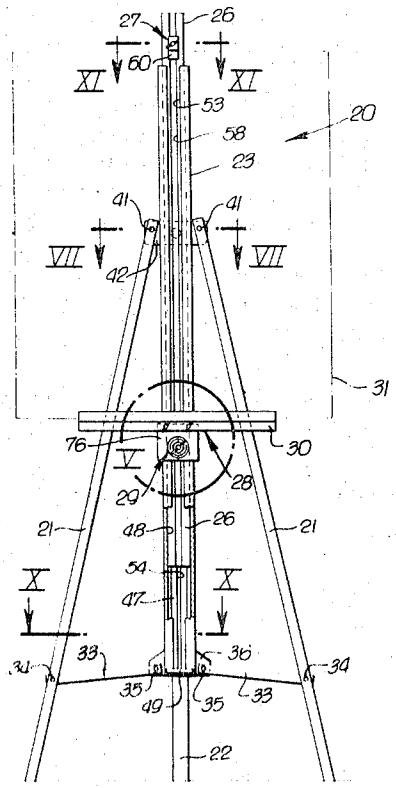
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[57] **ABSTRACT**

A tripod easel construction including a central upstanding support and guide means providing a plurality of way means for a work holder slide bar and associated securement means whereby workpieces of different height may be readily secured and retained on said slide bar and said workpiece so retained may be readily adjusted to a selected working or display height. An easel construction having an arrangement of easel legs and upstanding support and guide means and associated slide work holder bar and securement means therefor which is readily adjusted as to height, working angle, and which may be readily collapsed and erected.

8 Claims, 11 Drawing Figures



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SHEET 1 OF 2

FIG. 1.

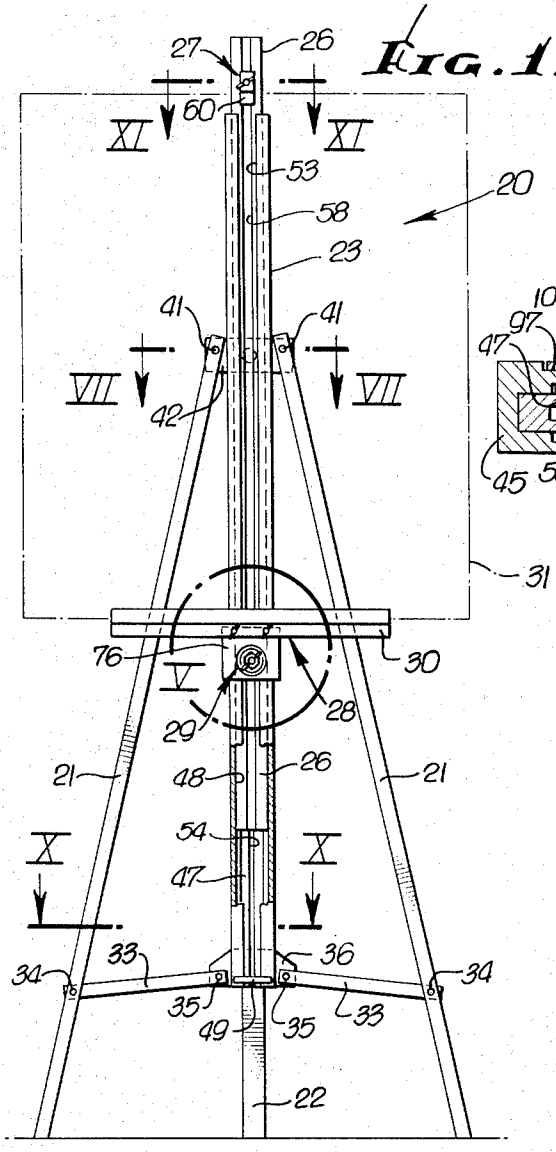


FIG. 2.

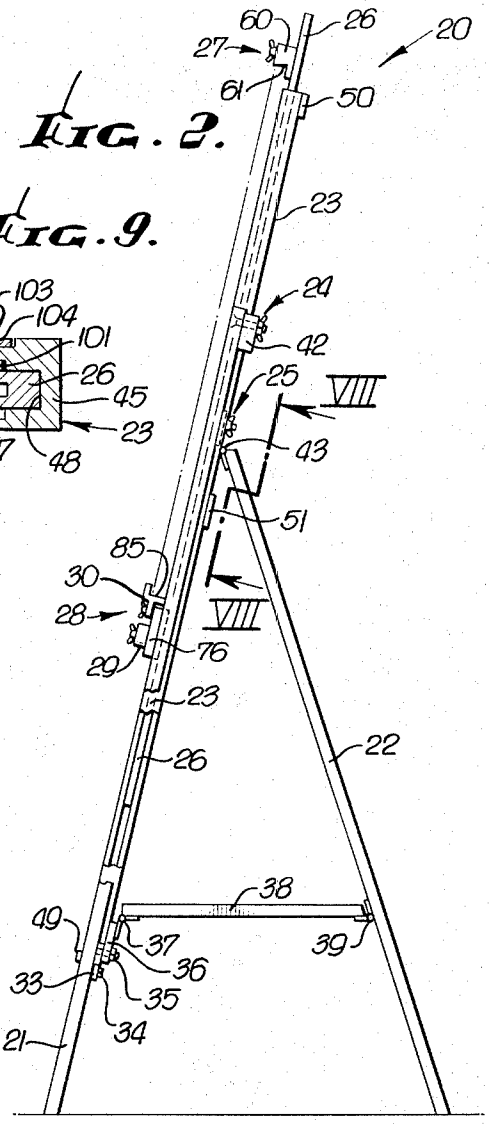


FIG. 9.

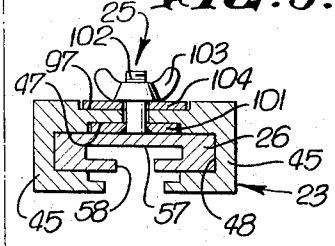


FIG. 10.

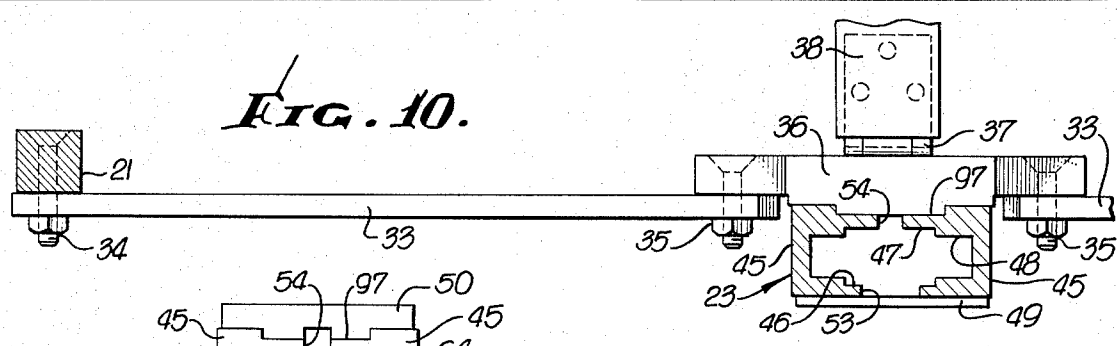
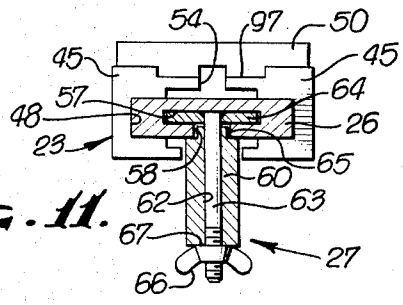


FIG. 11.



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FIG. 3.

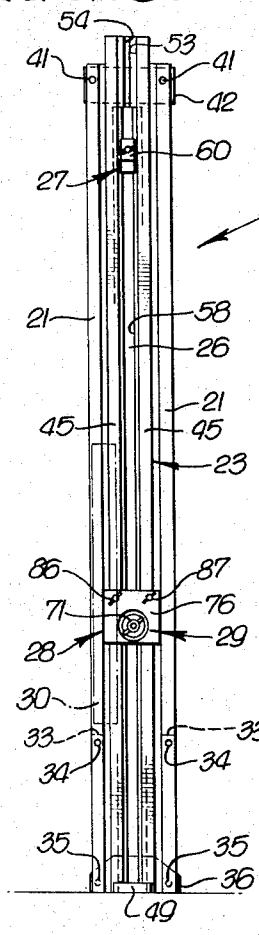


FIG. 4.

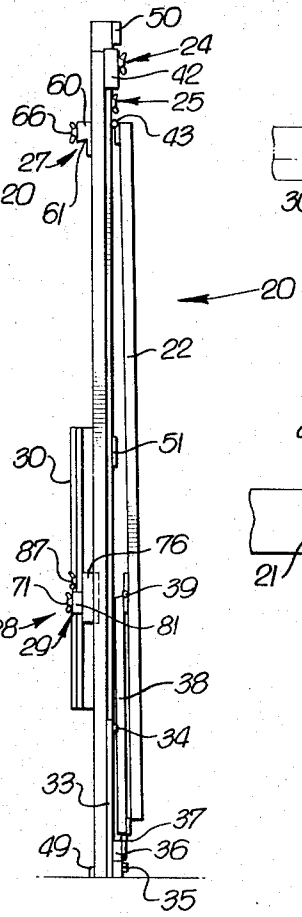


FIG. 6.

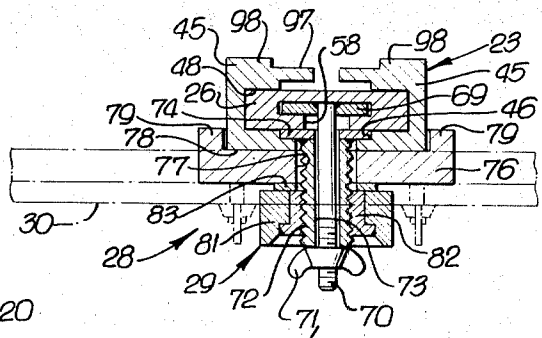


FIG. 7.

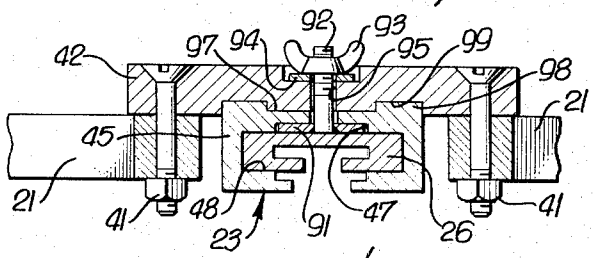


FIG. 8.

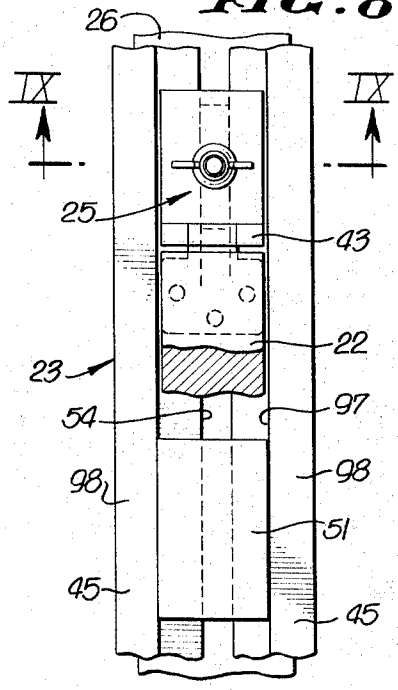
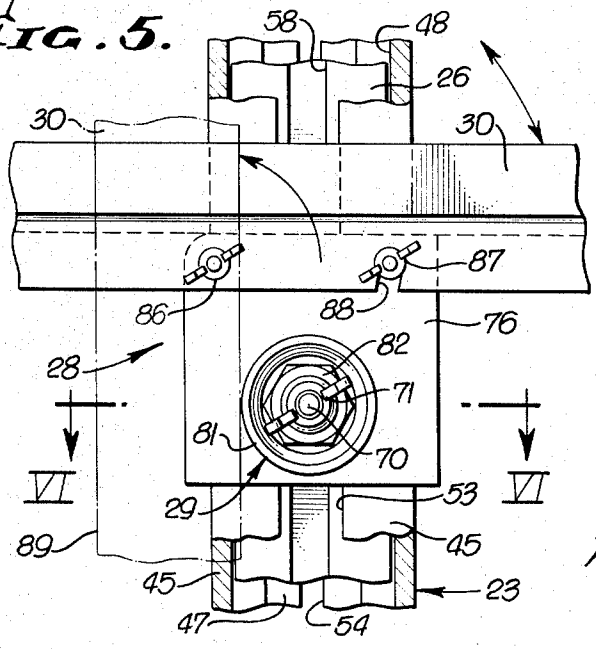


FIG. 5.



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ADJUSTABLE EASEL CONSTRUCTION

BACKGROUND OF INVENTION

Tripod easel constructions are well known for use in the support of sheet-like material which is sufficiently rigid and self-supporting as a stiff board or cardboard and which may support a canvas sheet or other material. Such easel constructions provide a stable readily portable and movable support or work holding means on which a work surface is positioned in an upwardly inclined plane and adjusted as to height to the convenience of the person using the easel construction. Usually such prior proposed easel constructions included separately movable work holder clamps which required separate adjustment in the selection of a desired working height. During such height adjustment the top and bottom work clamp devices were often reset several times before the selected height was achieved.

Often such prior proposed easel constructions were awkward to erect because of the type of connection between the easel legs to permit spreading of the legs in a triangular pattern, adjustment of the angle of inclination of the working plane of the easel was often difficult to hold, particularly if the easel was moved to a different position, and such prior proposed constructions were often awkward and difficult to readily collapse for carrying to a distant location.

SUMMARY OF INVENTION

The present invention relates to a novel easel construction and mode of operation thereof and more particularly to an easel construction which avoids the disadvantages of prior proposed easel mentioned above and which provides a steady, stable, easily handled and operated construction.

The present invention contemplates an easel construction in which the easel legs are pivotally interconnected through a central standard or work support and guide means in such a manner that clamping one of the legs in fixed relation to the guide means retains the guide means in position to provide the selected inclined work plane. The invention contemplates a novel construction of a central standard or work support and guide means wherein a plurality of way means are provided on the guide means to cooperate with several types of slide means to provide easy and rapid adjustment of the easel construction to a desired work position.

A primary object of the invention therefore is to disclose and provide a novel easel construction having readily adjustable features which afford convenient positioning of a workpiece on the easel construction and placement of the easel construction in a desired location.

An object of the invention is to disclose and provide an easel construction wherein a workpiece may be readily moved to a selected height without releasing the workpiece from the easel construction.

Another object of the invention is to disclose and provide a work support and guide means provided with a plurality of effectively and efficiently arranged way means which facilitate adjustment of the easel construction.

Still another object of the present invention is to provide an easel construction provided with a novel adjustable control means for regulating the positioning and

work height of the workpiece secured on the easel construction.

Still a further object of the present invention is to disclose and provide an easel construction which may be readily utilized for interior and exterior painting because of its steady, stable characteristics, and which may be readily used for display of charts, paintings, or other visual aids of planar form.

Various other objects and advantages of the present invention will be readily apparent from the following description of the drawings in which an exemplary embodiment of the invention is shown.

In the drawings:

FIG. 1 is a front view of a easel construction embodying this invention, the easel being shown in erected position and a portion broken away to better show the relationship between the support and guide means and work holder bar.

FIG. 2 is a side view of FIG. 1, a similar portion being broken away.

FIG. 3 is a front view of the easel construction of FIG. 1 in collapsed position.

FIG. 4 is a side view of FIG. 3.

FIG. 5 is an enlarged fragmentary front view of a dual control or holding means used on the easel of FIG. 1, the enlargement being indicated by the circle in phantom lines.

FIG. 6 is a fragmentary sectional view taken in the plane indicated by line VI—VI of FIG. 5.

FIG. 7 is an enlarged fragmentary sectional view taken in the plane indicated by line VII—VII of FIG. 1.

FIG. 8 is an enlarged fragmentary back view, partly in section, taken in the plane indicated by line VIII—VIII of FIG. 2.

FIG. 9 is an enlarged sectional view taken in the plane indicated by line IX—IX of FIG. 8.

FIG. 10 is an enlarged fragmentary sectional view taken in the plane indicated by line X—X of FIG. 1.

FIG. 11 is an enlarged sectional view taken in the plane indicated by line XI—XI of FIG. 1.

DETAILED DESCRIPTION OF INVENTION

In FIGS. 1 and 2 an easel construction embodying this invention is generally indicated at **20**. Easel **20** generally comprises front easel legs **21** and a back easel leg **22** which carry an upstanding support and guide means **23** along which slide means **24** and **25** may be moved to adjust the relationship between the guide means **23** and easel legs **21** and **22**. A work holder bar **26** is longitudinally slidable in guide means **23** and carries a slidably adjustable top work holder retainer or clamp means **27** and a bottom work holder or clamp means **28**. The bottom work retainer means **28** also includes a means **29** for adjustably positioning work holder bar **26**. Bottom work clamp means **28** also carries a horizontally extending work support rail **30** which is adapted to support and engage a bottom edge of a workpiece indicated in phantom lines at **31**. The term workpiece is meant to include any planar sheet material, framed sheet material, display charts, canvas, plates or boards, paintings, or the like adapted to be supported, displayed, and worked upon, as a painting.

Easel construction **20** may be made of suitable rigid material, in a preferred example such material is a relatively hard, close-grained wood of sufficient weight to enhance the stability and steadiness of the easel. Also, such material should be capable of providing a smooth

substantially finished surface over long periods of time. While a hard wood is preferred, the invention is applicable to other materials such as metal and plastic materials.

Each easel leg 21 may be of square cross section for rigidity and of the same length. Back easel leg 22 may be of rectangular section and of shorter length than legs 21.

Means pivotally connecting side legs 21 with the bottom end portion of guide means 23 may include a pair of links 33 pivotally connected at their outer ends to side legs 21 by suitable pivot means such as a screwbolt assembly 34. Opposite ends of links 33 may be pivotally connected by screwbolt assembly 35 to a bracket member 36 secured to and carried by the bottom end of guide means 23. The bracket member 36 also provides a surface for connecting hinge means 37 thereto, hinge means 37 being also connected to one end of a rearwardly directed link 38 which has its opposite end hingedly connected by a hinge means 39 to rear leg 22. Upper ends of side easel legs 21 are pivotally connected by suitable screwbolt and nut assemblies 41 (FIG. 7) to a cross member 42 slidably carried on guide means 23 as described later. The upper end of rear leg 22 is hingedly connected by hinge means 43 (FIG. 8) to slide means 25 for relative movement of the top end of rear leg 22 longitudinally along guide means 23.

Thus, side legs 21 may be collapsed and drawn into snug parallel relationship with guide means 23 by loosening slide means 24 and sliding cross member 42 upwardly along guide means 23 to cause the lower links 33 to be pivoted about pivotal connections 35 until they are in virtually parallel relation with the legs 21. Rear easel leg 22 may similarly be drawn into snug parallel relation with guide means 23 by sliding slide means 25 upwardly along guide means 23 to raise the top end of rear leg 22 relative to the guide means and to thus permit hinged link 38 to be positioned into substantially parallel relation with rear leg 22 and guide means 23.

The upstanding support and guide means 23 may be fabricated in any suitable manner to provide corresponding complementary side members 45 of virtually identical cross section and defining cooperable outer and inner way means 46 and 47 and an intermediate way means 48 therebetween. The members 45 are held in spaced apart relationship by a bottom front transverse bar 49 and a top rear bar 50, and intermediate bar 51 may also maintain the parallel relationship of members 45. In addition to the inner and outer and intermediate way means defined by the internal stepped configuration of members 45, the spaced members 45 define continuous front and back longitudinally extending slots 53 and 54 respectively, the back slot 54 having a reduced width as compared to front slot 53. Front slot 53 is closed at the bottom of the members 45 by bar 49, and is uninterrupted throughout the entire length of the guide means and is open at the top of the guide means as indicated at 55. Back slot 54 is open for the length of guide means 23 except for the bottom cross bar 36, intermediate and top cross bars 51 and 50.

The plurality of way means 46, 47, and 48 provided by the internal stepped configuration of the guide means 23 facilitates compact smooth actuation of the easel construction. Intermediate way means 48 is relatively deep in the front and back dimension and serves to slidably guide work holder bar 26 which has a length of approximately that of the guide means 23. Work holder bar 26 has an overall width and thickness slightly less than the way means 48 so taht a smooth sliding fit will be provided for bar 26 throughout the length of the way means 48. Work holder bar 26 may be of generally C-section and includes a longitudinally extending channel 57 and a corresponding longitudinally extending slot 58, said slot 58 communicating with the front slot in guide means 23.

Work holder retainer or clamp means 27 and 28 are carried by work holder bar 26 and are slidable relative thereto as now described. Work holder clamp means 27 is best seen in FIGS. 2 and 11 and may comprise an angle-shaped body member 60 having a downwardly facing notch or recess 61 to be fitted against the top edge of a workpiece 31. Body member 60 includes a through bore 62 for receiving a clamping bolt 63 having its inner end fixed as by welding to a flat rectangular slide shoe 64 providing a loose sliding fit in channel 57. Body member 60 may include inner rabbeted edges 65 for slidable cooperation with edge margins of longitudinal slot 58. Bolt 63 carries a wing nut 66 which bears at 67 against the outer face of body member 60. Upon tightening of wing nut 66, bolt 63 is drawn outwardly to cause the slide plate 64 and rabbeted edges 65 on the body member 60 to clamp against the edge margins of slot 58 to tightly frictionally clamp and retain th top work holder means 27 in a selected position on bar 26. Bottom work holder retaining means 28 includes similar clamping structure including a flat rectangular slide shoe 69 secured as by welding to a bolt 70 having a wing nut 71. Wing nut 71 is seated on the end face of an externally threaded body member 72 which provides a loosely fitting through bore 73 for bolt 70 and which is secured as by welding to a rectangular flat slide plate 74 slidably movable in the outer way means 46. Thus when wing nut 71 is tightened, the margins of the channel slot 58 are clamped between the slide shoe 69 and slide plate 74 to position the bottom work holder means 28 relative to the work bar 26.

Bottom work holder clamp 28 also includes a slide member 76 having an opening 77 for externally threaded member 72 and having an inner face slidable along the outer face of guide means 23 as at 78. Rearwardly directed edge ribs 79 are also provided on slide member 76 for guiding engagement with guide means 23. Externally threaded body member 72 threadedly carries a circular knob 81 having an internal bushing 82 fitted therein, bushing 82 having internal threads engageable with the external threads of body member 72. An annular washer 83 is provided between the rearwardly directed face of rotatable knob 81 and the outer face of slide member 76. Thus upon rotation of knob 81 in an unloosening direction, clamping engagement between slide plate 74 and washer 83 is relieved so that the work holder bar 26 may be raised or lowered relative to guide means 23. As readily seen from FIG. 6, such relative movement of work holder bar 26 with respect to guide means 23 may be accomplished without loosening work holder wing nut 71 and thus selected spacing between the top and bottom work holder clamp means may be maintained while the workpiece is adjustably raised or lowered to a desired working height.

Slide member 76 may carry work support rail 30 in a pivotal and releasable fashion. Normally, rail 30 is

horizontal and has a rabbeted top edge 85 for seating thereon of the lower horizontal edge of a workpiece. To facilitate folding of the easel construction into a plurality of parallel component members, rail 30 may be pivotally mounted by a wing nut and bolt assembly 86 at an upper left-hand corner of member 76 as seen in FIG. 5. In horizontal spaced relation thereto is a second wing nut and bolt assembly 87, the bolt of which is receivable within a slot 88 formed in the bottom edge of rail 30. Loosening of the wing nut of assembly 87 and 86 will permit the rail 30 to be disengaged from the bolt assembly 87 and pivoted upwardly about bolt assembly 86 to assume a vertical and parallel relation to guide means 23 as indicated in phantom lines 89, FIG. 5.

Slide means 24 for adjustably positioning the top ends of side easel legs 21 with respect to the guide means 23 is best shown in FIG. 7. Inner way means 47 on guide means 23 slidably receives a rectangular flat slide plate 91 secured as by welding to a bolt 92 having a wing nut 93 thereon which seats against a washer 94 received within a counter recess on cross member 42 which is provided with a loosely fitting through bore 95 for bolt 92. Upon tightening of wing nut 93, it will be apparent that slide plate 91 is tightly frictionally clamped against the inner surfaces of way means 47 to prevent movement of cross member 42.

To maintain a horizontal attitude of cross member 42 during sliding movement of cross member 42 relative to the guide means 23, the back face of guide means 23 may be provided with a rearwardly facing longitudinally extending recess or groove 97 to define alignment ribs 98 which may be received within complementary grooves 99 provided on the forwardly directed face of cross member 42. Thus twisting or unwanted lateral movement which might cause binding is prevented as the side legs 21 are moved relative to guide means 23.

Slide means 25 which permits movement of the top end of back leg 22 relative to guide means 23 is best shown in FIGS. 8 and 9. Flat slide plate 101 is slidable in back way means 47 in a manner similar to slide means 24. Plate 101 may be fixed as by welding to a bolt 102 having a wing nut 103 which may bear against a washer 104 received in the back rearwardly facing channel 97 on guide means 23. Tightening of wing nut 103 clamps the washer 104 and slide plate 101 tightly against margins of the back slot 54 to hold in selected position the top end of rear leg 22.

In collapsed position of the easel construction (FIGS. 3 and 4) the several parts of the easel are in substantially parallel relation and may be held in collapsed relation by tightening the several slide and clamp means 24, 25, 28, and 81 and wing nut 86.

When the easel is to be erected, slide clamp means 24 may be loosened and the side legs 21 spread to their full extent as permitted by links 33. Slide clamp means 25 may then be loosened and back leg 22 positioned to provide the selected working angle desired for the guide means 23. Clamp means 24 and 25 are tightened and the slide plates tightly frictionally grip the guide means 23.

Work support rail 30 may be swung to horizontal position and secured. A workpiece may be seated on rail 30 and top retainer means 27 lowered to fix and clamp the workpiece to the work holder bar 26. Loosening knob 81 permits the bar 26 and the workpiece carried thereby to be adjusted vertically relative to the guide means 23 to a desired working or display height. The adaptability of the above-described easel to desired varying working or display conditions will be readily apparent.

To facilitate illumination of a working surface on the easel, a suitable lamp holder with a light source may be connected and fixed to slide clamp means 27 to move therewith and to thereby provide light for the workpiece therebelow.

It should be noted that the multiple internal way means in the work support and guide means provides a compact effective arrangement for the several slide and clamp means employed in the easel construction, and that the clamp means are readily accessible and operable. The dual purpose knob means 81 and clamp means 28 provide a convenient, effective, rapid adjustment of the height of the workpiece without changing the position of the legs or of the work retainer means.

Various changes and modifications may be made in the easel construction described above and all such changes coming within the scope of the appended claims are embraced thereby.

I claim:

1. In an adjustable easel construction, the combination of:
- a plurality of easel legs;
- an upstanding support and guide means carried by said legs;
- means pivotally connecting lower portions of said easel legs to the lower end of said guide means;
- slidable means pivotally connecting upper ends of said easel legs to the upper end portion of said guide means;
- a work holder bar movable along said guide means to a selected working height;
- means slidably mounting said work holder bar on said guide means;
- longitudinally spaced work holder means slidably adjustable into spaced relation longitudinally of the work holder bar and movable therewith relative to the guide means without modifying the spacing between said work holder means;
- one of said work holder means including means for holding said work holder bar in selected positions relative to said guide means.

2. In a construction as stated in claim 1 wherein
- said upstanding support and guide means includes a longitudinally extending hollow body member provided with a plurality of internal way means for slidable engagement by said work holder bar, said slidable means, and said means for holding the work holder bar;
- said body member having front and back longitudinally extending slots.

3. In a construction as stated in claim 2 wherein said plurality of way means includes front, back, and intermediate ways,
- said work holder bar being slidably movable along said intermediate way.

4. In a construction as stated in claim 3 wherein
- said work holder bar includes a longitudinally extending channel and a longitudinally extending slot communicating with said channel,
- said channel slot being aligned with one of said slots on said guide means,
- said work holder means being slidably movable along said channel and slot in said work holder bar.

5. In a construction as stated in claim 4 wherein said one work holder means includes
a slide plate slidable along said outer way,
an outer tightening member,
means threadedly connecting said slide plate and said tightening member whereby said one work holder means is held in clamped relation with respect to said guide means.

6. In a construction as stated in claim 5 wherein
said one work holder means includes a slide shoe slidable in said channel on said work holder bar,
a bolt means extending through said threaded means and connected to said slide shoe, and nut means on said bolt actuatable independently of said tightening means.

7. In a construction as stated in claim 1 wherein
said support and guide means includes a front face lying in the plane defined by two of said easel legs;
said one work holder means including a member slidable along said front face;
and a crossbar carried by said slidable member and having a back face lying in said plane for supporting contact with said two easel legs and said front face of said guide means.

8. In a construction as stated in claim 7 including
means pivotally connecting said crossbar to said slidable member on said one work holder means.

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