This invention relates generally to drafting equipment and is more particularly concerned with an adjustable drafting stand assembly which is readily manufactured, assembled and adjusted, and highly satisfactory and practical for the purpose intended.

A primary object of this invention is to provide an improved adjustable drafting stand assembly, including the means facilitating the manufacture, adjustment and assembly of the same.

Another object of this invention is to provide in a drafting stand assembly including a vertically pivotable drawing board supported on a support stand including a vertically extending tubular post, a support shaft telescopically and rotatably received at one end in the post and adjustably maintained therein, and a machined casting secured on the other end of the shaft, the casting including means cooperating with portions on the drawing board facilitating the vertical pivot adjustment of the board.

A further object of this invention is to provide in a drafting stand assembly of the character mentioned means on a support casting which maintains a member hingedly secured to the upper edge of a drawing board in a substantially horizontal position during various positions of vertical pivotal adjustment of the drawing board.

More particular objects of invention will become apparent from the reading of the following description of the preferred embodiment, the appended claim of the accompanying drawings, in which:

Figure 1 is a perspective view of the drafting stand assembly with a portion broken away for clarity;

Figure 2 is an enlarged fragmentary sectional view taken substantially on line 2—2 of Figure 1, portions being broken away for the purpose of clarity;

Figure 3 is an enlarged fragmentary vertical section taken substantially on line 3—3 of Figure 1, with the drawing board and cooperating mounting portions thereof being removed, portions being broken away and shown in section for clarity; and

Figure 4 is a section taken on line 4—4 of Figure 2.

Referring to the drawing in detail, indicated generally at 10 is a drafting stand assembly including a support stand indicated generally at 12, a spindle assembly indicated generally at 14 and a drafting board assembly indicated generally at 16.

The stand 12 includes a vertically extending frustoconical post 18 having secured on a lower portion thereof in any suitable manner radially extending legs 20 terminating in enlarged knobs or feet 22. The upper end of the post 18, see Figure 3, terminates in a uniform diameter sleeve portion 26 including a tapped bore 28 transversely therethrough. The bore 28 receives therein a threaded shaft 30 of a manually rotatable wing screw 32 utilized for a purpose to be subsequently described in detail. A collar 36 engages the upper edge 40 of the sleeve portion 26. The collar 36 incorporates a transverse tapped bore 42 receiving therein the threaded shaft 44 of a second manually rotatable wing screw 46.

The spindle assembly 14 includes a separately manufactured seamless tubular support shaft 48 of stainless steel, for example, the lower end of which being received in the sleeve portion 26 of the collar 36. The lock or wing screw 46 may be rotated to have the terminal end of the threaded shaft 44 engaging the outer surface of the shaft 48 thus retaining it in a fixed vertically adjusted position. In this regard, the screw 32 may be backed off to permit the shaft 48 to freely rotate in the sleeve 26 of the post 18 with the collar 36 engaged on the upper edge 40 of the sleeve.

The spindle 14 also includes a machined casting comprising a body member 50 including a lower annular hub 52 receiving the upper end of the shaft 48 therein, this connection being by means of a press fit. To retain the shaft and the casting together, the shaft incorporates diametrically aligned apertures 54 in alignment with similar apertures 56 in the hub 52 and a suitable lock pin 58 retains the body member 50 to the upper end of the shaft 48. Body member 50 includes an upwardly extending mounting portion 60 normal to the hub, the portion 60 including a transverse aperture 62 therethrough. Centric to the transverse aperture 62 and extending laterally from one side thereof is a serrated portion 64, the function of which to subsequently become apparent. Extending vertically from the surface of the hub of 52 in spaced relationship from serrated portion 64 is an abutment lug 66. Extending away from the serrated portion 64 and formed integral with the mounting portion 60 is a downwardly projecting extension indicated at 68 incorporating a transverse aperture 70 therethrough eccentric to the transverse aperture 62.

The drafting board assembly 16 comprises a board member 72 of wood or any other suitable material, having hingedly mounted at its upper edge 74 a support shelf 76 which will be maintained in a substantially horizontal position. Secured to the under surface 78 of the board 72 by means of suitable wood screws 80 is a mounting plate 82 integral with a mounting portion 84 similar to portion 60 of the body member 50. The mounting portion 84 incorporates on one side thereof a serrated portion 86 concentric to a transverse aperture 88 therethrough, the serrated portion 86 meshingly engaging the serrated portion 64. The abutment lug 66 on the hub 52 is disposed in the plane of the serrated portion 64 of the body member 50 and is engageable with a similar abutment lug 90 formed on the mounting portion 84. When the abutment lugs 66 and 90 are in engagement the board 72 will be disposed in a substantially vertical position.

The transverse aperture 70 of portion 68 of the body member 50 pivotally receives at one end of an orienting rod 92, the other end of which having a lost motion connection with the under surface of the shelf member 76, this construction not being shown.

The apertures 62 and 88 are disposed in alignment as seen in Figure 2, and received therethrough a headed support shaft 94 which is threaded at 96 receiving thereon the internally threaded sleeve at 98 of a manually rotatable wing nut 100. A suitable compression spring 102 is circumposed about the shaft 94 between the end of the sleeve at 98 and adjacent side of the mounting portion 60 for urging the serrated portions 64 and 84 together.

The construction shown embodies the invention in the preferred form, but it is intended that the disclosure be illustrative rather than definitive, the invention being defined in the claim.

1. In an adjustable drafting board assembly comprising a support stand including a vertically extending tubular sup-
port sleeve, lock means on said sleeve for engaging a support shaft in said sleeve, an independent collar coaxial with said sleeve including second lock means for engaging the support shaft in said sleeve; a spindle assembly comprising a machined casting for supporting a vertically pivotal drawing board thereon, said casting comprising a body member including a downwardly opening hub, a mounting portion extending vertically from said hub for engagement with a cooperating portion on the drawing board, said mounting portion being normal to said hub including a transverse aperture therethrough for receiving a support shaft upon which the cooperating portion of the board is journaled, one side of said mounting portion including a laterally extending circular serrated portion concentric to the transverse aperture, said serrated portion including radially spaced teeth for engaging similar teeth on the cooperating portion of the drafting board, an abutment lug extending from said hub spaced from and in the plane of the teeth of the serrated portion for engaging an abutment portion disposed in a similar relationship on the cooperating portion of the drafting board and for orienting said board in a substantially vertical position, and a support shaft secured at its upper end in said hub and depending therefrom for receipt in the sleeve and engageable with the first and second lock means for affording vertical adjustment and horizontal rotation of the drawing board, said support shaft comprising a cylindrical hollow seamless member press fitted and pinned at its upper end in said hub.

References Cited in the file of this patent

UNITED STATES PATENTS

274,605  Hormann ---------------- Mar. 27, 1883
493,605  Tiffany -------------- Mar. 14, 1893
502,601  Anderson et al. ---------- Aug. 1, 1893
689,707  Davis -------------- Dec. 24, 1901
1,024,804  Mergner -------------- Apr. 30, 1912
1,542,381  Hoffman -------------- June 23, 1925
1,707,505  Bishop -------------- Apr. 2, 1929

FOREIGN PATENTS

6,089  Great Britain ------------- 1914