Dec. 8, 1925. 1,564,358

P. KLEIN

DRAFTING TABLE

Filed Nov. 28, 1922 3 Sheets-Sheet 1

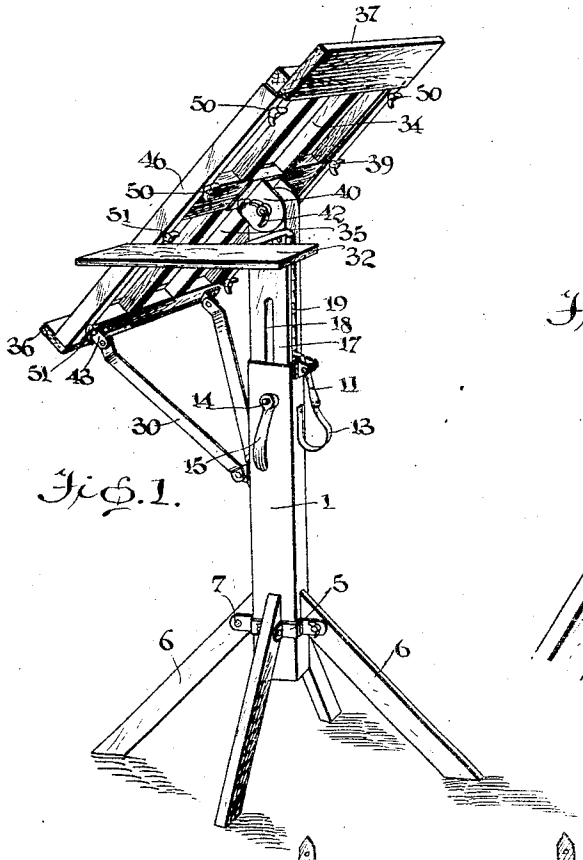

Fig. 1.

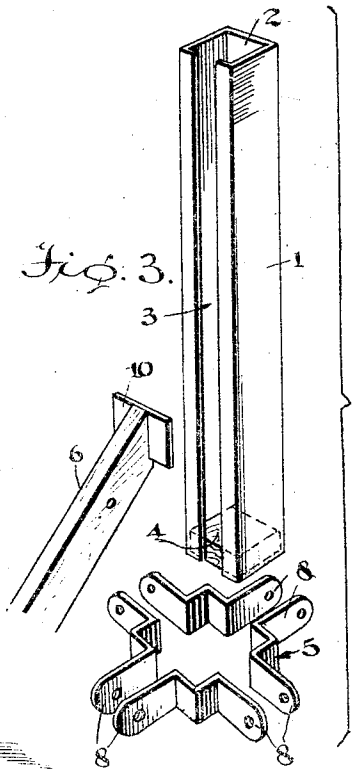

Fig. 3.

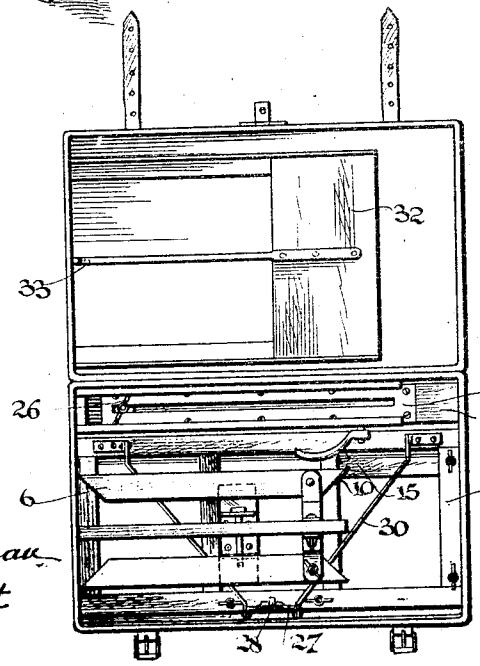

Fig. 2.

WITNESSES
R. E. Rousseau
J. F. Schrott

INVENTOR
P. Klein,
BY Munn & Co.
ATTORNEYS

Dec. 8, 1925.

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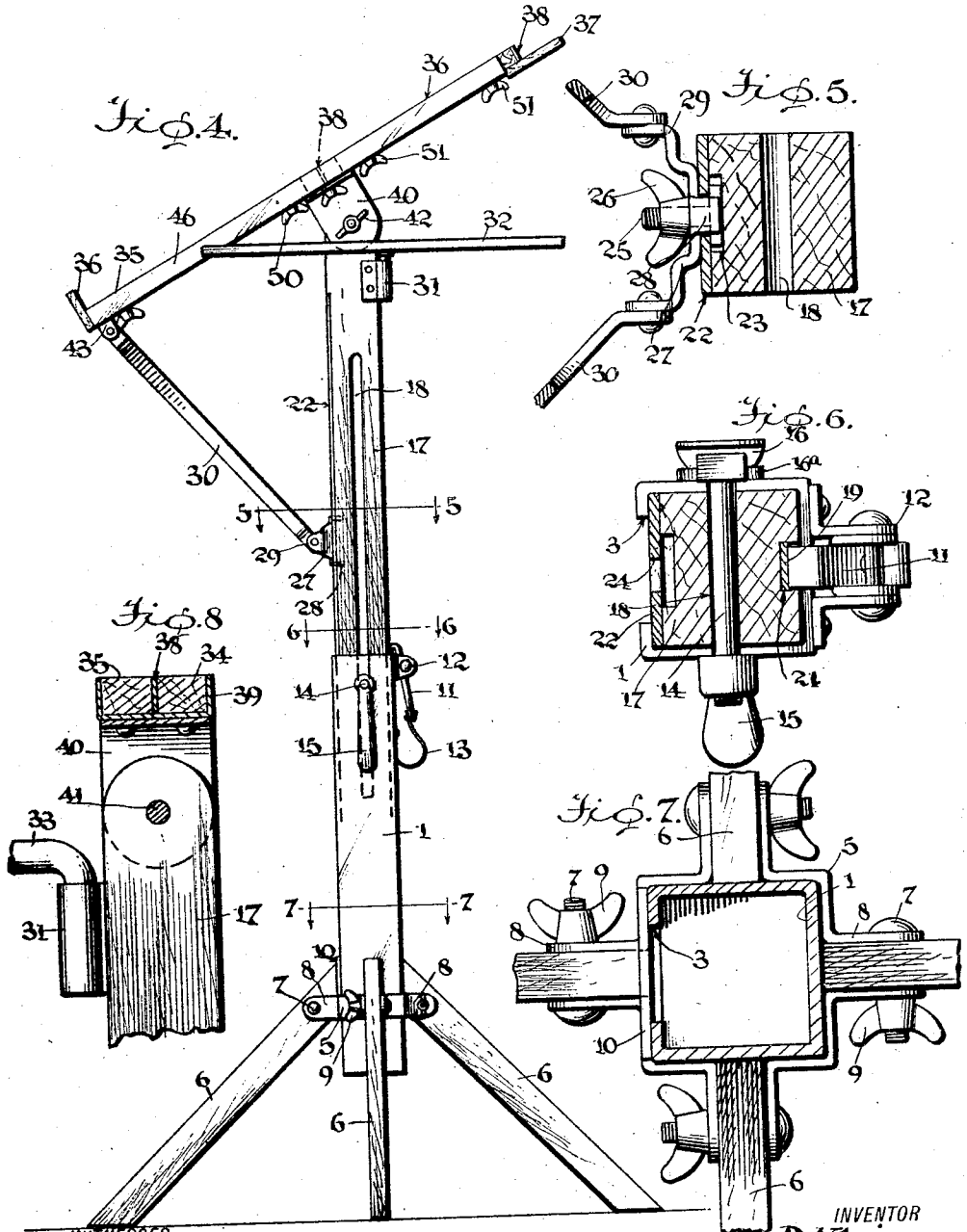
DRAFTING TABLE

Filed Nov. 28, 1922

3 Sheets-Sheet 2



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DRAFTING TABLE

Filed Nov. 28, 1922 3 Sheets-Sheet 3

Fig. 9.

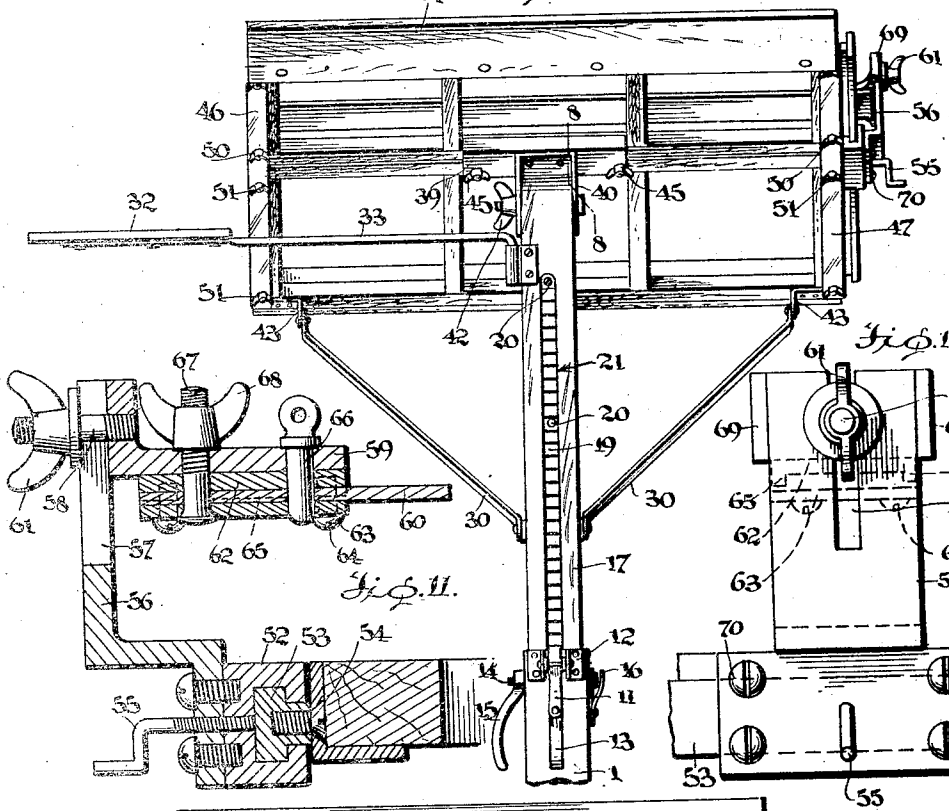


Fig. 11.

Fig. 12.

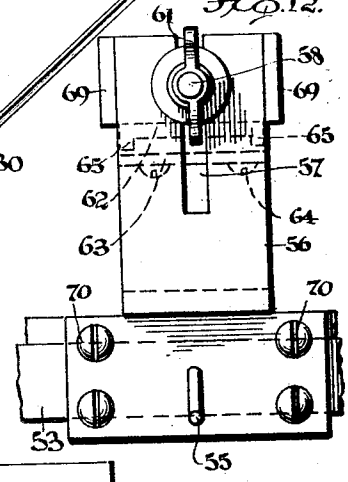
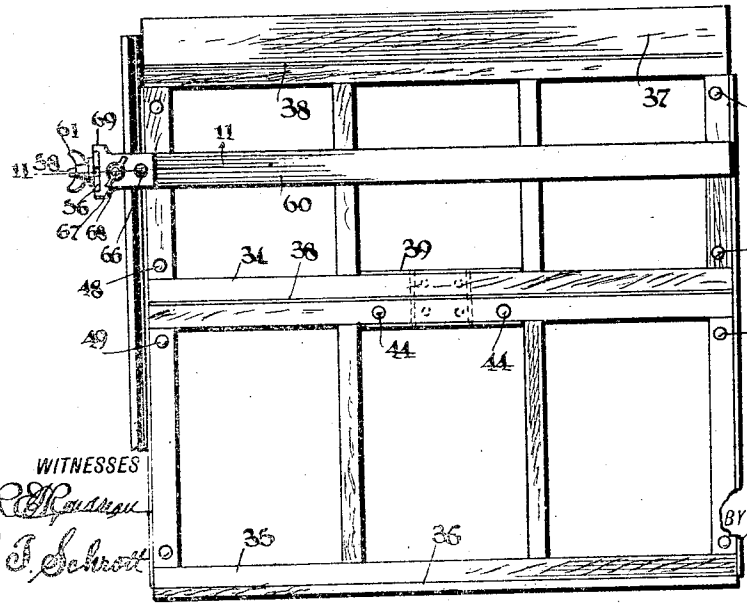


Fig. 10.



WITNESSES

R. B. Goodman

J. B. Schrott

INVENTOR

P. Klein,

BY Munn & Co.

ATTORNEYS

Patented Dec. 8, 1925. 1,564,358

UNITED STATES PATENT OFFICE.

PHILIP KLEIN, OF MANSFIELD, OHIO.

DRAFTING TABLE.

Application filed November 28, 1922. Serial No. 603,840.

To all whom it may concern:

Be it known that I, PHILIP KLEIN, a citizen of the United States, and a resident of Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Drafting Tables, of which the following is a specification.

My invention relates to improvements in drafting tables and it consists of the constructions, combinations, and mode of operation herein described and claimed.

An object of the invention is to provide a drafting table for students in home use, the table being so made that it can be readily taken apart and packed into as small a space as is afforded by an ordinary suitcase.

A further object of the invention is to provide a drafting table having a T-square so mounted on the left cleat which holds the table frames or sections together as to insure keeping it at right angles (when adjusted for that purpose) with said left side.

Other objects and advantages will appear in the following specification, reference being had to the accompanying drawings, in which:—

Fig. 1 is a perspective view of the improved drafting table, showing how it appears from a position slightly to the rear,

Fig. 2 is a perspective view showing the drafting table disassembled and packed into an ordinary suitcase,

Fig. 3 is a detail perspective view showing parts of the stationary tubular pedestal disassembled,

Fig. 4 is a side elevation of the drafting table,

Fig. 5 is a cross section on the line 5—5 of Fig. 4,

Fig. 6 is a cross section on the line 6—6 of Fig. 4,

Fig. 7 is a cross section on the line 7—7 of Fig. 4,

Fig. 8 is a detail section on the line 8—8 of Fig. 9,

Fig. 9 is a detail rear elevation of the upper part of the table,

Fig. 10 is a plan view of the table showing the separable sections or frames,

Fig. 11 is a section on the line 11—11 of Fig. 10 showing the structure by which the T-square is mounted on the left cleat, and

Fig. 12 is a detail elevation of the T-square mounting means or carriage.

As stated in one of the objects of the invention, the improved drafting table is adapted primarily for students in home use, inasmuch as it is readily taken apart and packed away in a comparatively small space. This latter feature also recommends the drafting table to other uses as the ability to disassemble the table and pack it into a suitcase is an advantage which must appeal at once to those who find it necessary to carry such an appliance about from place to place.

The drafting table is readily used as a book rest, lecturer's stand, etc., and while it is small enough to serve either of the two specified requirements, it is, on the other hand, large and strong enough to fulfill the requirements of a drafting table. And it is to this purpose that the invention is primarily adapted. A distinctive feature which more fully identifies the invention as a drafting table is to the T-square which is so combined with the table top as to make the drawing of parallel lines a very simple matter. The table (and by speaking of the table the term is used in the collective sense) comprises four general parts, the stationary base, the movable pedestal, the table top and the T-square carriage.

The stationary table base comprises a non-circular tube or pedestal 1 which is open at the upper end as at 2 (Fig. 3) slotted at 3 along one side and provided with a block 4 at the bottom. This block furnishes a closure as well as means to preserve the shape of the tube. A sectional clamp band 5 fitted around the bottom of the pedestal 1 furnishes the mounting for four legs 6 which are pivoted at 7 between the ears 8 of adjacent angle pieces of which the sectional clamp is composed. The pivots and clamping means consist of bolts 7 with thumb screws 9 on the threaded ends. By tightening the thumb screws, the legs may be rendered immovable and by unloosening two or more of the thumb screws, the entire clamp and leg structure may be slid or adjusted in respect to the stationary pedestal 1 and thus secure an adjustment as to height.

It is to be noted that the leg 6 (Fig. 3) which comes opposite to the slot 3 carries a plate 10 which furnishes a bearing for the angled end of the leg against the stationary pedestal. The need for this plate is obvious enough, for were it not for the plate

10, the upper end of the leg in question would tend to move into the slot 3 and thus deprive the table of the necessary four point support. The tubular pedestal carries a dog 11 between ears 12 adjacent to the upper end, this dog being urged inwardly by a spring 13. It also carries a bolt and clamp 14 and 15 near the upper end. The bolt is disposed at right angles to the side which carries the slot 3. The clamp lever 15 is situated on one side of the slot, while the head of the bolt is situated on the other. A guard 16 keeps the bolt from coming out. The bolt head occupies a recess in a plate 16[a] which keeps the bolt from turning.

The movable pedestal consists of a wooden shaft 17. Wood is specified as the material of this shaft (and of other parts of the table as well) but is not intended to be accepted in a restrictive sense. It seems quite obvious that all of the parts of the table may be made of metal, and it is quite conceivable that an all-metal table would have its advantages. However this may be, the movable pedestal 17 has a longitudinal slot 18 which accommodates the clamp bolt 14. The pedestal 17 being movable up and down in the pedestal 1 should obviously be of the same cross sectional shape so that there may be no relative turning. The pedestal 17 is raised to the desired adjustment and there secured by use of the clamp lever 15.

The slot 18 runs within a short distance of the bottom of the pedestal 17 (Fig. 4) and thus furnishes a stop against the bolt 14 to prevent pulling the pedestal 17 entirely out. A rack 19, secured at 20 (Fig. 9) in a groove 21 in the back of the pedestal 17, cooperates with the dog 11 in maintaining the initial adjustments of the pedestal before the clamp lever 15 is resorted to to fix such adjustments. A face plate 22 is fitted over a groove 23 on the upper side or front of the pedestal 17. This face plate has a slot 24 which communicates with the groove. The slot is narrower than the groove and the face plate thus serves to retain the head of a clamp bolt 25 by means of which and the thumb screw 26, a bracket 27 is held in its adjustments along the movable pedestal.

Lugs 28 at the top and bottom of the bracket 27, fit into and ride in the slot 24 to keep the bracket from turning on the clamp bolt 25. The bracket includes a pair of ears 29 to which the ends of braces 30 are pivoted as well shown in Figs. 1, 4 and 5. The braces are susceptible to movement on the pivots as the bracket is adjusted up and down. A corner bracket 31 (Figs. 4, 8 and 9) furnishes the support for a swingable leaf 32 which is carried by a rod 33 having a bent end to fit in the corner bracket.

The table top is composed of two main sections 34 and 35 which consist of frames made almost alike. The lower frame 35 has an upstanding edge 36 which serves as a rest for the drawing board, while the upper frame 34 has a piece 37 attached to the underside so as to furnish a resting place for pencils, erasers, and the like. The leaf 32 (mentioned before) furnishes a convenient place to set the ink, instruments, etc. The upper edges of the frames 34 and 35 are bound with metal strips 38. These are nickel-plated, as are most of the metallic parts, and add to the appearance of the table.

It is not for appearance alone, however, that the binding strips 38 are added, but rather for the purpose of adding rigidity to the frames to keep the edges straight. These strips are permanently secured to the frames. A yoke 39 engages the bottom surfaces and vertical sides of adjacent stiles of the frames 34 and 35 when placed together as in Fig. 10. This yoke is carried by a bearing 40, also in the nature of a yoke, which straddles the upper end of the movable pedestal 17 and has pivotal connection therewith as at 41.

This pivot consists of a bolt with a thumb screw 42 on one end. The table top may be set at any desired angle and secured in place by means of the thumb screw. The braces 30 materially aid in maintaining the adjusted angle of the table top inasmuch as they are firmly fixed in position between the lower edge of the table and the pedestal 17. The upper ends of these braces are pivoted to angle brackets 43 on the underside of the table top. The yoke 39 is a permanent part of the bearing 40. Bolts 44 are carried by the upper stile of the lower frame 35 and are adapted to pass through the yoke (Fig. 9) where they are clamped in position by thumb screws 45.

The thumb screws 45 thus serve to hold the frames 34 and 35 of the table tops upon the yoke 39. It is true that the upper frame 34 has no connection (by means of bolts and thumb screws or the like) with the yoke 39 but inasmuch as the vertical edges or stiles of the frames are bound by angle pieces 46 and 47, no possibility of the frames coming apart can ever occur. The end stiles of the respective frames carry sets of bolts 48 and 49. The ends of these bolts are intended to pass through suitable holes in the angle backings and receive thumb screws 50 and 51 (Figs. 1, 4 and 9) to hold the parts together. To take the table top apart it is necessary to unloosen and remove the thumb screws 50 and 51 as well as the thumb screws 45. If it becomes necessary to completely disassemble the table, the thumb screw 26 (Fig. 5) must also be removed so as to enable taking off the bracket 27 and entirely freeing the table top from the pedestal 17.

The T-square carriage comprises a block 52 which is slidable along a bar 53 permanently fastened at 54 (in a plurality of

places) to the left angle binding 47. The bar 53 is T-shaped and fits in a correspondingly shaped slot in the block 52 so that the latter will not come off unless it is slid off either at the top or bottom.

A set screw 55 is adapted to hold the carriage block 52 against movement along the slide bar 53. The block 52 carries a support 56 with a slot 57 which opens at the top. A bolt 58 moves in this slot, and the bolt carries a lug 59 for the support of the T-square 60. The bolt 58 carries a thumb screw 61 by means of which the lug 59 may be tightened in place after the T-square has been brought to its proper position in respect to the drawing board.

The T-square 60 is fitted between plates 62 and 63 which are secured together by screws 64. The plate 62 has side flanges 65 to abut the edges of the T-square and so hold it in proper position. A pin 66 is inserted through openings in the lug 59, plates 62 and 63 and T-square 60 when it is desired to have the T-square at right angles to the left edge of the drawing table. Upon the removal of the pin, the T-square may be swung on the pivot bolt 67 which also carries a thumb screw 68 so that the T-square may be clamped in any radial position.

In order to keep the lug 59 from turning, it is provided with flanges 69 (Figs. 9 and 12) which bear on the edges of the support 56. The support 56 is affixed to the block 52 by a plurality of screws 70. Concerning the T-square, the blade is preferably made of wood as is the customary construction. The other parts illustrated in Fig. 11 should be made of aluminum, although the specific material of which the parts are made has no bearing whatever on the invention.

The operation may be briefly reviewed to advantage. To raise and lower the movable standard 17 it is only necessary to loosen the clamp lever 15 so that pressure of the tubular pedestal 1 against the sides of the pedestal 17 may be removed. The table top and movable pedestal may then be pulled up bodily. The dog 11 maintains an engagement with the rack 19 through the medium of the spring 13 and thus will hold any adjustment to which the table top may be set until such adjustment is finally fixed by tightening the clamp lever again.

In cases where the clamp lever 15 and slot 18 do not afford the desired range of adjustment, two or more of the thumb screws 9 may be loosened so as to adjust the otherwise stationary pedestal 1 in respect to the legs 6. To adjust the angle of the table top the user must loosen the thumb screws 42 and 26. The loosening of the former permits tilting of the table top, while the loosening of the latter permits up or down sliding movement of the bracket 27. When the desired angle is reached, both thumb screws should be again fastened and the table top will be found perfectly rigid.

Fig. 2 illustrates the table disassembled and packed in a suitcase. The various parts in Fig. 2 can readily be identified. The table top is taken apart by removing the thumb screws 50 and 51 so as to permit taking the angle bindings 46 and 47 off. The thumb screws 45 and 26 are next taken off so that the frames or sections 34 and 35 of which the table top is composed, may be taken apart and laid in the suitcase. The two-part pedestal is telescoped and laid beside the table top frames. The legs are folded together and will occupy a position on top of the table frames. Other parts, such as the leaf 32 and the angle bindings, will find a place in the lid of the suitcase, and altogether, the table parts make a very compact arrangement, requiring little room either when disassembled or when assembled.

While the construction and arrangement of the improved table as herein described and claimed, is that of a generally preferred form, obviously modifications and changes may be made without departing from the spirit of the invention or the scope of the claims.

I claim:—

1. A table comprising a table top, a supporting pedestal consisting of telescopic sections, means for fixing relative adjustments of said sections, a plurality of legs, a clamp fitting around the outer pedestal section and being provided with ears, and clamping devices including thumb screws providing pivotal mountings for the legs on said ears arranged to be loosened and tightened to slide the clamp along the outer section and fix it in a new position to thereby bodily adjust the table top and pedestal in respect to the legs.

2. A table comprising a top, a movable pedestal having a groove, a slotted plate fitted above the groove providing a channel therebehind, means pivotally mounting the top upon the movable pedestal, bracing means extending from the top to said pedestal, a bracket to which the other end of the bracing means is pivoted having plural means moving in the slot to prevent turning of the bracket, clamping means having a head sliding in the channel and passing through to enable adjustment from the outside of the bracket, a hollow stationary pedestal receiving the movable pedestal, and clamping means for fixing relative adjustments of the two, said stationary pedestal having a slot permitting passage of the bracket should the movable pedestal be adjusted so low as to bring the bracket within the limits of the stationary pedestal.

3. A table comprising a top, a movable pedestal having a tranverse slot and grooves on the remaining faces at positions at right

angles to said slot, a slotted face plate fitted over one of the grooves, a rack fitted in the other groove, bracing means extending between the table and said pedestal, a bracket movable over said slotted face plate having means extending into the slot to prevent turning, and clamping means including a head occupying a groove therebeneath, a stationary tubular pedestal receiving the movable pedestal, a dog carried by the stationary pedestal cooperating with the rack to temporarily hold relative adjustments, and clamping means carried by the stationary pedestal including a bolt passing through the transverse slot and having a clamp lever at one side to enable binding the stationary pedestal against the movable pedestal, the former having a slot to permit passage of said bracket should the movable pedestal be adjusted so low as to bring said bracket within the limits of the stationary pedestal.

4. A table comprising a top, a movable pedestal having a longitudinal groove, a plate fitted over the groove having a corresponding slot narrower than the groove, bracing means extending between the top and the pedestal, a bracket movable against the plate having lateral ears to which the bracing means is pivotally connected, means riding in the plate slot having a larger head occupying the groove and provided with means to clamp the bracket against the plate, and a stationary pedestal telescopically receiving the movable pedestal, said pedestal having a slot to permit passage of the bracket should the movable pedestal be adjusted so low as to bring the bracket within the limits of the stationary pedestal.

5. The combination in a table, of a pedestal, a plurality of legs having beveled upper ends, a sectional clamping band having supporting means including ears by which the legs are attached to the pedestal, and clamping means including bolts and thumb screws associated with said supporting means providing pivotal mountings for the legs and permitting tightening said supporting means against the legs to hold them either folded parallel to the axis of the pedestal or extended until the beveled ends engage the pedestal.

PHILIP KLEIN.