

Nov. 17, 1953

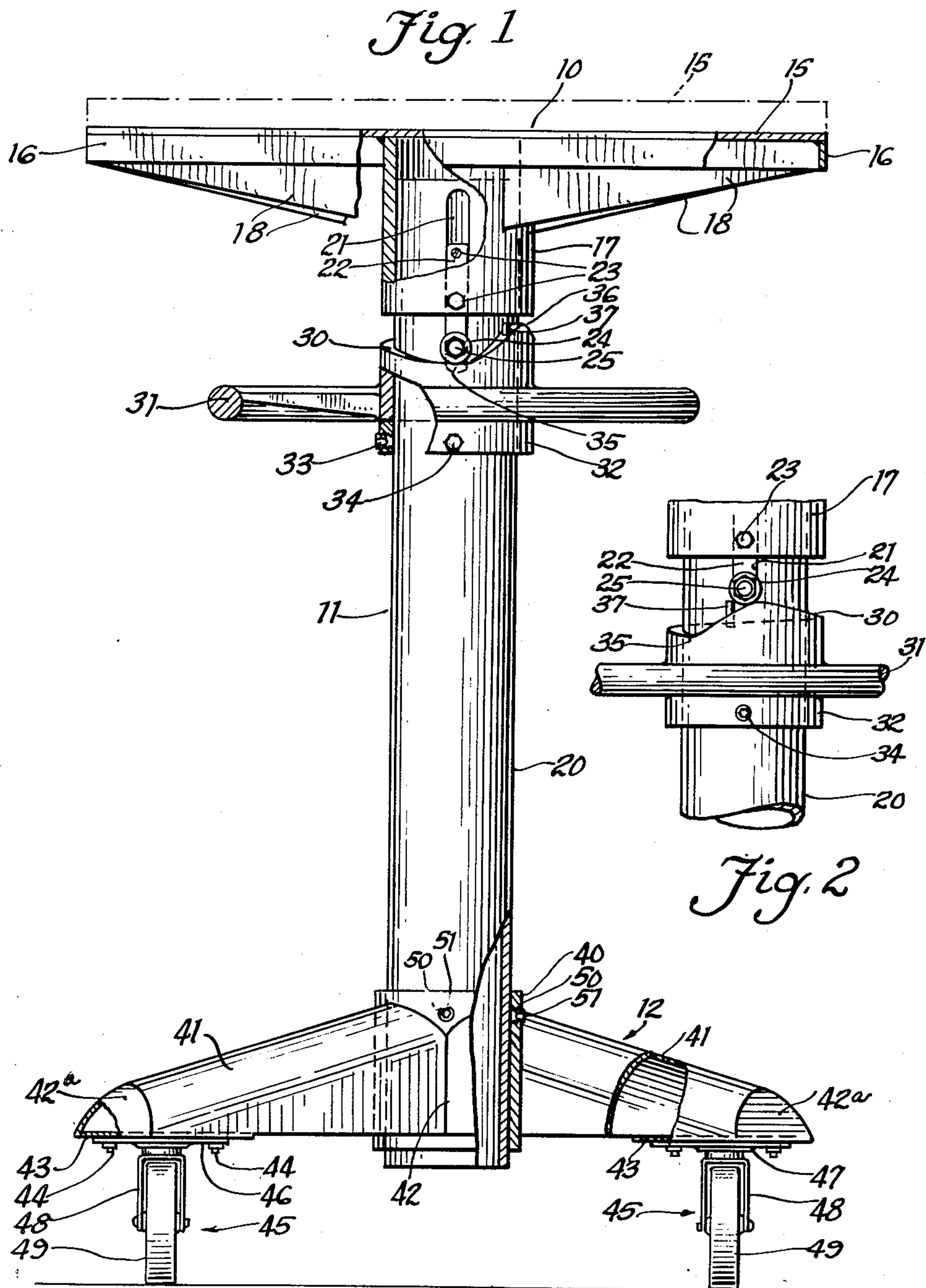
J. L. FERGUSON, JR

2,659,571

PRINTER'S CENTRAL POST FORM TABLE

Filed April 29, 1949

2 Sheets-Sheet 1



INVENTOR.
John Lee Ferguson, Jr.

BY.

Thies, Olson & Mackelburg
Att'ys

Nov. 17, 1953

J. L. FERGUSON, JR

2,659,571

PRINTER'S CENTRAL POST FORM TABLE

Filed April 29, 1949

2 Sheets-Sheet 2

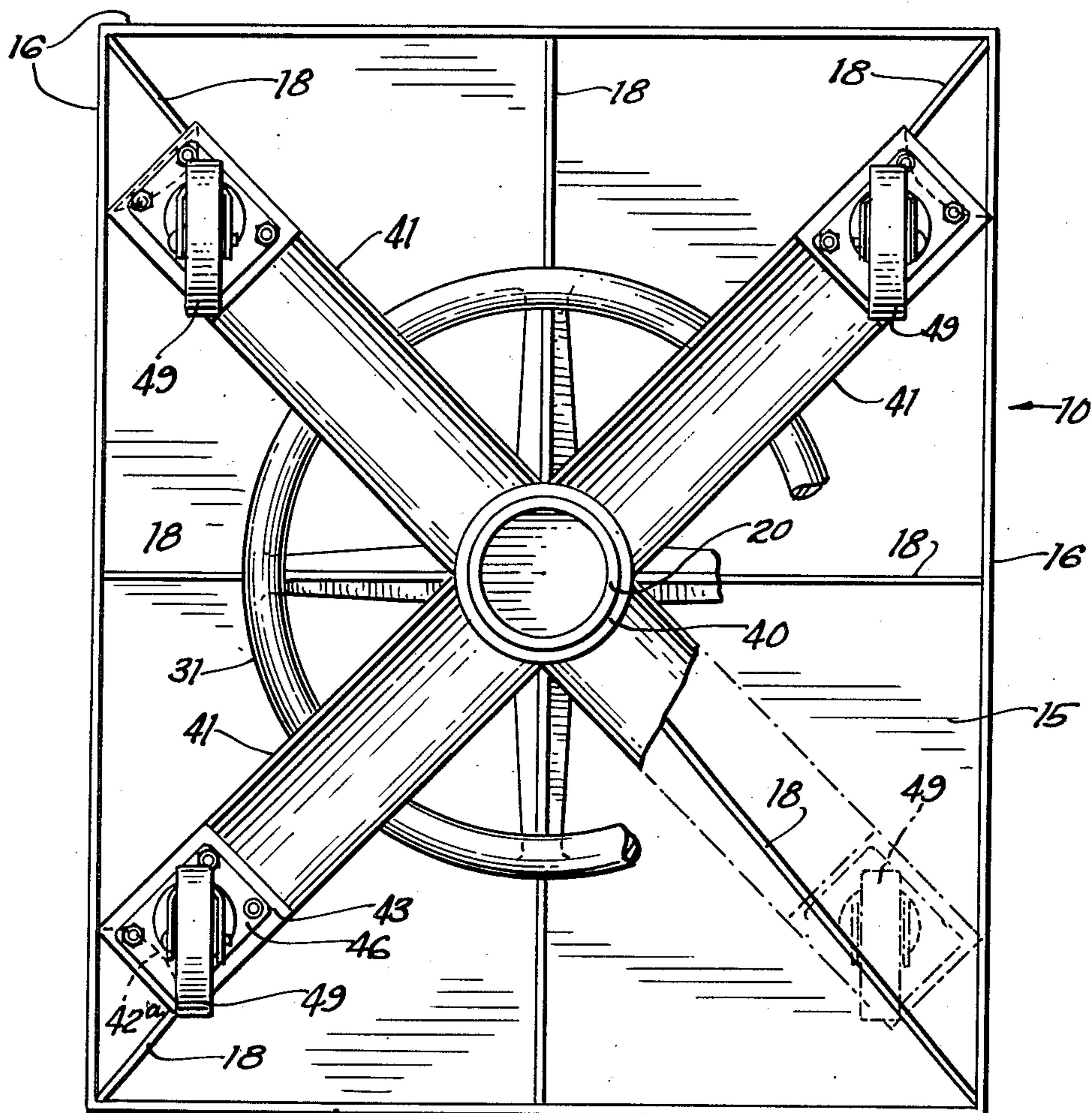


Fig. 3

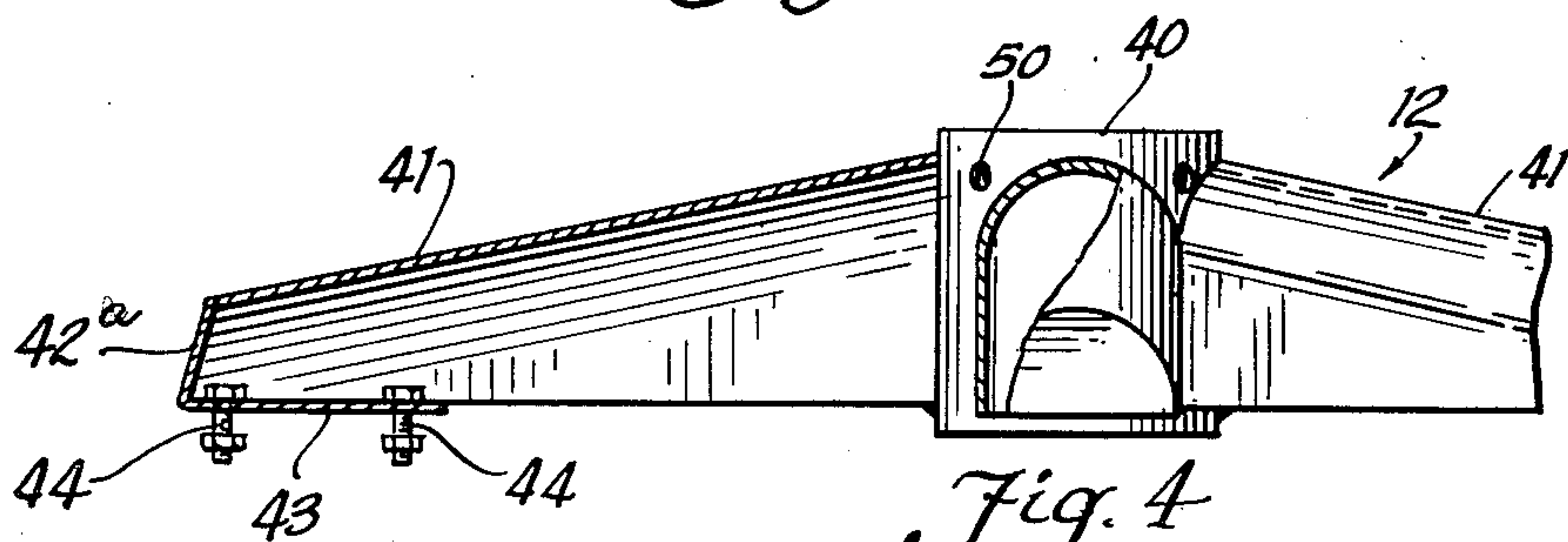


Fig. 4

INVENTOR.

John Lee Ferguson, Jr.

BY

Thies, Olson & Muehlenberger
attys

UNITED STATES PATENT OFFICE

2,659,571

PRINTER'S CENTRAL POST FORM TABLE

John Lee Ferguson, Jr., Joliet, Ill., assignor to
Printing Equipment Corporation, Joliet, Ill., a
corporation of Illinois

Application April 29, 1949, Serial No. 90,397

10 Claims. (Cl. 254—5)

1

This invention relates to an improved form table, particularly for newspaper stereotype departments.

An object is to provide a rugged single column or supporting post table capable of withstanding the heavy work; such table being provided with a flat platen-like top for the reception and making up of the form and for having true side edges assuring proper "fit-ups" of the top to banks, mat rollers, or direct pressure machines. The column or post of the table is provided with a suitable base affording extended lateral support for the table and is mounted on casters, the parts being largely of hollow construction for lightness and strength and the whole correctly balanced for ready movement with minimum effort about its area of use.

Further objects, severally, are the provision of a table of the class described in which the table top may be quickly, easily and finely adjusted in height to bring with micrometer-like precision the upper surface of its platen top on a level with the surface of the bed of the mat press or other machine to which the form is to be shifted from the table, or vice versa; to provide such a table with basic height-adjusting means, and to provide a form table of aesthetic appeal and convenient for working upon and handling without detracting or interference by a multiple leg and framework supporting structure running down from the edges of the table.

Further objects and advantages will appear from the detailed description and claims to follow, in connection with the accompanying drawing which illustrates, by way of example but not of limitation, an embodiment of the invention, and in which

Fig. 1 is a side elevation of the form table, parts being in section to show the construction;

Fig. 2 is a fragmentary view of the supporting column and the table height adjusting cam, the latter being shown at one limit of its movement, the other limit—the lowest for the table—being shown in Fig. 1;

Fig. 3 is a bottom plan view of the table, parts being broken away to show the construction; and

Fig. 4 is a view of a portion of the supporting base or spider of the table, parts being in section and other parts broken away for clearer illustration.

Referring to the drawings, the form table shown comprises a platen or top 10, a central supporting column or post 11 and a base or pedestal 12.

The platen consists of a flat rectangular top sheet 15 of sheet steel and of a size preferably to accommodate a form for a newspaper page, vertical side and end edge strips 16 also of sheet steel depending vertically from the four outer straight edges of the top sheet 15, a central de-

2

pending hollow metal sleeve 17 and sheet-steel ribs 18 extending on the under side of the top sheet 15 from the sleeve 17 to the edge strips 16, four of these ribs running diagonally to the four corners of top 15 and four perpendicularly to the respective side edges thereof. At their outer ends the vertical depth of these ribs 18 is the same as the depth or width of the edge strips 16, but at the sleeve 17 is considerably deeper or wider, as indicated in Fig. 1, the lower edges of the ribs sloping accordingly.

The abutting edges and surfaces of all these parts, the top sheet 15, the edge strips 16, ribs 18 and sleeve 17, are all securely welded together where they engage, as indicated, to make a rigid platen structure which though relatively light in weight is strong and rugged and capable of maintaining its upper surface in its flat and even condition. The latter surface is accurately ground throughout its entire area; the ribs and edge strips lend stability so that the platen will not lose its accuracy in use. The flat platen with the true side edges assures a proper "fitup" to banks, mat rollers, or direct pressure machines.

The column or post 11 comprises a seamless steel tube 20 centerless ground to a minimum tolerance for proper assembly fit in the sleeve 17 of the platen and another sleeve in the base or pedestal, described later, and for the sake of good appearance. The post 20 is longitudinally slotted adjacent the upper end, as at the slot 21, in which an accurately fitted key member 22 is adapted for a slight vertical sliding movement.

This key member 22 is a short bar rectangular in cross section and is firmly bolted to the inside face of sleeve 17 by two bolts 23 passing through the sleeve 17 and threading into the said key bar, this preventing relative rotation of the sleeve 17 and post 20. The lower end of this key 22 projects a short distance below the sleeve 17 and carries an outwardly extending horizontal cam roll 24. This roll 24, which carries the weight of the platen and its load, is preferably of tool steel suitably heat-treated, tempered and smoothly finished, and is mounted to rotate on a suitable bushing extending there-through and which in turn is firmly secured to the key bar 22 by a screw bolt 25 passing through a suitable lock washer and through the bushing and threading into the key 22. Thus, while firmly and accurately held to the key, the roll is free to rotate.

This cam roll 24 and the platen are adjusted vertically by an inclined cam 30 around the upper edge of a hub extension of an adjusting hand wheel 31 which is mounted for rotation on the post 20 and sustained in position for rotation by a collar 32 on the post 20 beneath the hand wheel 31. The collar 32 is secured to the post in the

3

desired vertical position in any desired way but preferably by a set screw 33, which may be of the self-locking hollow type, and a screw bolt 34 passing through the collar and threading into the post 20.

This inclined cam track 30 thus encircles the post 20 in the path of the cam roll 24, its low point being at about the point 35 and its high point at 36, the rise between being gradual and uniform. In Fig. 1 the roll is shown substantially at the low point, the platen 10 at that elevation being shown in full lines, and in Fig. 2 the roll is at substantially the high point, the platen being shown in dotted lines in Fig. 1 at that elevation. A pin 37 in the cam track 30 is shown just beyond the high point, so that the roll will tend to be held thereby when against it as in Fig. 2. A similar pin or jog in the track may be adjacent the low point 35 if desired, though not necessary. The hand wheel 31 is preferably a grey iron casting and the cam track 30 an integral part thereof.

By this construction, the platen and its load may be readily and easily adjusted by the hand wheel to level the platen surface with that of the bed of the mat press or other apparatus. Only a slight adjustment is usually necessary for this purpose, the machine depicted having a range for such adjustment of only about 1 inch. The slight inclination of the cam track and the large rim of the wheel make it in the nature of a micrometer adjustment. The wheel may be rotated by one hand, if desired, the other steadying the table against any tendency to rotate. The slight inclination of the cam track and static friction of the parts causes the parts and the platen to remain in any intermediate position between the high and low points desired.

It will be understood that the forms made up on the table are heavy and may weigh 150 lbs. or more; that they are slid laterally from the table to the bed of the press, and vice versa, and that an easily and quickly operated fine and final adjustment accurately to level the table with a bed is most advantageous. "Lost" forms are prevented and page proofs can safely be "pulled" direct from the chase on the table.

With such a platen-leveling means, it is all located under the table well within the vertical peripheral limits of the platen and therefore out of the way at all sides of the table both in location and in operation. Moreover, the operating hand wheel can be reached for operation from any side of the table regardless of which side of the platen may be alongside a bed or the like. The table itself is thus versatile as to which edge of the platen may be fitted up against a bed or the like to discharge or receive the chase form. Also, the operator can place himself in the best position closely to observe the meeting edges of the platen and bed while leveling the same, and thereby at once to bring them into accurate plane adjustment. If he were required to stand at a side of the table and strongly pull an operating rod in a direction away from it, meanwhile standing on one foot with the other braced up against the table framework to prevent pulling it toward him and away from its intended position, he would be off balance and in no position to see or accurately to adjust the table to the bed. He would have to stop, examine and try again if he did not accidentally hit it right the first time.

The base or pedestal 12 of the table comprises a central sleeve 40 accurately fitting the lower end of the post or column 20 and four fabricated sheet-steel legs 41 of inverted U-shaped or arched

4

cross section which extend outwardly from the sleeve at substantially 90° apart. The inner ends of these legs are formed to abut and engage the outer surface of the sleeve 40 and to meet and engage each other at the sleeve along the lines 42. These meeting edges and surfaces are all welded securely together to make a sturdy structure. The upper surfaces of the legs slope downwardly from the central sleeve 40 to the outer ends of the legs, so that they are of less depth at their outer ends than at the sleeve. The width of the legs at their lower edges is the same throughout their length. The arched section of the legs gives them sturdiness and strength without excessive metal or weight.

The enclosing ends 42^a of the legs are formed integrally with the body portion or are welded thereto to form a unitary structure, and caster plates 43 are welded at their outer ends and side edges to the lower sides of the legs at their outer ends. The caster bolts 44 may be inserted through these plates and their heads tack-welded thereto before welding the plates themselves to the legs.

Swivel casters 45, one for each leg, of known construction, have upper rectangular plates 46 secured by the four bolts 44 to the caster plates 43 of the legs. The swivel construction 47, details not shown, is between the plates 46 and the yokes 48 for the wheels 49. The yoke, as usual, offsets laterally the center of the wheel from the axis of the swivel, as indicated in Fig. 3, to give the swiveling caster effects. The caster wheels 49 are relatively large, being preferably substantially 4 inches in diameter, provided with rubber composition treads, lifetime fabrication, and full ball-bearing swivels and wheels. Such casters are of sturdy construction and have a load capacity each of well over 100 lbs.

The basic height of the table is taken care of at the pedestal or base. The sleeve 40 is accurately finished inside closely to fit the lower end of the column or post 20 and to permit it to be moved therethrough to adjust the height of the platen to adapt it to the conditions in the plant. This sleeve is provided with tapped holes 50 just above the leg junctures 42, for accessibility, two holes only being deemed sufficient, into which set screws 51, preferably of the self-locking hollow type, may be inserted to engage the post 20 and hold it securely in the desired adjusted position on the post.

The basic height of the platen may thus be easily and quickly reset with common tools, to suit changes in other equipment or floors or other local conditions. This is done without change or alteration of the fine or micrometer adjustment of the platen at the top of the post, and the latter does not interfere with the basic height changes at the base, but both contribute to the operation of the device and to the ultimate results accomplished thereby under the varying conditions that exist in practical use.

If desired, one of the set screws 51 may be replaced by a screw bolt threading into the post 20, similar to that described in connection with the collar 32 beneath the hand wheel 31, or the screw bolt in the collar 32 may be replaced by a set screw. In case a screw bolt is used in either the collar 32 or the base sleeve 40, the adjustability still remains.

As noted, when assembled as in Fig. 3, the legs of the pedestal extend out under the four corners of the platen, which not only provides a good, stable support for the platen, but keeps the ends of the legs vertical within the peripheral

5

edge limits of the platen and leaves the side edges of the platen free underneath for the convenient standing and working of a person when making up the form on the platen. Moreover, in shifting the form from the table platen to an adjacent stone bed or other machine, or the reverse, there are two legs and caster wheels to bear the brunt of the burden.

The appearance of the table is a vast improvement. The over-all look of sturdiness, the single central column, the open spaces beneath the platen, freedom from boxlike framework extending down from the edges of the platen and complicated mechanism therein, all contribute to its pleasing simplicity, neatness, and confidence-inspiring appearance of the table.

The operation of each part has been explained in detail in the foregoing. Suffice it to say here that in use the form or chase for the page to be printed is made up on platen surface 15, the table having been moved to the part of the electrotyping department, where such work is done. As stated, the platen is so accurately and rigidly constructed that such make-up in final form is possible and page proofs can be "pulled" right from the chase on the table. The sturdy construction, relatively light weight, and the large wheel casters make such movement of the table easily performed. When so making up the form, the party may approach the edge of the platen closely without interference from any framework extending down from the sides of the platen. Again, in moving the table to the mat or other machine, though the weight of the form has been added, the parts are so correctly proportioned and balanced that the table is readily pushed or drawn over to the machine. Here the flat platen with true sides assures a proper "fit-up" to the bed of the machine.

If the top of the platen and the bed of the machine are not on an exact level so that the form on the table can be safely pushed over onto the bed without derangement, the hand wheel 31 is operated to bring it to the proper height. The smooth, continuous cam track 30 and its slight inclination make the operation of the hand wheel easy, and it will remain wherever stopped. Such an adjustment is most desirable because of the slightly varying heights the machines in a plant may have which are to be served by the table, but the load on the table may vary also and affect to some extent the compression of the casters. This leveling is quickly done and the form may be pushed over onto the bed of the machine receiving it.

The leveling of the bed is not to be confused with the basic height adjustment of the platen at the base of the table. The desirability of the latter comes from local conditions when the bed heights of the machines may differ in one room or part of the plant from those in other rooms or plants. Such differences may be beyond the range of the hand-wheel adjustment, and yet the tables should be readily and quickly changeable by common tools at hand to fit the other conditions. The set screw and telescopic arrangement of post and base sleeve meet the situation, as explained.

After the mat is made, the form is again loaded onto the form table and the table is pushed away. Again, the leveling adjustment may be necessary if the table has been otherwise used or another table is brought up. If so, the hand wheel is quickly and easily operated so to do.

The single-post table, in addition to the other advantages mentioned, is less obstructive to the

6

view in a plant, particularly a crowded one, and may be moved in and about the same to better advantage than if the legs and framework came down from the edges of the platen.

While a single embodiment of the invention has been shown and described in detail, it will be apparent that various changes and alterations may be made therein without departing from the spirit of the invention as defined by the following claims.

Moreover, the recital of the foregoing objects or statements of invention is not intended to limit the inventive disclosure of the drawings. The latter drawings are to be taken as the most fully informative source of what applicant's invention comprises.

I claim:

1. A form table of the class described comprising a rectangular platen top having a smoothly finished flat upper surface on which a form for a page of news print may be made up or received, a strong central columnar support for the platen secured at its upper end in vertically adjustable relation thereto, a supporting base member having a sleeve through which the lower end of said central support passes, means for adjustably fixing said support in said sleeve at various heights to vary the basic height of the platen top, said base member having divergent supporting legs extending horizontally in fixed relation to points substantially beneath but within the vertical limits of the platen corners, and casters substantially at the ends of said legs to enable the table to be bodily moved about on a floor, said casters elevating the base member sufficiently to provide room above the floor for adjusting the said column in the member with its end projecting substantially below the member, the spaces beneath the overhanging edges of the platen between the corners being free of mechanical obstructions from the table.

2. A form table of the class described comprising a rectangular platen top, a strong central columnar support therefor, and a four-legged base for the support, said platen having a horizontal flat top and narrow vertical edges, a central sleeve underneath the top and a plurality of strengthening ribs running from the central sleeve to the said edges, said top, edge strips and ribs being of sheet metal welded together at their meeting edges and the ribs and top welded to said sleeve, said central support being of relatively large-diameter metal tubing and fitting at its upper end into said top sleeve in adjustable telescopic relation thereto, and said base including a central sleeve for the reception of the lower end of said tubular support, and four divergent horizontally extending sheet-metal legs bent into inverted U or arch-shaped cross section and welded at their inner ends to said base sleeve and extending respectively substantially beneath the four corners of the top, thereby providing a form table which is ruggedly strong but relatively light in weight.

3. A movable form table of the class described comprising a platen top, a depending sleeve in the platen, a supporting post for the platen having telescopic connection with said sleeve, a horizontal hand wheel rotatably mounted on said post below the sleeve, an inclined circular cam track on the post rotatable by said wheel, and a cam roll mounted on the sleeve and engaging said cam track, the rotation of the wheel serving to raise or lower the platen through the medium of said

7

cam track and roll to level the platen with a bed or other support alongside the table.

4. A movable form table of the class described comprising a platen top, a depending sleeve in the platen, a supporting post for the platen having telescopic connection with said sleeve, a horizontal hand wheel rotatably mounted on said post below the sleeve, the hub sleeve of said wheel extending upwardly and having an inclined cam track formed on its upper edge around the post, and a cam roll carried by the sleeve in the path of said cam track, the hand wheel by its rotation causing the said track to rotate and the roll to raise or lower and thereby to raise or lower the platen, the slight inclination of the track and the friction of the parts causing the holding of the platen in any intermediate raised position.

5. A movable form table of the class described comprising a platen top, a central depending sleeve in the platen, a tubular supporting post having its upper end telescoping within said sleeve, said post having a longitudinal key slot in its upper part, a key fitting into said slot and slidable vertically therein, said key being secured to and projecting inwardly from the adjacent wall of said sleeve and extending below the lower end thereof, a cam roll mounted on the lower end and outer face of said key, and a horizontal hand wheel rotatably mounted on the post below the cam roll and carrying a slightly inclined cam track encircling the post and engaging said roll, said hand wheel having an operating rim of relatively large diameter and within convenient reach from any side of the table, whereby accurate height adjustment of the platen may be easily and quickly made.

6. A movable form table of the class described comprising a platen top, a single supporting column therefor, a pedestal for the lower end of the column, said pedestal having a central member in the form of a relatively long vertical sleeve, the lower end of said column slidably fitting into and passing through said sleeve and held erect thereby, means rigidly to fix the column in various vertical positions in said sleeve to vary the basic height of the platen top, tapering sheet-metal supporting legs of single arched cross section secured to said central member and divergently radiating horizontally therefrom, and casters for said legs to enable the table to be moved about on a floor and raising the pedestal substantially to space the lower end of the column above the floor in any adjusted position of the column in the pedestal.

7. A movable form table of the class described comprising a platen top, a single supporting post therefor, a supporting base for the post, said base having a vertical metal sleeve into which the lower end of the post is received and through which it is adapted to extend and project below the same, means for securing said post in said sleeve in various vertically adjusted positions, divergent horizontally extending tapering supporting legs of sheet metal formed with a single arched cross section, the inner larger ends of said legs abutting and engaging the outside of said sleeve and welded thereto to form a rigid base structure, and casters for the legs, said legs and casters supporting the sleeve and column in spaced relation above the floor on which the table stands in all adjusted positions of the column in the sleeve.

8. A movable form table of the class described comprising a platen top having a central downwardly opening sleeve therein, a base for the

8

table having a central vertical sleeve therein, and a single supporting post for the table extending with a sliding fit into the sleeve in the platen at its upper end and into the sleeve in the base at its lower end, means for securing the post in said sleeve in any adjusted position, the post being vertically adjustable in the base sleeve for the basic height of the platen and the platen sleeve being finely adjustable on the post for the ready and accurate leveling of the platen top surface, the means for such adjustment of the platen including a rotatable collar-like member on the post beneath the said platen sleeve, an inclined cam connection between said member and sleeve, and a hand wheel connected with said member, the rim of which wheel extends outwardly from the post within convenient reach of an operator while standing at the table and observing the upper surface of the platen.

9. A movable form table of the class described comprising a platen top having a central downwardly opening sleeve therein, a base for the table having a central vertical sleeve therein, a single supporting post for the table extending into the sleeve in the platen at its upper end and into the sleeve in the base at its lower end, means for securing the post in any vertically adjusted position in the base sleeve for the basic height of the platen and the platen sleeve being finely adjustable on the post for the ready and accurate leveling of the platen top surface, the means for obtaining such accurate leveling including a rotatable inclined cam on the post, and a horizontal hand wheel on the post near the platen for rotating said cam for effecting such leveling of the platen, the rim of said wheel being of relatively large diameter and within convenient reach from any side of the platen by an operator while standing thereat and within sight of the upper surface of the platen.

10. A movable form table of the class described comprising a platen top, a depending member secured to the platen, a supporting member for the platen, said two members comprising a post and a sleeve in telescopic relationship, a horizontal hand wheel rotatably mounted on said supporting member below said depending member, an inclined circular cam track element and a cooperating cam element, one of said elements being mounted on said depending member and the other of said elements being rotatable by said wheel and supported by said supporting member, the rotation of said wheel serving to raise or lower said platen through the medium of said cam track element and said cooperating cam element as said depending member and said supporting member slide in telescopic relationship to level the platen with a bed or other support alongside the table.

JOHN LEE FERGUSON, JR.

References Cited in the file of this patent
UNITED STATES PATENTS

Number	Name	Date
407,869	Monk	July 30, 1889
794,428	Simon	July 11, 1905
1,133,804	Kaufman	Mar. 30, 1915
1,178,038	Taglin	Apr. 4, 1916
1,513,334	Maino	Oct. 28, 1924
1,714,244	Rowley	May 21, 1929
1,783,661	Makoski et al.	Dec. 2, 1930
2,065,952	Trautmann	Dec. 29, 1936