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2,872,260

ADJUSTABLE SUPPORT FOR TABLE DROP LEAF

Filed June 17, 1957

2 Sheets-Sheet 1

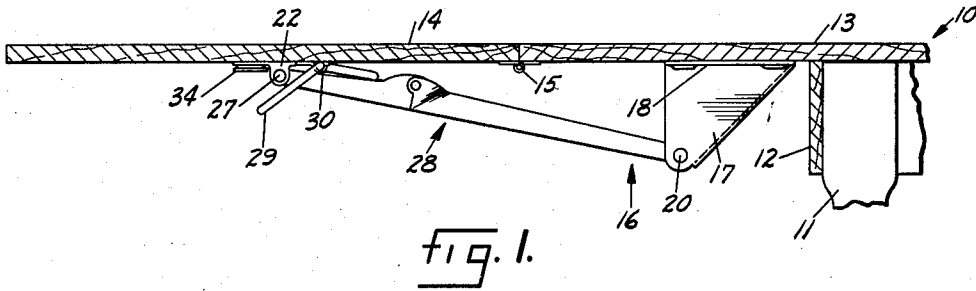


fig. 1.

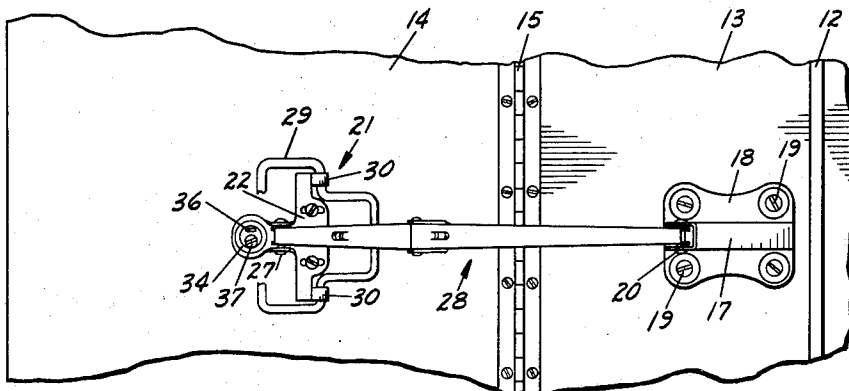


fig. 2.

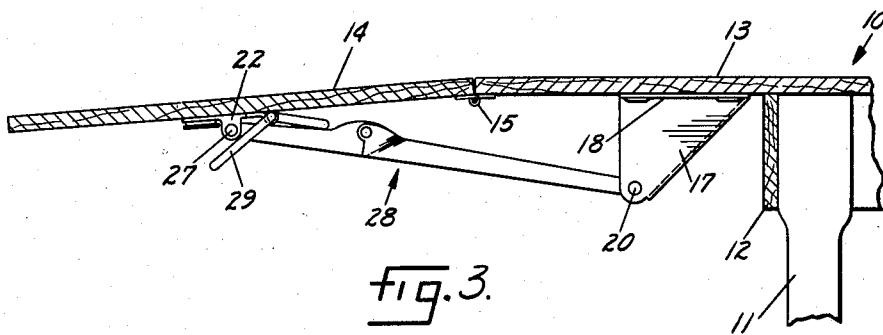


fig. 3.

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2 Sheets-Sheet 2

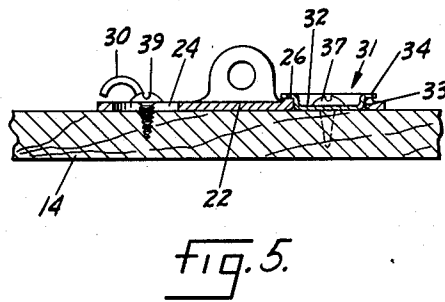
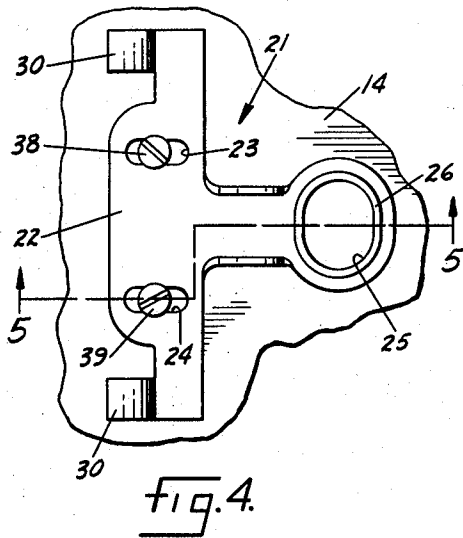


fig. 4.

fig. 5.

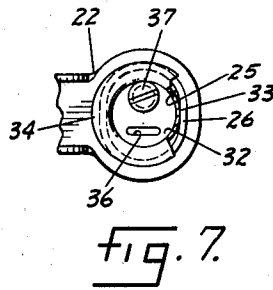
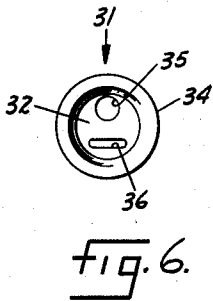


fig. 6.

fig. 7.

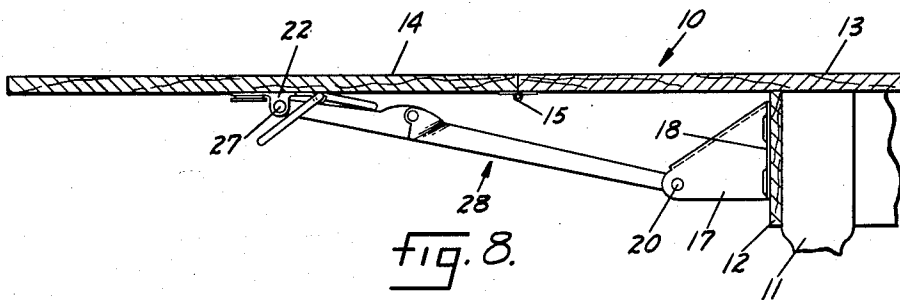


fig. 8.

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ADJUSTABLE SUPPORT FOR TABLE DROP LEAF

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4 Claims. (Cl. 311—65)

The present invention relates to an adjustable support for the hinged leaf of a drop-leaf table, or the like; and to a bracket construction which facilitates adjustment of its mounting upon an associated element.

It is conventional, in drop-leaf table construction, to provide a leaf support which comprises, essentially, a bracket adapted to be secured to a fixed element of the table, a second bracket adapted to be secured to the undersurface of the hinged leaf, and brace means of one sort or another adapted to extend operatively between the brackets to support the leaf, at times, as a horizontal extension of the table top. It is conventional, as well, to use, as the brace means, a toggle linkage comprising two levers hinged together at their adjacent ends and hinged, respectively, to the above-mentioned brackets at their distal ends. It is customary to mount such support assemblies on the table parts at the factory in such relation that, when the brace means is extended, the leaf will be held in precise coplanar arrangement with the table top.

However, due to the tendency of wood to expand when its moisture content increases and to contract when its moisture content decreases, considerable difficulty has been experienced with such assemblies in the past as a result of variations in the moisture content of the tables after they leave the factory. If the wood expands, the leaf will sag when the brace is fully extended; and if the wood contracts, the leaf will come into coplanar relationship with the table top before the brace means is fully extended, whereby it sometimes happens that the leaf cannot be brought to a position in which it will be supported by the brace means, and it sometimes happens that the securing means for one bracket or the other will be partly or wholly torn free from the wooden part engaged thereby.

In the past, under such circumstances, it has been necessary to remove one or both brackets from their associated table parts and either shift them to new positions with respect to the table parts or plug the original screw holes and reassemble the supporting means in substantially its original relation to the fixed parts of the table but in a new position relative to the leaf.

It is the primary object of the present invention to provide novel means whereby, without changing the positions of the securing means for either bracket, an adjustment of bracket position can be effected to compensate for either swelling or shrinkage of the table parts. A further object of the invention is to provide, in such an assembly, means for mechanically shifting a bracket, with extreme accuracy, relative to the means whereby such bracket is secured to an associated element.

Still further objects of the invention will appear as the description proceeds.

To the accomplishment of the above and related objects, my invention may be embodied in the forms illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that change may be made in the specific

constructions illustrated and described, so long as the scope of the appended claims is not violated.

Fig. 1 is a side elevation of an adjustable leaf-supporting assembly constructed in accordance with the present invention, associated with a drop-leaf table shown fragmentarily and in section;

Fig. 2 is a bottom plan view of the supporting assembly mounted on a table which is shown fragmentarily;

Fig. 3 is a view similar to Fig. 1 but showing the condition assumed by the associated parts as a result of expansion of the wooden parts;

Fig. 4 is a bottom plan view, drawn to an enlarged scale, of a special bracket forming an element of my novel supporting means;

Fig. 5 is a section taken substantially on the line 5—5 of Fig. 4, but showing the bracket actually mounted on a table part;

Fig. 6 is a plan view of an operating element of my improved adjustable bracket;

Fig. 7 is a plan view of a portion of the bracket of Fig. 4 with the element of Fig. 6 associated therewith and partially broken away for clarity of illustration; and

Fig. 8 is a view similar to Fig. 1 but showing a modified mounting of the supporting assembly.

Referring more particularly to Figs. 1 to 7, it will be seen that I have fragmentarily illustrated a table indicated generally by the reference numeral 10 and comprising an assemblage of fixed parts such as the legs 11, rails 12 and top 13, and a leaf part 14 hinged as at 15 to one edge of the table top 13. Support means for the leaf 14 is indicated generally by the reference numeral 16. Such support means comprises a bracket 17 having a base plate 18 perforated for the accommodation of screws 19 or other equivalent fastening means whereby said bracket may be secured, for instance, to the lower surface of the table top 13. The bracket 17 provides anchorage means 20 in accordance with accepted practice.

A second bracket assembly, indicated generally by the reference numeral 21, includes a body 22 formed with a pair of slots 23 and 24 which are elongated in a direction perpendicular to the axis of the hinge 15. Said bracket body is further formed with a perforation 25 which is elongated in a direction transverse to the direction of elongation of the slots 23 and 24 and which, on that surface of the body which will be remote from the table part to which the bracket body is to be secured, is surrounded by an upstanding lip 26. The bracket body 22 provides an anchorage 27 which, when the parts are assembled, will be disposed upon an axis parallel to the axis of the anchorage 20 and to the axis of the hinge 15. A toggle brace of conventional construction is indicated generally by the reference numeral 28 and has its opposite ends pivotally mounted upon the anchorages 20 and 27. A lever 29 is supported for oscillation by ears 30, 30 formed on the bracket body 22 and is actuable, in accordance with conventional practice, to break the toggle linkage 28.

An operating element for the bracket body 22 is indicated generally by the reference numeral 31 and, as is most clearly shown in Figs. 5, 6 and 7, said element is formed to provide a disc-like, dished body 32 providing a substantially cylindrical surface 33 which is receivable in the perforation 25 of the bracket body 22. The diameter of the surface 33 is substantially equal to the minor dimension of the perforation 25; and said member 31 is formed to provide a radially-projecting flange 34 which, when the surface 33 is in registering association with the boundary of the perforation 25, overlies and bears upon the lip 26 to limit relative movement between the bracket body 22 and the member 31 in one direction axially of the surface 33.

The body 32 of the member 31 is eccentrically formed

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with a hole 35 for the accommodation of a fastening screw 37; and said body is further formed with a narrow, elongated slot 36 offset from the axis of the body and diametrically opposite the hole 35.

With the leaf 14 extended and in coplanar relation to the table top 13, and with the bracket 17 suitably positioned and fixed to the lower surface of the table top 13, and with the toggle linkage 28 extended, the bracket body 22 is laid against the undersurface of the leaf 14. Now, screws 38 and 39 are passed through the slots 23 and 24, respectively, at points substantially midway between the ends of said slots, and are turned down into the body of the leaf 14 until their heads bear against the exposed surface of the bracket body 22. Now, the member 31 is seated in the perforation 25, it being noted that the axial depth of the member 31 is such that, when the flange 34 engages the lip 26, the bottom surface of the body 32 is substantially in contact with the surface of the leaf 14. The arrangement of the member 31 will be substantially that illustrated in Fig. 7. The screw 37 is now passed through the hole 35 and is turned down into the body of the leaf 14 until its head engages the exposed surface of the body of the member 31. If the screws 37, 38 and 39 are turned down tightly, it will be perceived that the bracket body 22 will be fixedly secured to the leaf 14; and, so long as the moisture content of the wooden table parts does not vary sufficiently to produce any substantial change in the dimensions of those parts, the leaf supporting mechanism will operate satisfactorily without adjustment.

If, however, the wooden parts swell substantially after the supporting mechanism has thus been assembled therewith, the distance from the axis of the hinge 15 to the points of engagement of the screws 37, 38 and 39 will increase; and, since the distance between the anchorage points 20 and 27 is invariable, the leaf 14 will be caused to sag in the manner illustrated in Fig. 3. When such a condition arises, the screws 38 and 39 will be backed slightly away from the bracket body 22 and the screw 37 will be backed slightly away from the body 32 of the member 31. Now, a tool such as, for instance, the blade of a screwdriver will be inserted in the slot 36 and a force will be exerted thereon in a direction to turn the member 31 in a clockwise direction about the axis of the screw 37. In some instances, such a turning force may be applied manually; or in some instances it may be desirable to tap the shank of the tool with a light hammer. Clockwise rotational adjustment of the member 31 will shift the bracket body 22 toward the hinge axis 15, thereby lifting the leaf; and such rotational adjustment will be continued until the leaf is brought into precise coplanar relation with the table top 13, whereafter the screws 37, 38 and 39 will be retightened to clamp the bracket body 22 in its new position of adjustment.

If, on other hand, the wooden parts should shrink, the member 31 will be similarly adjusted in the opposite direction to shift the bracket body 22 away from the hinge axis 15.

Preferably, the shanks of the screws 38 and 39 will have, in the regions received within the slots 23 and 24, diameters substantially equal to the minor dimensions of the respective slots, whereby said screw shanks will accurately guide the bracket body 22 during its above-described adjustment. Preferably, as well, the slots 23 and 24 will be symmetrically arranged on opposite sides of the plane of movement of the elements of the toggle linkage, which plane, of course, is normal to the undersurfaces of the table top 13 and leaf 14.

I am aware that brackets have heretofore been provided with slots similar to the slots 23 and 24 for the reception of securing means such as the screws 38 and 39, whereby such brackets may be adjusted relative to their securing means; but the provision of the member 31, received in the obround perforation 25 makes possi-

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ble an ease and accuracy of adjustment which cannot be attained in the absence of some element equivalent to the member 31 whereby a camming action is attained.

In Fig. 8, I have shown the same parts assembled in a different manner, the base 18 of the flange 27 being secured to the rail 12 of the table 10 rather than to the undersurface of the table top 13.

I claim as my invention:

1. For use with a table comprising certain stationary parts and a leaf hinged to one of said stationary parts, a support for such a leaf comprising a first bracket, means for securing said first bracket to one of said stationary parts, a second bracket, means for securing said second bracket to said leaf, and brace means operatively connecting said brackets, the securing means for one of said brackets including an element mounted for eccentric adjustment about a fixed point of attachment to its table element, and coaxing with said one bracket, when so adjusted, to shift said one bracket, relative to said fixed point, toward or away from the other bracket.

2. For use with a table comprising certain stationary parts and a leaf hinged to one of said stationary parts, a support for such a leaf comprising a first bracket, means for securing said first bracket to one of said stationary parts, a second bracket, means for securing said second bracket to said leaf, and brace means operatively connecting said brackets, one of said brackets being formed with two slots elongated in directions parallel with said brace means and with a perforation elongated in a direction transverse with respect to the direction of elongation of said slots, the securing means for said one bracket comprising an element penetrating each of said slots for fixed engagement with the associated table part, each such element snugly fitting its slot transversely but having, in its portion engaged in its slot, a dimension substantially less than that of its slot in the direction of elongation of said slot, a member seated in said perforation and having a substantially cylindrical surface registering with the boundary of said perforation, said cylindrical surface having a diameter substantially equal to the dimension of said perforation in the direction of elongation of said slots, and an element eccentrically penetrating said member for fixed engagement with said last-named table part, said member being rotationally adjustable about said last-named element.

3. The combination with a table comprising certain fixed parts and a leaf part hinged to one of said fixed parts, of a leaf support comprising a first bracket, means securing said first bracket to one of said fixed parts, a second bracket, means securing said second bracket to said leaf, and brace means operatively connecting said brackets, one of said brackets being formed with guide means elongated in a direction parallel with a plane normal to said leaf and including said brace means, and with a perforation elongated in a direction transverse to the direction of elongation of said guide means, the means securing said one bracket comprising means fixed with respect to the associated table part and operatively engaging said guide means, a member seated in said perforation and having a substantially cylindrical surface registering with the boundary of said perforation, said cylindrical surface having a diameter substantially equal to the dimension of said perforation in the direction of elongation of said guide means, and an element penetrating said member eccentrically, fixed with respect to said associated table part and restraining said member against movement away from said associated table part, said member being rotationally adjustable about the axis of said element, and said member further being provided with means engageable with said one bracket to restrain said one bracket against movement away from said associated table part relative to said member.

4. An adjustable bracket assembly comprising a body, anchorage means carried by said body, said body being formed with a pair of slots symmetrically arranged with

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respect to said anchorage means and elongated in a direction transverse with respect to the axis of said anchorage means, said body further being formed with a perforation elongated in a direction transverse with respect to the direction of elongation of said slots, a member 5 formed to provide a substantially cylindrical surface having a diameter substantially equal to the minor dimension of said perforation, said member being seatable in said perforation with its cylindrical surface in registry with the boundary of said perforation, means carried by said member and engageable with a surface of said body when said cylindrical surface is in such registry to limit relative movement of said member and said body in one

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direction axially of said surface, said member having a hole therethrough eccentric with respect to said surface, a headed screw for each of said slots, and a headed screw for said hole.

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