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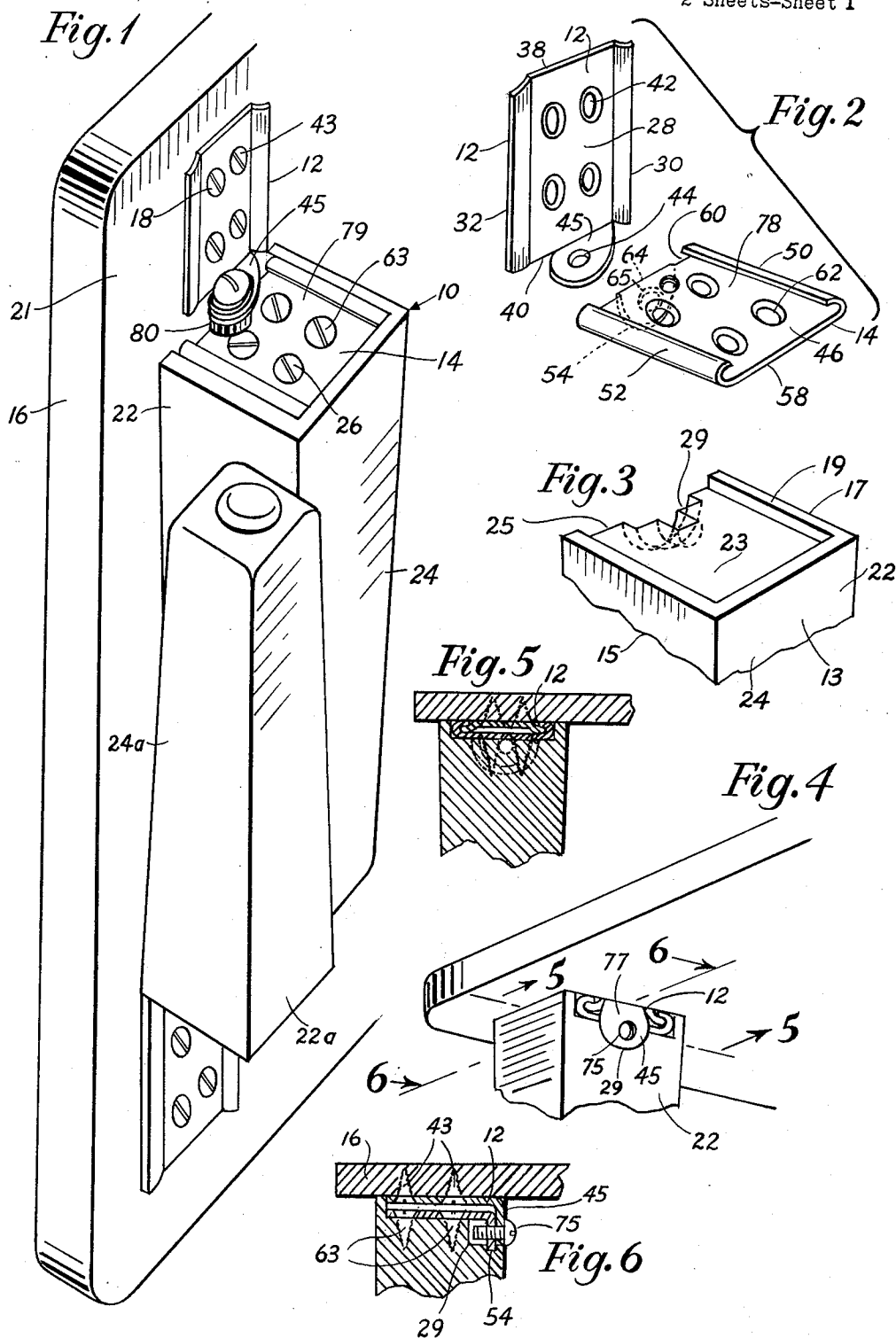
J. HIRSCH

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KNOCK-DOWN TYPE CONCEALED LEG BRACKET

Filed March 15, 1954

2 Sheets-Sheet 1



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KNOCK-DOWN TYPE CONCEALED LEG BRACKET

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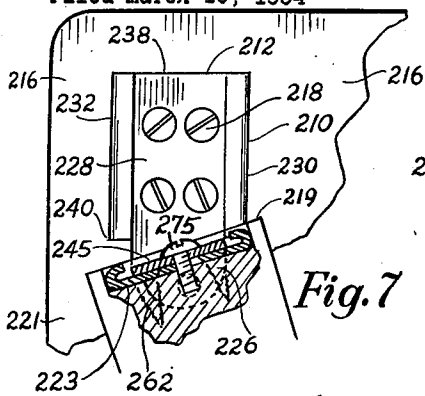


Fig. 7

Fig. 8

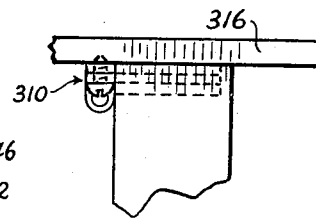
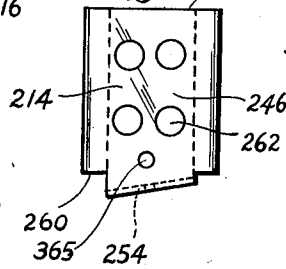


Fig. 13

Fig. 9

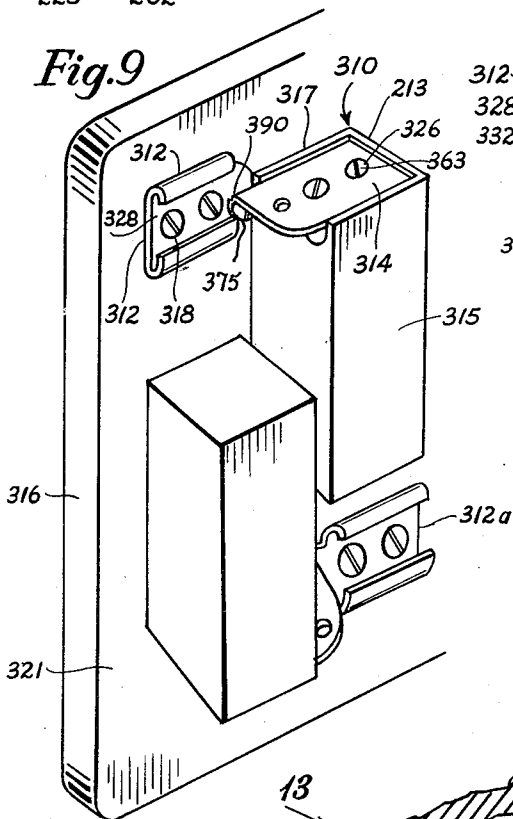


Fig. 10

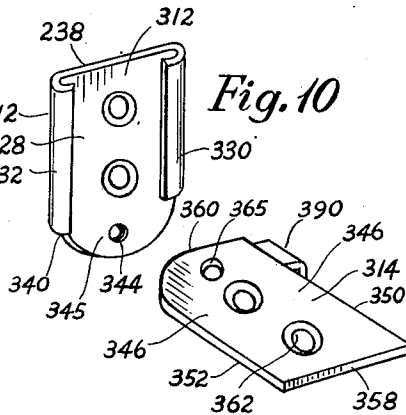


Fig. 11

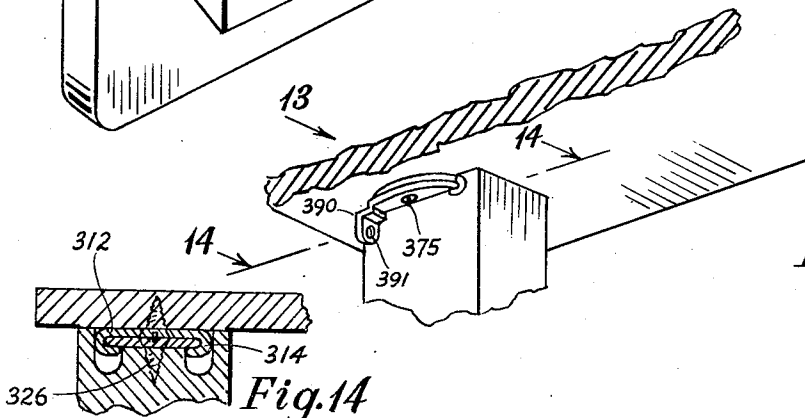
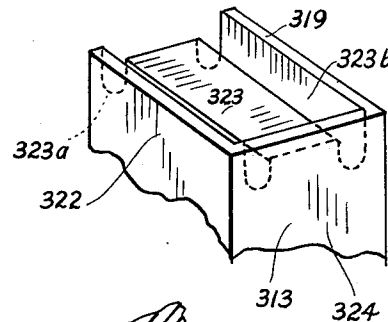


Fig. 12

Fig. 14

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KNOCK-DOWN TYPE CONCEALED LEG BRACKET

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Application March 15, 1954, Serial No. 416,353

4 Claims. (Cl. 311-112)

This invention relates generally to brackets by means of which legs are connected to flat surfaces such as tables, chairs, and the like; and more particularly to such which are especially adapted to secure the leg in connection to such surfaces in both the set-up and knock-down condition.

Most frequently, furniture having legs is shipped in a set up condition. The legs being relatively fragile projections are subject to the likelihood of damage in transit. In order to protect them, heavy cartons with padding of corrugated cardboard are used, and even more expensively, wooden crates are employed. The legs when shipped set up are held in position by screws or dowels and glue. After a period of use, these joints loosen. Because when shipped set up, the packing and shipping costs are higher, there is a need for an improved construction.

It is therefore among the objects of the present invention to provide a novel and useful improvement which will obviate the foregoing disadvantages.

An object of the present invention is to provide knock-down type detachable leg bracket construction wherein the leg and platform interconnection presents from a majority of points of view a dowelled and glued or mortised and tenoned appearance.

Another object herein is to provide construction of the class described which can be used with legs having, when set up, a wide range of angles with respect to the horizontal or similar surface with which they are used, and can be used with any object that has legs.

Another object of the present invention is to provide furniture construction having means for connecting legs to a platform whereby the legs may be folded flat against the underside of the platform laterally displaced with respect to each other so that they do not take up any more space than the thickness of a single leg. When the legs are folded flat, they lie side by side instead of overlapping.

A still further object herein is to provide structure of the class described which will afford lower production costs, lower packing costs, and lower shipping costs, while making a sturdy and long-lasting connection between the leg and platform elements when the article is set up.

A feature of the present construction is that it is easy to use, requiring no special skill or tools. An ordinary screw driver is all that is necessary and the same screw is used to secure the leg element in the knock-down and set-up positions.

These objects and other incidental ends and advantages will more fully appear in the progress of this disclosure and be pointed out in the appended claims.

In the drawings, similar reference characters designate corresponding parts throughout the several views in each embodiment.

Figure 1 is a fragmentary view in perspective of a first embodiment, which in this view a pair of legs are in the knock-down side-by-side position with the table standing on one edge thereof.

Figure 2 is a view in perspective showing the table

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bracket element and the leg bracket element of Figure 1 in exploded position.

Figure 3 is a fragmentary view in perspective of the upper end of one of the legs preparatory to the attachment thereto of the leg bracket element.

Figure 4 is a view in perspective of a portion of the table shown in Figure 1 with a leg in a set-up position.

Figure 5 is a fragmentary vertical sectional view as seen from the plane 5-5 on Figure 4.

Figure 6 is a fragmentary vertical sectional view as seen from the plane 6-6 on Figure 4.

Figure 7 is a fragmentary elevational view corresponding generally to the upper portion of Figure 1 but showing a second embodiment of the invention.

Figure 8 is a bottom plan view of the leg bracket element shown in Figure 7.

Figure 9 is a fragmentary perspective view corresponding generally to Figure 1, but showing a third embodiment of the invention.

Figure 10 is a fragmentary view in perspective showing a platform bracket element in a position rotated generally through 90° from the position shown in Figure 9.

Figure 11 is an exploded view showing the top of a leg and a leg bracket element.

Figure 12 is a fragmentary view in perspective of a leg in set-up position, and connected to a platform element.

Figure 13 is a fragmentary elevational view as seen in the direction of the arrow 13 on Figure 12.

Figure 14 is a fragmentary vertical, sectional view as seen from the plane 14-14 on Figure 13.

In accordance with the invention, the device, generally indicated by reference character 10 comprises broadly a platform bracket element 12 and a leg bracket element 14. The platform bracket element may be connected to any suitable generally horizontal platform, such as the table top 16 shown, or other table tops, base elements of cabinets, chair seat elements, shelves, radio cabinets, or the like (not shown). Often, the table top 16 is of sufficient thickness to form a suitable anchorage for the platform bracket element means 18 which may well take the form of ordinary wood screws. When the table top element is thin, a cleat or similar transverse support (not shown) may be utilized.

The leg bracket element 14 is secured in a suitable manner to the upper end 22 of a leg 24, for example by the means 26, which may take the form of ordinary wood screws.

Turning to Figure 2, the platform bracket element 12 may include a body 28 having a first engaging edge 30, a second engaging edge 32, which are preferably bent forward (Fig. 1) and opposed third and fourth edges 38 and 40. The body 28 is provided with a plurality of screw receiving holes 42 (for screws 43), and with an unthreaded hole 44. Extending from the edge 40, substantially perpendicular thereto, is a securing flange 45 which has the hole 44. The platform bracket element 12 is preferably formed by blanking and bending the same from suitable sheet stock, as for example sheet steel.

The leg bracket element 14 has a body 46 including a first locking flange 50, a second locking flange 52, a third edge 58 and a fourth edge 60. Extending at substantially a right angle from the edge 60 is the securing flange 54 which is provided with a knock-down position threaded hole 64. The body 46 has a plurality of screw receiving holes 62 (for screws 63). The body 46 adjacent the edge 60 has a set-up position threaded hole 65.

The upper end 22 of the leg 24 is recessed (see Figure 3) so that the normally outermost surface 13, as well as the surfaces 15 and 17, form a rim 19 which is adapted to contact the undersurface 21. The depression 23 is of a size sufficient to receive the leg bracket element 14 and

the surface 25 of the leg 24 is provided with a stepped recess 29. The recess 29 is adapted to receive the securing flanges 54 and 45, while the forward portion of said recess as viewed in Figure 3 affords clearance for the inner end of the screw 75 (Figure 6).

In the set-up position best seen in Figures 4, 5 and 6, the parts are interfitted with the first and second engaging edges 30 and 32 disposed within the first and second locking flanges, respectively, while the screw 75 maintains the securing flange 45 in juxtaposed position with the securing flange 54. Since the screws 43 engage the top 16 and the screws 63 engage the upper end 22 of the leg 24, it may be seen that the parts are maintained in a substantially integrated fashion. The flanges 50 and 52 are preferably arranged to taper toward each other at a very slight angle in a direction away from the securing flange 54, and correspondingly, the edges 30 and 32 are arranged to converge slightly toward each other in a direction away from the securing flange 45. Thus, when the screw 75 is tightened, the parts are unified with a wedging action and a consequent rigidity of the parts which is reflected in the stability of the set-up table.

It may be noted that when the parts are arranged, as for example shown in Figure 4, that from most ordinary positions outside of the table, the completed article does not convey to the viewer the fact that the legs are easily and conveniently detachable, either for the original changing or during any subsequent moving operation.

In the knock-down position, the securing flange 45 has the surface 77 thereof (Figure 4) in juxtaposition with the surface 79 of the leg bracket element 14. Between said surface 79 and said surface 77 there is interpositioned a resilient washer 80. The washer 80 may be composed of rubber or the like, and the purpose thereof is to allow minor deflection of the leg 24 with respect to the leg 24a so that legs which are normally juxtaposed on an article of furniture, when knocked down can be shifted with respect to each other so that they may have a side-by-side relationship such as shown in Figure 1. Here, for the purpose of avoiding repetition, the second leg is given certain of the prior used reference characters with the addition of the suffix "a."

Instead of the rubber or resilient washer, it is feasible to use a small spring of the helical type, or a small orified wooden wedge.

Turning now to the second embodiment of the invention shown in Figures 7 and 8, for the purpose of avoiding unnecessary repetition, certain of the parts corresponding to those of the first embodiment are given the same reference characters with the prefix "2."

The principal difference between the first and second embodiments is that in the second embodiment, the leg 124 is adapted to be disposed at a predetermined angle with respect to the leg 124a when the article of furniture is in a knock-down condition.

As seen in Figures 7 and 8, the securing flanges 245 and 254 are arranged at complementary angles. The angles, which the flanges 245 and 254 take in Figures 7 and 8, are exaggerated for the purpose of clarity and in practice should not be so great as to cause the outermost leg (not shown in said figures but corresponding to leg 124a) not to project beyond the table top.

Turning now to the third embodiment of the invention, shown in Figures 9 to 14, inclusive, avoiding repetition, certain of the parts corresponding to the first embodiment are given the same reference characters with the prefix "3."

In this embodiment, the general arrangement is reversed, the receiving part on the table and the inserted part on the top of the leg.

While in Figure 9 the platform bracket elements 312 and 312a are laterally offset as viewed in said figure, this is for the purpose of clarity only, and it will be understood that the feature of the invention by which the legs are pivotally mounted when in the knock-down position

thereof, permits said platform bracket elements to be placed in line so that each is equi-distantly disposed with respect to the adjacent table-top corner. The platform bracket element 312 is shown in Figure 10 as rotated through 90° from the bracket shown in Figure 9, and differs from the platform bracket element in that the edges 30 and 32 of the first former are replaced by the flanges 330 and 332. Furthermore, the securing flange 45 is replaced by the extension securing flange 345 which has a threaded hole 344.

The leg bracket element 314 has the locking edges 350 and 352 and the body 346 has a hole 365. Thus the parts may fit together in the assembled or set-up position as shown in Figures 12 and 14. A screw 375 passes freely through the hole 365 and engages the threads in the hole 344.

In order to afford passage for the locking flanges 330 and 332, the depression 323 has two spaced and parallel elongated grooves 323a and 323b. The inner end (not shown) of the screw 375, may be pointed so that after passing through the threads 344 it may enter the wood at the top 322 of the leg 324. Here again in the set-up condition, the rim 319 engages the undersurface of the platform element to provide a sturdy connection with a permanently set-up appearance.

In the knock-down position, the body 346 has an offset bracket flange 390 which is provided with a hole 391 through which the screw 375 may be inserted to engage the threaded hole 344. This enables the leg to be pivoted about the screw 375, which upon tightening, holds the leg in an adjusted position so that a side-by-side relationship may be established as indicated generally in Figure 9.

It may thus be seen that I have provided a novel and useful furniture construction in which the leg elements and platform elements may be easily and quickly provided with corresponding bracket elements, and which may easily and quickly be arranged in knock-down or set-up position. In either position the parts are securely connected.

An incident advantage of the present construction lies in the fact that under certain circumstances the legs may be supported independently of the platform or similar elements and may also be supplied in sets of varying sizes so that the dealer may offer the particular article of furniture at different heights, the same top, for example, being utilized to form a low coffee table, a medium height coffee table, a regular height table, and so on.

By virtue of the saving obtained in the elimination of fitted joints and glueing, the present construction may be accomplished at little or no increase in cost over earlier less satisfactory constructions.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art to which the present invention pertains.

I claim:

1. Furniture construction comprising: a platform element; a pair of leg elements spaced from each other and detachably connectible to said platform element; means fixedly securing said leg elements in the set-up position thereof to said platform element which means is characterized by the disposition thereof within the upper end of said leg so as to be partially concealed thereby; and pivotal means holding said leg elements to said platform elements in the knock-down position of said leg elements; said last-mentioned means positioning said legs in a plane spaced from and parallel to the platform element; whereby said leg elements in the knock-down position thereof may have a lateral side-by-side arrangement.

2. Furniture construction comprising: a platform element, a leg element, a platform bracket element secured to said platform element; said leg element having a depression at one end thereof and a leg bracket element disposed within said depression and secured to said leg

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element; means in the set-up position of said parts to detachably secure said leg bracket element to said platform bracket element, said leg element assuming an abutted relationship with respect to said platform element to substantially conceal said platform and leg bracket elements; and in the knock-down position thereof to detachably secure the leg bracket element to the platform bracket element with said leg bracket element in a different position.

3. Furniture construction comprising: a platform element, a leg element, a platform bracket element secured to said platform element; said leg element having a depression at one end thereof and a leg bracket element disposed within said depression and secured to said leg element; means in the set-up position of said parts to detachably secure said leg bracket element to said platform bracket element, said leg element assuming an abutted relationship with respect to said platform element to substantially conceal said platform and leg bracket elements; and in the knock-down position thereof to detachably secure the leg bracket element to the platform bracket element with said leg bracket element in a different position; and means providing pivotal movement of said leg element with regard to said platform element when said leg element is in the knock-down position thereof.

4. Furniture construction comprising: a platform element, a leg element, a platform bracket element secured to said platform element; said leg element having a depression at one end thereof and a leg bracket element disposed within said depression and secured to said leg

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element; means in the set-up position of said parts to detachably secure said leg bracket element to said platform bracket element, said leg element assuming an abutted relationship with respect to said platform element to substantially conceal said platform and leg bracket elements; and in the knock-down position thereof to detachably secure the leg bracket element to the platform bracket element with said leg bracket element in a different position; and means providing pivotal movement of said leg element with regard to said platform element when said leg element is in the knock-down position thereof; said last-mentioned means serving to position said legs in a plane spaced from and parallel to said platform element; whereby said leg elements in the knock-down position may have a lateral side-by-side arrangement.

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