Feb. 19, 1957 P. S. GASTON 2,782,086

SUPPORTING HINGE BRACKETS FOR DROP LEAVES

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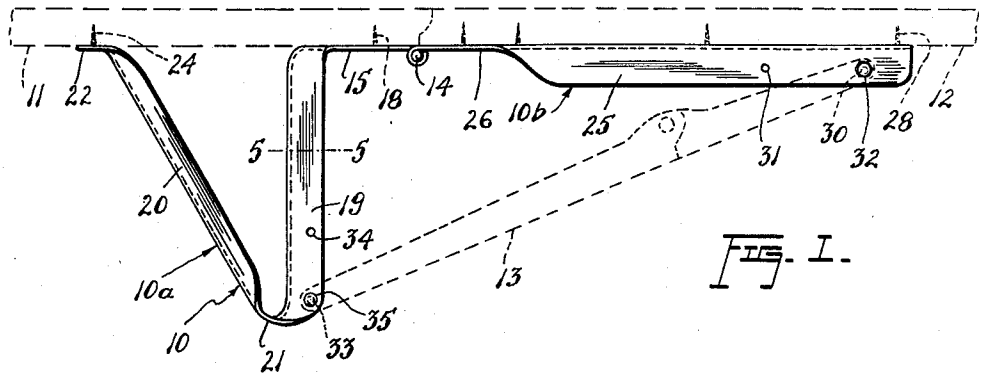


FIG. 1.

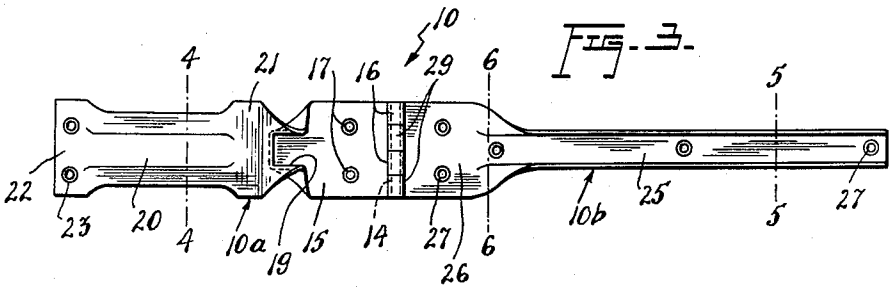


FIG. 3.

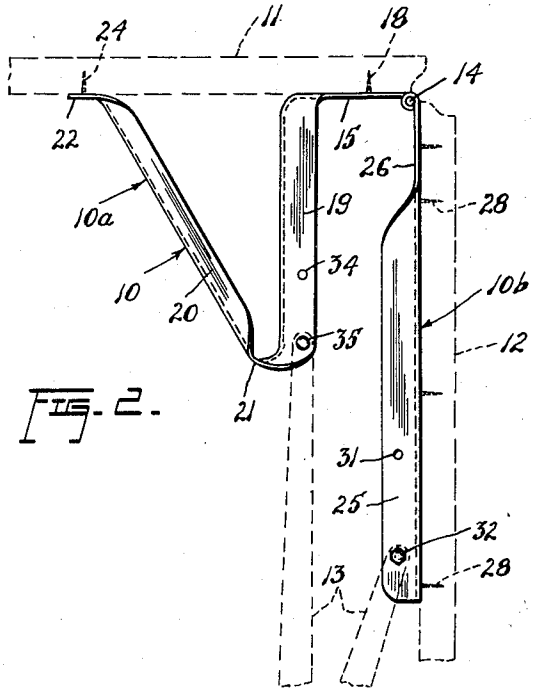


FIG. 2.

FIG. 4.



FIG. 5.



FIG. 6.



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SUPPORTING HINGE BRACKETS FOR DROP LEAVES

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This invention relates to new and useful improvements and structural refinements in the art of supporting and hinging drop leaves on tops of tables, shelves, and the like, and in particular the invention concerns itself with structural arrangements of this general nature wherein the drop leaf supporting means include a folding or collapsible strut.

As such, it is the conventional practice to pivotally connect one end of the supporting strut to the drop leaf and similarly connect the other end of the strut to the customary side board or panel secured to the table legs at the underside of the top. A hinged connection of the drop leaf to the table top permits the leaf to be lowered while the supporting strut is folded, or alternatively, the usual self-locking arrangement of the strut serves to sustain the drop leaf in its opened or horizontally extended position.

While this conventional arrangement is generally satisfactory, it nevertheless has several disadvantages, one of these being that the drop leaf hinge and the supporting strut are separate entities, requiring most careful installation or positioning of the strut in relation to the hinge during assembly, in order to assure that the folding action of the strut will permit the drop leaf to be lowered.

Moreover, several types of tables are not provided with the abovementioned side board or panel, and in such instances the supporting strut and drop leaf cannot be installed unless the side board, panel or some equivalent thereof is first added to the structure.

It is, therefore, the principal object of this invention to avoid the above outlined difficulties, this being achieved by providing a combined supporting and hinge bracket which, as a unit, may be quickly and easily attached to both the table top and the drop leaf for cooperation with the conventional supporting strut, the latter, when in situ, coacting with the bracket to afford supporting means which may be bodily mounted in place with assurance that the strut and the hinge are in proper alignment.

An important feature of the invention resides in forming the bracket in two sections, namely, a stationary section adapted for attachment to the underside of the table top and a movable section adapted for attachment to the underside of the drop leaf, the two sections of the bracket being hingedly connected together to provide the hinge means for the drop leaf and both sections having means for pivotally connecting opposite ends of the supporting strut thereto in a fixed relationship to the hinge means.

Another important feature of the invention resides in arranging the stationary section of the bracket in such manner that it extends downwardly from the underside of the table top and thereby eliminates the need for the aforementioned side board or panel, thus making it possible to easily and conveniently install the drop leaf structure on tables where the side board or panel is not provided.

Another important feature of the invention resides in the provision of an integral brace for the downwardly extending portion of the stationary section of the bracket, such a brace being secured to the underside of the table top to firmly hold the downwardly extending bracket portion in place and prevent the same from yielding under the thrust of the supporting strut.

Another important feature of the invention resides in forming the movable portion of the bracket in such manner that it affords a substantial reinforcement for the drop leaf to which it is fastened, thus eliminating the need for separate drop leaf reinforcements such as are commonly used.

Another important feature of the invention involves the provision of an adjustment in fitting the supporting strut to the bracket, whereby the same bracket may be effectively used in conjunction with struts of different lengths.

Some of the advantages of the invention reside in its simplicity of construction, in its durability, and in its adaptability to convenient and economical manufacture.

With the foregoing more important objects and features in view and such objects and features as may become apparent as this specification proceeds, the invention resides in the arrangement of parts and details of construction substantially as shown in the accompanying drawing, wherein like characters of reference are employed to designate like parts and wherein:

Figure 1 is a side elevational view of a bracket constructed in accordance with the invention, also showing a portion of the table top, drop leaf and supporting strut by dotted lines, all in an open or extended position;

Figure 2 is a side elevational view, similar to that shown in Figure 1 but with the parts in the folded position;

Figure 3 is an underside plan view of the bracket per se;

Figure 4 is a cross-sectional view, taken substantially in the plane of the line 4—4 in Figure 3;

Figure 5 is a typical crosss-ectional view, taken substantially in the planes of the lines 5—5 in Figures 1 and 3; and

Figure 6 is a cross-sectional view, taken substantially in the plane of the line 6—6 in Figure 3.

Referring now to the accompanying drawing in detail, the combined supporting, reinforcing and hinge bracket in accordance with the invention is designated generally by the reference numeral **10**, and is adapted for use in conjunction with any suitable table top **11**, a drop leaf **12** and a conventional collapsible or foldable supporting strut **13** for the drop leaf. For all practical purposes, the top **11** need no be necessarily associated with a table as such, but may be any horizontal board, shelf, bench, or the like, to which a drop leaf is desired to be applied.

The bracket **10** comprises two main components or sections, namely, a relatively stationary section **10***a* and a relatively movable section **10***b*, the two sections being connected together by a hinge pin **14** as will be hereinafter more fully explained.

Both bracket sections **10***a* and **10***b* are formed from strap material, such as by a die, and the stationary section **10***a* comprises a relatively flat top portion **15** formed with knuckles **16** for the hinge pin **14** and also formed with apertures **17** to receive screws **18** for securing the same to the underside of the top **11** adjacent its marginal edge.

An integral continuation of the top portion **15** is downturned and has its side edge portions turned inwardly so as to form a channel-shaped member **19** of a U-shaped cross-section, clearly shown in Figure 5. The member **19** extends perpendicularly and downwardly from the underside of the top **11** and is reinforced by a diagonal brace **20** which constitutes an integral continuation of the lower end of the member **19**. The portion **21** of the bracket section **10***a* connecting the member **19** to the brace **20** is rounded and is formed by gradually outturning the inturned side edge portions at the lower end of the member **19** so that at the point **21** the bracket is substantially flat in cross-section. Thereupon, the cross-

section is again modified by turning the side edge portions of the brace **20** upwardly at an angle of approximately 45° as shown in Figure 4, whereby substantial rigidity of the brace **20** is assured.

The brace **20** extends upwardly and inwardly from the lower end of the member **19** and the upper end of the brace is flattened and turned to a horizontal plane so as to provide a flange **22** formed with apertures **23** for screws **24**, whereby the upper end of the brace is secured to the underside of the top **11**.

The movable section **10***b* of the bracket **10** comprises a channel-shaped body portion **25** having a flat inner end portion **26**, the portions **25** and **26** being formed with a plurality of apertures **27** to receive screws **28** whereby the entire bracket section **10***b* is secured to the underside of the drop leaf **12**. The flattened portion **26** is equipped with knuckles **29** coacting with the aforementioned knuckles **16** to accommodate the hinge pin **14**, whereby the two bracket sections **10***a* and **10***b* are hingedly connected together.

It is to be noted that by virtue of its channel-shaped configuration, the bracket section **10***b* secured to the underside of the drop leaf will substantially reinforce the same, so that no additional reinforcing means for the drop leaf are necessary.

The bracket portion **25** is provided at predetermined distances from the hinge pin **14** and at a fixed distance from the underside of the drop leaf with pairs of transversely aligned apertures **30**, **31** to selectively receive a removable fastening element such as a pin or screw **32** for pivotally attaching the upper end of the aforementioned strut **13** to the bracket section **10***b*. Similarly, the member **19** is provided at a fixed horizontal distance from the hinge pin **14** and at predetermined distances from the underside of the top **11** with pairs of transversely aligned apertures **33**, **34** to receive a fastening element **35** pivotally attaching the lower end of the strut **13** to the bracket portion **10***a*.

It may be explained at this point that in accordance with usual practice, the strut **13** is customarily provided at its ends with mounting ears (not shown). However, when the strut is used in conjunction with the instant bracket, such mounting ears are not necessary inasmuch as their function is performed by the bracket portions **19** and **25**. The strut **13** is also available in different lengths, and when a strut of the relative length shown is used, the fastening elements **32**, **35** are installed in the apertures **30**, **33**, as illustrated. If a shorter strut is to be used, the elements **32**, **35** are installed in the apertures **31**, **34**. The location of these various apertures is always such that proper relationship of the strut to the hinge pin **14** is maintained and correct folding action of both the strut and the drop leaf is facilitated.

It will be apparent from the foregoing that the instant invention performs several different functions, namely, (1) the provision of a hinge between the drop leaf and the table top, (2) reinforcement of the drop leaf, (3) attaching means for the ends of the strut in place of conventional mounting ears on the strut, and (4) a strut support at the underside of the table top in place of the usual side board or panel of the table.

It is intended that the bracket **10** be supplied together with the strut **13** in situ, so that the unit may be quickly and easily attached to the underside of the table top and drop leaf without the necessity of making complex measurements in locating the strut with respect to the hinge. As will be noted, the removable fastening element **32** permits the upper end of the strut to be detached from the bracket portion **25** and swung about the fastening element **35** out of the way, to facilitate installation of the screws **28** in the center of the bracket portion **25**. With this accomplished, the strut may be again connected to the portion **25** by simply installing the element **32**.

While in the foregoing there has been described and shown the preferred embodiment of the invention, various modifications may become apparent to those skilled in the art to which the invention relates. Accordingly, it is not desired to limit the invention to this disclosure and various modifications may be resorted to, such as may lie within the spirit and scope of the appended claims.

What is claimed as new is:

1. The combination of a table top having an overhanging edge portion, a drop leaf for said table top, a combined supporting and hinge bracket comprising a stationary section secured to and extending downwardly from the overhanging edge portion of said table top and a movable section hinged to said stationary section and secured to the underside of said drop leaf, and a collapsible supporting strut pivoted at its opposite ends to the respective stationary and movable sections of said bracket.

2. A combined supporting and hinge bracket for attaching a drop leaf to an overhanging edge portion of a table top, said bracket comprising a stationary section adapted to be secured to and extend downwardly from the underside of a table top and a movable section hinged to said stationary section and adapted to be secured to the underside of a drop leaf, said stationary and movable sections of said bracket being formed with apertures for pivotally attaching the ends of a collapsible strut thereto.

3. The combination of a table top having an overhanging edge portion devoid of an underside support, a drop leaf for said table top, a combined supporting reinforcing and hinge bracket comprising a stationary section having a substantially flat top portion secured to the underside of said table top at the edge portion thereof, a downwardly extending member integral with said top portion and spaced inwardly from the edge of the table top, and a diagonal brace integral with the lower end of said member, said brace extending upwardly and inwardly from said member and being secured at its upper end to the underside of said table top, and a movable section secured to the underside of said drop leaf, said movable section being substantially channel-shaped and including a relatively flat inner end portion hinged to the top portion of said stationary section, and a collapsible supporting strut pivotally connected at its opposite ends to said member and to the channel-shaped portion of said movable section.

4. A combined supporting reinforcing and hinge bracket for attaching a drop leaf to an overhanging edge portion of a table top, said bracket comprising a stationary section having a substantially flat top piece adapted to be secured to the underside of a table top adjacent the edge thereof, a downwardly extending member integral with said top portion, and a diagonal brace integral with the lower end of said member, said brace extending upwardly and inwardly from said member and being adapted at its upper end for securing to the underside of a table top, and a movable section adapted to be secured to the underside of a drop leaf, said movable section being substantially channel-shaped and including a relatively flat inner end portion hinged to the top portion of said stationary section, said member and the channel-shaped portion of said movable section being formed with apertures for pivotally attaching the ends of a collapsible supporting strut thereto.

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