COLLAPSIBLE BRACKET OR SUPPORT

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This invention has general reference to collapsible devices or supports for fold-down shelves, seats, and for other similar application; while it relates more particularly to the species or form of such devices including means for maintaining the same in extended or supporting position.

The primary object of my invention is to provide what I preferably term a self-aligning multi-knuckle collapsible bracket or support for general use, or where it is desirable to mount a foldable shelf or seat more particularly.

Another object of my invention is to provide a novel collapsible bracket or support of the type stated in the preceding paragraph including improved catch means effective to automatically secure said bracket or support in active position.

A further object is to provide a collapsible bracket or support of the species indicated in the two preceding paragraphs embodying structural refinements that greatly enhance its utility, strength and durability.

Other objects, features and ancillary advantages of my invention will be hereinafter set forth in the description of the accompanying two sheets of illustrative drawings forming a part hereof, in which like reference characters designate the same or corresponding parts in all the views.

In the drawings:

Fig. 1 is a side elevation of a typical embodiment of my improved collapsible bracket for the support of a shelf or seat as viewed when in collapsed position.

Fig. 2 is a similar elevation but showing the shelf or seat in active position.

Fig. 3 is an end elevation taken as indicated by the angled arrows III—III in Fig. 2; and,

Fig. 4 is an exploded perspective view of the main components of my improved self-aligning four-knuckle collapsible bracket or support.

In describing the form of my invention exemplified by the drawings herewith, specified terms will be employed for the sake of clarity, but it is to be understood the scope of said invention is not thereby limited; each such term being intended to embrace all equivalents which perform the same function for an analogous purpose.

Referring more in detail to the drawings my improved self-aligning collapsible bracket or support, as shown, comprises four main components comprehensively designated 5, 6, 7 and 8, see Fig. 4 to the best advantage. Of these components those marked 5 and 6 will be hereinafter respectively termed the wall attaching and shelf or seat supporting elements; whereas the other elements 7 and 8 will be similarly distinguished as the lower and upper brace components. The elements 5, 6, 7 and 8 it is to be particularly noted are all of a form adapted for economical production from metal or other sheet material, which materially reduces the cost of manufacture. More specifically the wall or otherwise attachable element 5 conveniently although not essentially embodies a main portion 9, including a relatively stepped upper part 10 with an offset knuckle section 11; while the lower part is formed to include a medial extension tongue 12 having inclined-related flanking knuckles 13, 14; whereas 14 designate spaced holes for rigid mounting of said element 5 to a stationary member or wall 15 as by screws 16, Figs. 1 and 2, for example only.

The shelf or seat supporting element 6 comprises a flat body portion 17 with spaced knuckles 18 at one end, and relatively inclined similar knuckles 19 at the other end with an intervening tongue 20 and holes 21 for passage of suitable means such as screws 22 for securing said shelf or seat element 23 thereto. As best appreciated from Fig. 2 the extension tongues 12 and 20 are highly important for added security, at the points of heaviest strain, in that said tongues extend the longitudinal base of attachment and serve as securing means beyond and indirectly related to the screws 16, 22 as readily understood by those conversant with the art. In other words the tongues 12, 20 function as rigid anchorages outwardly relative to the hinge axes of the respectively adjacent knuckles 13 and 19, which substantially increases the security factor of the bracket or support as a whole. It is also to be noted, at this juncture, that the shelf or seat element 23 may have its edge adjoining the wall if arcuately rounded at 24 for pivotal movement relative to a superjacent stationary cover and molding 25 appropriately fixed to said wall 15. Also the stepped upper part 10 of the wall attaching element 5 may include a filler member 26 conveniently held in place by screws 27 passed through the holes 14 in the element 5 aforesaid.

Obviously, the knuckles 11, 18 may be arranged in a common vertical plane with respect to the knuckles 13, 28 and the wall plate 5 made without the stepped part 10; in which case the wall and shelf components are made of equal length, so that this form is self-aligning and reversible.

Referring now to the brace elements 7, 8, the lower element 7, is provided with opposed single knuckles 28, 29 at the respective ends, spaced elongated slots 30, a medially located shorter slot 31, and a central hole 32 proximate the
Having thus described my invention, I claim:

1. A self-aligning collapsible bracket comprising inter-connected knuckle-jointed consecutive components, an adjoining pair of which respectively serve as the attaching element and as the support for a fold-down shelf or seat, and the other pair of said components jointly constituting the brace therefor; a retractable spring biased sliding outlet carried by one of the last mentioned components and operative to engage an outlet projection from the other of said components to rigidly interlock them when in aligned extension; and means effective to cover the knuckle joint articulating the first mentioned adjoining pair of the brace components.

2. The invention of claim 1 wherein the lower brace component consists of a sheet metal element embodying a medially located knuckle at each end respectively for operative coaction with the registerable knuckles of the bracket attaching element and the associated upper brace component; wherein said lower brace component includes laterally-spaced and media!y-located slots respectively of greater and lesser length; and wherein said lower component further includes a centrally located hole proximate one of its knuckles for securing therein of a suitable spring anchorage.

3. The invention of claim 1 wherein the upper brace component consists of a sheet metal element embodying a medially located knuckle at one end for operative coaction with the relatively-inclined spaced knuckles of the seat or shelf supporting component; wherein spaced knuckles at the other end of the brace component aforesaid similarly coact with the registerable knuckle of the lower brace component; and wherein said upper brace component includes laterally spaced slots with a partially intervening pad or tongue having its tip adapted for snap engagement with the bracket brace catch means.

4. The invention of claim 1 wherein the catch means comprises a shank having a button-head at one end and a spaced base defining thereon of an intervening neck; wherein a grooved sheave is rigidly attached to the shank end; wherein a suitable spring in compression attached to the lower brace component includes an indent, seating in the neck of the headed-member, normally forces the catch means into engagement with the tip of an extension tongue on the upper brace component whereby the bracket brace as a whole is maintained rigid when in active position.

5. The invention, according to claim 1, wherein the catch means includes a stud having a shank passed through a central longitudinal guide slot in one of the braced components, a head at one end of the shank to engage over a central tongue projection on the other brace component extending beyond the knuckle joint which connects the two components, and a circumferentially grooved enlargement at the opposite end of the shank; and wherein the biasing spring is in the form of a wire loop having indentations at diametrically opposite points, one to engage within the circumferential groove of the enlargement on the stud shank, and the other to pass through a fixed anchorage stud on the first mentioned brace component in line with, but spaced from the guide slot aforesaid.

6. A collapsible brace bracket for a fold-down shelf or seat hingedly connected to an upright surface, said bracket comprising a pair of knuckle jointed components whereof the distal
ends are pivotally connected to the shelf or seat and to the wall surface respectively beyond the hinge axis; a stop extension projecting from one of the components beyond the knuckle joint into engagement with one side of the other component to determine alignment of the two components when extended; and a retractable spring biased slide catch constrained to movement longitudinally of the last mentioned component and adapted to engage over the stop extension of the first mentioned component as and for the purpose described.

ALFRED B. BELL.

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