Dec. 18, 1934. H. L. SNYDER 1,984,602

FOLDING BRACKET

Filed July 11, 1931

Fig. 1.

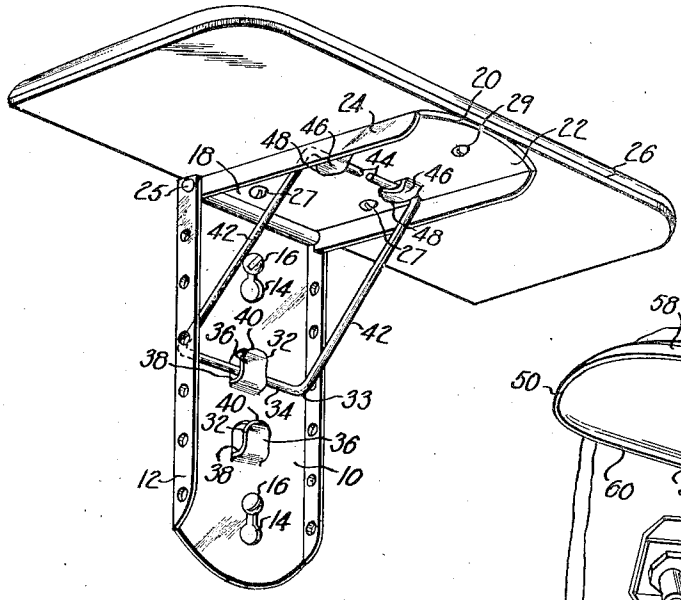


Fig. 2.

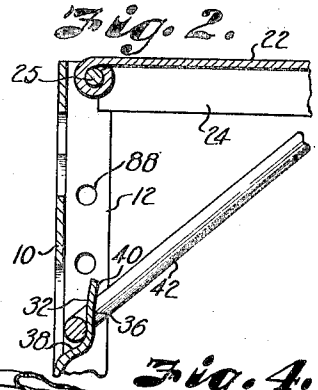


Fig. 4.

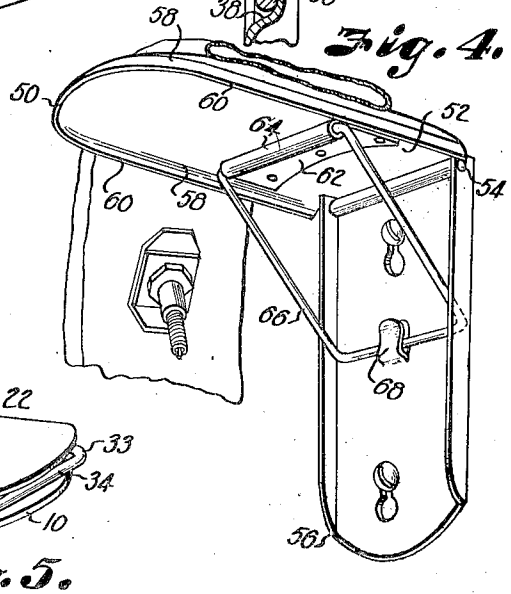


Fig. 3.

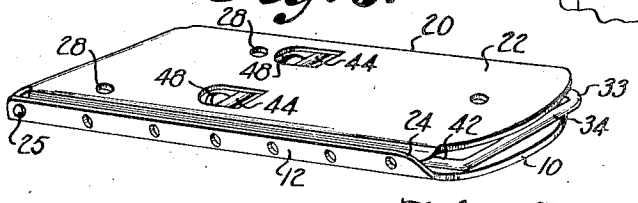
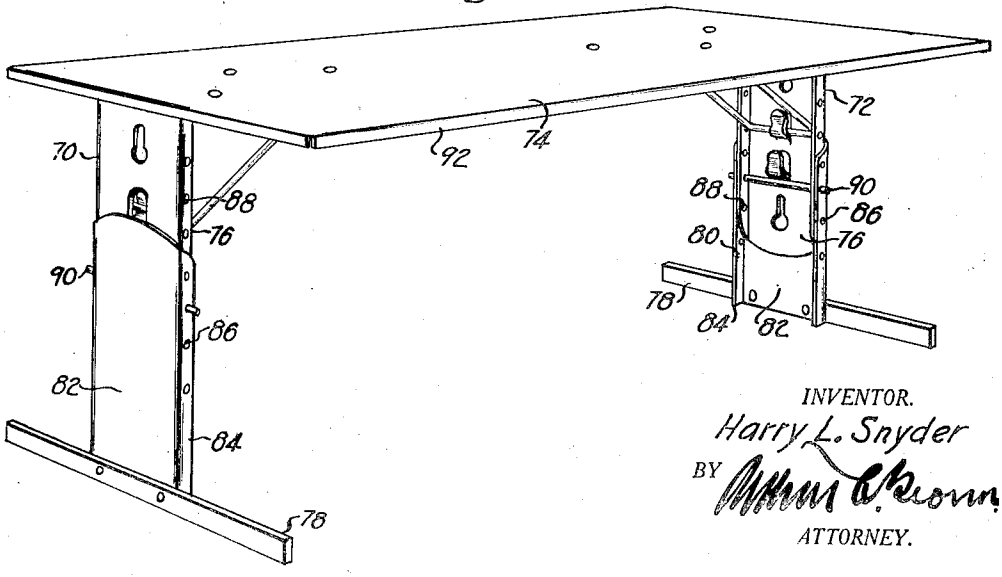


Fig. 5.



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FOLDING BRACKET

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3 Claims. (Cl. 248—19)

This invention relates to brackets and more particularly to shelves, tables and the like having collapsible supporting legs.

The principal objects of this invention are to increase the strength and broaden the uses of folding brackets with or without attached shelves, and to nest bracket portions in compact form when the devices are folded.

In accomplishing these and other objects of the invention, I have provided improved details of structure, the preferred form of which is illustrated in the accompanying drawing, wherein:

Fig. 1 is a perspective view of a bracket and shelf constructed in accordance with this invention, shown mounted on a wall in functioning position.

Fig. 2 is a longitudinal fragmentary vertical section illustrating the hinged relations of the supporting leg and lateral arm of the bracket, and a retainer-engaging hook.

Fig. 3 is a perspective view of the bracket in folded position.

Fig. 4 is a perspective view of a modified form of the bracket adapted to support a tube for buffing.

Fig. 5 is a perspective view of a table comprising a display shelf having extensible supporting bracket legs.

Referring more in detail to the drawing:

10 designates a base or support comprising preferably an elongated sheet metal plate having edges bent to form longitudinal edge flanges 12 and provide a rigid channel-like bracket leg.

The plate is provided with openings 14, shown aligned on the median line of the web of the channel and having keyhole form for mounting the plate on supporting means such as the projecting ends of screws 16 fixed in a wall.

The upper end portions of the flanges 12 have end edges registering with the upper end edges of the channel web to provide a housing for the inner end portion 18 of a shelf-like bracket arm 20 hinged to the flanges. The arm may be supported in angular relation with the leg as presently described.

The bracket arm 20 comprises preferably an elongated sheet metal plate including a web 22 and longitudinal edge flanges 24 forming a channel-like bracket branch similar to the leg 10. The end portion 18 of the arm consists of the inner end of the web 22 extended beyond the inner end edges of the flanges 24, and preferably rolled to provide a cylindrical loop. A hinge pin 25 mounted in the loop has stud-like ends mounted in apertures in the upper end portions of the leg flanges for pivotally connecting the inner end of the bracket arm with the leg.

The arm has less width than the space between the leg flanges, and the ends of the hinge are located at points spaced slightly outwardly or forwardly from the longitudinal center lines of the leg flanges, whereby the arcuate end edge portion 18 of the arm is spaced from the web of the leg to permit the arm to move freely pivotally on the leg into and out of nested and angular relation with the leg. The flanges 12 and 24 are symmetrical and have substantially equal height so that when the arm is hinged into folded relation with the leg, the arm flanges may engage the leg web, and the web of the arm will lie substantially in the plane of the outer edges of the leg flanges and parallel with the leg web as shown in Fig. 3.

The arm may pivot upwardly into substantially aligned relation with the leg, but the arm web will extend in a plane spaced from the web of the leg, and may incline slightly rearwardly before the web of the arm encounters and is stopped by the upper end edge of the leg web, due to the forwardly offset location of the hinge pin in the leg flanges.

A shelf or plate 26 may be fixed to the upper surface of the arm by suitable means, with the rear edge of the shelf located adjacent the inner ends of the arm flanges.

Attention is called to the fact that the leg and arm plates have substantial width, several times the width of an ordinary bracket, to provide a broad shelf support affording extensive lateral bearing area for the shelf. The relatively great width of the arm also affords opportunity for applying fastening means at points spaced substantially laterally, for example welds in the case of a metal shelf plate, and screws 27 mounted in apertures 28 in the arm in the case of a board shelf as shown in the drawing. A pair of the fasteners 27 are arranged transversely and located adjacent and differentially spaced from the inner end of the arm as shown, and a further fastener such as a screw 29 is installed in the front portion of the arm, the fasteners therefore being in staggered relation, to distribute strains.

The bracket arm and shelf may be pivoted into vertical upwardly extending position to lie against the wall, and may be hinged downwardly to seat the arm in the leg channel whereupon the shelf will extend vertically and slightly spaced from the wall substantially by the height of the leg flanges.

The shelf may extend vertically upwardly in a plane slightly offset from the plane of the leg

plates, even in the case of a board having substantial thickness, due to the offset position of the hinge.

The means above referred to for supporting the bracket arm in angular relation with the leg includes a clip-like prong or hook 32 preferably outstruck from the web of the leg to provide an anchor, and a retaining member 33 hinged to the arm and having a straight transverse end portion 34 engageable with the hook to limit pivotal movement of the arm.

A plurality of hooks 32 are preferably formed on the median line of the leg especially when the bracket is to be provided with a shelf as shown in Fig. 1, and include upwardly outwardly inclined neck portions 36 having arcuate seats 38, and resilient lips 40 inclined outwardly from the necks to space the lips from the web and afford easy access for the end edge 34 of the retainer to the seat of one of the hooks. The curved seats and lips yieldingly latch the retainer in arm-supporting position.

The retainer may be seated in any of the hooks to cause the arm and shelf to extend at a desired inclination with respect to the leg, and provide a horizontal or sloping shelf.

The retainer preferably is rectangular and comprises a wire bent to form parallel side branches 42 and a connecting bar comprising the hook-engaging end edge portion 34 of the retainer, and having trunnion-like oppositely bent ends 44 journaled in one or more clip-like hooks 46 downstruck from the web of the arm. The clips 46 are formed similarly to the hooks 32, having arcuate seats for the loop ends, but have lips 48 bent toward the arm web to retain the loop ends 44.

Attention is called to the location of the arm clips in laterally spaced relation at points spaced a slightly greater distance from the inner end of the arm than the spacing of the leg hook from the upper end of the leg. The arm clips may therefore lie on opposite sides of the leg hook when the bracket is folded, and the journal-forming clip seats will lie below the hook to prevent engagement of the clip seats and loop ends with the leg hook.

The lower leg hook shown in Fig. 1 will extend between the branches of the loop when the bracket is folded, and the loop will lie flat against the arm web enclosed by the arm flanges, to permit the arm flanges to engage the web of the leg.

The corners and ends of the arm and leg webs are curved, and the free end of the retaining loop lies at the extreme ends of the folded arm and leg, the corners of the retainer being exposed.

Fig. 4 illustrates an adaptation of the invention to provide a tube buffing shelf, comprising a modified form of bracket including an arm plate or web 50 having an inner end edge portion 52 rolled and mounted on a hinge pin 54 at the upper end of a bracket leg 56 similarly to the mounting of the bracket arm 20 as shown in Figs. 1, 2 and 3. The plate 50 is arcuate, and has downbent edges 58 extended laterally to provide depending flanges having upper faces continuing the curve of the plate, and projecting over the leg flanges and substantial distances from each side of said leg flanges.

The marginal portions 60 of the edge flanges 58 are further bent into substantially perpendicular relation with the general plane of the plate 50 to provide a depending rim or smooth edge portion for the plate. The flanges 58 and rim 60 have together substantially the same height or width as the leg flanges.

The plate 50 may have any desired contour for accommodating work, and as shown in Fig. 4, has an outer end curved downwardly, and the rim extends along the sides and end of the plate, to form a surface on which an inner tube may be laid for buffing the tube.

The lower face of the plate 50 is also curved, and since it is desirable in the use described to provide a smooth imperforate upper face for the plate, a bracket 62 is preferably fixed to the lower face of the plate by suitable means such as welding, and a cylindrical journal member 64 is fixed to the bracket for mounting a retaining loop 66 on the plate to engage a hook 68 on the leg.

Fig. 5 illustrates a further elaboration of the invention, wherein a pair of brackets 70 and 72 constructed substantially as in Fig. 1, have arms fixed to the lower surface of a display shelf 74 comprising a table or bench top, and at opposite ends of the top, and channel-like legs 76 adapted to support the top. The legs are provided with means for stabilizing the table against lateral tipping, including elongated laterally extending footing members 78.

The footing members are preferably fixed to the lower ends of leg extensions 80 comprising channel-like members having webs 82 and longitudinally spaced openings 86 registerable with similar openings 88 formed in the flanges of the bracket legs. The bracket legs are slidable in the channels of the extensions and rods 90 may be moved through registering openings of the leg and extension flanges for supporting the brackets and table top at desired elevations.

The top is provided with edge flanges or rails 92 forming a channel in which the legs may lie when folded.

In using the invention a shelf may be fixed to a bracket arm and the arm nested in the leg for storage or transportation. The leg may be mounted on a vertical surface, for example on fixed screws, and the bracket arm extended to provide a support.

The width of the bracket arm enables it to serve as a shelf, and further provides sufficient lateral bearing area so that a single bracket may securely support a shelf having end portions extending substantial distances laterally from the bracket, and anchored by the substantially spaced transversely arranged fasteners. The bracket has utility for many services where two or more ordinary brackets would be required, and may be used for mounting a shelf securely in positions where two ordinary brackets could not be employed.

The extensive area of the bracket plates also enhances the utility of the bracket arm when shaped to serve as an anvil or buffer arm. The bracket may be mounted on a leg or side of a bench or desk, and the folding buffer arm be extended to support work. The width of the supporting leg enables it to brace and firmly support the broad arm.

It is apparent that the bracket may be applied to many uses, particularly where a removable support is desired that may be stored when not in use, and may be folded to be stored.

Two or more brackets may be fixed to a board and provided with extensions to form telescoping adjustable legs and wherein the legs will nest with the bracket arms and enclose the retaining loops when the table is folded.

Tables constructed as described may have any desired form, and will be useful for many pur-

poses, such as service tables for invalids, picnic benches, and racks for displaying merchandise. When formed to serve as display racks, two or more may be built up to provide a stack of racks, one standing upon another, and may be folded into small compass for storage.

What I claim and desire to secure by Letters Patent is:

1. In a device of the character described, a bracket including a leg comprising a plate having longitudinal edge flanges forming a channel and provided with resilient outstruck prongs located between said flanges and inclined toward the upper end of the plate, an arm comprising a plate having longitudinal edge flanges and provided with outstruck prongs inclined toward the inner end of said arm to limit the height of said prongs from the plate, means at the upper end of said leg for hingedly mounting the inner end of said arm on the flanges of the leg, and a wire bent to form a loop having one end pivotally mounted on the prongs of said arm and an opposite end portion engageable in a selected one of said prongs on the leg for supporting the arm in angular relation with the leg, a shelf, and means for securing the shelf to said arm.

2. A folding bracket comprising a wall member having flanges located along its opposite side edges, a shelf member having downwardly extending side flanges hinged between the side flanges of the wall member, a loop member having inwardly bent ends, clip means on the shelf member and cooperating with the flanges thereon to secure and retain said ends of the loop member in engagement with the shelf member, and a resilient tongue on the wall member for frictionally engaging the loop member to prevent accidental pivotal movement of the shelf member in either direction from its adjusted position when the loop member is engaged by said resilient tongue.

3. A folding bracket comprising a wall member having flanges located along its opposite side edges, a shelf member curved to form a work support and having downwardly extending flanges at opposite sides of the work support and hinged to the flanges of the wall member, a loop member having inwardly bent ends, clip means secured to the curved shelf member between the flanges thereof and cooperating with said flanges to secure and retain the ends of the loop member, and a resilient tongue on the wall member for frictionally engaging the loop member to prevent accidental pivotal movement of the shelf member in either direction from its adjusted position when the loop member is engaged by said resilient tongue.

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