June 14, 1949. C. O. LARSON 2,473,342

FOLDING SAWHORSE

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Fig. 1.

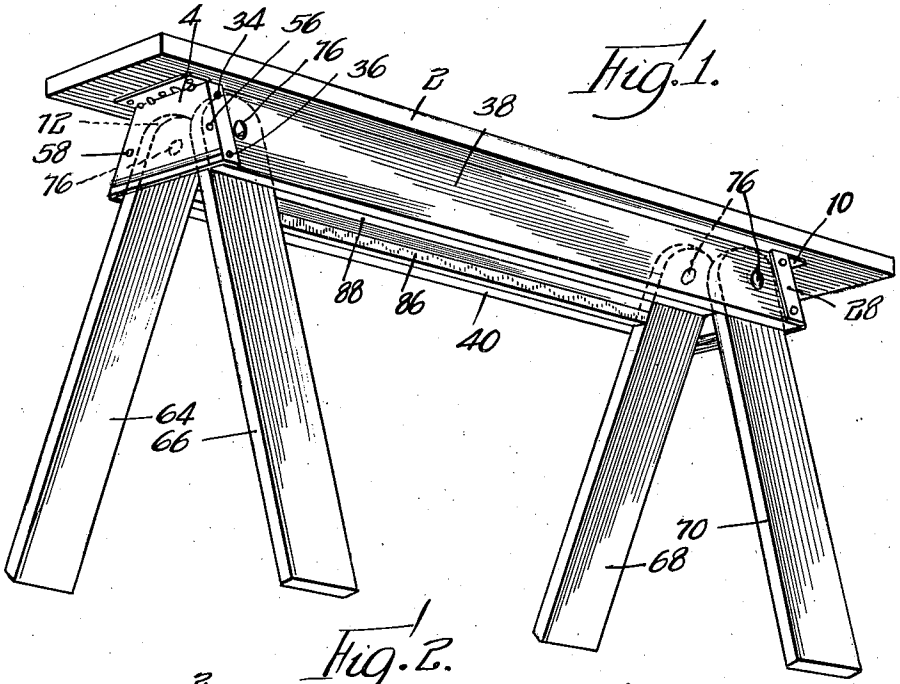


Fig. 2.

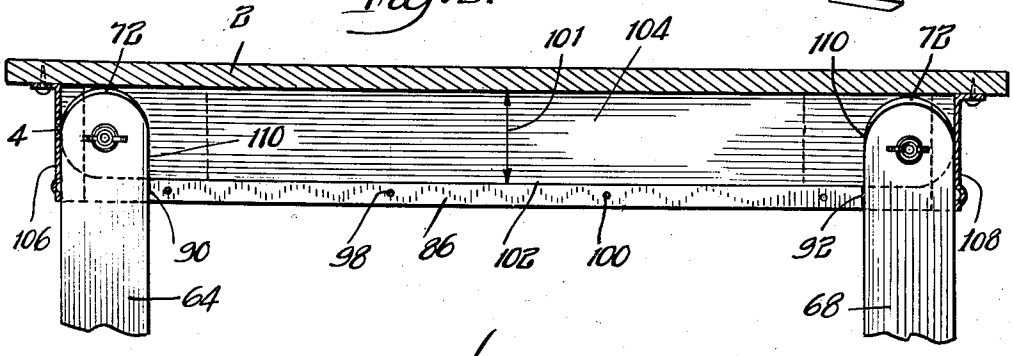
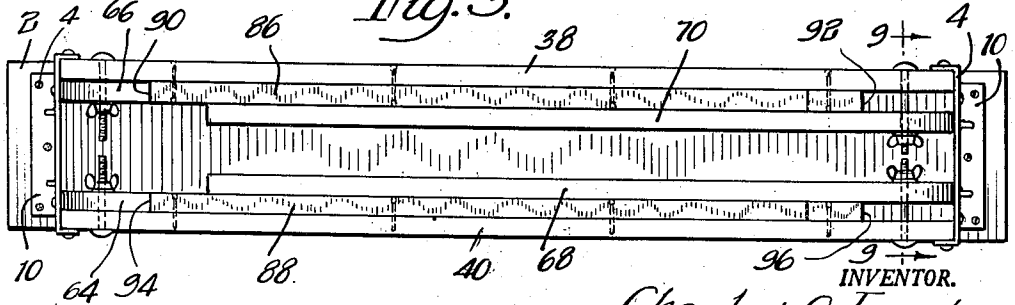


Fig. 3.



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Fig. 4.

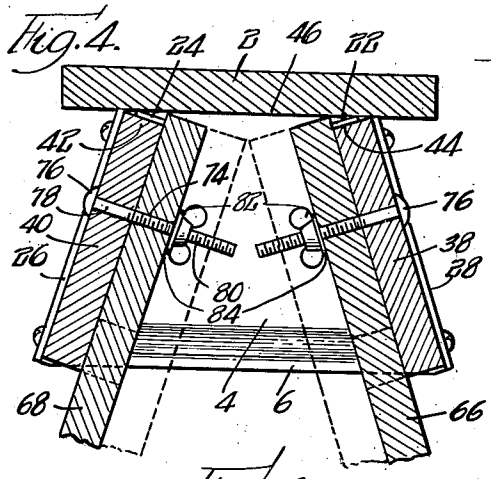


Fig. 5.

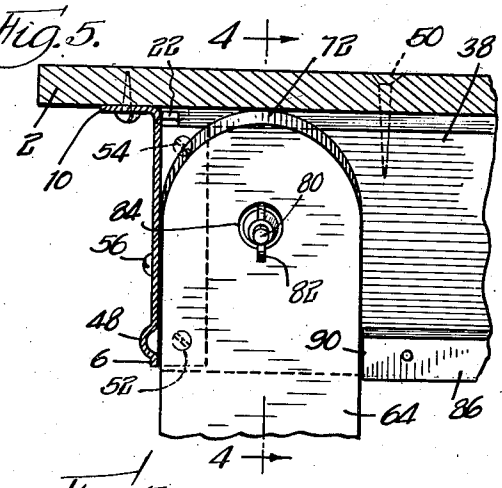


Fig. 6.

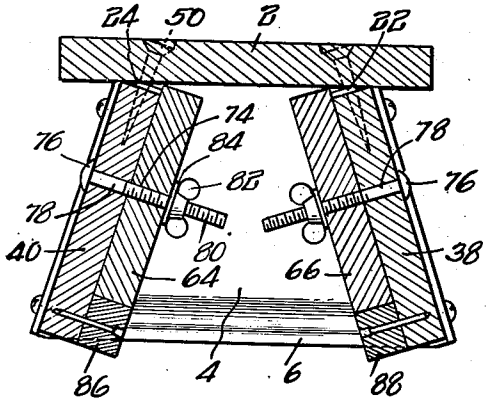


Fig. 7.

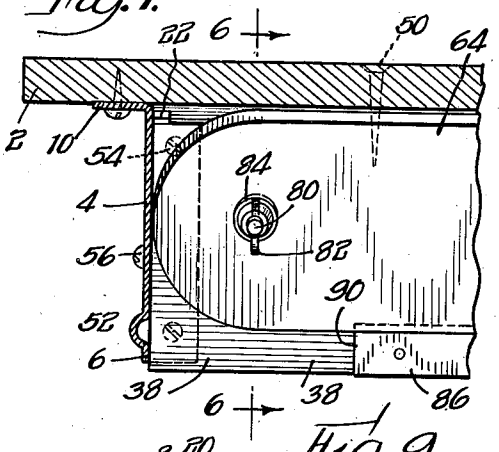


Fig. 8.

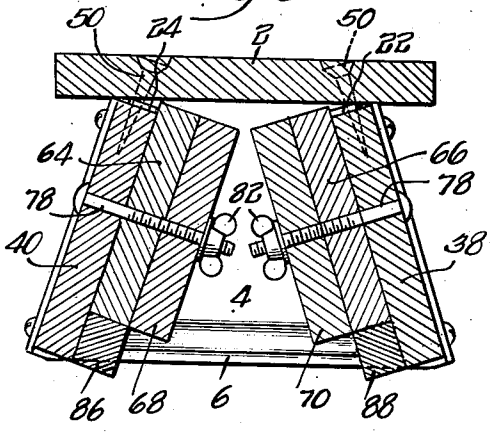
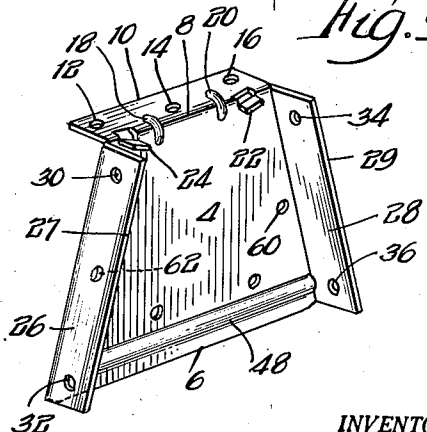


Fig. 9.



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FOLDING SAWHORSE

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Application May 17, 1946, Serial No. 670,569

9 Claims. (Cl. 304—5)

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This invention relates to a folding saw horse made of precut boards and held together in open assembled position by means of prefabricated hardware in such a manner that when supplied with the hardware, and following simple directions for cutting any suitable thickness of lumber into prescribed dimensional forms, the foldable saw horse can be made and assembled with minimum of effort and cost.

One of the objects of the present invention, therefore, is to provide a foldable saw horse of the foregoing character comprising a pair of end rigidifying plates or brackets to which a transversely disposed top board may be secured and to which generally converging, angularly disposed, spaced apart boards may likewise be secured to provide rigidifying side cross members and to which may be pivoted four legs, by means of elongated bolts and wing nuts, in a manner such that the four legs are adapted to fold compactly and snugly between and within the two end brackets, the top board and the two elongated side boards, or alternatively, upon loosening the wing nuts, the four legs may be swung to right angle position with respect to the side boards and the top board to provide legs, and in which position said legs may be supportingly confined between the metallic end brackets and strip members secured to the spaced confronting inner walls of said elongated rigidifying side boards, whereby to hold the pivotal legs in open position.

Yet another object of the present invention is to provide a saw horse wherein the metallic spaced end brackets are provided with inwardly extending slots forming tongues which form spaced abutments for receiving and spacing the rigidifying end boards at the correct angle with respect to the top board by means of which the legs when in open position are projected at predetermined divergent positions with respect to the top board so as to support and hold the top board securely and firmly with respect to the ground for the support.

These and other objects of the invention will be apparent from a perusal of the following specification when taken in connection with the accompanying drawings, wherein:

Figure 1 shows a perspective view taken from somewhat below the underside of the foldable saw horse when in open position;

Figure 2 is a side view, partly in section, showing the legs both in folded and open position;

Figure 3 is an underside view of the legs in folded position;

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Figure 4 is a sectional view taken on the line 4—4 of Figure 5;

Figure 5 is a side view of one end of the saw horse showing the strips and the rigidifying end brackets in association with an open leg;

Figure 6 is a view taken on the line 6—6 of Figure 7;

Figure 7 is a view of Figure 6 with the legs folded;

Figure 8 is a sectional view showing both legs folded; and

Figure 9 is a perspective view of one of the metallic end brackets.

Referring now to the drawings in detail, the saw horse comprises in general a top plank or board 2 which is of relatively long dimensions compared with its width. It is preferably three-fourths inch lumber, but obviously can be lumber of any dimension. To the underside of this top 2 are affixed by means of screws or nails a pair of metallic end brackets, such for instance as shown in Figure 9. These brackets are each formed of sheet metal and are formed to provide a flat main portion 4 having a basal edge 6 which is relatively wide compared to its upper edge 8. The upper edge 8 is provided with a flange 10 bent at right angles and provided with openings 12, 14 and 16 to receive screws or nails, whereby the flange 10 may be secured to the underside of the top 2 as shown in Figure 1. In addition, the upper edge of the portion 4 and its junction with the flange 10 are provided with rigidifying bosses 18 and 20. So also the junction of the portion 4 and the flange 10 is provided with struck out tongues 22 and 24 which extend inwardly in a direction opposed to the direction of projection of the flange 10. These tongues 22 and 24 will be referred to later. In addition, the main body portion 4 is provided with a pair of flanges 26 and 28 which extend outwardly in a divergent manner in the same direction as shown in Figure 9. These flanges are provided with holes 30, 32, 34 and 36 whereby they are secured as shown in Figure 1 to the ends of side boards 38 and 40. These side boards 38 and 40 extend the entire distance between the two end brackets 4, and the inner edges 42 and 44 of these side boards, see Figure 4, are accurately positioned with respect to the top 2 by means of the tongues 22 and 24, which, as shown, are formed on a slight angle with respect to the bottom edge 46 of the top 2. This angle is predetermined in the formation of the tongues 22 and 24 so that they are given the correct canting position with respect to the upper edge 8 of the main body portion of the bracket, as shown in

Figure 9. The plane of the tongues 22 and 24 is formed at right angles to the outer edges 27 and 29 of the flanges 26 and 28 so that the side boards 38 and 40 are thus snugly confined and positioned by means of these tongues 22 and 24 and the flanges 26 and 28. In addition, the bottom edge 6 of the body portion 4 of the bracket is provided with an elongated boss 48 which lies preferably parallel to the lower edge 6 thereof to rigidify the same. Screws or other fastening means 50 pass down through the top portion of the top along its longitudinal edges and are secured to the top edge portions 42 of the elongated side boards 38 and 40. There may be three of these screws which pass through each top 2, thereby securing the side boards in three spaced places along its length. Screws 52 and 54 pass through the openings 30, 32, 34 and 36 of the flanges 26 and 28 and into the end side walls of the side planks 38 and 40. In addition, screws 56 and 58, see Figure 1, pass through the holes 60 and 62 in the body portion 4 and enter the ends of these side strips 38 and 40. By means of these various screws the rigidifying metallic end caps are secured to the underside of the top and to the ends of the side strips 38 and 40, and the side strips themselves are securely fastened at spaced positions along the top and to the underside thereof and also to the end caps thereby making a rigidified structure for receiving and supporting the foldable legs.

The legs comprise suitably formed, relatively narrow lumber sawed to predetermined length. These legs are indicated at 64, 66, 68 and 70. At their top edges they are rounded as at 72 and are provided with openings 74 for the reception of an elongated bolt. Each bolt comprises a head portion 76, an elongated shaft portion 78 and a threaded portion 80 to receive a wing nut 82 and preferably a washer 84. The heads project through openings formed in the ends of the side boards 38 and 40 and the upper smooth rounded ends of the legs are pivoted on these bolts and are threadedly held in position by means of washers and the wing nuts.

Intermediate the ends of the side supports 38 and 40 there are fastened a series of relatively shorter strips 86 and 88 which have their ends terminating as at 90, 92, 94 and 96. These strips are nailed or screwed as at 98 and 100 to the lower edges of these side boards 38 and 40. The distance, such as 101, Figure 2, between the underside of the top 2 and the upper wall 102 of the strips 86 is slightly wider than the width 104 of each leg, whereby upon loosening of the wing nuts, two of the sets of legs may be folded inwardly and lie snugly against the inner walls of the side boards 38 and 40 with one longitudinal edge of the legs resting upon the upper surface of the strips, in which position the wing nuts may be tightened to hold one pair of legs in such folded position. The other pair of legs is then folded to lie within the top and the side board structure and overlies the inwardly folded legs, in which position, by tightening the nuts, the second pair of legs may be held in completely folded position.

When the legs are unfolded and moved to outwardly supported position, the inner flat walls of the upper portions of the legs lie snugly and flatly against the divergently, outwardly extending ends of the side boards 38 and 40, one longitudinal edge of the leg resting against the inner wall 106, 108 of the bracket members and the opposite edge, such as 110 lying against the ends 90 or 92 of the strips 86 et seq., in which position

the wing nuts are tightened whereby to hold the legs securely in this position, the same being rigidified by the ends of the strips and the confronting spaced inner walls of the body portion 4 of the brackets.

Obviously the invention is not limited to the specific details of construction disclosed herein but is capable of other modifications and changes without departing from the spirit and scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A foldable saw horse comprising a top, a pair of rigid brackets each comprising an end plate disposed at right angles to the ends of the underside of the top, each bracket having sides diverging from the bottom inwardly toward the top and formed with normally extending flanges disposed in a direction such that the flanges of each of the end plates extend toward each other, the upper edge of the body portion of each bracket being provided with a laterally extending flange lying normally to the top edge of the bracket and extending directly oppositely to the direction of projection of the flanges of said bracket, means for securing one each of said last mentioned laterally extending flanges to the underside of an end of the top member, a pair of rigidifying side boards, said boards having their ends lying inwardly of the flanges of the end plates and secured thereto with the ends of the boards lying snugly against the diverging portions of the end walls of the plates, two pairs of legs, a single pivotal means for pivotally mounting a pair of legs to each end portion of the side boards, each pivotal means being disposed normal to the plane of said adjacent side board and said legs being shiftable angularly from a position wherein said legs fold substantially parallel to each adjacent side board and snugly within the boundary of the lower edge of said adjacent side board and said top board to a position where said legs project outwardly at right angles to the longitudinal axis of the side boards and at right angles to the top board, means for holding said side boards in divergent relation with respect to each other and with respect to said top and said bracket, and means for securing said legs in open position with their upper ends lying snugly and substantially flat against the inner walls of said side boards whereby said legs are maintained in open divergent position with their bottoms at greater spaced distances than their tops.

2. A foldable saw horse comprising a horizontal top member and a pair of rigid plates each having upper edge flanges secured to the undersides of said top at the ends thereof and having normally disposed downwardly extending flat portions which flat portions have divergent, oppositely, outwardly extending edges forming a pair of laterally extending flanges extending normally to the plane of the flat portion of the plates, each said bracket having inwardly extending slotted members providing tongues disposed diagonally to the upper flange of said bracket and at right angles to the side flanges of said bracket providing a seat, a pair of elongated side rigidifying boards having their ends secured flat to the inner sides of said flanges and with the upper portions of the ends of said side boards lying upon and positioned by said tongues at divergent angles to said top board and flat against said side flanges of said bracket, and a pair of legs pivotally mounted at their upper ends between and to the opposed

ends of each of said side boards, said legs being shiftable from a folded position within the boundary of said side boards and top to a position extending outwardly and lying flat in snugly divergent relation against the inner walls of said side boards, and means carried by the inner walls of said side boards and spaced from the inner walls of said brackets for supporting said legs in open position.

3. A foldable saw horse comprising a horizontal top member and a pair of rigid plates having upper edge flanges secured to the undersides of said top and having at right angles thereto downwardly extending flat portions which flat portions have outwardly extending edges forming laterally extending flanges, each said plate having inwardly extending slotted members providing tongues disposed diagonally to the upper flange of said plate and at right angles to the side flanges of said plate providing a seat, a pair of elongated side rigidifying boards having their ends secured to the inner sides of said flanges and with the upper portions of the ends of said side boards lying upon and positioned by said tongues at divergent angles to said top board and flat against said side flanges of said plate, and a pair of legs pivotally mounted between and to the opposed ends of each of said side boards, said legs being shiftable from a folded position within the boundary of said side boards and top to a position extending outwardly and lying in snugly divergent relation against the inner walls of said side boards, the pivotal means for said legs comprising elongated bolts passing through said side boards and openings in the upper portions of said legs, the axes of said bolts lying normal to the plane of the side boards through which said elongated bolts pass, and means for holding the legs in folded or open position.

4. A metallic bracket for a foldable saw horse comprising a sheet metal member having a plate-like portion formed in a single plane said plate having a relatively broad basal edge and a narrower upper opposed edge, said plate-like portion having normally extending flanges which extend in the same direction and which flanges converge from the broader basal edge to the shorter opposed edge, said flanges being suitably perforated to receive fastening means, the upper shorter edge of said plate-like portion having a third flange extending in a direction opposite to the first mentioned flanges and lying normally to the plane of said plate-like portion, said third flange having openings for the reception of securing means and having tongues formed in the metal substantially at the junction of said third flange and the upper edge of the plate-like portion, said tongues extending angularly with respect to the upper edge of the plate-like portion and lying normally to the planes of the first two mentioned flanges.

5. A metallic bracket for a foldable saw horse comprising a sheet metal member having a plate-like body portion formed in a single plane and having a relatively broad basal edge and a narrower opposed edge, said body portion having normally extending flanges which converge from the broader basal edge to the shorter opposed edge, said flanges extending in the same direction and being suitably perforated to receive fastening means, the upper shorter edge of said body portion having a third flange extending in a direction opposite to the first mentioned flanges and lying normally to the plane

of said body portion, said third flange having openings for the reception of securing means and having tongues formed in the metal substantially at the junction of said third flange and the upper edge of the body portion, said tongues extending angularly with respect to the upper edge of the body portion and lying normally to the planes of the first two mentioned flanges, the junction of said third flange and said body portion having reinforcing bosses disposed between said tongues.

6. A rigidifying bracket for a foldable saw horse comprising a single integral rigid member having a plate-like main body portion having upper and lower parallel edges, the upper edge being shorter than the lower edge whereby to provide converging side walls, said walls having integral flanges extending in the same direction and normal to the plane of said main plate-like body portion, the upper shorter edge of said plate-like body portion having an integral flange extending likewise normally to the plane of said body portion but extending in a direction opposite to the direction of said first mentioned flanges, said flanges being provided with openings for the reception of fastening members.

7. A rigidifying bracket for a foldable saw horse comprising a single integral rigid member having a plate-like main body portion formed in a single plane and having upper and lower parallel edges, the upper edges being shorter than the lower edge whereby to provide converging side walls, said side walls having integral flanges extending in the same direction and normal to the plane of said main plate-like body portion, the upper shorter edge of said plate-like body portion having an integral flange extending likewise normally to the plane of said body portion but extending in a direction opposite to the direction of said first mentioned flanges, said flanges being provided with openings for the reception of fastening members, the bottom longer edge of said plate-like portion being provided with an elongated rigidifying boss and the upper shorter edge of said plate-like portion being provided with spaced struck-out bosses lying at the junction of the upper edge and the flange formed integrally therewith, said struck-out bosses extending across said upper edge, and said upper edge adjacent said third flange being formed with a pair of spaced apart tongues extending oppositely to the direction of said third flange and lying between said flanges, said spaced tongues being formed at a slight angle with respect to the plane of said third flange.

8. A foldable sawhorse comprising a top member, two side members mounted below and fastened to said top member and extending the length thereof, the sides of said side members converging toward said top member, and four legs disposed in pairs near the ends of said side members, said legs being individually mounted and individually pivotable on said side boards.

9. A foldable saw horse comprising two side members, a top member overlying said side members and extending beyond the ends thereof, the sides of said side members converging toward said top member, bracket means joining said side members and said top member, and four legs disposed in pairs near the end of said side members, said legs being individually mounted and individually pivotable on said side boards.

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(References on following page)

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
467,081	Church	Jan. 12, 1892
538,748	Schroder et al.	May 7, 1895
1,465,947	Oetzel	Aug. 28, 1923
1,778,566	Pitner	Oct. 14, 1930
1,908,858	O'Kane et al.	May 16, 1933
2,174,952	Spikings	Oct. 3, 1939
2,197,187	Larson	Apr. 16, 1940
2,396,737	Maclaskey	Mar. 19, 1946
2,412,395	Goosmann	Dec. 10, 1946
2,412,764	Beasley	Dec. 17, 1946