May 19, 1953 J. L. CHELSEA 2,639,197

PORTABLE SAWHORSE

Filed March 11, 1950

Fig. 1.

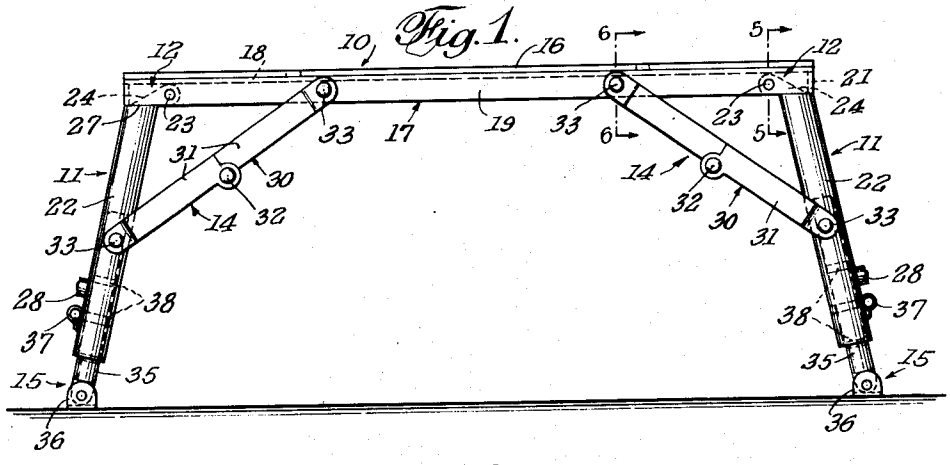


Fig. 2.

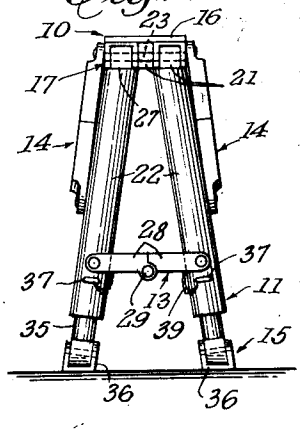


Fig. 5.

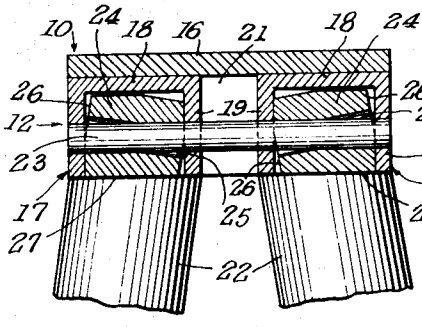


Fig. 6.

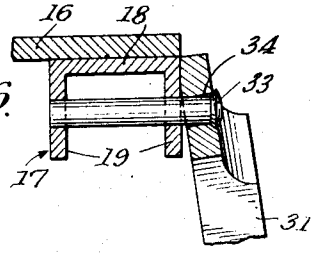


Fig. 3.

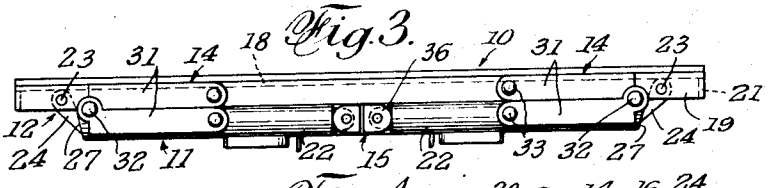
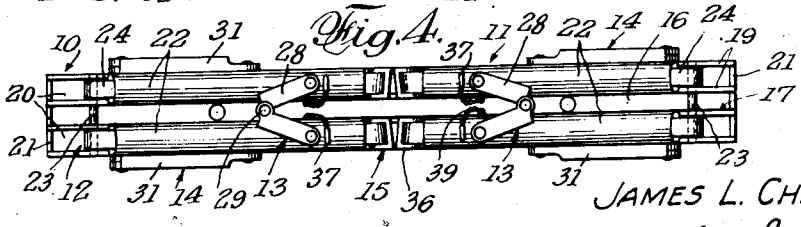


Fig. 4.



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PORTABLE SAWHORSE

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3 Claims. (Cl. 304—6)

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This invention relates to a foldable sawhorse or trestle, the same being, thereby, readily portable.

An object of the present invention is to provide a sawhorse in which the support legs have the usual spread arrangement providing a large and stable support base, the sawhorse being so formed that the support legs are foldable against the table or beam that connects them so that the same is compact for easy portability.

Another object of the invention is to provide a sawhorse, as above, in which the support legs are extensible to adjust the height of the same, thereby enabling use of the device as a trestle or staging.

Another object of the invention is to provide novel hinge means whereby the support legs of the sawhorse are readily movable between an angularly spread erected position and a folded position wherein all of the legs are in parallelism.

The invention also has for its objects to provide such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description. However, the drawings merely show and the following description merely describes one embodiment of the present invention, which is given by way of illustration or example only.

In the drawings, like reference characters designate similar parts in the several views.

Fig. 1 is a side elevational view of a sawhorse, according to the present invention.

Fig. 2 is an end view thereof.

Fig. 3 is a side view thereof in folded condition.

Fig. 4 is a bottom view of the folded sawhorse.

Figs. 5 and 6 are enlarged cross-sectional views on the respective lines 5—5 and 6—6 of Fig. 1.

The sawhorse that is illustrated comprises, generally, a table or beam 10, foldable support means 11 at each end of said table or beam, novel hinge means 12 connecting the support means to the table or beam, foldable brace means 13 interbracing the support means, foldable brace means 14 bracing the support means to the table or beam, and extensible foot means 15 for the support means.

The table 10 comprises an elongated beam formed to have a top plate 16 and two longitudinally arranged channel members 17 permanently affixed to said plate 16, as by rivets, welds,

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etc. The backs 18 of members 17 are placed against the under face of plate 16 so that the flanges 19 of said members extend downwardly, providing the table with two downwardly facing longitudinal channels 20. If desired, the ends of said channels 20 and the spaces between the channel members 17 at the ends of the table, are closed by end plates 21.

The support means 11 at each end of the sawhorse each comprises a pair of legs 22, in this case, shown as tubular members each somewhat shorter than one-half the length of table 10.

The hinge means 12, for each pair of legs 22, comprises a hinge pin 23 extending transversely through all four of the channel member flanges 19. The two pins 23 thus provided are located in slightly spaced adjacency to the ends of the table 10, as best seen in Fig. 1. Each leg 22 of each pair thereof is provided with an ear 24 affixed to the upper end of each leg. Each ear 24 is provided with a transverse bore 25 through which pin 23 extends.

In order to provide a stable base for the sawhorse, the support legs are formed to diverge as seen both from the sides and from the ends, the lower ends of the legs, thereby, defining a rectangular base considerably larger than the elongated rectangular form of table 10. Since the legs 22 are foldable on hinge means 12 to reside in parallel arrangement against the under side of the table, said hinge means are formed to permit limited transverse tilting of the support legs. To this end, each bore 25 is conically tapered from the middle of the bore to each side of ear 24, as best seen in Fig. 5. Also, since each ear resides in the channel 20 of each respective member 17 and is held against lateral movement by flanges 19 thereof, said ears are provided with chamfers 26 at the sides. In effect, said chamfers impart a convexly curved form to the sides of the ears that enable legs 22 to be swung from their folded parallel position to the diverging position shown particularly in Fig. 2. While there is some limited looseness in the hinge means 12 when the legs are folded, the same is immaterial. However, when the legs are erected, ears 24 firmly engage the inner faces of channel flanges 19 to lend rigidity to the structure.

The double angle at which each leg, when erected, is disposed, entails the formation of an angularly directed face 27 on the upper end of each leg 22 so that said face may properly abut bottom edge faces of channel flanges 19 as seen in Figs. 1 and 2.

The bore 25 in each ear 24 is offset from each respective leg 22, a distance substantially equal

to the distance between the bottom edges of the channel flanges 19 and hinge pins 23. Accordingly, said legs 22 may be swung from their erect position of Fig. 1 to the folded position of Fig. 3 to bring said legs beneath and against the under face of table 10, as shown.

Each pair of support legs 22 is provided with the foldable brace means 13, the same being preferably applied to the endward sides of said legs. Each brace means comprises a pair of links 28 connected by a pivot 29, the length of said brace being greater than the distance between the ears 24 of each pair of legs. It will be seen, as in Fig. 2, that said brace means 13 serves to spread the legs and firmly engage the ears 24 with the respective inner faces of channel flanges 19, as above stated. Thus lateral stability is imparted to the sawhorse by said brace means.

The brace means 14 comprises a foldable brace 30 that connects an intermediate point of each leg 22 with the outer flange 19 of table 10. Each brace 30 comprises a pair of links 31 connected by a pivot 32. Except for being longer, braces 30 are similar to braces 13. As seen in Fig. 6, the pivots 33 that connect links 31 to the table and legs are formed in a manner to allow limited looseness that enables the braces to follow the movement of the legs between folded and erected positions. The bores 34 for pivots 33 are, therefore, formed conical, as are the bores 25 of ears 24 to permit such accommodation of the braces. It will be seen that, in the erected position of the sawhorse, the braces 30 not only brace the structure against end sway but also aid braces 13 to eliminate lateral sway.

The compact and easily portable arrangement, as depicted in Figs. 3 and 4, is readily achieved by folding braces 13 and 14 and swinging the end pairs of legs to their closed or folded position. The folded sawhorse is, therefore, not materially larger than the table 10 and can be stored or transported in minimum space.

The extensible foot means 15 simply comprises a telescopic rod or tube 35 inserted into the lower end of each leg 22, a hinged foot 36 at the end of each rod, and a locking pin 37 inserted through each leg and selectively engaged in one of several holes 38 provided in each rod. The height of the sawhorse can, thereby be adjusted, as desired, the hinged feet 36 affording flat ground contact despite the angular disposition of legs 22. Pins 37 are preferably held captive to the respective legs by chains or cords 39.

While the invention that has been illustrated and described is now regarded as the preferred embodiment, the construction is, of course, subject to modifications without departing from the spirit and scope of the invention. It is, therefore, not desired to restrict the invention to the particular form of construction illustrated and described, but to cover all modifications that may fall within the scope of the appended claims.

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

1. A portable sawhorse comprising a table beam, a pair of transversely spaced channels arranged longitudinally along the bottom of said table beam, the flanges of said channels all being parallel both longitudinally and vertically, a transverse hinge pin adjacent each end of the sawhorse and extending in parallelism with the table beam through the four flanges of the pair of channels, an ear in each end of each channel and each having a bore formed to have a double conical flare from its middle part outward, the mentioned hinge pins extending through said bores, each ear having opposite faces directed toward the flanges of the channel in which it resides, said opposite faces having oppositely angled chamfer portions that provide each said ear with a thicker part across the bore and thinner parts thereabove and therebelow, said ears being swingable around the axes of said hinge pins and also transversely tiltable on said pins on the fulcrums provided by said middle parts of the conically flared bores, a rigid support leg extending from each said ear, said legs being arranged in pairs at the opposite ends of the sawhorse, a foldable brace connecting each pair of legs and said braces being longer than the space between the ears of each pair of support legs, said legs, thereby, being divergent and at an angle to the flanges of the mentioned channels, and the upper chamfer of one side of each ear and the lower chamfer of the opposite side having bearing engagement with the inner faces of the flanges of said channels during said divergent position of the legs.

2. A portable sawhorse according to claim 1: the bore in each ear being offset relative to the side of the support leg thereof that resides against the table beam when said leg is swung to folded position, the amount of said offset being substantially equal to the distance between the hinge pin and the lower edges of the flanges of the table beam.

3. In a sawhorse, a table beam, a pair of spaced longitudinal flanges extending at right angles downwardly from said beam, a hinge pin parallel to the table beam affixed in and extending between said flanges, a leg connected to said pin to swing from an erect position to a folded position against, between and parallel to said flanges, said leg having a transversely angled end face adapted, when the leg is erect, to abut the longitudinal edges of said flanges, an ear extending beyond the mentioned end face of the leg and having a transverse bore that is conically flared from the middle thereof to the opposite sides of the ear, said pin extending through the bore and the general axis of the bore being at an angle to the mentioned end face of the leg and parallel to a plane normal to the length of the leg, the opposite sides of the ear having chamfered faces, the greatest width between said faces being slightly less than the spacing of the flanges to freely fit between said flanges, the ear, above and below the bore, being narrower than said greatest width, and said chamfered faces, above and below said bore, engaging the spaced flanges to hold the leg erect and folded, selectively, as desired.

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