Clamp which allows adjustment of leg on seat frame

A clamp 34 comprises a first sleeve portion with a hollow having a central axis extending in a first direction, and a second sleeve portion 44 offset from the first with a hollow having a central axis extending in a second direction perpendicular to the first, with a clamp mechanism 46, 48 coupled to the second sleeve portion. The clamp may be incorporated into a seat frame of an angler’s seat box to allow adjustment of the legs (Fig. 1).
An angler's seat box clamp

The present invention relates to an angler's seat box clamp.

One previous construction of angler's seat box has legs of adjustable effective length which are located outwardly of the box. Clamps are attached to a base of the box, through which clamps slide respective legs. These legs are located on opposite sides of the box. The legs can be slid through the clamps and then, with the clamp tightened, held in a selected position so that the effective length of each leg can be adjusted, enabling the box to be level regardless of the unevenness of the ground on which it is placed. The box has drawers, which can be withdrawn from one face only of the box. This limits the number of drawers which can be opened at the same time.

The present invention seeks to provide an improved clamp which facilitates an increased number of drawers which can be opened simultaneously.

Accordingly, the present invention is directed to a clamp having a first sleeve portion with a hollow having a central axis extending in a first direction, and a second sleeve offset from the first and having a hollow with an axis which extends in a direction which is at right angles to that of the first sleeve portion, with a clamp mechanism coupled to the second sleeve portion. Such a clamp has the advantage that, when it is attached to free ends of a generally rectangular frame having its
longer sides extended slightly beyond the boundary of the rectangle, the first sleeve portion of such a clamp can be threaded on each such end and secured thereto. Such a clamp avoids the need for welding or punching of holes through the frame which may weaken it.

The present invention extends to such a frame having at least one such clamp attached to it in such a manner.

The present invention extends to an angler's seat box supported by such a frame, in which the box has at least two sides, from which drawers can be withdrawn along different respective directions, with at least one of the legs being positioned between two drawers when the latter are withdrawn from said two sides respectively, so as not to obstruct such withdrawal.

This increases the number of drawers which can be in an open condition at any one time.

An example of a seat box, a frame and a clamp, each made in accordance with the present invention will now be described by way of example with reference to the accompanying drawings, in which:

Figure 1 shows a perspective elevational view of a seat box embodying the present invention;

Figure 2 shows a plan view of the box shown in Figure 1 with drawers thereof in the open condition;

Figure 3 shows a perspective view from above of a frame with adjustable legs constituting part of the seat box assembly shown in
Figure 1; and

Figure 4 shows a perspective view of a clamp constituting part of the frame shown in Figure 2.

Figure 1 shows a composite angler's seat box 10 having a top 12 cushioned for the comfort of an angler who sits on the box, a front face 14, two side faces 16 and 18 (only one of which 16 is visible in Figure 1) and a rear face 20, which is not visible in Figure 1. The box is provided with a stack of drawers 22 in its side 16, two stacks of drawers 24 in its rear side 20 and a stack of drawers 26 (one one of which is shown in Figure 2) in its side 18. The drawers 22 and 26 are in an upper half 30 of the box shown in Figures 1 and 2 and the drawers 24 are located in a lower half 31 the box 10. The two halves 30 and 31 of the box 10 are clipped independently by clips (not shown) to a generally rectangular frame 32. The ends of the longer sides of the frame 32 are extended somewhat beyond the position where its longer sides meet the shorter sides, and to these extended portions are secured respective clamps 34. Generally upright legs 36 extend through the clamps. Each leg 36 is provided with a flanged anti-sink foot 37 at its lower end. The clamps 34 have clamp mechanisms 38 which can be tightened or loosened selectively. When one of the clamps 38 is loosened, its associated leg 36 can be readily slid up and down through it so that that part of the leg 36 which is below the clamp at any one time
can be adjusted in length, and with the selected adjustment, the clamp mechanism 38 can be tightened to hold the latter in that position relative to the clamp 34. This enables each leg 36 to be adjusted in its effective length independently of each of the other legs. As a result, the box 10 can be made level irrespective of any unevenness of the ground on which the box is supported by the legs 36.

The frame 32 and the legs 36 are made of square section tube, the material of the tube being aluminium, although these are the preferable cross-sections and the preferred material. Other cross-sections and other materials would be possible. The sections of aluminium tubing which make up the frame 32 are welded together.

Each clamp 34 is constructed as shown in Figure 4. It is made of glass filed nylon or other synthetic plastics material, or a metal or metal alloy. It has a first sleeve portion 40 which is closed at one end 42 and which has a generally square section such that the inside of the hollow is of substantially the same cross-sectional dimensions as the cross-section of the tube from which the frame 32 is made. This enables it to form a tight fit with one of the projecting ends of the frame 32, but additionally the sleeve portion 40 is rivetted or screwed to one of the projecting ends of the frame 32 to secure it thereto.

The clamp 34 has a second sleeve portion 44 offset from the sleeve portion 40, so that each is stepped
relative to the other. The sleeve portions 40 and 44 are parts of a single integrally moulded block of synthetic plastics material. The sleeve portion 44 is also generally rectangular, and the sides of its internal dimensions are substantially the same as the external dimensions of each leg 36, so that such a leg can form a sliding fit with the sleeve portion 44. The axis of the hollow of the sleeve portion 44 is generally at right angles to the axis of the sleeve portion 40, so that the latter is generally horizontal, the former is generally, but not necessarily exactly, vertical.

A clamp portion 46 projects through one side face of the sleeve portion 44, and may be urged inwardly into the interior of the sleeve portion 44 or outwardly therefrom, by rotation of a knob 48 in respective opposite senses. The clamp portion 46 has a large flat abutment surface which is pressed against a leg 36 when in use, the large size of that surface reducing the likelihood of damage to the surface of the leg 36, which may be anodized. The anodizing will therefore remain intact even after use of the clamp 34.

It will thus be appreciated that, with a leg inserted through the sleeve portion 44, as shown in Figures 1 to 3, that the four legs are positioned at respective vertices of the box, which has the shape of a of a rectangle as viewed from above with the box in its intended orientation, with the legs being positioned between imaginarily produced sides of the box which meet
at the vertex. Furthermore, for two of the vertices, the two sides which meet at each of those vertices are provided with drawers which can be withdrawn along different respective directions, with the leg located at that vertex being positioned between the drawers when the latter are withdrawn from the said two sides respectively so as not to obstruct such withdrawing, even though the width of the drawers extends substantially all the way up the vertex. Thus, the drawers 22 and 26 can be opened from the sides 16 and 18, and the drawers 24 can be opened from the side 20, without being obstructed by the legs 36. Indeed, there is a small clearance between the drawers 22, 24 and 26 on the one hand and the legs 36 on the other to provide a degree of tolerance, to ensure that there will be no such obstruction even allowing for small distortions, for example owing to the unevenness of the ground. This location of the legs also increases the stability of the box assembly.

Numerous variations and modifications to the accompanying construction of angler’s seat box may occur to the reader without taking the resulting construction outside the scope of the present invention. To give one example only, the two halves of the box 10 may be made integrally, the whole box 10 being seated on the frame 32. Respective metal plates (not shown) may be secured to the clamps 34 by the rivets or screws that secure the latter to the ends of the frame 32, these plates having slots to enable straps to be secured to the plates
thereby to facilitate lifting and carrying of the box.
Claims:

1. A clamp having a first sleeve portion with a hollow having a central axis extending in a first direction, and a second sleeve portion offset from the first and having a hollow with an axis which extends in a direction which is at right angles to that of the first sleeve portion, with a clamp mechanism coupled to the second sleeve portion.

2. A generally rectangular frame which has at least one of its longer sides extended beyond the boundary of the rectangle to provide at least one free end, and at least one clamp as claimed in claim 1 with the first sleeve portion of that clamp threaded on that end and secured thereto.

3. A frame according to claim 2, having its longer sides extended beyond the boundary of the rectangle to provide four free ends, and four clamps each as claimed in claim 1, with the first sleeve portions of those four clamps threaded on and secured to the four free ends respectively.

4. An angler’s seat box supported by a frame as claimed in claim 2 or claim 3, in which the box has at least two sides, from which drawers can be withdrawn along different respective directions, with at least one of the legs being positioned between two drawers when the latter are withdrawn from the said two sides respectively, so as not to obstruct such withdrawal.

5. A clamp substantially as described herein with
reference to and as illustrated in Figure 4 of the accompanying drawings.

6. A frame substantially as described herein with reference to and as illustrated in Figure 3 of the accompanying drawings.

7. An angler’s seat box substantially as described herein with reference to and as illustrated in Figures 1 and 2 of the accompanying drawings.
Application No: GB0513729.4
Claims searched: 1-7

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

<table>
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<tr>
<th>Category</th>
<th>Relevant to claims</th>
<th>Identity of document and passage or figure of particular relevance</th>
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<td>X,A</td>
<td>X: 1, A: 2-4</td>
<td>GB 2394505 A (PRESTON) See Figure 1 and page 5, lines 1-22</td>
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<td>GB 2365914 A (BROWN) See Figure 1</td>
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<td>JP 111411119 A (CHUBU) 25.05.99 (See Fig. 1 and WPI Abstract Accession No. 1999-367893/31)</td>
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<td>GB 2309023 A (COWLING) See Figures 1 &amp; 4 and page 5, line 13 - page 6, line 1</td>
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The following online and other databases have been used in the preparation of this search report:
- Online: EPODOC, WPI