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(54) Folding table leg brace mechanism

(57) A folding leg table has a leg brace made up of elements 4, 5 and 6. The bars 6 hinge on the rest of the brace to allow the legs to fold up. When the legs are folded out, bars 6 are retained in position by the folded-over walls 10. The release of the bars 6 from their locked position is by movement along the hinge axis AA, before they begin to rotate around the axis AA.

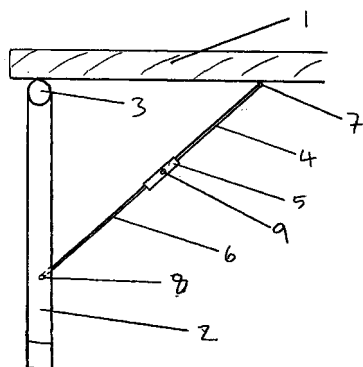


Fig 1

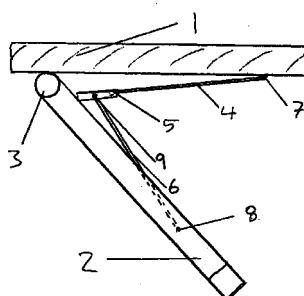
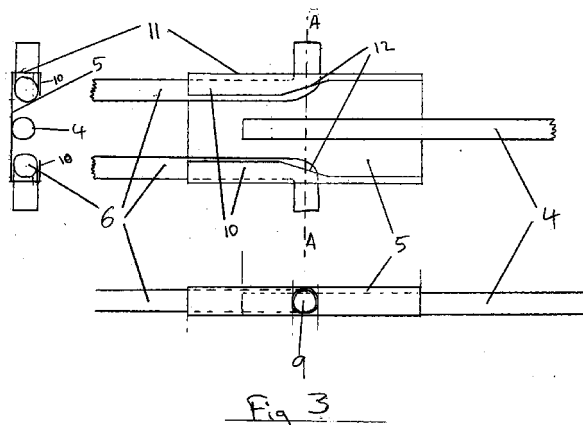


Fig 2



EP 1 044 630 A1

Description

[0001] This invention relates to a folding leg table leg brace mechanism

[0002] Folding leg tables are widely used for catering and conferences. Every folding table design has some form of brace which allows the leg to fold up under the table, but will also hold the leg rigid in the vertical plane. The key attributes of this brace is that it should be strong, simple and quick to use, reliable and safe. Many of these brace mechanisms use an "over-centre" folding mechanism, whereby the brace is hinged near the middle. The brace has a bracket of sorts which will hold the brace straight once locked out with the leg vertical. The main security to the brace remaining locked out is achieved by the middle of the three hinges on the brace being slightly over the centre line between the other two hinges. This should also be augmented by a safety catch or bracket. Often, however, the safety catch has to be manually fitted once the leg is in position and will be awkward to remove when folding the leg away.

[0003] According to the present invention, the brace has a conventional over-centre geometry with a new catch design that operates automatically and is easy to release to fold the leg. The action of the catch works on the axis of the centre hinge of the mechanism. The elements that are turning on this axis are free, within limits, to move laterally along this axis, but sprung towards one limit of movement on the axis. When in this position, with the brace in the locked position, these same elements are restricted in their ability to spin about the centre hinge axis by the bracket which is solidly attached to the other half of the brace. In this way the brace is securely set with the leg perpendicular to the table top. If the same sprung elements are moved against the spring along the hinge axis, the bracket will release them to spin about the hinge axis, allowing the leg to fold up into the plane of the table top. When operating from folded to open, the bracket will automatically allow the hinged elements to spin until they reach the locked out position at which moment they will click into the locked location.

[0004] A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing in which:-

Figure 1 shows a side view of a table with the leg in position and also just beginning to fold.

Figure 2 shows plan, end and side views of the clip mechanism of the leg brace.

[0005] Referring to the drawing, one end of the table consists of a top 1 with a leg 2. The leg is attached to the top and hinged at 3. The leg is held in the vertical plane by the brace made up of two elements 4 and 6, joined at the clip mechanism 5. The bar 4 has a hinge 7 and is welded solidly to clip 5. The pair of bars 6 are attached to the leg at hinge 8 and to the clip at hinge 9.

With the leg folded out, the brace assembly is held rigid by the walls 10 restraining the bars 6 from pivoting on their hinge 9. The bars 9 are sprung to sit firmly against the walls 11. When the bars 6 are squeezed together they are released by walls 10 and are able to rotate on the axis AA. As they do this the leg is able to fold up under the table.

[0006] To reverse the operation, the leg is folded out and the bars 6 ride on the sloped walls 12 to allow them to run past the retaining walls 10, until they come in line with the bar 4 when they spring back to seat against walls 11.

Claims

1. A folding leg table leg brace mechanism with a centre hinge clip that operates by movement of one half of the brace along the axis of the centre hinge to seat in a mechanical lock once set straight, which then prevents that half of the brace rotating further or back about the hinge axis, until the reverse movement along the hinge axis releases it to rotate back around the hinge axis.
2. A folding table leg brace mechanism as in Claim 1, using sprung rods hinged on a folded plate shaped to allow the rods to ride over an overhanging wall which then restrains their movement once they click back within the fold of the overhanging wall.

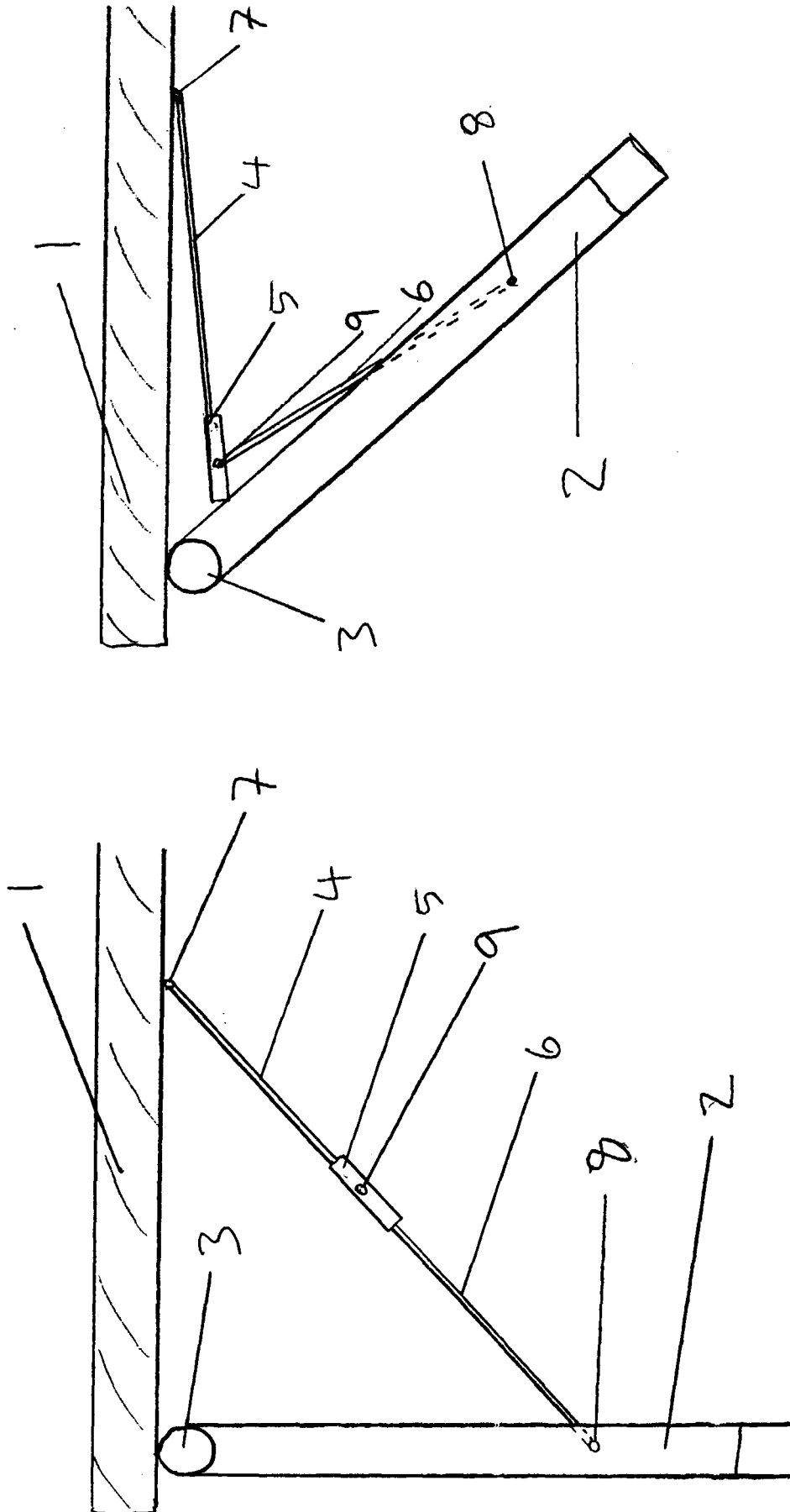


Fig 1

Fig 2

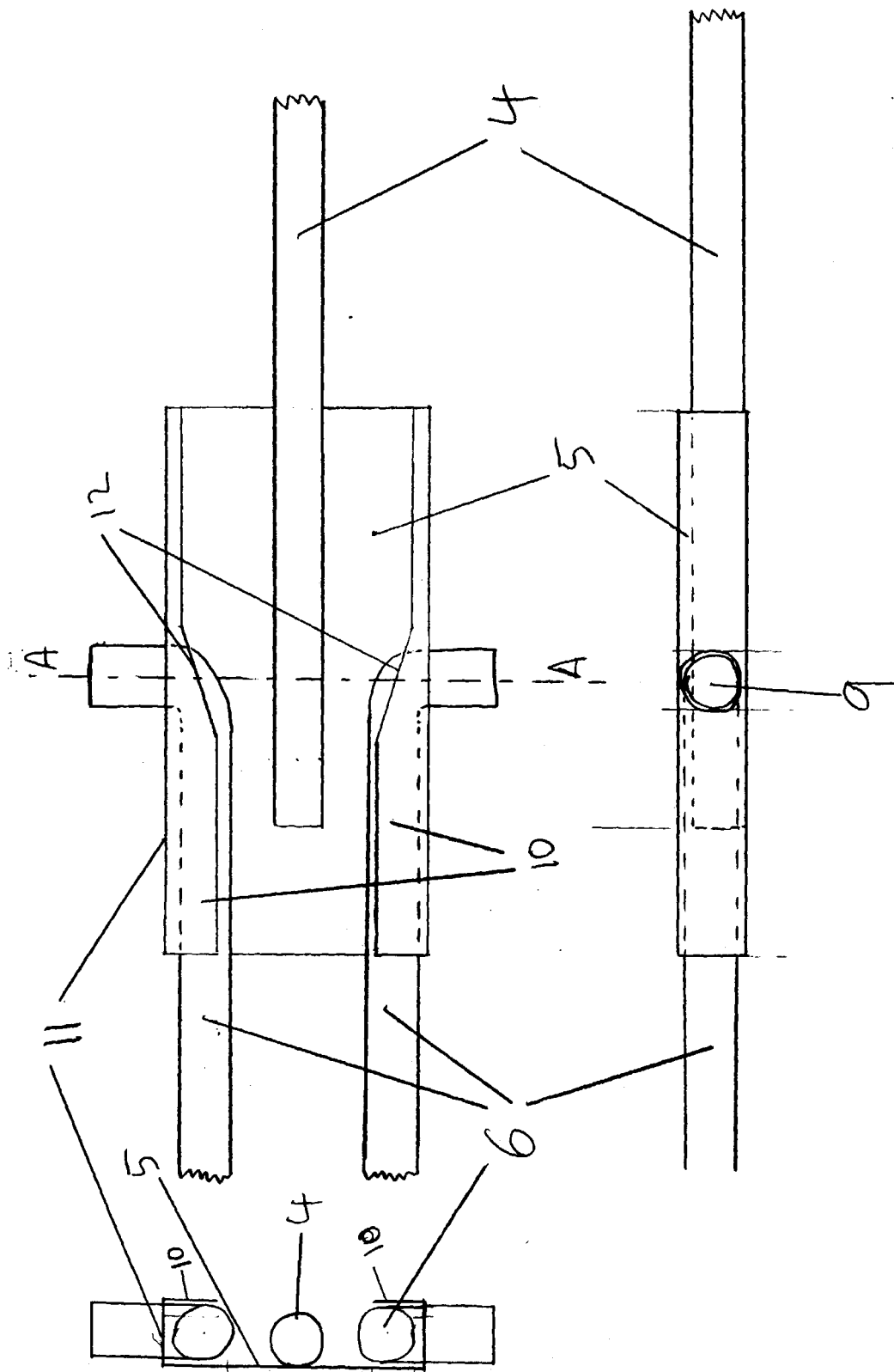


Fig 3

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EUROPEAN SEARCH REPORT

Application Number

EP 00201341.5

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 7)
A	GB 590815 A (DUKE, S.) 29 July 1947, fig. 2-4. --	1, 2	A47B3/091 A47B95/00
A	CH 188279 A (KASPAR, F.) 01 March 1937, fig. 6, 7. -----	1, 2	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 7)
			A47B
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 30-06-2000	Examiner BENCZE
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ON EUROPEAN PATENT APPLICATION NO. EP 00201341.5**

This annex lists the patent family members relating to the patent documents cited in the above-mentioned search report. The members are as contained in the EPIDOS INPADOC file on 04.07.2000. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB A 590815a1		none	
CH A 188279a		none	

For more details about this annex see Official Journal of the European Patent Office, No. 12/82.