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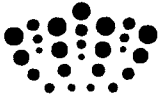
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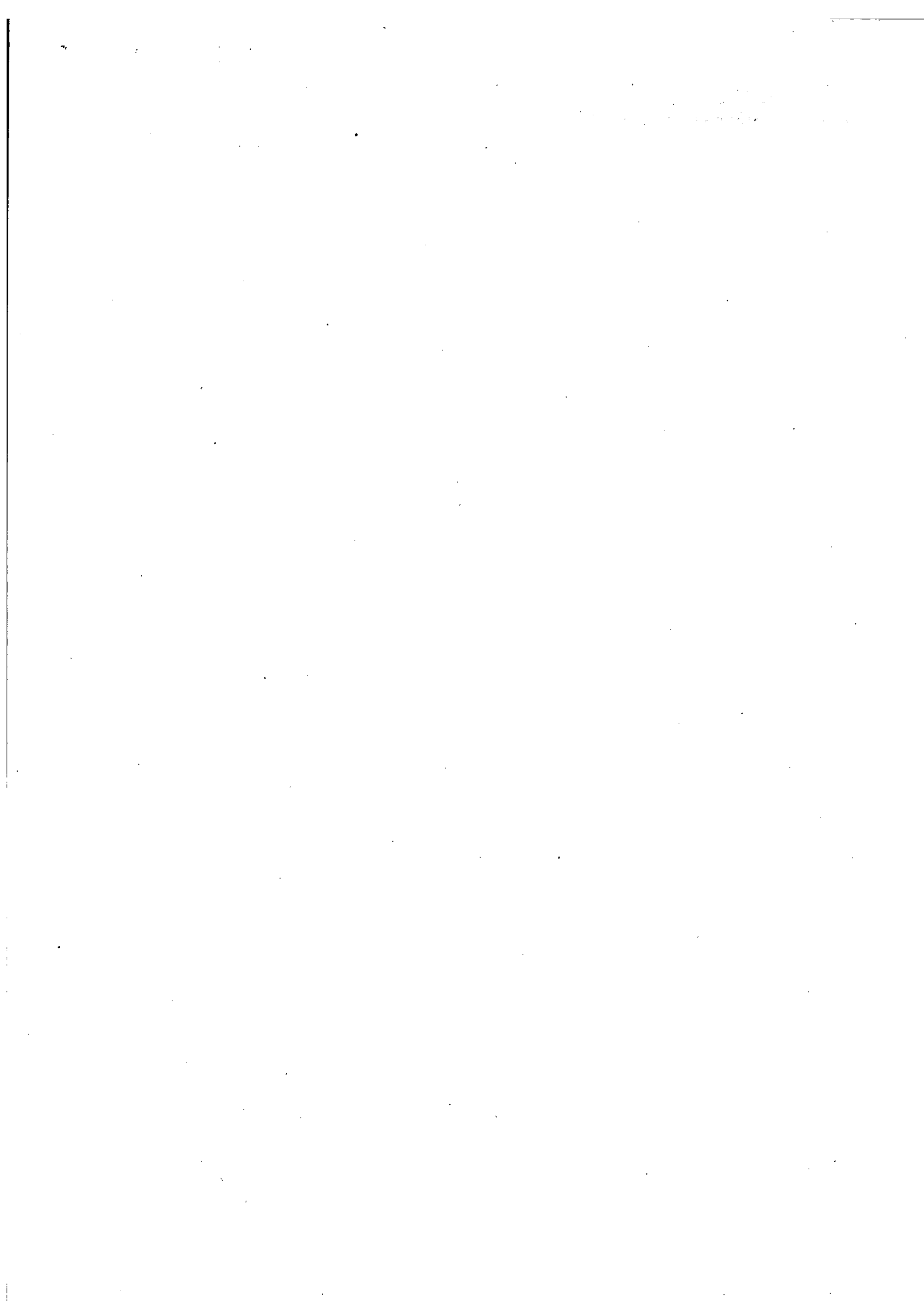
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UK - IPO RB 13 MAY 2008 NEWPORT

Concept House Cardiff Road Newport South Wales NP10 8QQ

Application number GB

0808594.6

1. Your reference: (optional) SCREEN CLAMP

2. Full name, address and postcode of the applicant or of each applicant (underline all surnames):

ACTIV8-3D Limited 72A Melton Lane, Sutton Bonington, Loughborough LE12 5RQ

978 4604001

Patents ADP number (if you know it):

If the applicant is a corporate body, give the country/state of its incorporation:

A British Company

3. Title of the invention: MOUNTING EXTENSIVE AREA SHEET MATERIAL

4. Name of your agent (if you have one):

Patrick Russell-Rayner, Business Centre West, Avenue One, Business Park, Letchworth Garden City, Hertfordshire, SG6 2HB

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Statement of inventorship and right to grant of a patent (Patents Form 7/77):

Request for search (Patents Form 9A/77):

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11. I/We request the grant of a patent on the basis of this application.

Signature(s): *Pat Russell-Rayner*

Date: 9-5-2008

12. Name, e-mail address, telephone, fax and/or mobile number, if any, of a contact point for the applicant:

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MOUNTING EXTENSIVE AREA SHEET MATERIAL

This invention relates to the mounting of a uniform tensioned condition sheet material and in particular thin film plastics sheeting.

5 For various reasons it is required to be able to support in an upright, horizontal or inclined position large sheets of thin film plastics material.

By large sheets it is understood that the sheet can have a surface area of several tens of square metres with width and height dimensions extending over tens of metres.

10 It is known to support such sheeting by attaching at pre-selected spaced positions along the edge regions of the thin film material tensioning wires, straps or the like that connect with the edge regions by way of a frame arrangement which involves piercing the edge regions to receive connection pins or the like..

15 Thus when a thin film sheet is mounted under tension in such manner there is always the inherent risk that the piercing of the sheet edges so damages the sheet that the formation of the holes initiates the spreading of fracture/stress lines into the body of the thin film material as the tensioning straps are tightened to tension the sheet sufficiently to avoid the development of and/or the removal of any creases or ripples that may be present in the stretched thin film sheet. The presence of such fracture/stress lines can lead to the development of splits or similar damage that results in irreparable damage or at least a reduction in the operational performance of the stretched sheet when used in relation to some
20 optical phenomena.

It is an object of the present invention to avoid the need to the a sheet material for the purposes of stretching the sheet.

Broadly according to a first aspect of the invention there is provided sheet gripping/clamping unit that does not involve piercing the material..

5 In a preferred construction the clamping unit incorporates an anvil part, shaped as to be engageable with an edge region of sheet material, means for selectively exerting pressures upon the edge region in engaged with the anvil, and means for preventing relative displacement between the surfaces of the sheet and the clamp

10 In a preferred construction the clamping includes an anvil plate providing part, and a pressure producing means mounted to the anvil plate part in such manner as to define a recess for receiving the edge region of the sheet material after said edge region has been folded over to provide a U formation, an elongate rod like element for engaging in the base of the U, and a layer of high friction material for shrouding the U formation, the arrangement being such on displacing the pressure means towards the anvil plate the high friction layer is compressed against the U formation in the sheet edge and additionally traps the elongate rod element
15 whereby the latter assists in the retention of the sheet edge in the clamp.

For a better understanding of the invention and to show how to carry the same into effect reference will now be made to the accompanying drawing which is a schematic side view of a clamping device of the invention

20 Referring now to the Figure 1 the clamp unit 1 shown therein includes an anvil/clamp body 2 having a base or anvil plate 3 which can be of rectangular form.

A guide bracket/frame 4 is provided for receiving and locating a positionally adjustable clamping plate 5 projects from the base plate 3.

The clamping plate 5 has a main body 6 which bears against the face surface 7 of the base plate 3 and which is shaped as to provide an inclined wedging surface 8 which co-operates with a complementary surface provided on the inside of the bracket 4.

- 5 The plate 5 provides a surface 10 that faces towards the face 7 to define a recess 11 for receiving the edge region 12 of a thin film sheet 13 .

As will be seen from the Figure the edge region 12 is turned to overlay the sheet 13 to form what may be regarded as a U shaped trough 14 into the bottom of which is provided a pin or rod 15 so that the latter rests in the bottom of the U
10 trough and in so doing provides a uniform stiffness to the bottom of the trough.

A high friction non slip packing 16 i.e., strip material covered with a surface formed by a coating of a fine grit is deformed to a U shape and is introduced into the recess such that the sheet edge 12 is located between the adjacent uprights of the recess 11.

- 15 To produce a sheet edge clamping action the wedge plate is displaced (as seen in the Figure) downwards by pulling upon a strap (not shown) connected with a S shaped 17 conveniently regarded as a S hook that engages with the lower end region of the clamping plate 6 so that a thicker part of the wedge is pulled towards the bracket 4 and in so doing forces the clamping plate 5 into closer and firmer
20 engagement with the anvil plate 3.

In use the edge region of the sheet material is folded over to produce the U shaped trough 14 and the pin or rod 15 is dropped into the trough. If found more convenient the pin or rod can be laid upon the thin film sheet marginal edge region 12 and the edge folded over using the pin or rod as a folding guide.

The high friction material 16 is engaged over the folded thin film edge region 12 and the sandwich comprising the edge region of the sheet 13, 13, the wedge 14 and the high friction material 16 and the the sheet wedge are pressed together.

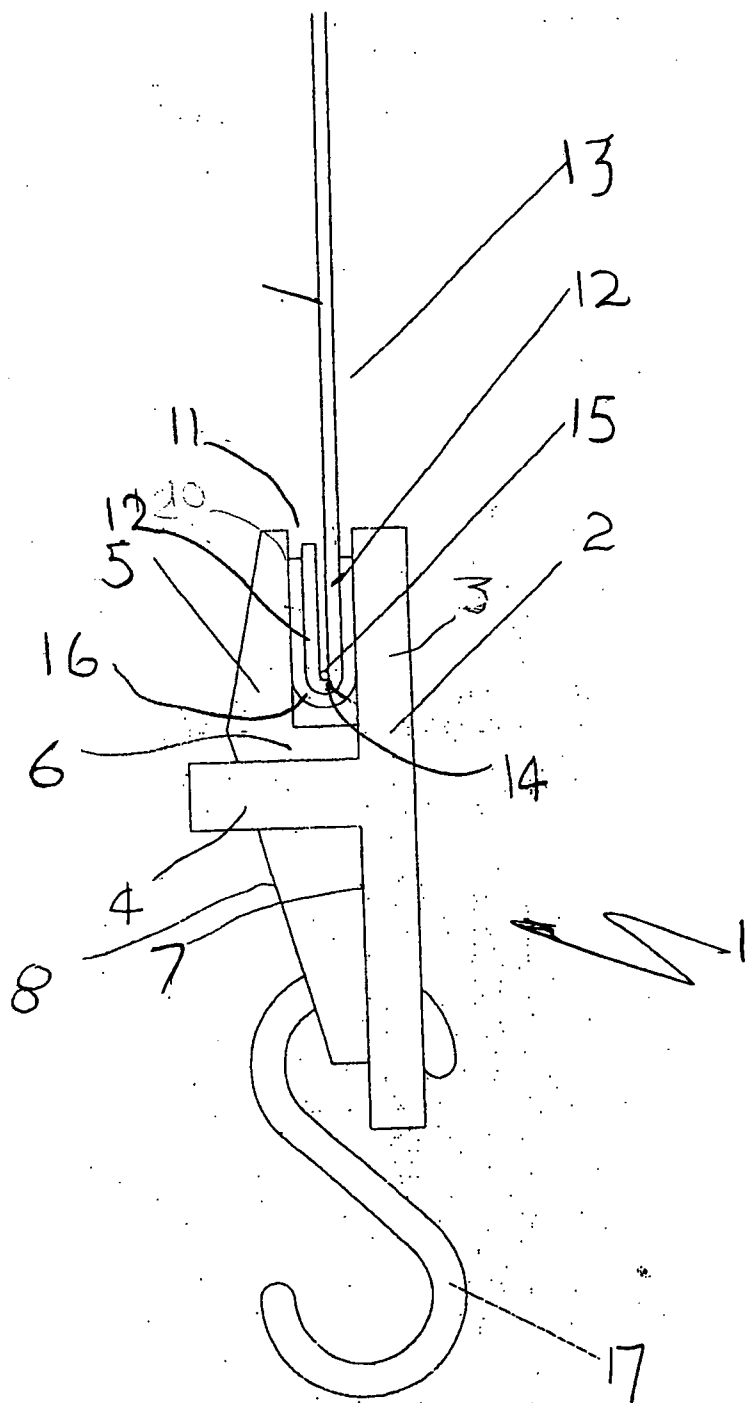
5 The clamping unit is then engaged with the folded over lapping region of the sheet 13 and the S hook 17 is given an initial pull to produce an initial tightening sufficient to retain the clamping unit in a required position.

10 A series of the clamping units is distributed around the periphery of the thin film sheet 13 and the associated clamping straps or the like are coupled to a structure (not shown) of a size appropriate to the size of the thin film sheet 13 to be supported.

The straps are then tightened in a sequence that ensures even distribution of stretching forces applied to the sheet 13..

15 It will be noted that the provision of the high friction material prevents any relative movement between the clamping arrangements and the material of the sheet so that possible damage to the sheet is avoided.

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