

[54] **DOBBY**  
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[57] **ABSTRACT**

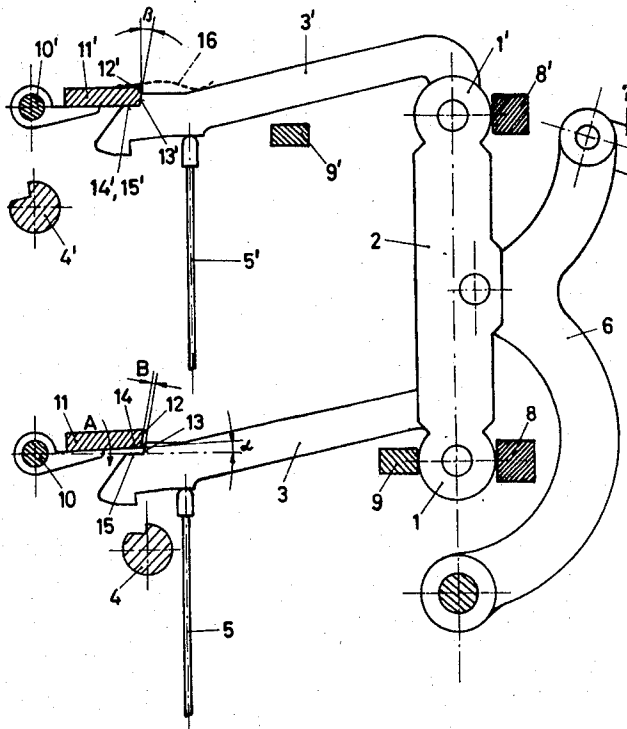
A dobbie of the Hattersley type comprising a hook hinged to a baulk, the hook being adapted to engage with and withdrawn from a draw-blade, and a rotationally mounted support blade having a contact surface adapted to engage the hook when the hook is raised.

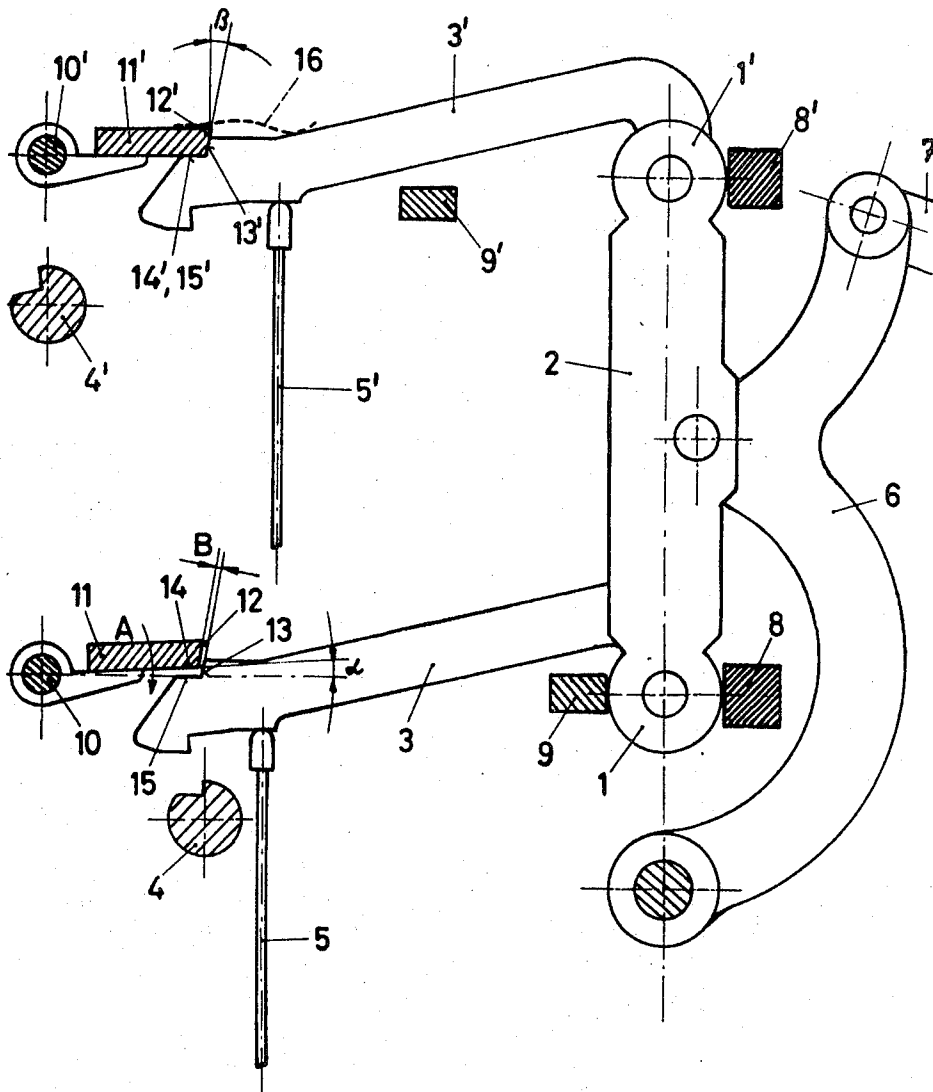
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**3 Claims, 1 Drawing Figure**





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This invention relates to dobbies of the Hattersley type in which movement of the end portions of a balanced, centrally mounted, pivotable beam (hereinafter briefly referred to as "the baulk") is effected positively in both directions. The end portions of the baulk are then held in a rear dead center position between a stationary stop and return impact blades which swing back and forth. Even in the case in which a draw-hook is not in engagement with the draw-blade for the purpose of drawing, both the draw-blade as well as the return impact blade are pivoted outwardly. The holding of the corresponding end portion of the baulk is thus cancelled, which may lead to uneven running. It has recently been proposed to lift, by means of a front needle system, a non-operating hook of the draw-blade and to slide into the operating zone a support blade which, via the hook permits the end portion of the baulk to engage in its normal position the contact bar as long as the return impact blade swings back and forth. The hook with the end portion of the baulk is thus inserted between fixed points, a location which is only possible if the distance between the fixed points is greater than the length of the inserted part. For a well-controlled operation, a clearance gap has thus to be provided which permits a reversal of the hook. This clearance gap, however, has proved to be disadvantageous because the end portion of the baulk does not remain tightly held and permits vibrating movements to arise within a shaft driving unit.

The present invention provides a dobbie of the Hattersley type comprising a hook hinged to a baulk, the hook being adapted to engage with and withdraw from a draw-blade, and a rotationally mounted blade having a contact surface adapted to engage the hook when the hook is raised.

With this arrangement the clearance gap can be eliminated by additional motion, for example a rotary motion being imparted to the draw-blade in its rear dead center position.

One embodiment of the invention is shown by way of example in the accompanying drawing which is a diagrammatical side view of a part of a dobbie mechanism of the Hattersley type.

Two hooks 3 and 3' are hinged to two end portions 1 and 1' respectively of a baulk 2. For controlling the engagement or non-attachment of the hooks to draw-blades 4 and 4', support needles 5 and 5' are used which form part of a front needle system (not shown) which reads a pattern from a pattern card. To the center of the baulk 2, a pivotal lever 6 is hinged which is connected via a drawing means 7 to a shaft (not shown).

Reference 8 and 8' designate stationary crossbars and 9 and 9' indicate return impact blades which carry out back and forth swinging movement at the same time and to the same extent as the draw-blades 4 and 4'. Support blades 11 and 11' are mounted on rotary axes 10 and 10' respectively.

The operation of the mechanism is more fully explained in the following with reference to the hook shown in the lower portion of the drawing. If the hook 3 is not to be picked up during the next drawing stroke of the draw-blade 4, it is lifted by the support needle 5 into the position shown in the drawing. Due to the position of the return impact blade 9 at that particular moment, the end portion 1 of the baulk engages the cross bar 8. At this moment the support blade 11 is lowered through an angle  $\alpha$  in the direction of arrow A with the result that the clearance gap B is closed. The end portion 1 of the baulk 2 is secured in its position by the support blade 11 and the hook 3 on one side and by means of the contact bar 8 on the other side. The draw-blade 4 as well as the return impact

blade 9 can now pivot to the left. The position indicated by the dashed reference numerals is obtained, the end portion 1' of the baulk 2 and the hook 3' remaining stationary in this working stroke of the dobbie.

Only after the support needle 5 releases the hooks on a successive working stroke and the support blade 11 has been pivoted upwardly through angle  $\alpha$ , the hook 3 is lowered and can be drawn out by the draw-blade 4 underneath the support blade 11.

The contact surfaces 12 and 13, and 12' and 13' respectively form with respect to the tangent of the pivotal arc A an acute angle B of a few degrees of e.g. up to 20°, the surface themselves with hooks 3, 3' raised and support blades 11 and 11' pivoted in the direction of arrow A extending parallel to one another. Notch surfaces 14 and 15, and 14' and 15', respectively, which are adjacent to the contact surfaces 12 and 13, and 12' and 13' respectively, preferably extend while the support blades 11, 11' are engaged, in or parallel to the connecting line between the axis 10 or 10' respectively and the center of rotation of the hooks 3, 3' in the end portion 1, 1' of the baulk.

In order to enable a quick lowering of the hook, a laminated spring 16 can be provided on the support blade 11, 11', which urges the hook downwardly.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In a dobbie of the Hattersley type having hook means pivotally connected to the ends of a baulk and adapted to be raised and lowered about said pivotal connection, said hook means having first and second surfaces thereon remote from said pivotal connection defining a notch and draw-blade means supported for movement toward and away from said baulk and adapted to engage selected ones of said hook means in a lowered position during said movement thereof, the combination comprising:

support means positioned longitudinally outwardly from the free end of said hook means remote from said pivotal connection;

support blade means pivotally secured to said support means, said support blade means having a support blade positioned between said support means and said pivot connection and having a first contact surface extending generally parallel to the axis of said pivotal securement and generally parallel to the direction of movement of said draw-blade means and adapted to move generally perpendicularly to said first surface of said notch into engagement therewith when said hook means is in said raised position, said support blade means further having a second contact surface extending transversely of said first contact surface and said direction of movement of said draw-blade means and at an angle  $\beta$  in the range of 0° to 20° to a tangent to the arc defined by the movement of said support blade, said tangent being generally perpendicular to said first contact surface.

2. A dobbie according to claim 1, wherein said first contact surface and said first surface of said notch lie in a common plane, when said hook means is in said raised position, which extends generally parallel to a plane defined by the axes of said pivotal connection and said pivotal securement.

3. A dobbie according to claim 1, including resilient means on said support blade for urging a separation of said hook means from said support blade when said first and second contact surfaces are engaged with the respective ones of said first and second surfaces of said notch.

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