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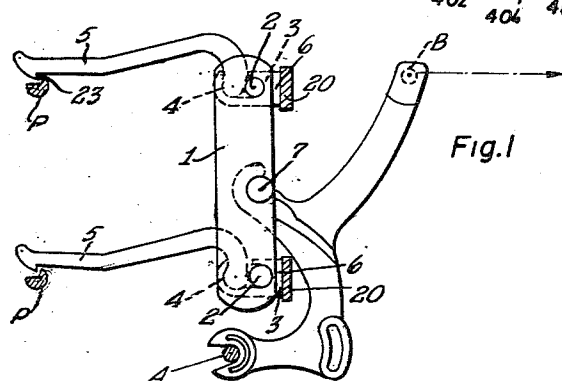
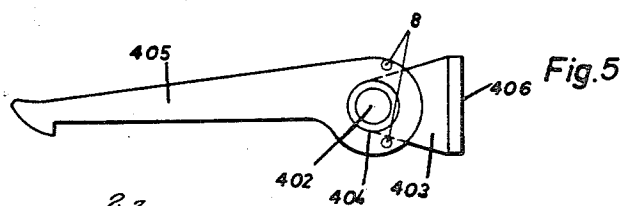
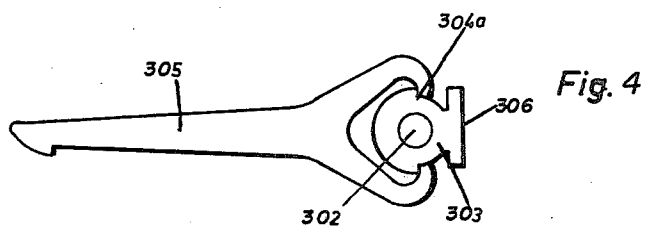
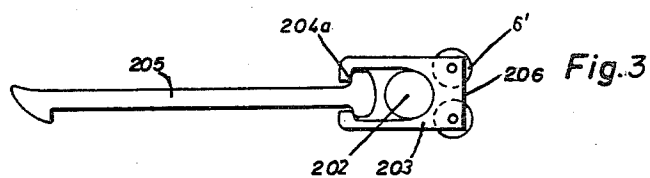
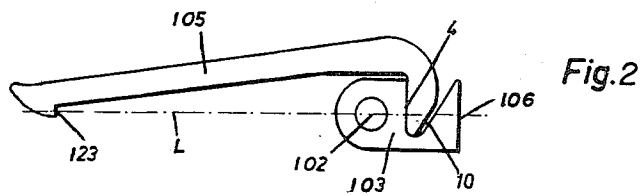
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BAULKS AND HOOKS FOR DOBBIES

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2 Sheets-Sheet 1



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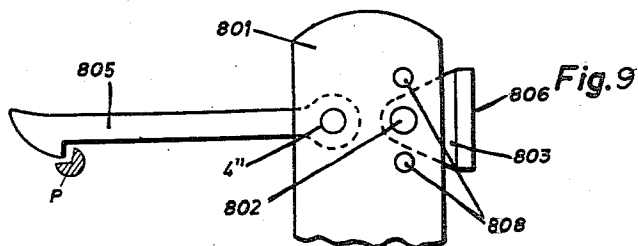
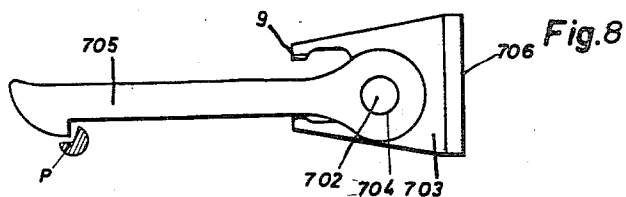
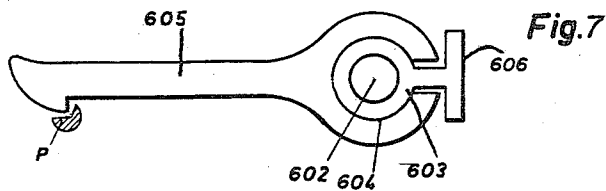
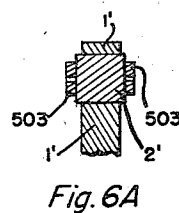
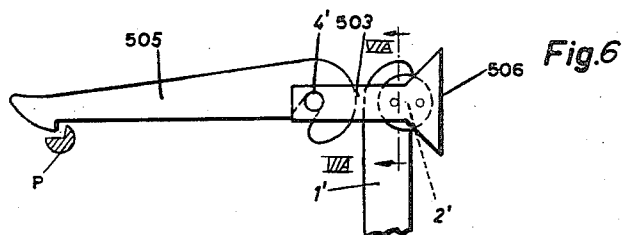
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BAULKS AND HOOKS FOR DOBBIES

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2 Sheets-Sheet 2



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BAULKS AND HOOKS FOR DOBBIES

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2 Claims. (Cl. 139—71)

The invention relates to baulks with draw hook in dobbies.

The known baulks of dobbies have on both ends a bearing socket into each of which engages the corresponding head of a draw hook. Moreover each end of the baulk has an abutment which contacts an abutment rail.

Such an arrangement consisting of baulks, draw hooks and abutment rail is in general use with double lift dobbies. When weaving, the shaft associated with one such group of baulks and hooks is lifted at any time in that a hook with the associated end of a balance is pulled forward, while the abutment face of the other end of the baulk abuts its associated abutment rail. Owing to this advance of the hooks the abutment faces of the baulk slide over the abutment rails and the heads of the hooks turn in the bearing sockets of the ends of the baulks.

The ever-increasing loading of the dobbies by higher speeds and heavier types of fabric cause great wear of the bearing sockets of the baulks, of the heads of the hooks, of the abutment faces of the baulks, and of the abutment rails, in as much as the specific area pressures become very high, since the dimensions of the thickness of the baulks and hooks are limited to a few millimetres, in accordance with the spacing of the shafts in the loom.

It is the primary object of the present invention to overcome the aforesaid difficulties. With this and other objects in view which will become apparent later from the following description and the accompanying drawings, I provide a baulk arrangement for dobbies comprising in combination: a baulk, at least one bearing plate pivotally mounted on said baulk and having a joint and a rear abutment face, a draw hook articulated to said bearing plate at said joint, a draw knife engaged by said draw hook, and an abutment rail in operation abutted by said abutment face.

The connection between baulk and bearing plate is effected conveniently by means of a pivot pin fixed to the end of the baulk.

For the attachment of the draw hook to the bearing plate which attachment has primarily to transmit a pulling force and whose pivotal movements are very small, there are various possibilities available.

The bearing plate is designed according to the invention to perform also the function of abutting the abutment rail, for which purpose it has an abutment face. According to the invention the two pivot points and the abutment face of the bearing plates are so arranged relative to one another that the abutment face when abutting the abutment rail is in a position at least substantially parallel to the abutment face of the abutment rail, and accordingly comes into contact therewith with its entire face.

Conveniently the abutment face of the bearing plate stands substantially perpendicular to the straight connecting line between the point of engagement of the draw hook on the draw knife and the pivot point of the bearing plate on the baulk, moreover the abutment face of the bearing plate lies approximately parallel to the abutment face of the abutment rail when making contact with it.

The abutment face of the bearing plate may be provided with at least one roller, preferably with two anti-friction rollers or ball bearings.

In the accompanying drawings the arrangement of a baulk with draw hook, stop rail and semi-lifting lever as hitherto known, as well as embodiments, according to the present invention, are illustrated by way of example in diagrammatic side elevations, of which:

FIG. 1 shows the functional elements of a baulk according to the invention, and

FIGS. 2-9 each show in side elevation an embodiment as an example of the connection between baulk, bearing plate and draw hook.

FIG. 6A is a partial cross section taken along line VIA—VIA of FIG. 6.

In the drawing, all components having similar functions are denoted by the reference characters having the same final digit.

In FIG. 1, the baulk 1 has on each of its two ends a pivot pin 2 on which a bearing plate 3 is pivotally mounted, which has in turn a bearing socket 4 for the draw hook 5. The rear abutment face or abutment means of the bearing plate 3 is denoted by 6. The semi-lifting lever or jack-lever 21 engages the center pin 7 of the baulk 1 and turns about a pivot shaft A at its lower portion. The member 21 is in active connection at its upper end B through all members, diagrammatically indicated by a dash-dot arrow, with the shaft of a loom (not shown).

The baulk 1 consists either of two halves positioned parallel to one another and connected with each other by the pins 2 and 7, or it is made out of one piece which is contoured on both ends. The articulations or joint pins 2 between the baulk 1 and the bearing plates 3 take pulling forces and also prevent the engaging parts from mutually twisting, while the socket joints or bearing sockets 4 serve mainly for the transmission of pulling forces from the draw hooks 5 to the bearing plates 3 and vice versa. Only insignificant pivotal movements occur at these joints. The draw hooks 5 engage pull blades P at 23.

By the pull of the hook 5 the bearing plate 3 is constantly held in the same position relative to said hook, in spite of the rocking movements of the baulk 1, and in particular immediately before the bearing plate 3 comes into contact, through its abutment face 6, with the abutment rail 20. The last mentioned position of the abutment face 6 relative to the connecting line L (FIG. 2) between the point of engagement 23 of the draw hook 5 on the draw knife P and the articulation point of the pin or journal means 2 is always the same, so that the abutment face of the stop rail 20 can be arranged parallel thereto. Thereby it is attained that the two faces always contact one another in full, and no detrimental frictional sliding occurs. Mostly the pivot point and the point of engagement between the draw hook 5 and the bearing plate 3 will also lie on this connecting line L. It has been found convenient to arrange the abutment face 6 substantially perpendicular to this connecting line.

As regards the various embodiments shown by way of example, the following may be stated additionally:

In FIG. 1, the guidance of the draw hooks 5 is secured in the baulks by means of the bearing plates 3 and pins 2. The bearing or socket joint 4 of the plate 3 is formed hook-shaped and partly embraces the head of the draw hook 5.

In FIG. 2 also, as in most of the subsequent figures, the lateral guidance is secured by the divided ends of the bearing plate 103. The engagement of the draw hook with plate 103 takes place along bearing face 4a, which may be plane or cambered. The abutment face 106 en-

gages a stop rail in a manner similar to that of face 6 and rail 20 in FIG. 1. As in all of the other embodiments, the draw hook engages a draw knife P near its other end, in a manner analogous to the engagement at 23 of FIG. 2.

The boundary face 10 of the draw hook 105 opposite the bearing face 4a has a slight clearance with respect to the bearing plate 103, so that the hook 105 can be raised without difficulty at its forward end by the draw knife.

In FIG. 3, the bearing plate 203 embraces the rear end of the draw hook 205. The abutment face 206 does not engage a rail 20, but this function is performed by two rollers 6', the axes of which are parallel to the pivot axis of the baulk. The end of draw hook 205 forms a bearing face and joint at 204a in the bearing plate 203.

In FIGS. 4 and 7, the rear ends of the draw hooks 305 and 605 embrace the respective bearing plates 303 and 603. The pivot points of the baulk and bearing plate and of draw hook and bearing plate coincide, such as also in FIGS. 5 and 8, where the pins 402 and 702 serve as bearings on the respective baulk for both components, i.e. for the draw hook 405 or 705 and for the bearing plate 403 or 703. In FIG. 5 the movement of lifting the draw hook or the rotatability of the bearing plate is limited by stop pins 8, and in FIG. 8 by guides or stops 9. The swinging motion of the pull hook 705 is limited by the two stops 9. These stops form part of the plate 703. It is, however, also possible to mount the stops 9 on any other part of the shaft machine in which the pull hooks are accommodated. For example, two rails for supporting stops 9 may be mounted transverse to the pull hooks so as to extend above and below the pull hooks, thus limiting the swinging movement of the pull hooks. Draw hook 405 of FIG. 5 forms an articulated joint at 404 with the bearing plate 403.

In FIG. 6 the bearing plate 503 consists of two parallel parts which are connected to one another by a pin 2'. The end 1' of the baulk reaches partially round the pin 2'. As shown in FIG. 6A, such a partial straddling of the baulk 1' by the pin 2' is possible because the draw hook 505, when engaged by the draw knife, is continuously under tension in opposition to the pulling tension against the baulk 1 or 1'. The articulation 4' for the draw hook 5 likewise consists of a pin. This arrangement does not alter the function performance as compared with the other embodiments. The abutment faces 506, 606, 706 and 806 in the embodiments of FIGS. 6-9 each serve as abutment faces in a manner analogous to face 6 of FIG. 1.

In FIG. 9, the ends 801 of the baulk may have two pivot pins 802 and 4'. On the first pin 2 the bearing

plate 803 is articulated; on the second pin 4' the draw hook 805 is articulated. The mobility of the bearing plate 3 is limited by the two stop pins 808, analogous to the embodiment according to FIG. 5.

Since in the embodiments according to the invention the pivotal movement between the baulk and the draw hook is taken in the joint between the baulk and the bearing plate, it is advantageous to develop this bearing and pin or journal means 2, 102, 202, 302, 402, 602, 703, 4' as a self-lubricating bearing.

While I have described herein and illustrated in the accompanying drawings what may be considered typical and particularly useful embodiments of my said invention, I wish it to be understood that I do not limit myself to the particular details and dimensions described and illustrated; for obvious modifications will occur to a person skilled in the art.

What I claim as my invention and desire to secure by Letters Patent is:

1. A baulk arrangement for dobbies, comprising in combination: a baulk, at least one bearing plate provided with journal means articulately mounting said plate relative to said baulk, said plate having a joint and rear abutments, a draw hook pivotally articulated to said bearing plate at said joint, and a stationary abutment rail arranged for engagement by said rear abutment means, the pivotal axis of said bearing plate at said journal means coinciding with the pivot axis of said draw hook at said joint.

2. A baulk arrangement for dobbies, comprising in combination: a baulk, at least one bearing plate provided with journal means articulately mounting said plate relative to said baulk, said plate having a joint and rear abutment means, a draw hook pivotally articulated to said bearing plate at said joint, and a stationary abutment rail arranged for engagement by said rear abutment means, said rear abutment means comprising at least one roller having a journal axis parallel to the pivot axis of said journal means, said roller protruding rearwardly beyond said bearing plate.

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