

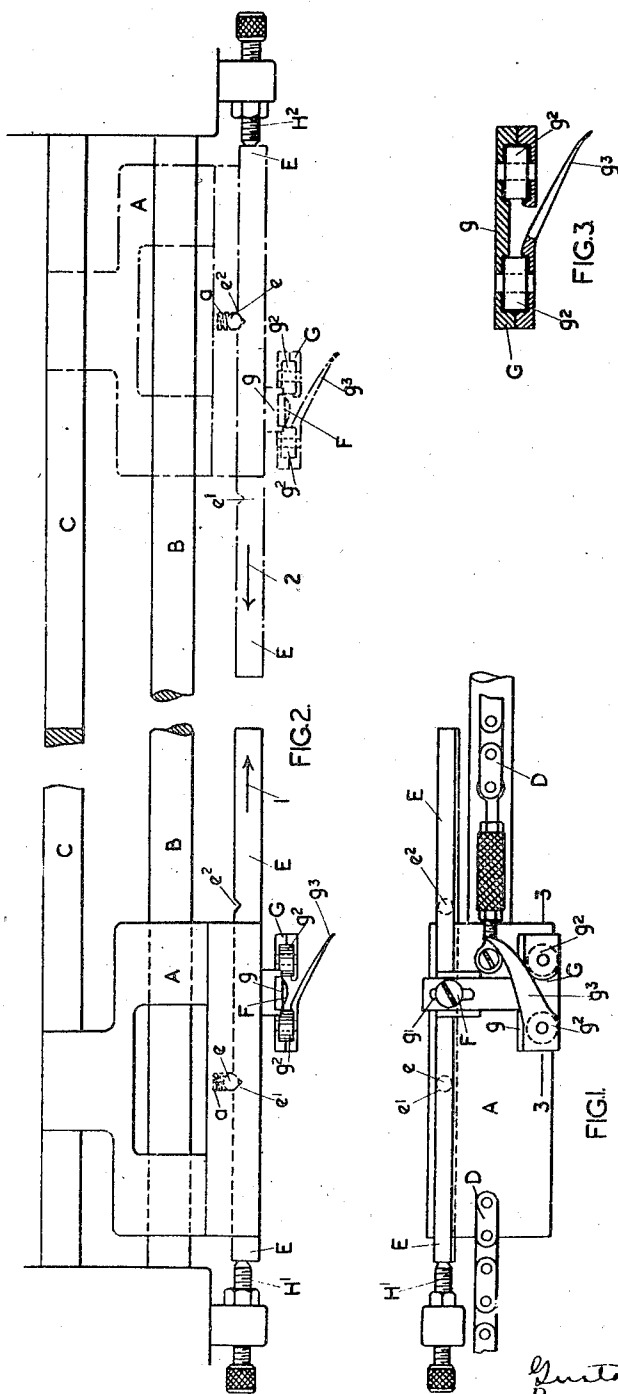
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G. HUBER

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YARN LAYING GUIDE OF FLAT SINGLE BED KNITTING MACHINE

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Inventor
Gustav Huber
By *Karin A. Ottman*
Attorneys.

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YARN LAYING GUIDE OF FLAT SINGLE
BED KNITTING MACHINEGustav Huber, Cleator, England, assignor to
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3 Claims. (Cl. 66—126)

1

This invention relates to flat single bed knitting machines of the type used for knitting berets and articles of similar shape formed of a number of sections and more particularly to improvements in the mechanism controlling the yarn laying guides and in the yarn laying guides of such machines.

In the usual construction the yarn laying guide is carried on a separate sliding carrier adapted to be connected to the cam box at the commencement of each traverse of the latter and disconnected therefrom at the end of each traverse so that it will be in a position ahead of the cam box for each to and from movement thereof, and the object of the present invention is to provide a more simple construction of mechanism which will obviate the use of a separate sliding carrier for the yarn laying guide and an improved form of yarn laying guide for use therewith.

According to the invention the yarn laying guide is carried on the cam being mounted on a horizontal bar slidably mounted in the cam box parallel to the direction of travel of the box and prevented from longitudinal movement by spring means during the laying of the yarn, the rod coming into engagement with a fixed stop on the cam box slide or other stationary part of the machine as the cam box approaches each end of its traverse whereby movement of the rod and the guide thereon is prevented and the bar moved through the cam box to bring the guide from one end of the box to the other ready for the traverse of the cam box in the return direction.

The invention is illustrated in and will be described with reference to the accompanying drawings in which:

Fig. 1 is a side view of the cam box with the yarn laying guide and sliding bar, the yarn laying guide and the sliding bar being in the position when the cam box is about to commence traverse in the direction of arrow 1, Fig. 2;

Fig. 2 is a plan of the cam box, the left hand portion showing the position of the yarn laying guide and the sliding bar relative to the cam box when the latter is about to commence its traverse in the direction of the arrow 1 and the right hand portion in which the cam box is shown in broken lines showing the position of the yarn laying guide and the sliding bar relative to the cam box when the latter is about to commence its traverse in the direction of the arrow 2.

Fig. 3 is a perspective view of a form of yarn laying guide.

In the drawings A is the cam box, B and C, are the rods on which it slides, the rod C being

2

rectangular in cross section, and D is the chain which traverses it from end to end of the machine.

A bar E is mounted in the cam box A so that it can slide there in a direction parallel to the direction of traverse of the box, the bar being longer than the box so that it projects from each end thereof. The bar E is preferably rectangular in cross section to prevent any rotary movement in the box or it may be splined for the same purpose. Two recesses e^1 and e^2 are formed in the surface of the bar E adapted to be engaged by a ball e controlled by a spring a in a recess in the cam box, the ball e and spring a being preferably located on the transverse centre line of the cam box.

The yarn laying guide G is secured to the bar E midway between the two recesses e^1 and e^2 , by means of a screw F or the like, a longitudinal slot in the face of the cam box A allowing the screw to engage the bar and when so engaged permitting relative movement between the box and bar.

The form of the yarn laying guide G shown in the drawings comprises an inverted T shaped member g the upright arm of which is provided with a vertical slot g^1 through which the affixing screw F passes, the slot allowing adjustment of the height of the guide relative to the cam box, two guide rollers g^2 one carried by each horizontal arm of the member g , the two rollers being spaced some distance apart and being freely rotatable in their bearings, and a front member g^3 of inclined and curved shape to direct the yarn into the space between the two rollers and maintain it in the aforesaid space. The yarn will thus pass first over one roller and then over the other roller according to the direction of travel of the guide.

Two fixed stops H^1 and H^2 are arranged one at each end traverse of the cam box, the stops being secured to the cam box slide or other stationary part of the machine. The stops H^1 and H^2 are preferably adjustable as shown in Figs. 1 and 2.

The mechanism operates as follows:

Supposing the cam box A is at the commencement of its traverse in the direction of arrow 1, i. e. in the position shown at the left hand end of Fig. 2, the recess e^1 is engaged by the spring controlled ball e and the thread laying guide G is in advance of the transverse centre line of the box. There is no relative movement between the bar and the box A as the latter is traversed along the machine by the chain D but when the

3

box is about at the end of its movement the bar E comes into engagement with the stop H² and its further movement is prevented, the box continues to move however to the end of its traverse so that the transverse centre line of the box moves to the other side of the yarn laying guide and the relative positions of the box and guide become those shown on the right hand side of Fig. 2. Thus on the return traverse of the cam box A, in the direction of arrow 2 the guide G is again in advance of the transverse centre line of the box. The same action takes place when the cam box reaches the left hand end of the machine, the guide G then moving into the position shown at the left hand end of Fig. 2.

The spring *a* controlling the ball *e* is sufficiently light to allow the ball to ride out of the recess *e*¹ or *e*² when the bar E engages the stop H¹ or H² and it will be seen that the distance between the two recesses is equal to the distance which the cam box A travels after the bar E has engaged the stop, the purpose of the spring controlled ball being to prevent any tendency to movement of the bar E in the cam box during the normal traverse of the latter.

Although the invention is not limited to a yarn laying guide G of the construction shown in the drawings it has the advantage that the guide rollers *g*² will not become grooved or worn as occurs with the usual porcelain guide eyes and moreover friction on the yarn will also be reduced.

I claim:

1. In single flat bed knitting machines of the type employed for knitting berets and similarly shaped articles the combination with the cam box of a horizontal bar slidably mounted therein parallel to the direction of travel of the box, a yarn laying guide carried on the horizontal bar, a fixed stop near each end of the travel of the box, the horizontal bar engaging one of the fixed stops as the box approaches the corresponding end of its travel whereby further movement of the rod and the thread laying guide thereon is prevented and the bar is moved through the box

4

to bring the guide from one end of the box to the other ready for the traverse of the box in the return direction.

2. In single flat bed knitting machine of the type employed for knitting berets and similarly shaped articles the combination with the cam box of a horizontal bar slidably mounted therein parallel to the direction of travel of the box, a yarn laying guide carried on the horizontal bar, said guide comprising a pair of horizontal rollers capable of rotation and spaced apart, the yarn passing first over one roller and then over the other roller according to the direction of travel of the cam box, a fixed stop near each end of the travel of the box, the horizontal bar engaging one of the fixed stops as the box approaches the corresponding end of its travel whereby further movement of the rod and the thread laying guide thereon is prevented and the bar is moved through the box to bring the guide from one end of the box to the other ready for the traverse of the box in the return direction.

3. In single flat bed knitting machine of the type employed for knitting berets and similarly shaped articles the combination with the cam box of a horizontal bar slidably mounted therein parallel to the direction of travel of the box, spring means for holding the bar during the travel of the cam box, a yarn laying guide carried on the horizontal bar, said guide comprising a pair of horizontal rollers capable of rotation and spaced apart, the yarn passing first over one roller and then over the other roller according to the direction of travel of the cam box, a fixed stop near each end of the travel of the box, the horizontal bar engaging one of the fixed stops as the box approaches the corresponding end of its travel whereby further movement of the rod and the thread laying guide thereon is prevented and the bar is moved through the box to bring the guide from one end of the box to the other ready for the traverse of the box in the return direction.

GUSTAV HUBER.