Aug. 18. 1942. R. E. ERDMAN ET AL 2,293,123

GUIDE

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Fig. 1.

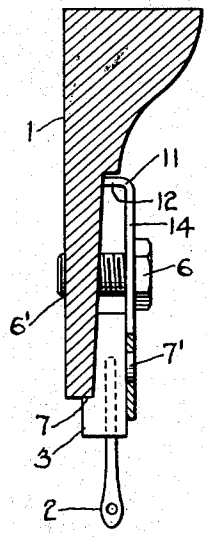


Fig. 2.

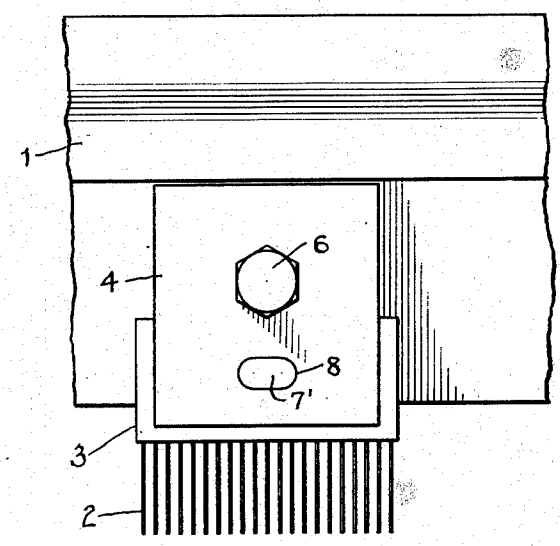


Fig. 3.

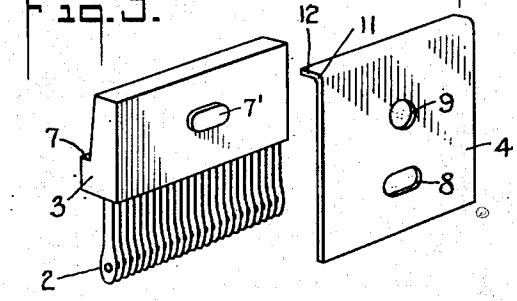


Fig. 4.

INVENTOR
ROBERT E. ERDMAN
ORVILLE R. NELSON

BY Melton & Stevenson
ATTORNEYS

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GUIDE

Robert E. Erdman and Orville R. Nelson, Cumberland, Md., assignors to Celanese Corporation of America, a corporation of Delaware

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6 Claims. (Cl. 66—86)

This invention relates to the fitting of guides or eye needles to knitting machines, and especially the fitting of guides to warp knitting machines by means of metal clips.

An object of this invention is a method of fabricating guides whereby the needle room output is increased 30% or more.

Another object of the invention is a method of fitting of guides to a warp knitting machine in such a manner that in reguiding the machine to replace cut or worn guides all good parts of the guides are salvaged.

A further object of this invention is to reduce the overall weight of a block of guides by substituting a clip and a small quantity of lead for the usual all-lead guide.

Other objects of the invention will appear from the following description and drawing.

In the drawing, wherein a preferred modification of our invention is shown,

Fig. 1 is a side elevational view, partially in cross-section, of the device of our invention attached to the guide-bar of a warp knitting machine,

Fig. 2 is a front elevational view of the same,

Fig. 3 is a perspective of a guide assembly, and

Fig. 4 is a perspective of an attaching clip.

Like reference numerals indicate like parts throughout the several views of the drawing.

In warp knitting machines, the yarns are carried in guides, or, as they are more commonly known in the art, eye needles, which are rigidly mounted in a bar or a plurality of bars. These bars are moved in and out, up and down and endwise governing which yarns are knitted and in which wale and course they are knitted, thus determining the type and pattern of cloth produced. When it is desired to change a knitting machine to knit yarns of another denier or to produce a cloth having a different pattern it is sometimes necessary to replace the guides with those suitable and adaptable to the new yarns. Moreover, yarn passing through the very thin guide necessary on warp knitting machines causes them to wear rapidly so that replacement is frequent. The device of our invention is so designed that it greatly reduces the labor required to change the guides and makes possible the salvage of the parts, thus lowering the cost of said guides.

Referring now to the drawing, the guide-bar of a warp knitting machine on which the device of our invention is adapted to be mounted is indicated by the reference numeral 1. Our novel device comprises guides 2, which are usually of steel, embedded in a small lead block 3 to rigidly hold the same in predetermined positions. This embedding of the guides may be effected by pouring molten lead in a mold in which the guides have been positioned. In place of lead any suitable metal or alloy having similar properties such as melting point, moldability, etc. may be employed. The lead block with the embedded guides is attached to the guide-bar 1 by a metal clip 4 held in place by a screw-bolt 6 adapted to be received in a screw-threaded aperture 6' in the guide-bar.

To aid in positively positioning the guides on the knitting machine and to prevent misalignment with the knitting needles the lead block 3 is formed with a shoulder 7 adapted to fit the forward edge of the guide-bar 1 and an elongated protruding lug 7' adapted to fit in a slot 8 in the metal clip 4. The combination of the shoulder 7 and the protruding lug 7' on the lead block 3 prevents any movement of the guides 2 with respect to the guide-bar 1 and/or the clip 4.

The metal clip 4 is preferably made of spring steel and has besides the slot 8 a hole 9 through which the bolt 6 passes. One end of the clip is bent as indicated at 11 to form a bearing and spacing element 12 for positioning the clip with reference to the guide-bar 1, and allowing the spring action of the clip to grip the lead block more firmly.

In the construction outlined above the overall weight of a block of guides is reduced due to the substitution for the usual all-lead guide of a structure comprising a clip and a small quantity of lead. Since the guide-bar reciprocates back and forth and endwise at high speed it is of the utmost importance to reduce the reciprocating weights to ensure better balance and consequently more accurate placing of the guides in their knitting operations.

It is to be understood that the foregoing detailed description is merely given by way of illustration and that many variations may be made therein without departing from the spirit of our invention.

Having described our invention, what we desire to secure by Letters Patent is:

1. The combination of a knitting machine guide-bar and means for attaching guides to same, said means comprising guides embedded in a low melting metal block, a clip adapted to hold the said block on the said guide-bar and means on said block for retaining the same in fixed relation to said guide-bar.

2. The combination of a knitting machine

guide-bar and means for attaching guides to same, said means comprising guides embedded in a low melting metal block, a clip adapted to hold the said block on the said guide-bar and a shoulder on said block for retaining said block in fixed relation to said guide-bar.

3. The combination of a knitting machine guide-bar and means for attaching guides to same, said means comprising guides embedded in a low melting metal block, a clip adapted to hold the said block on the said guide-bar and means on said block for retaining said block in fixed relation to said clip but permitting detachment of the block from the clip at need.

4. The combination of a knitting machine guide-bar and means for attaching guides to same, said means comprising guides embedded in a low melting metal block, a clip adapted to hold the said block on the said guide-bar, and a protruding lug on said block for retaining said block in fixed relation to said clip but permitting detachment of the block from the clip at need.

5. The combination of a knitting machine guide-bar and means for attaching guides to same, said means comprising guides embedded in a low melting metal block, a clip adapted to hold the said block on the said guide-bar, means on said block for retaining the same in fixed relation to said guide bar and additional means on said block for retaining it in a fixed relation to said clip.

6. The combination of a knitting machine guide-bar and means for attaching guides to same, said means comprising guides embedded in a low melting metal block, a spring metal clip adapted to hold the said block on the said guide-bar, a shoulder on said block for retaining said block in fixed relation to said guide-bar and a protruding lug on said block opposite to said shoulder for retaining said block in fixed relation to said clip.

ROBERT E. ERDMAN.
ORVILLE R. NELSON.