July 17, 1962 W. LIEBCHEN 3,044,283

WARP KNITTING MACHINES

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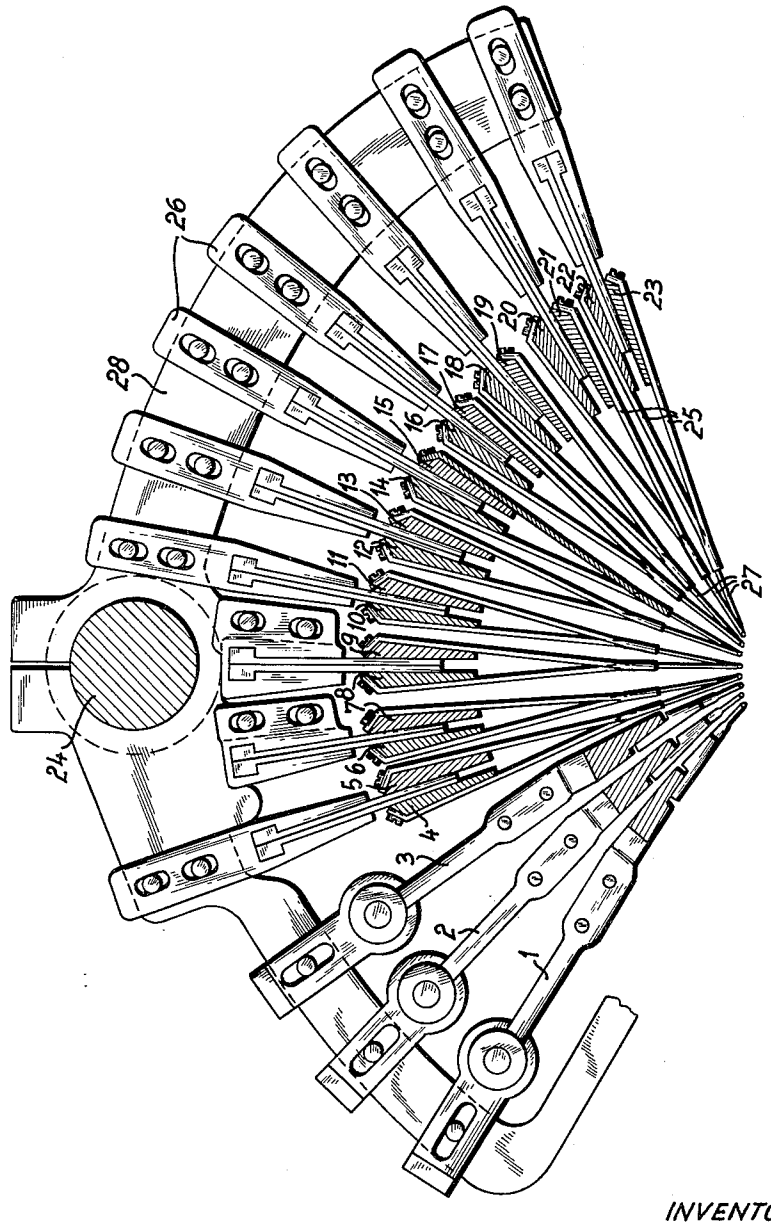


FIG. 1

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FIG. 2

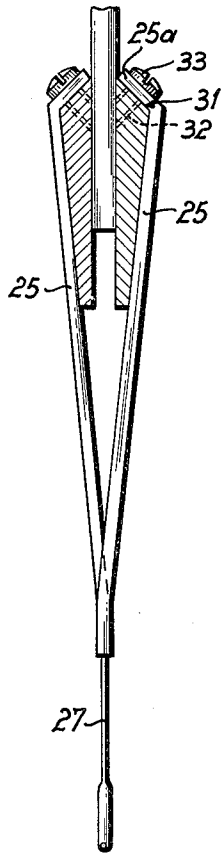
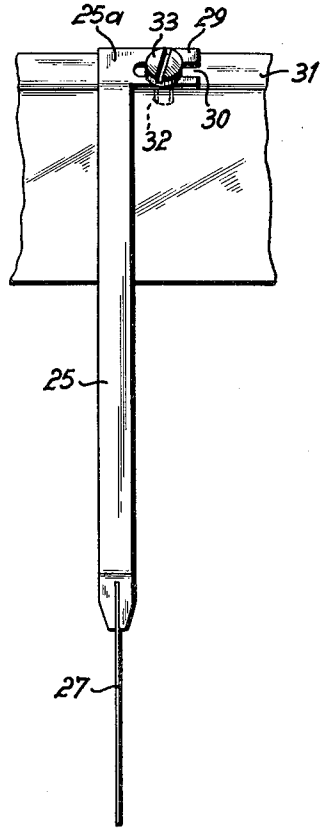


FIG. 3



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WARP KNITTING MACHINES

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2 Claims. (Cl. 66—86)

This invention relates to a warp knitting machine and more particularly to a flat bed warp knitting machine, for producing patterned warp knitted fabrics, comprising a plurality of pattern guide bars with detachable guides.

In known knitting machines of this kind the guides are secured to the sides of the guide bars. This has the disadvantage that whenever it is necessary to replace a guide, for instance a guide which has broken, all the guide bars in front of the particular guide bar which carries the broken guide must be removed before access to the broken guide is obtained.

According to the invention this drawback is overcome by locating the point of fixation of the guide shanks on the top of the pattern guide bars. In this form of construction each guide can be individually detached by loosening its fixing screw and withdrawing it upwards from the assembly, the dismounting of guide bars from the hangers being unnecessary.

In a preferred form of construction according to the invention each guide shank has an off-angled and slotted upper end which extends over the top of the respective pattern guide bar.

Conveniently the top face of the pattern guide bar and the upper off-angled end of the guide shank may form an angle of more than 90° with the rest of the guide shank.

An illustrative embodiment of the invention will be described in greater detail with reference to the accompanying drawings in which:

FIG. 1 is a transverse section of a hanger assembly according to the invention,

FIG. 2 is a transverse section of two neighboring guide bars with guides, and

FIG. 3 is a side elevation of guide bar and guide corresponding with FIG. 2.

The hanger assembly of a flat bed warp knitting machine, such as a Raschel machine, is equipped for instance with three foundation guide bars **1**, **2** and **3** and twenty pattern guide bars **4** to **23** (FIG. 1). The hanger assembly comprises a hanger **28** mounted on rocking shaft **24** adapted to impart a swinging motion to the right and

left as well as a horizontal shogging motion to the assembly. The pattern guide bars **4** to **23** which carry guides **27** are longitudinally guided in members **26** secured to the hanger **28**.

Each guide **27** is mounted in a flat shank **25**. At its upper end the shank **25** has a lateral extension **29** with a slot **30** for engagement by a fixing screw **33** (FIG. 3). The shanks **25** extend to the top of the downwardly tapering cross section of the guide bars **4** to **23** which have top faces **31** with a downward slope (FIG. 2). The upper end **25***a* of each guide shank **25** and its extension **29** are bent over sideways in such manner that the bent end **25***a* will bear flush on the sloping face **31** of the top of the guide bar.

The slot **30** for the reception of the fixing screw **33** in extension **29** of the guide shank **25** is therefore in a position in which it is accessible from above and the threaded shank of the screw **33** can be inserted into the slot, screwed into the threads of the hole in the upper face of the pattern guide bar, and tightened.

It is to be understood, of course, that the invention should not be limited to the embodiment described herein, since modifications may be made within the scope of the claims.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In a flat bed warp knitting machine for producing patterned warp knitted fabrics and having a plurality of pattern guide bars arranged in a bank in side-by-side relation, the improvement which comprises, a plurality of guides, shanks connected to the guides, each of the pattern bars having an elongated side provided with an included face exposed outwardly of the bank, each of the shanks extending along said side of a respective one of the bars and having an end bent to overlie the exposed face of that pattern bar, and means passing through the bent ends of the shanks into the underlying bars normal to the exposed faces of the bars to fix the shanks to the bars.

2. In a flat bed warp knitting machine as claimed in claim 1, wherein the bent ends of the shanks are slotted, and the means fixing the shanks to the bars are screws.

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