

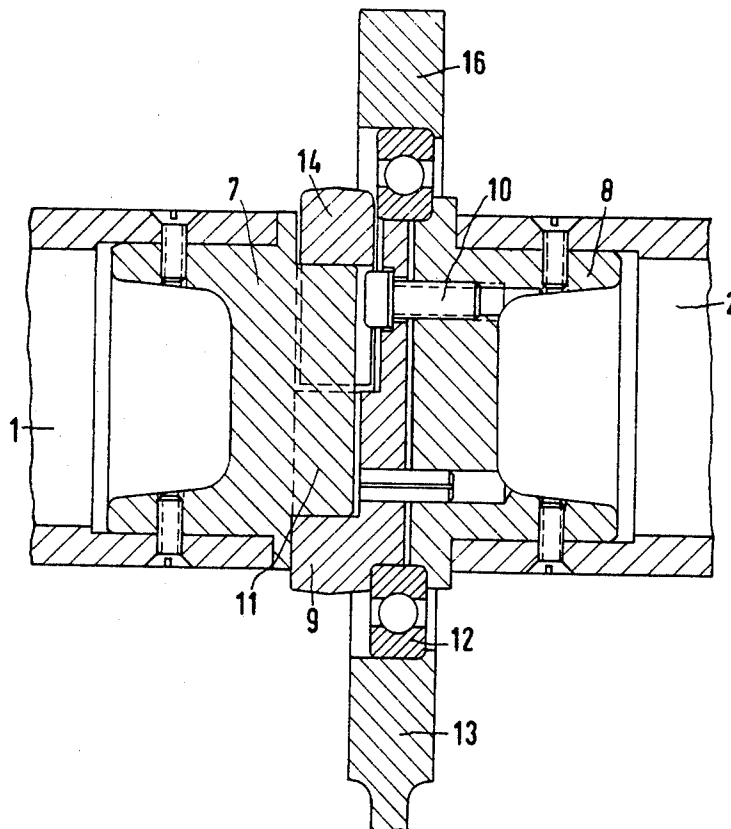
[72] Inventor **Arno Zwingenberger**  
**Marxgrun, Germany**  
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 [73] Assignee **Karl Liebrandt, Naila Bayern**  
**Griesbacher Weg, Germany**  
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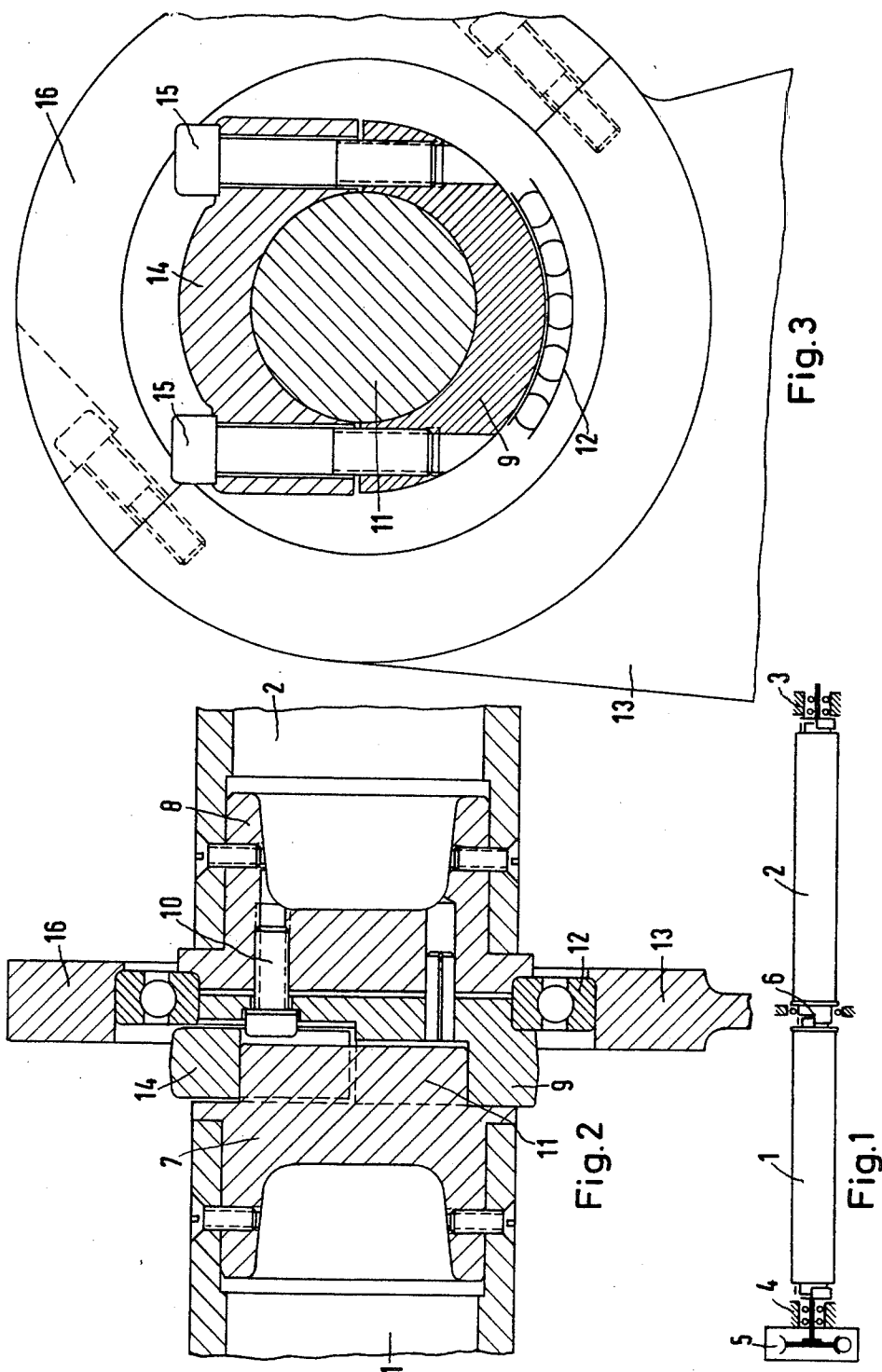
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Primary Examiner—Ronald Feldbaum  
 Attorney—Nathan M. Briskin

[54] **COUPLING FOR THE BEARING SHAFTS OF SECTIONAL WARP BEAMS OF WARP KNITTING AND RASCHEL MACHINES**  
**2 Claims, 3 Drawing Figs.**  
 [52] U.S. Cl. .... **66/86,**  
**242/118.41**  
 [51] Int. Cl. .... **D04b 23/00**  
 [50] Field of Search..... **66/86;**  
**242/118.41, 118.5**

**ABSTRACT:** Warp knitting machines of large working width are often provided with sectional warp beams, the bearing shaft sections of which are connected by couplings permanently journaled in the machine frame. Heretofore, considerable gaps occurred between adjacent sectional beams resulting in disturbing effects on the yarn feed. The invention provides a very narrow coupling rigidly attached to a shaft section, which considerably reduces the distance between adjacent sectional beams.





INVENTOR  
ARNO ZWINGENBERGER

# COUPLING FOR THE BEARING SHAFTS OF SECTIONAL WARP BEAMS OF WARP KNITTING AND RASCHEL MACHINES

In warp knitting and Raschel machines of large working width, the bearing shafts of the sectional warp beams are divided in corresponding sections to enable the operator to put the heavy yarn beams in the machine by hand or mechanically. These bearing shaft sections are afterwards coupled in the machine and driven simultaneously by a yarn supply gear.

To interconnect the abutting sections of the bearing shaft, couplings have been used heretofore which were journaled in a bearing attached to the frame of the machine, e.g. a central traverse supporting the sectional warp beams. The separate shaft sections were fitted into receptacles to the left and right of the coupling, respectively, and each screwed to a cover member, resulting in a rigid connection. Such couplings, however, were rather wide which caused a relatively large gap between two adjacent sectional beams and resulted in a disturbing effect on the yarn feed from the warp beams to the knitting tools.

It is, therefore, an object of the invention to avoid the disadvantages of the construction hitherto known and to achieve an almost uniform distribution of the warp along the beam width.

Another object of the invention is to facilitate the mounting and dismounting of the individual sections of the beam shaft.

According to the invention, the coupling is rigidly connected with the associated end of a shaft section, and the end of the adjacent shaft section is provided with a peg adapted to be inserted into the coupling and clamped by a cover or a half shell of the coupling.

Other objects, features and advantages of the invention will become apparent from the following description of a preferred embodiment shown schematically in the accompanying drawing, in which:

FIG. 1 shows, with a considerable reduction of scale compared to the other figures, the general layout of two sectional warp beams,

FIG. 2 is a sectional elevational view on an enlarged scale of the coupling zone of FIG. 1,

FIG. 3 is a sectional side view of FIG. 2 as seen from the left.

Two bearing shaft sections 1 and 2 of a sectional warp beam

are shown in FIG. 1 to be journaled on the right side in a bearing 3 and on the left side in a bearing 4. The left section is driven by a yarn feeding gear 5. Both abutting sections are connected by a central coupling 6.

FIGS. 2 and 3 show details of the coupling according to the invention. Both ends of the bearing shafts 1 and 2, designed as hollow shafts, are provided with a rigidly attached end cover 7 and 8, respectively. One half 9 of a sleeve coupling is connected to the end cover 8 by screws 10 and has a receptacle for the peg 11 of the end cover 7. The unit formed by parts 8 and 9 is supported by a ball bearing 12 in the central traverse 13.

Thus it can be seen that the coupling 9 is rigidly mounted to the shaft section 2, while the peg 11 of shaft section 1 is inserted into the coupling and clamped by the cover or shell 14. This is effected by screws 15.

This design results in a very narrow central traverse 13 and also a narrow coupling 9. The two sectional warp beams (not shown) can be arranged with an extremely small mutual distance.

To dismount the shaft section 1, it is only required to open the shell 14 by loosening the screws and to remove the shaft upwards.

To dismount the shaft section 2, the shell 16 for the ball bearing is unscrewed and the shaft is removed transversely upward.

It will be obvious to a person skilled in the art that numerous alterations and substitutions are possible in practicing the invention without departing from the scope of the claims.

I claim:

1. A warp knitting or Raschel machine comprising sectional warp beams supported by corresponding hollow shaft sections, end covers rigidly attached to adjacent ends of said shaft sections, one of said end covers being provided with a cylindrical peg, one half of a sleeve coupling connected to the other of said end covers and having a substantially semicylindrical receptacle for said cylindrical peg, and a substantially cylindrical shell or cover adapted to be screwed on said coupling half to removably clamp said peg in said coupling.

2. A warp knitting machine according to claim 1, bearing means for supporting said coupling, and removable means for attaching said bearing to the machine.

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