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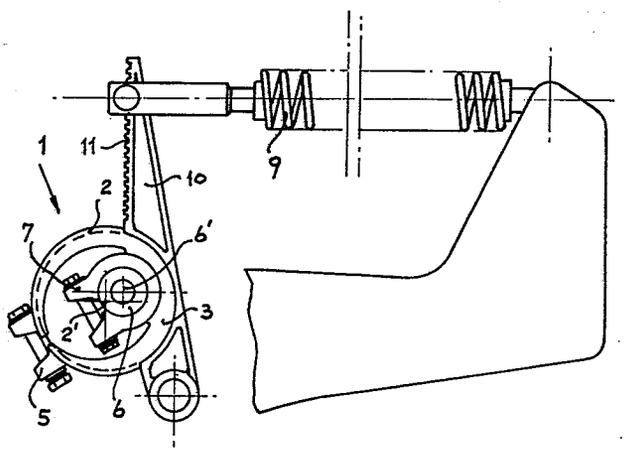
(54) Thread carrier with inner torsion bar for weaving looms.

(57) In a thread carrier (1) for weaving looms, the torsion bar (6) associated thereto is positioned inside the hollow cylinder (2) of said thread carrier, with its axis (6') parallel to but separate from the axis of said cylinder (2'), two end supports (3) connecting the cylinder to the torsion bar by means of a clamp (7) provided between the support and the bar and a clamp (5) and bearing provided between the support and the cylinder.



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"THREAD CARRIER WITH INNER TORSION BAR FOR WEAVING LOOMS"

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The present invention relates to an improved thread carrier for weaving looms.

As known, one of the problems which the designers of looms have to face is that of an appropriate positioning of the thread carrier and of the torsion bar associated thereto, in order to extend the signals produced by the variations of tension in the threads to the full height of the loom.

The current trend to increase the width of weaving machines, to obtain wider fabrics, causes the hollow metal cylinder forming the thread carrier in looms to be subjected to increasingly higher stresses. It is hence necessary to increase the diameter of said cylinder, the diameter of the torsion bar and the load to be opposed: this means an increase of the overall volume of said unit, with serious inconveniences for the planning of the loom.

The object of the present invention is to provide an improved arrangement of the thread carrier-torsion bar unit and of the respective contrast means in a weaving loom, reducing the overall dimensions of the thread carrier and of the torsion bar, as well as the dimensions of the elastic contrast elements, without any transmissions and allowing the thread carrier to rotate about its own axis.

This is obtained, according to the invention, by arranging the torsion bar inside the thread carrier hollow cylinder, parallel to and in an eccentric position in respect of said cylinder, two end supports connecting the cylinder to the bar by means of a clamp provided between the support and the bar and a clamp and bearing provided between the support and the cylinder.

The invention will be described hereinafter, by mere way of example, with reference to the accompanying drawing, which shows a preferred embodiment thereof and in which:

Fig. 1 is a head view - with some parts in section and other parts removed - of the arrangement according to the present invention; and

Fig. 2 is a scrap view, from the top and at one end, of the arrangement of figure 1.

With reference to the drawing, the thread carrier 1 of the invention consists of a hollow metal cylinder 2, which is mounted at each end onto a support 3 by way of a bearing 4. The cylinder 2 may thus rotate on the bearing 4 in respect of the support 3, which is besides provided with a clamp 5, normally loose and by tightening which the cylinder 2 can be stopped from rotating.

The support 3 is made so as to support also the torsion bar 6, which is housed inside the hollow cylinder 2 in an eccentric position, namely with its axis 6' parallel to the axis 2' of the cylinder 2 but separate therefrom, as clearly evidenced in the figures of the drawing. The bar 6 is locked to the support 3 by a second clamp 7 of said support, normally tightened, and its end is mounted in a conventional way onto the frame 8 of the loom.

Reference 9 indicates contrast spring means acting on the thread carrier-torsion bar unit through a lever 10 provided with a toothing 11 for hooking the spring 9 into a plurality of positions, to which correspond variable contrast actions of said spring 9.

With the illustrated arrangement, the size of the unit comprising the thread carrier and the torsion bar therefor is notably reduced, the dimensions being - as clearly evident from the above description and drawing - simply those of the thread carrier (within whose cylinder the torsion bar is housed). Furthermore, in said arrangement, the point in which the resultant of the warp tensions is applied is very close to the axis of the torsion bar, which forms the fulcrum of application thereof; the torque being generated by said resultant is thereby small (having an arm six or seven times smaller than that of the conventional arrangements), with the

considerable advantage of allowing to use a contrast system being less stressed so reducing the dimensions even further.

CLAIM

1) Thread carrier for weaving looms, characterized in that the torsion bar associated thereto is positioned inside the hollow cylinder of the thread carrier itself, with its own axis parallel to but separate from the axis of said cylinder, two end supports connecting the cylinder to the torsion bar by means of a clamp provided between the support and the bar and a clamp and bearing provided between the support and the cylinder.

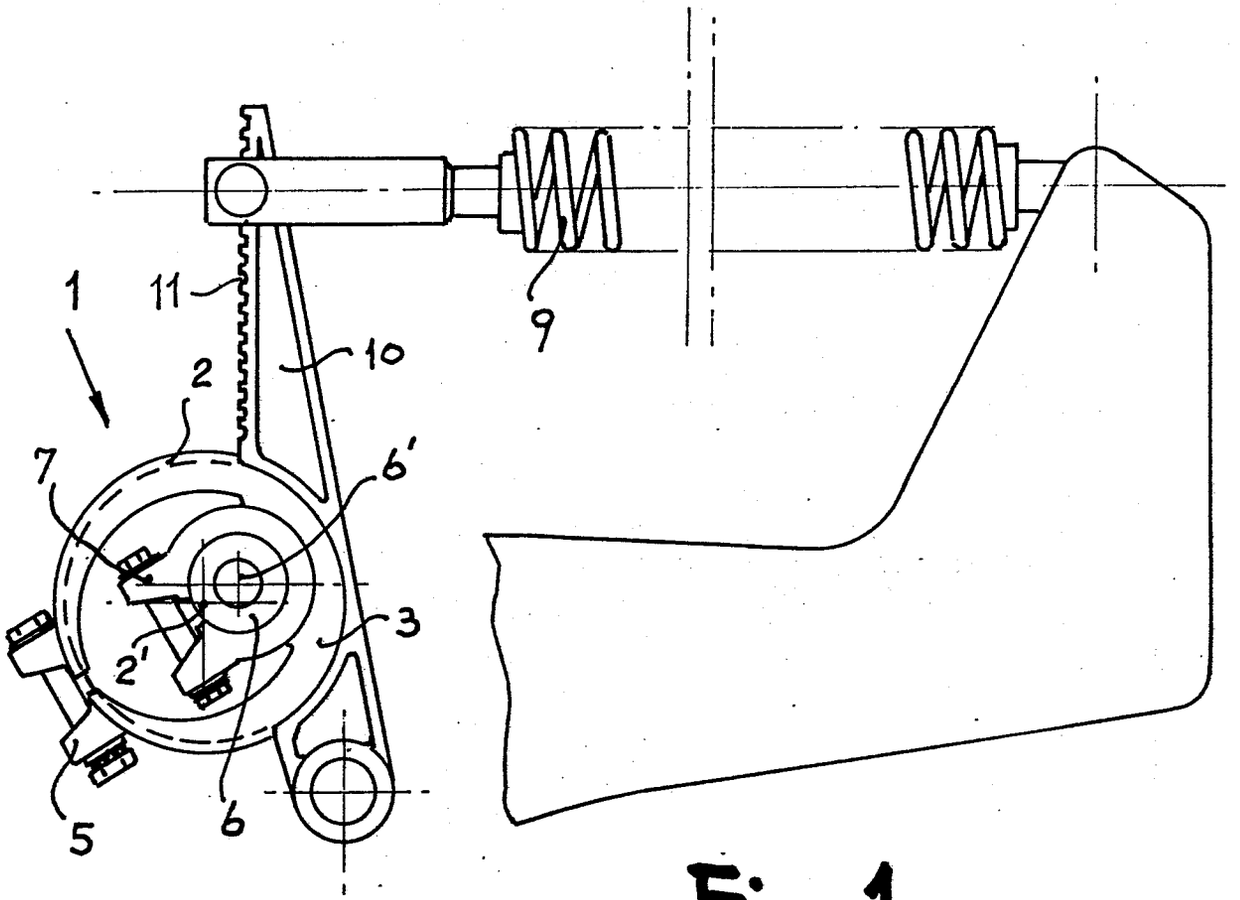

Fig. 1

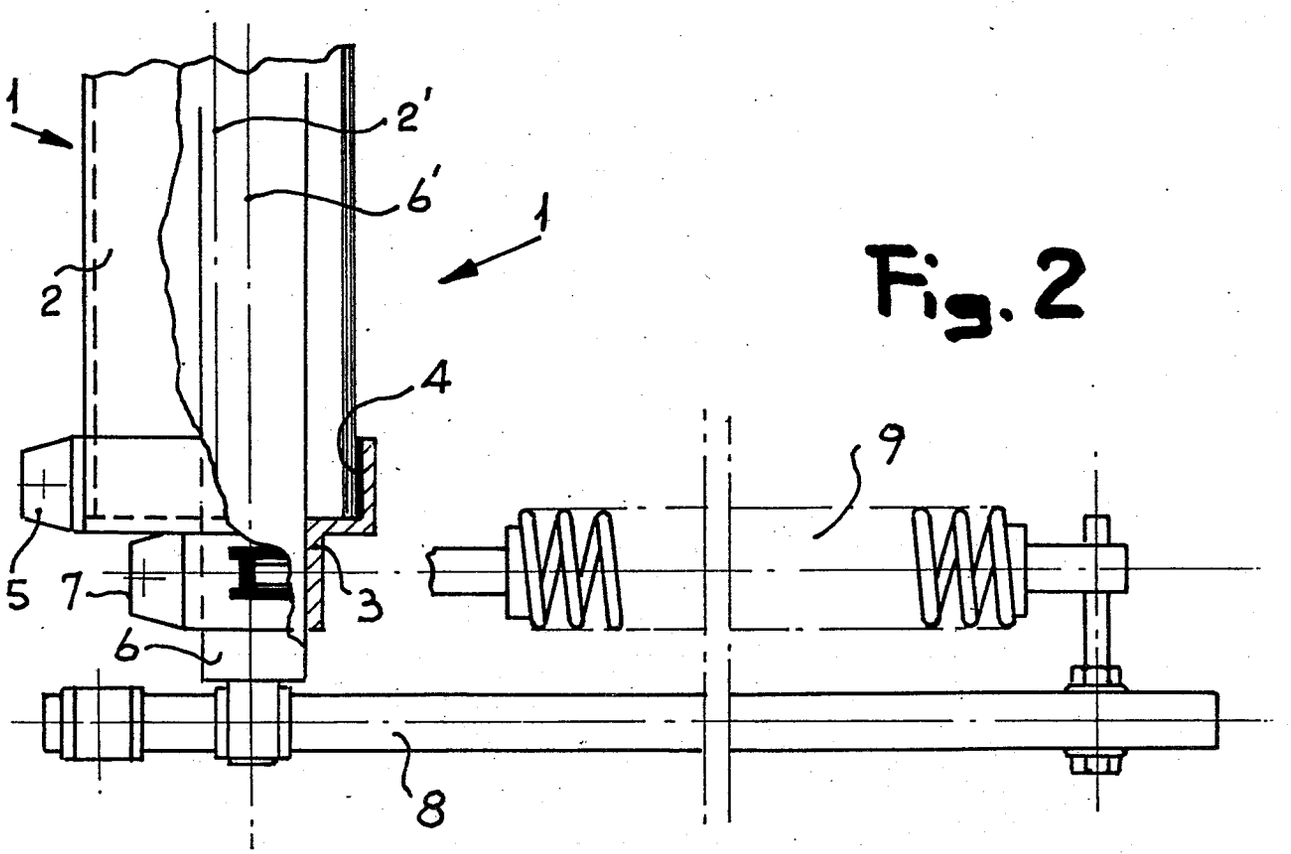

Fig. 2

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EUROPEAN SEARCH REPORT

Application number 0090249

EP 83 10 2497

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
A	DE-A-2 746 034 (VANDEWIELE)		D 03 D 49/08
A	DE-B-1 214 619 (GROB)		
A	GB-A-1 449 705 (CENTRALNE BIURO TECHNICZNE PRZEMSLU MASZYN WLOKIENNICZYCH)		

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

D 03 D 49/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	20-06-1983	KLITSCH G

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
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