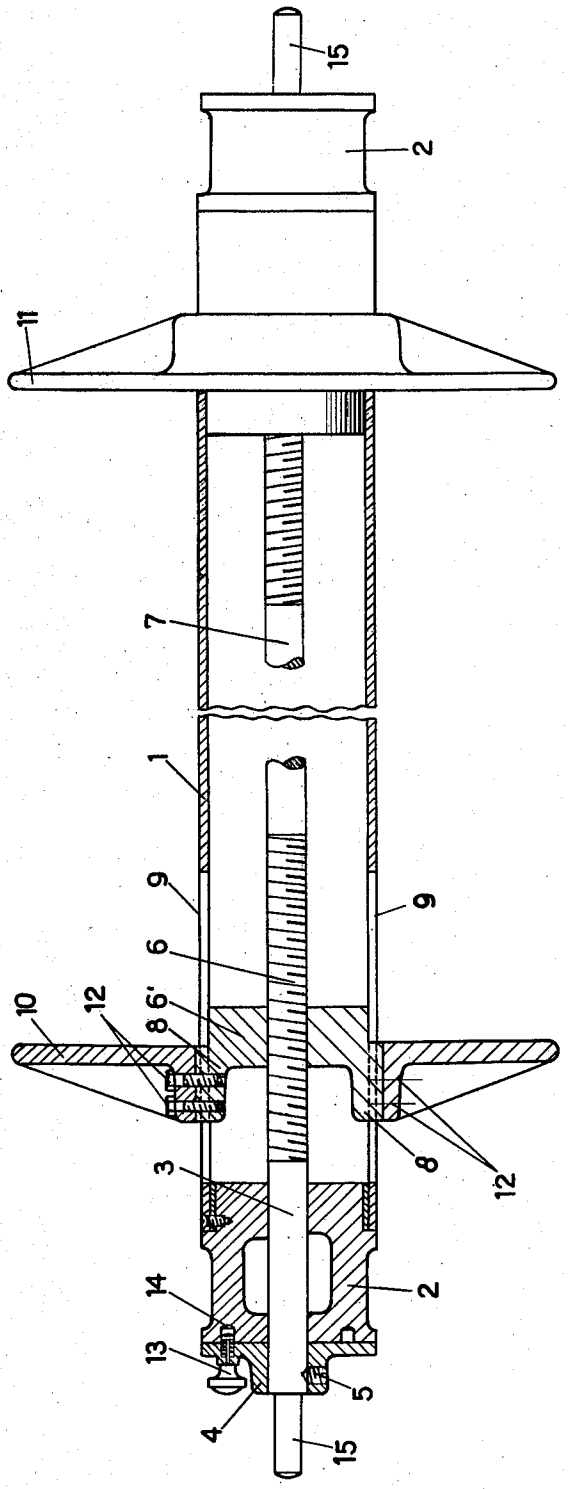
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WRAP BEAM FOR WEAVING WITH SAFETY LOCKING DEVICE FOR THE DISKS

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WARP BEAM FOR WEAVING WITH SAFETY LOCKING DEVICE FOR THE DISKS

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The cylinders (warp beams) used at present in textile mills for the preparing of warps, and in particular those to be mounted on weaving looms, have their discs or flanges fixed onto the cylinder by clamps, crowns or by other locking systems which have never warranted an absolute inalterability of the position of the flanges with respect to said cylinder. As an immediate consequence of this inconvenience, the warp becomes faulty, particularly at the lateral borders, with heavy damage for the fabric in correspondence of the selvedge.

Moreover, the overhauling or tightening of the "locks" in question, to be effected at least each time the beam is to be furnished with new warp, and the necessity of varying the distance between the discs according to the width of the cloth to be manufactured, involve a notable loss of time in working be it for the adjusting be it for the locking of the discs, although without having any assurance that they may remain fixed. Sometimes, the pressure of the warp itself, or an accidental impact, or the shifting of the cylinder suffices to displace the discs on their axis thus varying their mutual distance and causing the above mentioned inconveniences.

The warp beam according to the invention is characterized in that in the cylinder forming the axis of the warp beam there is accommodated internally and coaxially rotatable but not displaceable longitudinally a rod provided towards its two ends with right-threaded and left-threaded portions respectively and there are provided means for rendering said rod rigidly connected as a unit with said cylinder; on the threaded sections of said rod there are screwed two nuts provided with extensions sliding guided in a corresponding slit provided in the cylinder, by way of said extension there being fixed to each of the nuts one of the discs of the warp beam fitted slidably over the said cylinder.

With reference to the drawing, which represents merely by way of example, partly in section, one form of embodiment, with 1 is indicated the cylinder of the warp beam with its two terminal heads each constituted by a barrel member 2.

Into said cylinder is coaxially introduced the rod 3 in a rotatable manner. Any mutual longitudinal movement is prevented by means of two rings 4 fixed with a pressure screw 5 onto the rod 3 at the end of the cylinder 1. The rod has two sections 6 and 7 with a right thread and a left thread respectively, onto which are screwed two nuts 6' and 7'. Each of the two nuts has two extensions 8 (8') diametrally opposed and

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apt to slide as guided along the slits 9 (9') provided in the mantle of the cylinder.

The discs 10 and 11 are slidable on the cylinder 1 and are rendered as integral with the nuts 6' and 7' respectively by means of screws 12 engaging with the extensions 8 (8').

One of the rings or discs 4 carries an axially movable pin or a dowel 13 apt to engage with one of the recesses or holes 14 provided at equal intervals in the head of the cylinder and corresponding to the dowel 13. The rod 3 may be terminated, for example, by the pins 15.

The operation of taking the discs away of or closer to each other so as to obtain a larger or smaller distance between them, is performed as follows: The cylinder 1 is held fixed with any dowel or by hand so that it cannot rotate about its own axis. The rod 3 is turned in the desired sense. Thus the discs are obtained to draw away or near to each other and, consequently, the desired spacing between the discs is attained with the highest accuracy.

After adjusting, the dowel 13 is plugged again into the hole 14, thus locking safely the two discs 10 and 11. Common mechanical contrivances, such as a spring, ensure that the dowel falls and plugs into one of the holes 14.

On the borders of the two slits 9 (9'), provided on the cylinder, there are provided two measuring graduations which indicate the distance between the two discs of the warp beam, and enable one to find the accurate measure desired for the warp or for the width of the cloth without having recourse to a metre.

After taking the discs to the desired spacing, the cylinder is rendered as integral with the rod 3 provided with pins 15, by engaging the dowel 13 in the hole 14 of said cylinder.

The operation mentioned may even be accomplished by holding the rod in a fixed position and by turning the cylinder.

With the warp beam structure described, any even the least movement of the discs is prevented thus ensuring the constant regular delivery of the warp in such a manner as to obtain in particular the uniformity of tension in the selvages, and furthermore perfect winding up of the warp will be attained without any superimposition of threads, specially in the selvage.

No warp pressure displaces the discs anyway, on the contrary of what occurs with conventional warp beams, which as said are locked by screws, pressure, clamps etc.

Having now particularly described and ascertained the nature of my said invention and in

what manner the same is to be performed, I declare that what I claim is:

1. A warp beam, comprising a cylindrical body, a head means at each end of said body, the external diameter of said head means being not greater than that of said body, two nut means axially slidably but not rotatably mounted in said body, a rod extending coaxially to and through said body and being rotatably supported by said head means, said rod having a right hand and a left hand threaded portion, said portions extending individually through correspondingly threaded central bores of said nut means; at least one of said head means having a barrel member secured to said cylindrical body and having an end surface at a right angle to the rotation axis of the warp beam, a disc member unrotatably connected with said rod and having a surface adjacent to said end surface of said barrel member, and locking means eccentrically connected with said head means and adapted to interlock said barrel member and said disc member at desired relative angular positions.

2. A warp beam as defined in claim 1, said cylindrical body being hollow and having longitudinal slots substantially opposite said threaded portions, said nut means having a portion fitting into the hollow of said body and having radial extensions fitting into said slots.

3. A warp beam as defined in claim 1, said locking means comprising a pin axially movably connected with said disc member parallel to the rotation axis of the warp beam and a plurality of recesses in said barrel member for receiving said pin and being disposed on a circle on said end surface concentric with the rotation axis of the warp beam.

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