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(12) # EUROPEAN PATENT SPECIFICATION

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(54) **Warp stop-motion for weaving looms.**

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**FR-A- 414 637**
**FR-A-1 268 993**

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**EP 0 137 378 B1**

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Courier Press, Leamington Spa, England.

## Description

The present invention relates to an important improvement in the warp stop-motion for weaving looms of the type known from DE-C-801920.

It is known that, with certain types of yarns and with certain weaves, there often arises in weaving looms the problem of the breaking—according to the position of the stop-motion blades—of twisted yarns, either next to the actual blades, if the warp stop-motion is close to the healds, or near the stitches, if the warp stop-motion is close to the thread carrier. These breaks vary in proportion to the distance of the warp stop-motion from the thread carrier in that, according to the position of the warp stop-motion, there are stretches of warp yarns in which said yarns may twist together and then break when a stitch of the heald, or a blade of the warp stop-motion, has to separate them. To prevent this, the so-called leases are used, which however impart an additional stress on the warp yarn and are of limited effectiveness.

The present invention solves this problem with completely different methods and in a perfectly simple and efficient way, by highly reducing the risks of twisted yarns and by separating said yarns two or more times, with the same stress thereon as would be imparted by a conventional warp stop-motion.

For this purpose, the invention supplies a warp stop-motion for weaving looms, of the type comprising a plurality of rows carried by the loom and a far larger plurality of blades placed astride of the warp yarns and apt to cause—when dropping on the rows due to breaking of the warp yarns—the stopping of the loom, characterized in that said rows are divided into at least two widely spaced groups, positioned respectively close to the thread carrying roller and close to the healds and being apt to take up, each group independently, positions which can be adjusted both in height and in depth.

There are preferably two groups of rows and the distance between them may vary ten to twenty times the gauge between the rows of each group.

Moreover, according to the invention, the warp stop-motion blades are positioned on the warp yarns, in an alternate alignment for each group of rows, by adjacent yarns.

The invention will now be described in further detail, with reference to the accompanying drawings, in which:

Fig. 1 is a diagrammatic view of the usual arrangement of a conventional warp stop-motion;

Fig. 2 is a diagrammatic view of the warp stop-motion arrangement according to the invention, of which

Fig. 3 shows a detail; and

Fig. 4 shows the diagram of the alignment adopted for the warp stop-motion according to the invention.

With reference to the drawings, figure 1 shows how the rows 1 of a conventional warp stop-motion are arranged substantially at the center of the spacing between the thread carrying roller 2 and the healds 3 of the loom, reference 4 indicating the gauge between the single rows.

Figure 2 shows instead the arrangement according to the invention, which provides for the rows to be divided into two groups 11 and 12, of which the first is close to the thread carrying roller 2 and the second is close to the healds 3.

In this arrangement, the two groups of rows 11 and 12 may be spaced apart to an extent equal to ten—twenty times the gauge 4 between the rows; in the arrangement shown, said groups are positioned at even distances one from the other and in respect of the thread carrying roller and of the healds.

Figure 3 shows diagrammatically how the position of the two groups of rows 11 and 12 can easily be adjusted, both in height and in depth, for each group independently.

Figure 4 finally shows a diagram of the arrangement adopted for the blades 5 of the warp stop-motion on the warp yarns f: said blades are positioned on adjacent yarns f, in an alternate alignment for each group of rows 11 and 12.

It can easily be understood how, with the warp stop-motion and with the arrangement heretofore described and illustrated, it is possible to reduce—very simply and efficiently—the long stretches which may lead to the forming of kinks between adjacent yarns, while in case of twisting, there is anyhow an additional possibility for the twisted yarns to separate in correspondence of the blades.

It is understood that the heretofore described and illustrated embodiment is given by mere way of example and that there may be other practical embodiments of the warp stop-motion falling within the scope of the present invention.

## Claims

1. Warp stop-motion device for weaving looms, of the type comprising a plurality of rows carried by the loom and a far larger plurality of blades placed astride of the warp yarns and apt to cause - when dropping on the rows due to breaking of the warp yarns - the stopping of the loom, characterized in that, said rows are divided into at least two widely spaced groups (11, 12), positioned respectively close to the thread carrying roller (2) and close to the healds (3) and being apt to take up, each group independently, positions which can be adjusted both in height and in depth.

2. Warp stop-motion device as in claim 1), wherein the groups of rows are two and the distance between said groups may vary ten to twenty times the gauge between the rows of each group.

3) Warp stop-motion device as in claims 1) and 2), wherein the blades (5) are positioned on the warp yarns, according to an alternate alignment for each group of rows, by adjacent yarns.

**Patentansprüche**

1. Kettfadenwächter zum Abschalten von Webmaschinen von der Art mit einer von der Maschine getragenen Mehrzahl von Reihen und einer weit größeren Anzahl von Blättern, die auf den Kettfäden aufsitzend angeordnet sind und dazu eingerichtet sind - bei Auffallen auf die Reihen aufgrund eines Brechens der Kettfäden - ein Stoppen der Maschine zu bewirken, dadurch gekennzeichnet, daß die Reihen in wenigstens zwei mit einem weiten Abstand voneinander angeordneten Gruppen (11, 12) angeordnet sind, die relativ nahe der den Faden tragenden Rolle (2) und nahe den Litzen (3) angeordnet und dazu eingerichtet sind, unabhängig voneinander positionen einzunehmen, die sowohl in der Höhe als auch in der Position eingestellt werden können.

2. Kettfadenwächter nach Anspruch 1, wobei zwei Gruppen von Reihen vorhanden sind und der Abstand zwischen den Gruppen um das zehnfache bis das zwanzigfache der Weite zwischen den Reihen jeder Gruppe variieren kann.

3. Kettfadenwächter nach Anspruch 1 und Anspruch 2, wobei die Blätter (5) auf den Kettfäden angeordnet sind, entsprechend einer alternativen Ausrichtung für jede Gruppe von Reihen durch benachbarte Garne.

**Revendications**

1. Casse-chaîne pour métiers à tisser, du type comprenant un certain nombre de barres portées par le métier et un nombre beaucoup plus grand de lamelles placées à cheval sur les fils de chaîne et aptes à provoquer—en tombant sur les barres du fait de la rupture des fils de chaîne—la mise à l'arrêt du métier, caractérisé en ce que lesdites barres sont divisées en au moins deux groupes largement espacés (11, 12), respectivement placés près du rouleau porte-fil (2) et près des remisses (3) et aptes à prendre, pour chaque groupe indépendamment, des positions pouvant être ajustées tant en hauteur qu'en profondeur.

2. Casse-chaîne selon la revendication 1, dans lequel les groupes de barres sont au nombre de deux et la distance les séparant peut varier entre dix et vingt fois l'écartement entre les barres de chaque groupe.

3. Casse-chaîne selon les revendications 1 et 2, dans lequel les lamelles (5) sont placées sur les fils de chaîne, selon un motif alterné pour chaque groupe de barres, de fils voisins.

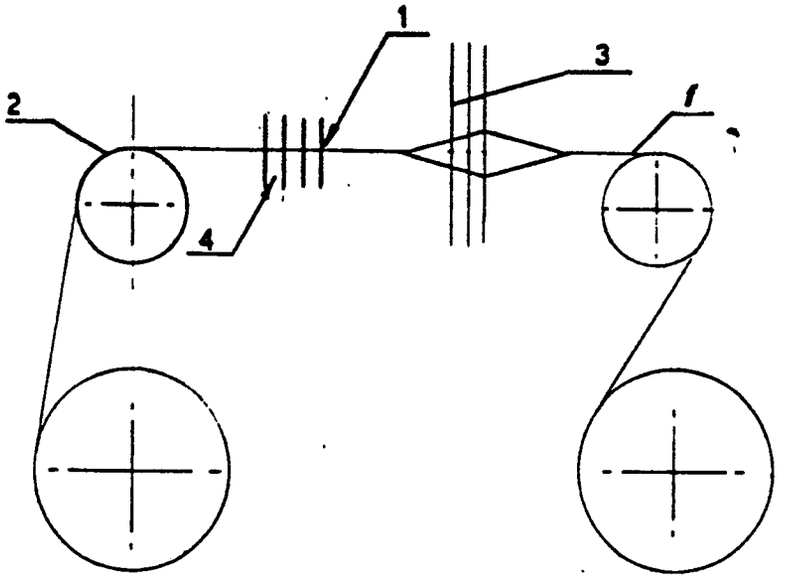



Fig 1

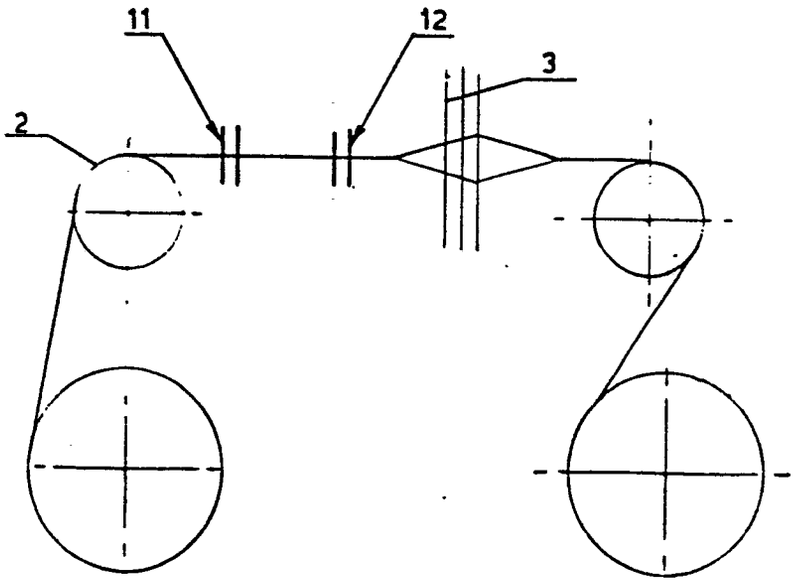



Fig. 2

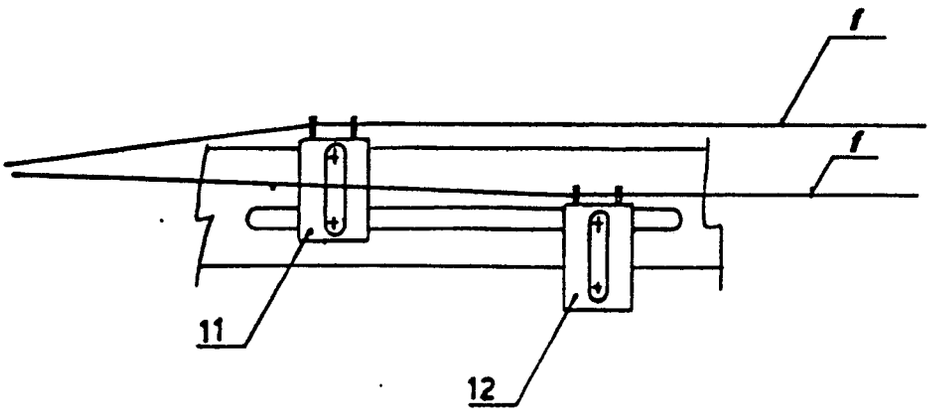



FIG. 3

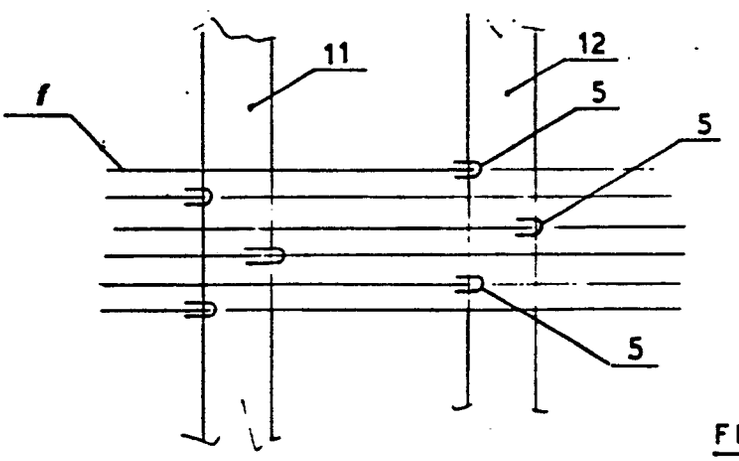



FIG. 4