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LUBRICATING MEANS IN A REEDING MACHINE

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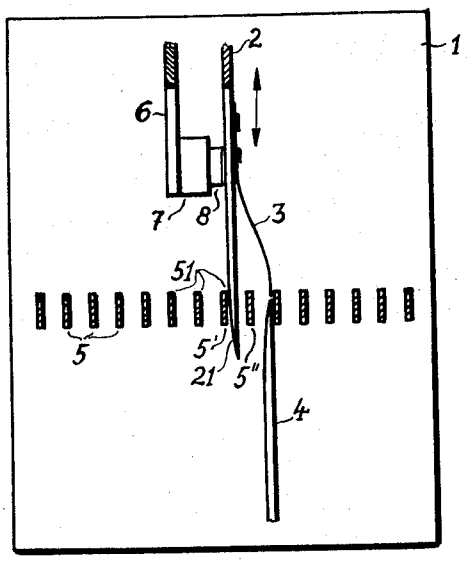

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LUBRICATING MEANS IN A REEDING MACHINE

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This invention relates to weaving and, more particularly, to an improved means for reeding warp threads in preparation for weaving. In preparation for weaving, the warp threads are reeded by semi-automatic or fully automatic reeding machines. By "reeding" is meant the drawing of the warp threads between the teeth of the reed, which latter, during the weaving operation, is reciprocated longitudinally of the warp threads to push the weft threads into position.

These reeding machines comprise drawing elements, such as the so-called "passettes" or "healds," which penetrate between the individual teeth of the reed and control the progress of reeding from tooth to tooth in a known manner. As a result of this penetration of the healds between the reed teeth, there is friction between the healds and the reed teeth and such friction cannot be avoided. Due to this friction, the edges of the reed teeth become roughened at their points of contact with the healds. This roughening is very undesirable because the reed, during the weaving operation, is substantially continuously in motion and the warp threads must slide uninterruptedly between the reed teeth. If the teeth become roughened, they may damage the warp threads, especially if these consist of synthetic fibres.

An object of the present invention is to provide a device for reeding warp threads in which such roughening of the edges of the reed teeth is avoided.

Another object of the invention is to provide an improved device for reeding warp threads in advance of weaving.

A further object of the invention is to provide a device for reeding warp threads including means for lubricating at least one of the warp thread drawing elements, such as passettes or healds.

Yet another object of the invention is to provide a device for reeding warp threads wherein, in advance of penetrating between the teeth, at least one of the warp thread drawing elements slides past a lubricant dispensing member to take up traces of lubricant.

Still another object of the invention is to provide a device for reeding warped threads wherein an oil-impregnated wick is arranged as a lubricant dispensing member for engagement with a warp thread drawing element as the latter moves toward a position penetrating between the reed teeth.

An ancillary object of the invention is to provide such a lubricant dispensing member including an oil-impregnated wick and wherein the lubricant may be replenished.

Another ancillary object of the invention is to provide a device for reeding warp threads of the type just mentioned, and wherein the supply container for the lubricant is in the form of a grease box.

In accordance with the invention, roughening of the edges of reed teeth by contact with the warp thread drawing elements, such as the mentioned passettes or healds, is obviated by providing means dispensing a lubricant and so arranged that at least one of the drawing elements which come into contact with the reed teeth slides past a lubricant dispensing member in advance of such penetration and, in sliding past this member, takes up traces of lubricant.

For an understanding of the principles of the invention reference is made to the following description of a typical embodiment thereof as illustrated in the accompanying drawing.

In the drawing, the single figure is a part schematic and part sectional view of a device for reeding warp threads in accordance with the invention.

Referring to the drawing, those parts of a reeding machine which are known per se, and which are either unessential to an explanation of the invention or are not related to the invention, are indicated by the block **1**. A relatively few teeth **5** of a reed are shown in section. The warp threads are reeded by two cooperating passettes or healds, including an upper heald **2** and a lower heald **4**. The progress of these healds from tooth to tooth of the reed is controlled by a spring **3**.

When, for example, the upper heald **2** passes between two reed teeth, such as the teeth **5'** and **5''**, the side surface **21** of the upper heald **2** is biased against the tooth edge **51** so that there is friction between the side surface of the heald and the tooth edge. If this friction occurs as dry friction, edge **51** of the reed tooth may become roughened and the warp thread may be damaged at this point in the subsequent weaving operation.

In accordance with the invention, means are provided for very substantially reducing, or eliminating, such roughening of the reed teeth. Referring again to the drawing, a holder **7** supporting a lubricating pad **8** is mounted on a support **6** which is secured at a suitable position on the reeding machine. The lubricating pad may be, for example, a wick impregnated with a lubricant, which lubricant may be replenished. The lubricating pad **8** is so situated relative to the upper heald **2** that the surface **21** of this heald slides over the pad or wick **8** before penetrating between two reed teeth **5'**, **5''**. In so doing, the upper heald **2** takes up traces of lubricant. Thus, when the heald penetrates between the two reed teeth, the friction between the surface **21** of the heald and an edge **51** of a tooth is reduced by the lubricant film so that the edge **51** remains undamaged.

In the event of particularly severe stressing of the healds, it may be necessary or desirable also to lubricate the lower heald **4** before it penetrates between the teeth **5** of the reed. In such case, a further lubricative dispensing arrangement, such as provided for the upper heald **2**, may be operatively associated with the lower heald **4** in such a way that the latter may take up lubricant as it passes over the lubricant containing member in its movement toward the reed. The holder **7** may be, for example, a grease cup or other form of lubricant reservoir.

While a specific embodiment of the invention has been shown and described in detail in order to illustrate the application of the principles of the invention, it will be understood that the invention may be embodied otherwise without departing from such principles.

What is claimed is:

1. In a reeding machine for reeding warp threads preparatory to weaving and of the type including a reed having spaced teeth and a drawing element, such as a heald, for penetrating between the teeth to reed the warp threads, the heald, during such penetration, having frictional contact with the reed teeth: the improvement comprising lubricant means in the path of movement of the heald toward the reed effective to contact the heald surface to lubricate the same.

2. In a reeding machine for reeding warp threads preparatory to weaving and of the type including a reed having spaced teeth and a drawing element, such as a heald, for penetrating between the teeth to reed the warp threads, the heald, during such penetration, having frictional contact with the reed teeth: the improvement comprising a lubricant dispensing member positioned in the path of

movement of the heald toward the reed and effective to contact the heald surface to lubricate the same.

3. In a reeding machine for reeding warp threads preparatory to weaving and of the type including a reed having spaced teeth and a drawing element, such as a heald, for penetrating between the teeth to reed the warp threads, the heald, during such penetration, having frictional contact with the reed teeth: the improvement comprising a lubricant impregnated element positioned in the path of movement of the heald toward the reed and effective to contact the surface of the heald to lubricate the same.

4. In a reeding machine for reeding warp threads preparatory to weaving and of the type including a reed having spaced teeth and a drawing element, such as a heald, for penetrating between the teeth to reed the warp threads, the heald, during such penetration, having frictional contact with the reed teeth: the improvement comprising an oil-impregnated wick positioned in the path of movement of the heald toward the reed and effective to contact the heald to lubricate the same.

5. In a reeding machine for reeding warp threads preparatory to weaving and of the type including a reed having spaced teeth and a drawing element, such as a heald, for penetrating between the teeth to reed the warp threads, the heald, during such penetration, having frictional contact with the reed teeth: the improvement comprising a lubricant reservoir; and a lubricating member in operative association with said reservoir and positioned in the path of movement of the heald toward the reed and effective to contact the heald to lubricate the same.

6. In a reeding machine for reeding warp threads preparatory to weaving and of the type including a reed having spaced teeth and a drawing element, such as a heald, for penetrating between the teeth to reed the warp threads, the heald, during such penetration, having frictional contact with the reed teeth: the improvement comprising a

lubricant-containing reservoir; and a wick engaged within said reservoir and positioned in the path of the heald toward the reed and effective to contact the surface of the heald to lubricate the same.

7. In a reeding machine for reeding warp threads preparatory to weaving and of the type including a reed having spaced teeth and a drawing element, such as a heald, for penetrating between the teeth to reed the warp threads, the heald, during such penetration, having frictional contact with the reed teeth: the improvement comprising a lubricant reservoir constructed and arranged for replenishment of the lubricant therein; and a wick engaged in said reservoir and positioned in the path of movement toward the reed and effective to contact the heald surface to lubricate the same.

8. In a reeding machine for reeding warp threads preparatory to weaving and of the type including a reed having spaced teeth and a drawing element, such as a heald, for penetrating between the teeth to reed the warp threads, the heald, during such penetration, having frictional contact with the reed teeth: the improvement comprising a grease cup; and a lubricant dispensing member in operative association with said grease cup and positioned in the path of movement of the heald toward the reed and effective to contact the heald to lubricate the same.

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