Aug. 5, 1958 C. WAGNER 2,845,953

SHAFT ARRANGEMENT FOR WEAVING LOOMS

Filed Jan. 6, 1954

FIG. 1

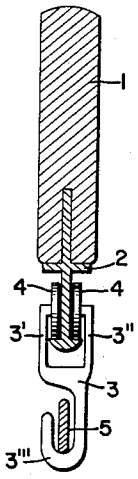


FIG. 2

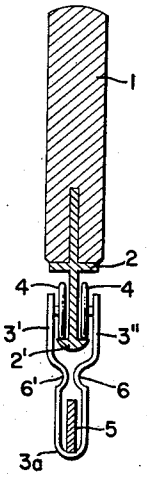


FIG. 3

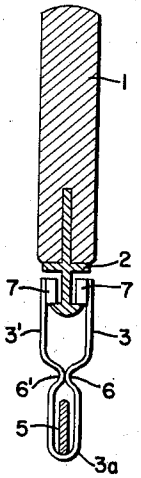


FIG. 4

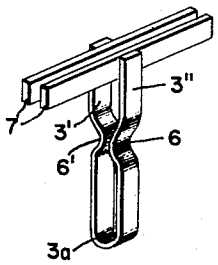


FIG. 5

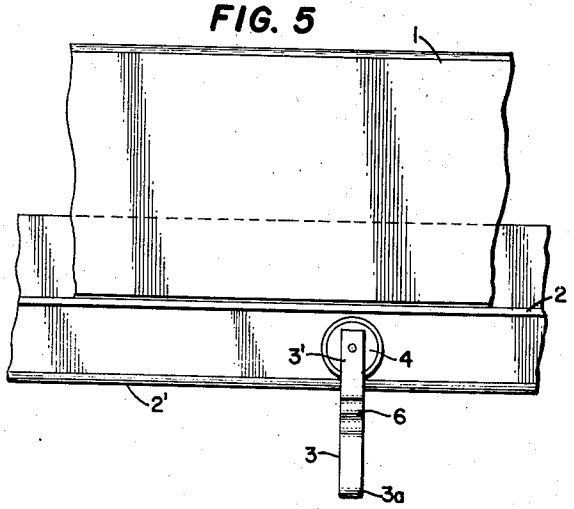


FIG. 6

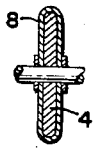
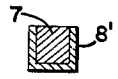


FIG. 7



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SHAFT ARRANGEMENT FOR WEAVING LOOMS

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1 Claim. (Cl. 139—92)

This invention relates to a shaft arrangement for weaving looms of the type comprising profiled shaft staves of light metal.

The use of light metal for shafts of healds has become common practice in an ever increasing extent. The shaft stave either consists of light metal throughout or of wood which is provided with a light metal stave on which the shaft hooks are slidably mounted. In both cases, the droppers gradually work into the light metal, since even with the slight reciprocal or rocking motions of the shaft hooks and the relatively low friction caused thereby, very fine metal chips are abraded from the shaft staves. Said metal chips fall onto the warp thread, thus entering into the fabric and causing stains in the finishing process which stains cannot be removed.

It is an object of the present invention to provide shaft hooks which do not cause any wear and tear of the light metal shafts.

With this and further objects in view, according to the present invention the shaft hooks consist of resilient clips which are contracted in the midway of their length and provided at their free ends with slide strips or more particularly rollers adapted to be put on the shaft which is constructed as a slide rail, by spreading the resilient arms, preferably by means of a forcipated tool, said slide strips or rollers consisting, or being provided with a coating consisting of, a non-metallic material which is plastic, elastic, safe against abrasion and also does not cause any abrasion on the shaft stave. Preferably, vulcanized fiber, glass, polyamides, superpolyamides, superpolyurethanes or similar artificial resin substances are used for this purpose.

My novel shaft hook clip accordingly is constructed in such a way that a U-shaped stirrup is formed in the middle with a contracted portion, in such a way that the lower eyelet formed in this manner serves for receiving the heddle rods 5 for the healds, while the free ends of the legs carry the strips or more particularly rollers sliding or rolling on the slide rail profile of the shaft stave. Owing to the resiliency of the the U-shaped stirrup it is very simple to line up the shaft hooks on the shafts since the legs of the U merely have to be spread apart and placed on the slide rail in this condition, whereupon the tool causing the spreading is removed. The interchange of shaft hooks, therefore, is very simple.

Preferably, in place of slide strips, rollers are provided which consist of synthetic resin product having a kind of lardaceous or amyloid nature, such as polyamide. These substances in spite of their extremely high abrading strength have the property of not causing any abrasion on the slide rails since a kind of lubricating effect is produced.

It is not necessary for the slide strips or rollers to consist entirely of the respective non-metallic material, but it is sufficient to provide these parts of the shaft hooks with a coating of the said material which coating may be produced by a dipping or pressing process.

Other and further objects, features and advantages of the invention will be pointed out hereinafter and appear in the appended claim forming part of the application.

In the accompanying drawings several now preferred embodiments of the invention are shown by way of illustration and not by way of limitation.

Fig. 1 is a section through a wooden shaft for healds with a slide rail sunk therein and a rigid shaft hook of the roller type mounted thereon,

Fig. 2 is a section similar to Fig. 1, but with an elastic clip-hook of the roller type,

Fig. 3 is a similar section with an elastic clip hook of the sliding type,

Fig. 4 is a perspective view of a shaft hook as per Fig. 3, mounted on a slide rail,

Fig. 5 is a side view of a modification as per Fig. 2,

Fig. 6 is a section through a shaft hook roller adapted for the modification shown in Figs. 1, 2, and 5, and

Fig. 7 is a section through a slide rail as per Figs. 3 and 4.

Similar reference numerals denote similar parts in the different views.

Referring now to the drawings in greater detail, and first to Figs. 1 to 3 and 5, it will be seen that in this case, the profiled carrier rail 2 of light metal for the shaft hook is sunk in the shaft stave 1 which may consist, for instance, of wood. In the embodiment shown in Fig. 1 the shaft hook consists in known manner of a rigid U-member 3 whose upper part is formed with a pair of cranked arms 3' and 3'' for the support of a pair of rollers 4. The lower part of the shaft hook 3 forms a hook 3''' for supporting the heddle rods 5 on which the healds (not shown) are lined up. Such a shaft hook 3 must be lined up on the slide rail 2 from the end of the shaft.

It is preferred to make the shaft hook 3 of an elastic material in the form of a closed stirrup, Fig. 2, having in the middle contracted portions 6 and 6', permitting the heddle rods 5 to be inserted in the lug-shaped pocket 3a of the stirrup. It will be understood that the two legs 3' and 3'' can easily be spread by means of a forcipate tool for slipping the rollers 4 over the profiled bar 2' as the tool is released.

The embodiment shown in Fig. 3 differs from that of Fig. 2 only by the fact that in place of rollers 4 slide strips 7 are fixedly or rotatably mounted on the legs 3' and 3'' of the stirrup. This construction of the shaft hook is clearly seen in Fig. 4.

The side view as per Fig. 5, corresponding to the cross section as per Fig. 2, shows the cooperation of the rollers 4 of the shaft hooks 3 on the slide rail 2' of the profiled slide rail member 2.

The rollers 4 and the slide rails 7 consist of a non-metallic material of a plastic and elastic character, preferably of polyamides. Figs. 6 and 7 are cross sectional views of two embodiments of rollers 4 or slide strips 7, respectively, consisting of any suitable material, such as, metal or wood, and provided with a coating 8, or 8' of a non-metallic, plastic and elastic material of the kind referred to.

While the invention has been described in detail with respect to certain now preferred examples and embodiments of the invention it will be understood by those skilled in the art after understanding the invention that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended, therefore, to cover all such changes and modifications in the appended claim.

I claim:

In a shaft arrangement for weaving looms, a shaft stave member; a profiled metal carrier rail secured to said shaft stave member, said carrier rail having a web formed with

a central vertical portion and a pair of metal sliding surface portions, each extending laterally from either side of said vertical portion, said metal sliding surfaces being spaced from said shaft stave member; a plurality of shaft hooks adapted for slidable movement along said carrier rail, each of said hooks comprising a U-shaped member having end portions formed with inwardly extending arms, a pair of rollers of plastic material, each of said rollers being rotatably mounted on each of said arms respectively, and engaging with its peripheral surface in sliding contact with one of said pair of metal sliding surface portions of said carrier rail respectively, whereby a sliding movement may be imparted to said shaft hooks along said rail.

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