April 6, 1954 A. BLICKENSTORFER 2,674,273

HEDDLE FRAME FOR LOOMS

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Fig. 1

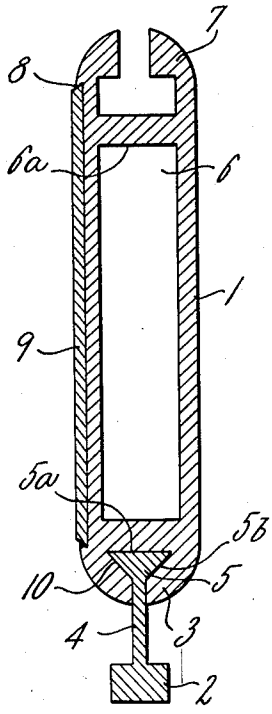
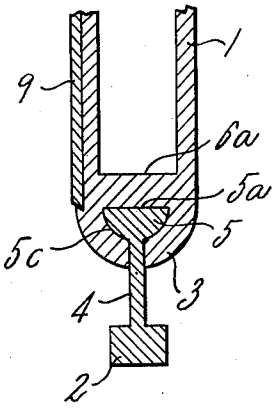


Fig. 2



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HEDDLE FRAME FOR LOOMS

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Claims priority, application Switzerland December 15, 1948

1 Claim. (Cl. 139—92)

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This invention relates to heddle frames for looms having staves and slide rails for the reception of slidable hooks and like elements.

It has been found that such heddle frames are subjected to considerable wear and stress during operation, and it is for that reason that one has attempted to build such heddle frames from strong but lightweight metal in order to markedly reduce the weight of such heddle frames. Experience, however, has shown that the construction of heddle frames from lightweight metal was not fully satisfactory. In particular, actual bearing surfaces were subjected to considerable rubbing and shock action during operation of the heddle frame, which resulted in excessive and premature wear, as the slidable elements carry out greater or smaller swivelling movements in view of the transmission of greater or smaller forces according to the weight of the fabric carried by the heddles at the moment of shed reversal and at the moment when the reed hits the fabric, respectively, said swivelling movements having an adverse effect on the particularly thin web of the slide rails.

It is therefore an object of the present invention to eliminate this and other deficiencies in regard to the construction of heretofore known heddle frames.

It is another object of the present invention to provide means affording a sturdy but nevertheless lightweight heddle construction which may be subjected to considerable wear during a prolonged period of time of operation.

It is a still further object of the present invention to provide means facilitating the reinforcement of the staves of the heddle frame substantially without increasing their weight and to firmly anchor in such staves the heddle slide rails for the slidable hooks and similar elements.

The present invention further contemplates effective protection of the heddle frame at locations thereof which are normally exposed to excessive wear, improvement in the appearance of the heddle frame and equalized distribution of the forces thereon, so that the heddle frames may be moved in a well balanced manner during their shedding movements.

More specifically, it is a still further object of the present invention to provide means conducive to an improved heddle structure which will not easily break during operation, is light in weight, durable and gives long and reliable service.

With these objects in view, the invention consists in certain features of novelty in construction, combination and arrangement of parts by

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which the aforesaid and several other objects hereinafter set forth, are effective, all as fully described with reference to the accompanying drawing and the claim attached to the specification.

In the drawing:

Fig. 1 is a transverse sectional view of a stave body made in accordance with the invention.

Fig. 2 is a fragmentary sectional view of the lower part of a stave body in a modified form.

Referring now more particularly to the drawing, the stave body 1, shown herein, is made of lightweight metal having a hollow space 6 therein which extends substantially the entire height of the stave body. Stave body 1 terminates in an upper longitudinal edge 7, which is channel-shaped, while the lower longitudinal edge or end is reinforced at 3. One side of the stave body 1 is recessed at 8 for the reception of reinforcement means 9, as more clearly explained in co-pending patent application Serial No. 132,783.

Reinforcement piece 3 forms a longitudinal end of stave body 1 adapted to receive the slide rail 2. This slide rail is made from a material having greater strength than the material of which the stave body 1 is made, which is provided with a channel 10, in which one end of the double T-shaped slide rail is permanently anchored. In the embodiment, as shown, in Fig. 1, the end or head 5 of slide rail 2 is dove-tailed and terminates in an end face 5*a* and side faces 5*b* from which the web 4 extends which, in turn, terminates in the lower end of the slide rail 2.

As can be clearly seen from Fig. 1, the dove-tailed end 5, 5*a* of the slide rail is contained in and completely in contact with the wall defining channel 10, while the web extends from said channel therewithout.

The width of the end wall 5*a* of the rail 2 is not larger than the width 6*a* of the hollow space 6 in the stave body 1 so that the reinforcement piece 3 will not be weakened in any way.

Thus the stave body may be manufactured of lightweight metal, while parts thereof, subjected to wear, stress and possible damage, are well protected, namely, stave side wall at 9 and lower longitudinal edge or end at 3, in which the steel rail 2 is firmly anchored. The connection of the web 4 and the end or head 5, 5*a* of the rail 2 with the thickened or reinforced piece 3 of the hollow stave body 1 can be carried out by pressing, rolling in or by wedging operation.

In the embodiment shown in Fig. 2, the sides of the rail head which is received in the reinforcement piece 3 are rounded at 5*c*. The width of

the end wall 5*a* is at the most substantially equal to or less than the width 6*a* of the hollow space extending within the stave body 1 and adjacent the reinforcement piece 3 thereof.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent, is:

In a heddle frame for looms having a lengthy, lightweight metal stave body with a hollow space therein and provided with an outer side wall and a longitudinal lower edge; two reinforcement means, one of said reinforcement means being recessed in said side wall, the other reinforcement means forming an integral part of said stave body at said longitudinal edge and being provided with a channel, and a T-shaped heddle rail made of a material of greater strength than that of said stave body and contained with one of its ends within said channel and completely in contact with the wall defining said channel, whereby said T-shaped rail is permanently anchored within said other reinforcement means at said longitudinal edge, said rail including a web extending from said one end without said channel, said one end of said rail being dove-tailed in section, the width of the end wall of said dove-tailed end being at the most equal to the width of the hollow space in said stave body.

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