Feb. 5, 1952 J. W. HOLLINGSWORTH 2,584,585

SUPPORTING HOOK FOR HEDDLE BARS

Filed March 1, 1950

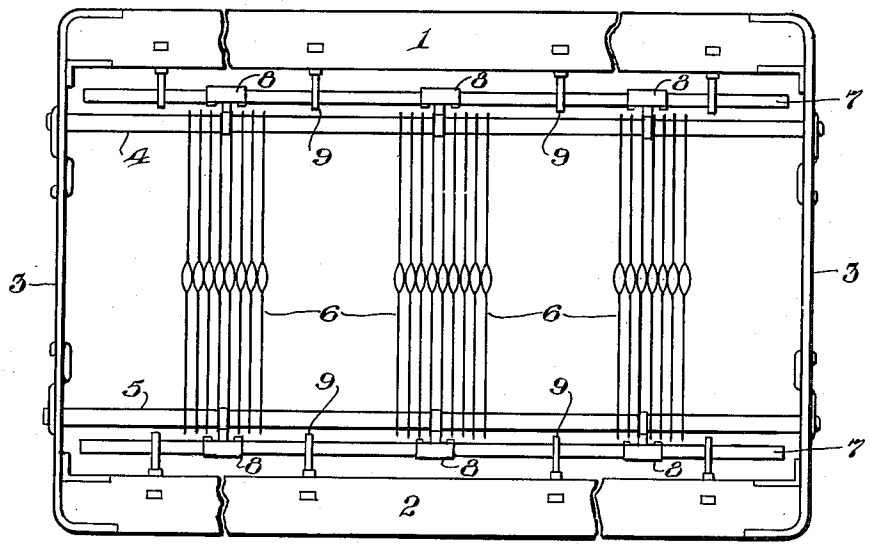


Fig. 1.

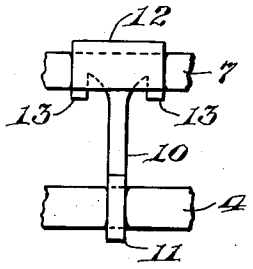


Fig. 2.

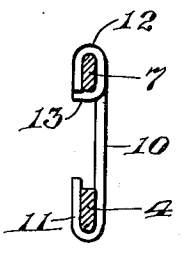


Fig. 3.

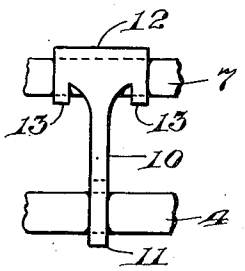


Fig. 4.

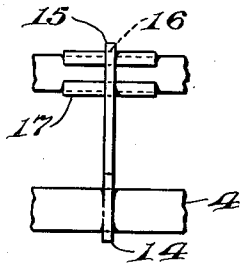


Fig. 5.

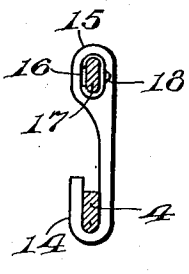


Fig. 6.

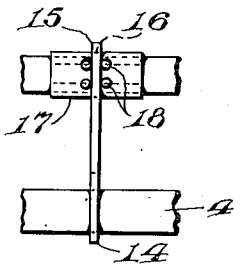


Fig. 7.

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Patented Feb. 5, 1952 2,584,585

UNITED STATES PATENT OFFICE

2,584,585

SUPPORTING HOOK FOR HEDDLE BARS

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Application March 1, 1950, Serial No. 146,993

5 Claims. (Cl. 139—92)

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The object of the invention is to provide improvements in heddle frames broadly, but more particularly in the hooks, which are used at intervals to support the heddle bars in fixed spaced relation with auxiliary intermediate bars, that are supported by the upper and lower rails of the frame.

More specifically another object is to provide the combination of a frame rail, with a longitudinally extending heddle bar and the usual heddles supported thereby, an auxiliary or secondary intermediate bar between said rail and said first bar, and a plurality of longitudinally adjustable hooks for fixedly spacing said first bar with respect to said auxiliary bar.

A further object is to provide a hook element of this type, which comprises a relatively heavy shank, the free end portion of which terminates in a reversely turned hook, preferably of substantially similar thickness to withstand the usual wear and tear during the excessive vibration incident to normal usage, the opposite supporting end portion of said element being preferably of much wider transverse or horizontal extent, and also reversely cured to form a head that surrounds the supporting edge and opposite rear and front surfaces of said intermediate auxiliary bar, while the opposite ends of said head are provided with parallel extensions that are initially in the same plane as that of said shank, but are then bent at right angles to said plane and normally cross the inner edge of said last-mentioned bar, to prevent the said hook element as a whole from tilting angularly or rising (when at the upper side of the frame) upon said bar.

A still further object is to provide a modified form of hook element, that essentially comprises a shank having a reversely directed hooked inner terminal portion and an opposite end that is characterized by an aperture or eyelet, and a flattened substantially tubular member positioned in and extending freely in opposite directions from said shank, to provide a transversely or horizontally much widened head portion, said member being provided with a plurality of longitudinally spaced teats, that fixedly position between them and prevent relative longitudinal movement of said member with respect to said shank and its opposite hooked end portion.

With the objects thus briefly stated, the invention comprises further details of construction, which are hereinafter fully brought out in the following description, when read in con-

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junction with the accompanying drawings, in which Fig. 1 is an elevational view of a heddle frame comprising the invention; Fig. 2 is a front elevation of hook element comprising one embodiment of the invention; Fig. 3 is a side elevation of the same; Fig. 4 is a rear elevation of the same; Fig. 5 is a front elevation of a hook element comprising a modified form of said hook elements; Fig. 6 is a side elevation of the same; and Fig. 7 is a rear elevation thereof.

Referring to the drawings, a heddle frame is shown as comprising a pair of vertically spaced, parallel top and bottom rails 1 and 2, connected at their ends by any suitable means such as the straps 3. Heddle bars 4 and 5 extend longitudinally of the frame parallel with and in spaced relation with the respectively adjacent rails 1 and 2, and operatively support a plurality of heddles 6, only a few of which are here illustrated.

Between each of said rails and its adjacent heddle bar is positioned an intermediate auxiliary bar 7, connected to its adjacent heddle bar by means of one or more slidable hooks 8, and to its adjacent frame rail by means of spaced adjustable elements 9. In describing the present invention, reference will be made at least in most instances, only to the upper portion of said frame, as the lower portion thereof is merely a duplicate of the upper portion and functions identically the same.

Referring to Figs. 2, 3 and 4, one embodiment of the hooks 8 is shown as comprising a vertically central shank portion 10, which in one direction terminates in a hook 11 for slidable engagement with one of the heddle bars 4 and 5, while in the opposite direction said shank merges into a transversely widened head 12, having an inverted V-shaped cross section, and normally receiving in sliding engagement one of the auxiliary bars 7. Being slidably supported, said hook can be horizontally adjusted at will with respect to said heddle and auxiliary bars.

In order to prevent said hook from vibrating or shifting vertically upon and with respect to its supporting auxiliary bar, it is further provided with a pair of spaced fingers 13 that preferably comprise integral angular extensions of the head 12 upon the opposite sides of the shank 10, and extend from the shank side of said hook across the under edge (in the upper position) of said auxiliary bar, to close in effect the otherwise open side of the U-shaped head portion, and substantially though not necessar-

ily completely meet and contact the free edge of said U-shaped section. Said fingers may be attached to said head substantially at the height of the under edge of the auxiliary bar, or instead preferably branch therefrom at a point above said under edge, thereby making it possible to bend them independently of each other, so as to bind with varying degrees against said under edge and the side of said bar immediately adjacent thereto, if desired.

Referring to Figs. 5, 6 and 7, a simple form of hook is here shown as comprising an initially single thickness of metallic strip, extending in a plane at right angles with that of said heddle and auxiliary bars, and comprising a hooked terminal portion 14 for detachable engagement with a heddle bar, and an opposite terminal portion 15, that may be either of hooked shape or provided with an aperture 16, through either of which extends a flattened tubular sleeve 17, that at least surrounds the upper and lower edges of the auxiliary bar, and is prevented from loosening within and accidentally sliding through the aperture 16 by means of one or more teats, or form of lugs 18 upon the opposite sides of said strip, while it is slidable at will upon said auxiliary bar.

With this construction of the several parts involved, they are assembled as shown in Fig. 1, with the desired number of hooks and supporting elements 9 present, depending largely upon the horizontal extent of the frame as a whole. The elements 9 may be of the type shown in United States Patent No. 2,287,739, or of any other desired construction. The tension upon the heddles is then determined, the hooks 8 placed substantially equidistant apart, and the harness employed in the usual manner.

Having thus described my invention, what I claim and desire to protect by Letters Patent of the United States is:

1. In a heddle frame, a hook member comprising a shank, a hook-shaped terminal portion adapted to receive a heddle bar, the opposite end of said shank being provided with an aperture, a flattened tubular element extending through said aperture and adapted to slidably receive a supporting auxiliary bar, and means engaging said shank to prevent the accidental escape of said element from said aperture.

2. In a heddle frame, a hook member comprising a shank, a hook-shaped terminal portion adapted to receive a heddle bar, the opposite end of said shank being provided with an aperture, a flattened tubular element extending through said aperture and adapted to slidably receive a supporting auxiliary bar, and spaced lugs carried by said element upon the opposite sides of and engaging said shank, to prevent said element from shifting from its predetermined position in said aperture.

3. In a heddle frame, the combination of a heddle bar, an auxiliary supporting bar, a tubular element at least partially surrounding one of said bars, and a member at least partially surrounding and secured against separation from said tubular element and at least partially surrounding the other of said bars.

4. In a heddle frame, the combination of a heddle bar, an auxiliary supporting bar, and slidable thereon, a hook-shaped member comprising a shank, a hooked terminal portion at least partially surrounding one of said bars, and the opposite end of said shank being provided with an aperture, and a tubular element at least partially surrounding the other of said bars and extending through said aperture, said element and said shank being secured against accidental separation.

5. In a heddle frame, the combination of a heddle bar, an auxiliary supporting bar, and slidable thereon, a hook-shaped member comprising a shank, a hooked terminal portion at least partially surrounding one of said bars, the other end of said member being provided with an aperture, a tubular element at least partially surrounding the other of said bars and extending through said aperture, and spaced lugs carried by said element and cooperating with the opposite sides of said member, to prevent said element from shifting either angularly or longitudinally with respect thereto.

JOHN W. HOLLINGSWORTH.

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