

No. 859,189.

PATENTED JULY 9, 1907.

I. ANDREWS.  
HARNESS HOOK FOR LOOMS.  
APPLICATION FILED FEB. 6, 1906.

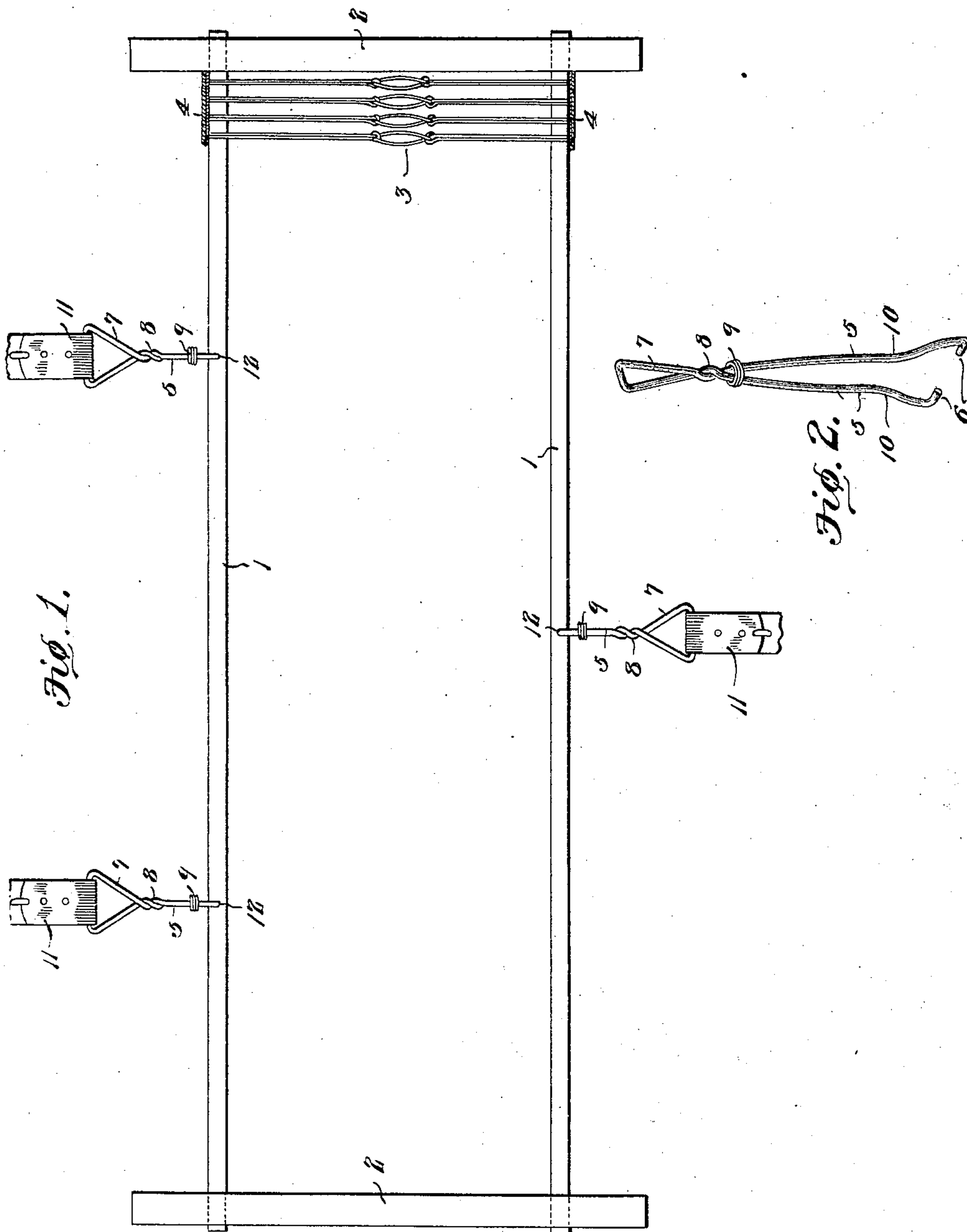


Fig. 1.

Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## HARNESS-HOOK FOR LOOMS.

No. 859,189.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed February 6, 1906. Serial No. 299,811.

*To all whom it may concern:*

Be it known that I, ISAAC ANDREWS, a citizen of the United States, residing at Spartanburg, in the county of Spartanburg and State of South Carolina, have invented a new and useful Harness-Hook for Looms, of which the following is a specification.

This invention relates to harness hooks for looms.

The means almost universally employed for supporting the heddle bars of a loom consists of screw eyes that are screwed into the bars and that are engaged by hooks connected with any suitable part of the loom. The objections to the employment of screw eyes for this purpose are that as they have to be screwed into the center of the heddle bars, this necessitates deflecting the back banding of the heddles or twine harness, thereby causing the heddle eyes to be drawn unevenly wherever the screw eyes are attached, resulting in the weaving being bad at those particular points. Further, the continual rubbing of the back banding against the screw eyes causes the former to break, making it necessary to stop the loom for repairs and frequently necessitating the cutting out of the warp altogether and a new set of harness being put in. Furthermore, it frequently happens that the hooks that engage the screw eyes break, thereby allowing the harness to fall down and destroy a large part of the warp. Another objectionable feature to the employment of the screw eyes is that they have to be combined with the shafts before the harness or heddles, and as the preparation of the heddles require that they be subjected to heat in a dry room of 200° F. during thirteen different operations, the frequent heating of the eyes causes them to burn the heddle twine and render it weak at the points where the screw eyes are located.

The object of the present invention is in a positive, simple and practical manner to obviate the above objections and in such manner that the life of the harness is materially increased, while all danger of the heddle bars becoming detached and falling with the loom is positively obviated.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a harness hook for looms, as will be hereinafter fully described and claimed.

In the accompanying drawings forming a part of this specification, and in which like characters of reference indicate corresponding parts:—

Figure 1 is a view in elevation exhibiting the manner in which the supporting hooks are combined with the heddle bars. Fig. 2 is a perspective detail view of the hook.

The harness frame comprises, as usual, a pair of parallel disposed heddle bars 1, and a pair of end bars 2,

and as these parts may be of the usual or any preferred construction, further description thereof is deemed unnecessary. The heddle bars have combined with them as usual the heddles 3, the back banding 4 of which is disposed respectively upon the upper and lower edges of the heddle bars and centrally thereof.

The harness supporting hook which constitutes the gist of the present invention is illustrated in detail in Fig. 2, and comprises a pair of clamping members 5 terminating in inward projecting toes 6, a head or loop 7 connected with the clamping members by a twisted neck 8, and a clamping band 9 to hold the clamping members closed, it being observed that the clamping members are provided with inward depressions 10, adjacent to the toes 6 to be engaged by the band, whereby the latter is positively held against any accidental longitudinal movement relatively to the said members. From the standpoint of economy and for thorough efficiency in use it is preferred to make the hook of a single piece of wire of suitable gage and formed in any preferred manner into the shape shown. The heads or loops 7 are engaged by the usual straps 11 that are connected in any preferred manner with the loom frame.

The toes 6 are designed to engage transverse orifices 12 formed any desired distance apart in the heddle bars, and by their manner of disposition it will be seen that there will be no deflection of the back banding when the hooks are in place, so that all the eyes of the heddles will be properly positioned for securing perfect work.

To combine the heddle bars with the hooks it will only be necessary to move the clamping band to the position in Fig. 2, then bring the toes 6 into orifices 12, and then move the band to the position shown in Fig. 1, whereupon the hooks will be securely assembled with the heddle bar and in such manner as positively to preclude accidental separation in use.

By the arrangement shown, safety is secured, and the danger of the frame becoming detached and falling into the loom is positively obviated.

I claim:—

The combination with a heddle bar having an orifice, of a supporting clip formed of a piece of wire bent at mid length to form a loop or eye for attachment to the harness, the wire being thence twisted into the form of a pair of arms having inwardly extending depressions and provided with terminal toes arranged to enter the orifice, and a clamping band movable over the arms to engage the terminals in the orifice, said band being held from movement by engagement in said depressions, substantially as specified.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ISAAC ANDREWS.

Witnesses:

S. V. MUCKENFUSS,  
A. P. CALDWELL.