June 15, 1926. 1,588,828

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WARP BEAM STAND FOR LOOMS

Filed Nov. 12, 1924

Fig. 1

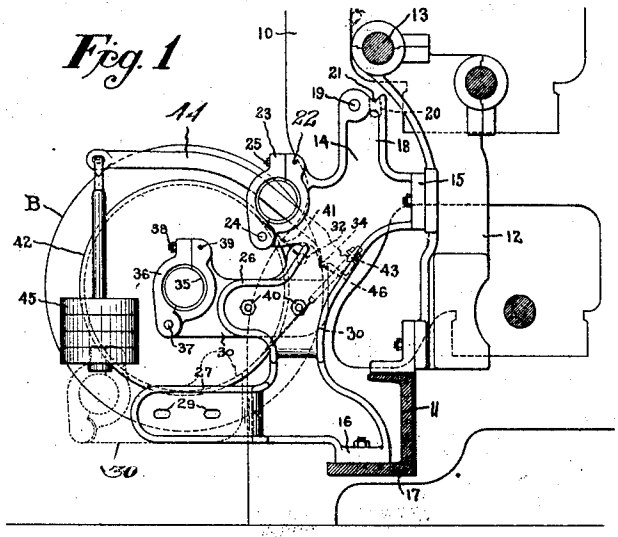


Fig. 2

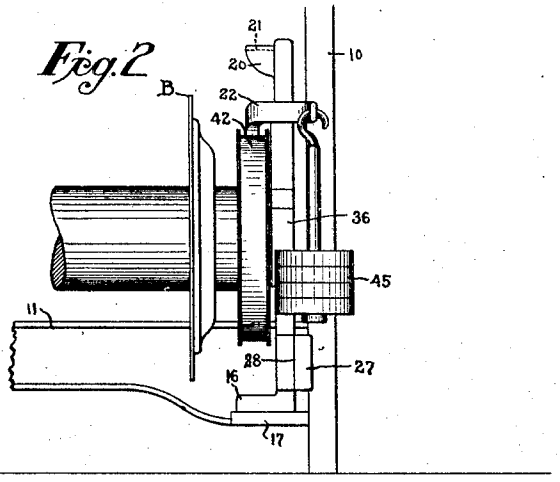
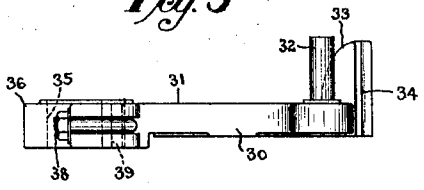


Fig. 3



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UNITED STATES PATENT OFFICE.

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WARP-BEAM STAND FOR LOOMS.

Application filed November 12, 1924. Serial No. 749,484.

This invention relates to beam stands for looms and it is the principal object of my invention to provide a stand having a changeable beam and let-off supporting unit movable from one to another of a plurality of positions to permit the loom to be operated with one or more beams.

It is a further object of my invention to provide a supporting unit wherein the let-off can be moved with the beam support so that the let-off and beam will sustain the same relations in all positions.

It is a further object of my invention to provide a beam stand with a beam bearing and a movable support held in a central position to receive a beam when but one of the latter is to be used and movable to a lower position to receive one of two beams, the other being supported by the stand bearing, the movable support being in use whether one or two beams are used.

With these and other objects in view which will appear as the description proceeds, my invention resides in the combination and arrangement of parts hereinafter described and set forth in the claims.

In the accompanying drawings wherein I have shown one form of my invention,

Fig. 1 is an elevation of a portion of a loom taken from the interior thereof and showing my invention applied thereto in full lines in such a position as to receive a single beam and in dotted lines in such a position as to receive two beams,

Fig. 2 is a rear elevation of part of the mechanism shown in Fig. 1, and

Fig. 3 is a top plan view of one of the removable supports.

Referring more particularly to the drawings it will be seen that I have provided a loom frame indicated at 10 having secured thereto a girt 11 to the forward side of which is secured a brace 12 the upper portion of which is arranged to receive rod 13.

A stand or bracket 14 has a pair of feet 15 and 16, respectively, the former being secured to the brace 12 and the latter to an enlarged shelf 17 formed on the girt 11. Said stand has an upwardly extending horn 18 which has extending laterally therefrom pin 19 and a bearing 20 provided on the upper surface thereof with a V notch 21 to receive let-off mechanism to be described hereinafter.

The upper portion of said stand is also provided with a beam bearing 22 one half of which is formed integral with the bracket and the other half of which is formed by cap 23 pivoted as at 24 to the stand and held in place by means of a pivoted clamping bolt 25. The lower portion of stand 14 is provided with a pair of spaced arms 26 and 27, respectively, each of said arms being provided with a finished surface indicated at 28. The surfaces 28 are preferably in the same plane and the arms are provided with horizontally extending slots 29.

An important feature of my invention is the movable let-off and beam supporting unit indicated generally at 30. In the form of the invention shown herein there is one beam support for each stand 14. Each support is provided with a body 31 having the outer vertical surface thereof planed so as to fit the surfaces 28 accurately and the forward end of each support is provided with a pin or stud 32 and a bearing 33 having a V slot 34 in the upper surface thereof. The rear end of the support is provided with a bearing 35 one half of which is integral with the body 31 and the other half of which is provided by cap 36 pivoted at 37 to the body 31 and held thereto by a pivoted lock bolt 38. Said bolt is pivoted as at 39 to the support and may be swung upwardly to release the cap when it is desired to remove or insert the journal of a warp beam. Bolts 40 pass through the body 31 and slots 29 thus holding the said support to the stand.

In the weaving of certain fabrics it is desirable to employ two beams while other fabrics can be woven with a single beam. When one beam is used the support will be in the position indicated in full lines in Fig. 1, the arm 26 serving to hold the support so that the bearing of the latter will be in position to accommodate a relatively large beam. When it is desired to employ two beams of relatively smaller diameter, one beam will be received by the bearing in the stand and the other by the support which will be moved to the lower arm 27, the distance between the bearings being sufficient to accommodate two beams. As the surfaces 28 are in the same plane it will be seen that as the support is moved from one to the other it will lie in the same vertical plane.

Another important feature of my inven-

tion relates to the friction let-off usually employed to retard rotation of the warp beam. In this instance I have shown a flexible band 41 which is anchored on the stud 32 and extends around the head 42 of the beam B, the other end of the band being secured as at 43 to the forward end of a lever 44 which is provided with weights 45. A knife bearing 46 enters the notch 34 and serves to support the lever 44, the weights tending to move the forward end of the lever upwardly and thus tighten the band around the head of the beam. It will be seen that stud 32 and bearing 33 are carried by the support and are thus moved with the bearing, the friction band and lever having the same relation with respect to the beam when the support is moved from the position shown in full lines in Fig. 1 to the lower position indicated in dotted lines. When a beam is to be received by the upper fixed bearing, let-off mechanism similar to that already described will be attached to the stud 19 and bearing 20.

From the foregoing it will be seen that I have provided a loom with a beam stand having a plurality of supporting surfaces which are positioned so as to cooperate with a support which is readily movable from one to the other of said surfaces and that said stand is provided with a fixed bearing which will be sufficiently spaced from the support when the latter is in lowest position to permit the use of two beams. Also, it will be seen that the let-off moves with the support and sustains the same relation with the beam stand in all positions of the support.

It will further be noted that whether one or two beams are being used the movable support will always be in use, thus preventing the same from being lost.

Having thus described my invention it will be apparent that changes and modifications may be made therein by those skilled in the art without departing from the spirit and scope of the invention, and I do not wish to be limited to the details herein disclosed, but—

What I claim is:

1. In a loom, a warp beam stand, a warp beam bearing the axis of which is fixed with respect to the stand, a plurality of arms on the stand located at different distances from the axis of the said bearing, and a warp beam supporting unit capable of attachment to each of the arms to be located at different distances from the axis of the first named bearing when attached to the different arms.

2. In a loom, a warp beam stand, a warp beam bearing mounted on the stand in fixed relation with respect thereto, a separate warp beam supporting unit, and a plurality of spaced attaching means for the unit formed with the stand, each of said means being located at a different radial distance from the first named bearing, said unit when cooperating with any one of the attaching means being in a different vertical and horizontal position from the position it occupies when cooperating with any other of the attaching means.

3. In a loom, a warp beam stand, a warp beam bearing fixed relatively thereto, a warp beam support movable relatively to the stand, and means formed with the stand to secure the support to the stand in any one of a plurality of positions at different distances from the axis of the bearing fixed relatively to the stand so that the distance between the axes of the fixed bearing and the beam support will be different for each adjusted position of the latter.

4. In a loom, a warp beam stand, a warp beam bearing mounted on the stand in fixed relation thereto, a separate warp beam supporting unit, and a pair of spaced attaching means for the unit formed with the stand and located at different distances from the axis of the first named bearing, the unit when cooperating with one of the pair of means being in a position different both vertically and horizontally from the position said unit occupies when cooperating with the other of said pair of means.

5. In a loom, a warp beam stand, a warp beam bearing the axis of which is fixed with respect to the stand, a plurality of arms on the stand located at different distances from the axis of the said bearing, a warp beam supporting unit capable of attachment to each of the arms to be located at different distances from the axis of the first named bearing when attached to the different arms, and a let-off device mounted on the unit and movable therewith.

6. In a loom, a warp beam stand, a warp beam bearing mounted on the stand in fixed relation with respect thereto, a separate warp beam supporting unit, a plurality of spaced attaching means for the unit formed with the stand, each of said means being located at a different radial distance from the first named bearing, said unit when cooperating with any one of the attaching means being in a different vertical and horizontal position from the position it occupies when cooperating with any other of the attaching means, and a let-off device mounted on the unit and movable therewith.

7. In a loom, a warp beam stand, a warp beam bearing mounted on the stand in fixed relation thereto, a separate warp beam supporting unit, a pair of spaced attaching means for the unit formed with the stand and located at different distances from the axis of the first named bearing, the unit when cooperating with one of the pair of means being in a position different both vertically and horizontally from the position said unit occupies when cooperating with

the other of said pair of means, and a let-off device mounted on the unit and movable therewith.

8. A warp beam supporting unit for a loom having a stand with a plurality of spaced attaching means for the unit and a let-off comprising a lever and a flexible band connected thereto, said unit having a bearing for a warp beam and having a notched projection for the lever and a second projection for the flexible band and having a portion thereof formed to be attached to the stand by any one of the attaching means.

9. A warp beam supporting and let-off holding unit for a loom having a stand provided with a plurality of attaching means for the unit, said unit having a support provided with a bearing at one end thereof for a warp beam, a notched projection and a stud at the other end thereof, a lever cooperating with the notched projection, and a flexible member connected to the lever and attached to the stud, said lever, flexible member, and support therefor being movable as a whole to any one of the attaching means for the stand.

In testimony whereof I have hereunto affixed my signature.

WILLIAM M. WATTIE.