Sept. 26, 1933. F. MOSSBERG 1,928,387

BEAM

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Fig. 1.

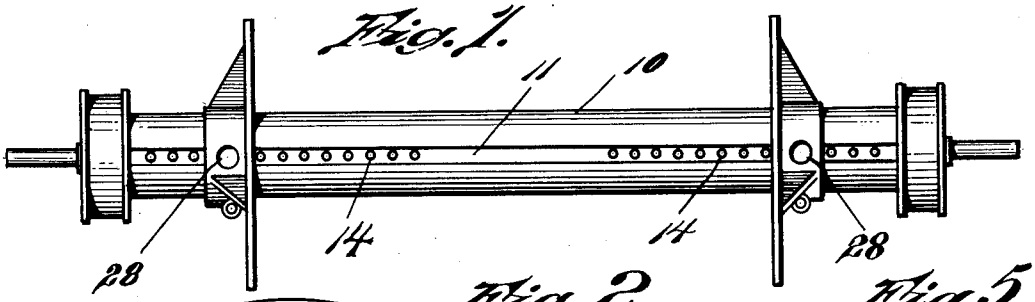


Fig. 2.

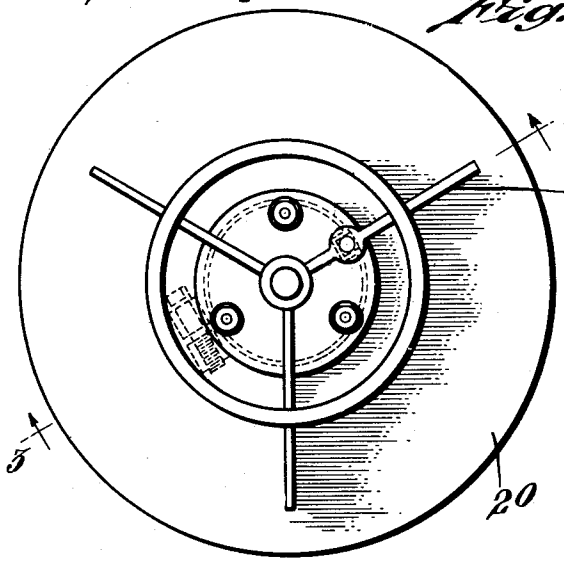


Fig. 5.

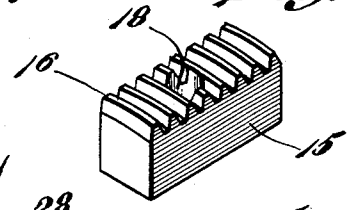


Fig. 4.

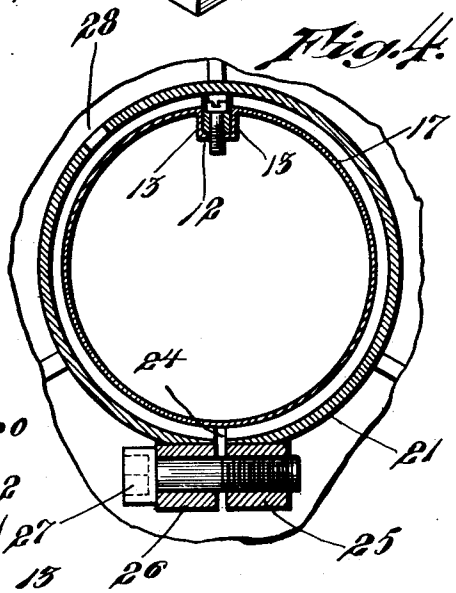
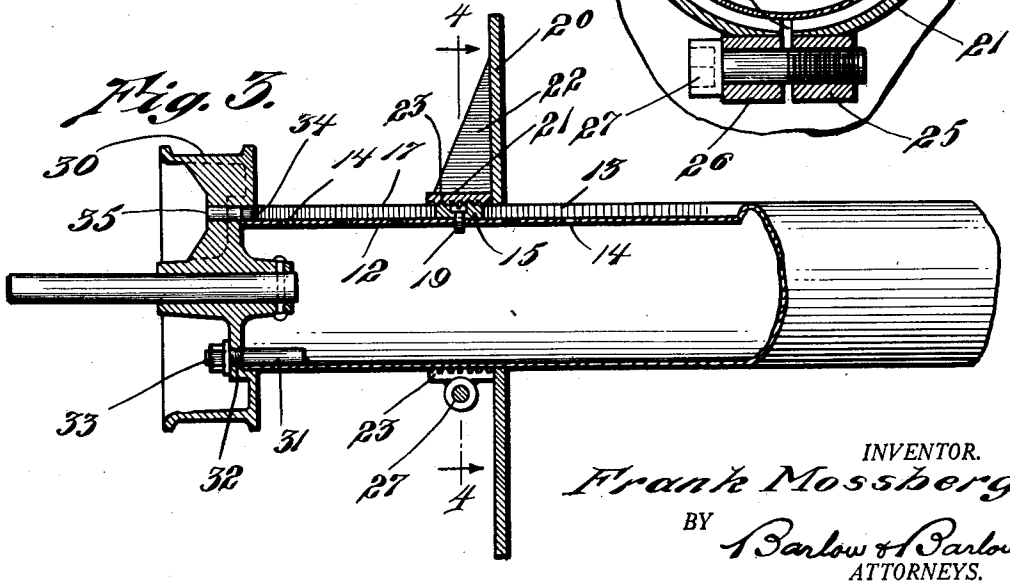


Fig. 3.



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Fig. 6.

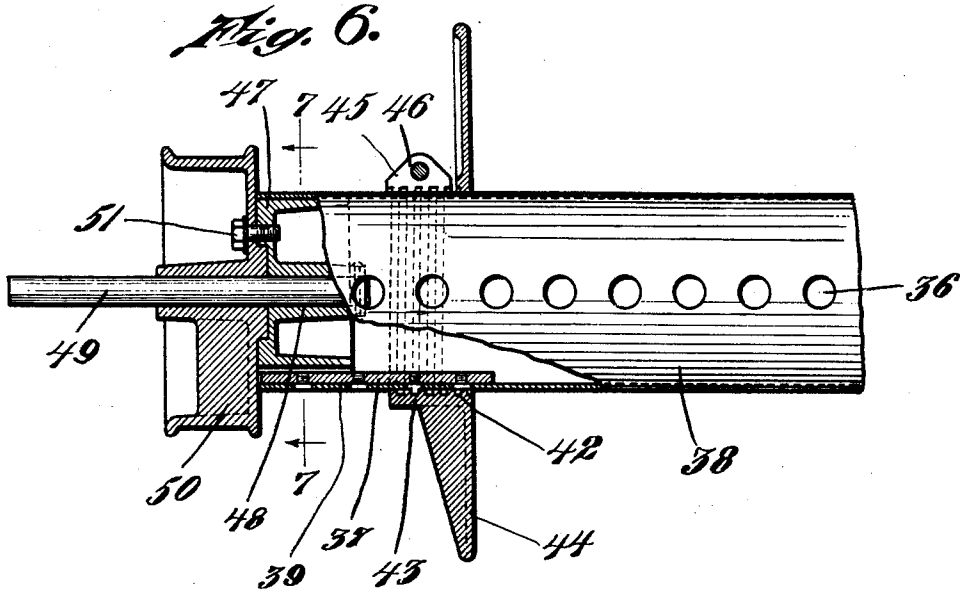


Fig. 7.

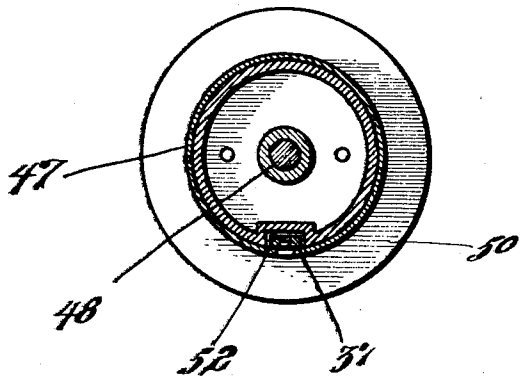
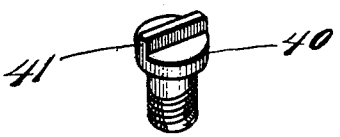


Fig. 8.



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UNITED STATES PATENT OFFICE

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Frank Mossberg, Attleboro, Mass.

Application June 16, 1931. Serial No. 544,814

15 Claims. (Cl. 242—124)

This invention relates to a beam more particularly a yarn beam such as used for warp threads and has for its object to provide for an adjustment or axial movement of the head member with reference to the body member.

Another object of the invention is the provision of a means whereby small adjustments of the head member on the body member may be obtained by relative rotation of the members when at substantially the desired location.

Another object of the invention is the provision of a means whereby small adjustments of the head member on the body member may be obtained by relative rotation of the members and large adjustments by disengaging and sliding the head member along the body member.

A further object of the invention is a provision of means whereby the head may be clamped in desired position along the body member.

A still further object of the invention is the simplification of construction with the attendant advantageous results.

With these and other objects and advantageous features in view, the invention consists of a novel arrangement of parts more fully disclosed in the detailed description following, in conjunction with the accompanying drawings, and more particularly set forth in the appended claims.

Fig. 1 is a side elevation of a yarn warp beam.

Fig. 2 is an end view thereof.

Fig. 3 is a sectional view of one end of the beam on line 3—3 of Fig. 2.

Fig. 4 is a section on line 4—4 of Fig. 3.

Fig. 5 is a perspective view of the adjustment block member.

Fig. 6 is a sectional view of one end of a modified form of beam.

Fig. 7 is a section on line 7—7 of Fig. 6.

Fig. 8 is a perspective view of the adjustment member.

In the use of beams for yarn such as warp beams or the like it is frequently desirable to adjust the heads of the beam to vary the effective length of the beam for use in a loom where various widths of fabric are to be woven. Fine adjustments are also desirable and yet where a large movement of the head along the body is desired some means for quickly moving the beam head is desirable and in order to accomplish these results, I have provided an adjustment member which may be secured at different places along the body of the beam and easily moved to the different adjusted positions and which has threaded engagement with the head member for finer adjustments of the positon of the head member along the beam; and the following is a detailed description of the present embodiment of this invention illustrating the preferred means by which these advantageous results may be accomplished.

With reference to the drawings, 10 designates the body member of the beam which is of generally cylindrical tubular form pressed inwardly to provide a warp end securing channel 11, having a bottom wall 12, and side walls 13 at right angles to the bottom wall 12. Threaded openings 14 are provided in the bottom wall 12 and a block member 15 of a length substantially the distance between the openings 14 is slidable along the channel 11 and is provided with threads 16 projecting above the outer cylindrical surface 17 of the body member. An opening 18 is provided through the block to receive a bolt 19 which has threaded engagement with the selected opening 14 in the bottom of the channel to hold the block in place.

The beam head has a face portion 20 and a hub 21 with strengthening ribs 22 of any desired number extending between the face portion 20 and the hub 21. This hub has an opening to receive the body member which opening is threaded as at 23 to engage the threads 16 of the block member 15 whereby rotation of the beam head relative to the body member causes axial movement of the head member along the body member. The hub 21 is split as at 24 with its ends spaced and each end portion is provided with a threaded ear 25 and a non-threaded ear 26. A bolt 27 extends through the ear 26 and has threaded engagement with the ear 25 whereby the hub may be contracted in diameter to tightly grip the body member and prevent relative rotation of the parts.

For small adjustments of the beam head relative to the body member the bolt 27 is loosened and the head member rotated relative to the body member. For larger adjustments the head is rotated to a position to expose the binding bolt 19 either by completely uncovering the same or by moving opening 28 in the hub to a position to register with the bolt 19 whereby it may be withdrawn from opening 14 which it enters permitting the block to be moved to a new position by sliding along groove 11 carrying the head with it to be clamped in place in the opening 14 in the bottom of the channel. After which the finer adjustment may be obtained by relative rotation and the binding bolt 27 tightened.

In order to apply friction to retard the rotation of the beam, a sheave 30 is mounted upon

one end thereof and bolts 31 welded to the inner surface of the body extend through openings 32 in the sheave 30 and are provided with nuts 33 to secure the same in place, while a pin 34 having a squared end to fit into the channel is provided with a rounded portion 35 extending into the sheave to prevent the sheave from turning relative to the body member.

In some instances a modified form of beam is used as illustrated in Fig. 6 in which the body has openings 36 for securing the warp threads in position instead of the groove as heretofore mentioned with filling strip therein. In this construction a bar 37 extends along the inner surface of the tubular body 38 and threaded openings 39 are provided for the reception of adjusting member 40 which has a fin 41 extending from its head for engagement with the threaded groove 42 of the hub portion 43 of the head 44 which hub 43 is split and provided with ears 45 and a binding member 46 in a manner similar to that heretofore mentioned.

In this modification the sheave is also differently mounted in that a sleeve 47 is secured within the end of the body and provided with an inwardly extending bearing 48 to receive the shaft 49 extending through the sheave 50 and into the bearing 48. The sheave 50 is secured to this sleeve by suitable bolts 51 having threaded engagement with the sleeve as illustrated in Fig. 6. The sleeve is recessed as at 52 to receive the bar 37 which is suitably secured by welding or the like to the inner surface of the body.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve all the privileges of resorting to any mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. In a beam, a body member, having a longitudinal recess therein, a head member having an opening therein, receiving said body member, a member in said recess of a length less than said recess and movable therealong and interengaging means between said recess member and head member.

2. A warp beam comprising a body member having a longitudinally extending channel shape recess therein, a block member of a length less than said recess in said recess and movable therealong, means for securing said block member in selected positions in said recess, threads on said block projecting beyond the surface of said body member, a head member having a hub to receive said body member with a threaded inner surface to engage the threads on said block member whereby relative rotary movement of said head and body members causes axial movement of said head member along said body member, said hub member being split, ears on said hub adjacent said split and binding means engaging said ears to contract said hub and prevent said relative rotation of said head and body members.

3. In a beam, a tubular body member having a plurality of spaced openings therein, a member in a selected one of said openings and having a portion projecting beyond the surface of said body, a head member having a hub embracing said body member and means engaging said projecting portion to prevent relative axial movement of said members.

4. In a beam, a tubular body member having a plurality of spaced threaded openings therein, a member threadedly engaging a selected one of said openings and having a portion projecting beyond the surface of said body, a head member having a hub embracing said body member and having a grooved inner surface to engage said projecting portion.

5. In a beam, a tubular body member having a plurality of spaced threaded openings therein, a member threadedly engaging a selected one of said openings and having a portion projecting beyond the surface of said body, a head member having a hub embracing said body member and having a threaded inner surface to engage said projecting portion.

6. In a beam, a tubular body member having a plurality of spaced threaded openings therein, a member threadingly engaging a selected one of said openings and having a portion projecting beyond the surface of said body, a head member having a hub embracing said body member and having a threaded inner surface to engage said projecting portion and means for preventing relative movement of said members.

7. In a beam, a body member provided with spaced openings therein, a head member having a hub with an opening therein receiving said body member, a separable member provided on said body member and means cooperating with said openings for detachably securing said separable member to said body member in a selective position, and means on said head member engaging with said separable member for causing said head member to move axially of said body member upon a relative rotation of said members, and means on said hub for preventing relative rotation of said head and body members.

8. In a beam, a body member provided with spaced openings therein, a head member having a hub with an opening therein receiving said body member, a separable member provided on said body member, having means cooperating with said openings for detachably securing said separable member to said body member in a selective position, means on said head member engaging with said separable member for causing said head member to move axially of said body member upon a relative rotation of said members, and means for contracting said hub to prevent relative rotation of said members.

9. In a beam, an elongated body member provided with spaced threaded openings therealong, a detachable member, threaded means cooperating with the threads of said openings and said detachable member for selectively securing said detachable member to said body member, a head member having an opening therethrough of a size to receive said body member, and interengaging means provided on said head member and said detachable member for moving said head member axially of said body member upon relative rotation of said head and body members.

10. In a beam, a tubular body member, a head member having a hub substantially fitting said body member and bearing thereon, threads on the inner surface of said hub member, means for adjusting said head member along said body member including an adjustment member having a portion engagable with said threads and means for selectively positioning said adjustment member at different locations along said beam with said thread engagable portion projecting beyond the surface of said beam and the remainder of said adjustment member positioned below the surface of said beam.

11. In a beam, a body member having a yarn

fastening recess therein extending longitudinally the length of the body, a head member having an opening therein receiving said body member, a member in said recess of a length less than said recess and adjustable therealong and cooperating interengaging means provided on said head and recess members for causing said head member to move axially along said body member upon relative rotation of said members.

12. In a beam, a body member, having a longitudinal yarn fastening recess therein, a head member having an opening therein receiving said body member, a member in said recess of a length less than said recess and movable therealong, means to hold said recess member in the adjusted position to which it is moved, interengaging means between said recess member and head member for causing said head member to move axially along said body member upon relative rotation, and means to bind said head member on said body member to prevent relative movement of said members.

13. A warp beam comprising a body member having a longitudinally extending channel shape recess therein, a block member of a length less than said recess in said recess and movable therealong, means for securing said block member in a selected position in said recess, threads on said block projecting beyond the surface of said body member, a head member having a hub to receive said body member with a threaded inner surface to engage the threads on said block member whereby relative rotary movement of said head and body members causes axial movement of said head member along said body member, and means to contract said hub to bind it on said body and prevent relative movement of said head and body members.

14. In a beam, a body member, a head member having a yarn engaging face on one side with a hub extending from its opposite side and provided with an opening therein receiving said body member, threads on the inner surface of said hub opening, a separable member provided with threads to engage the threads of said hub, said member being adjustable along said body member and of such length relative to the length of said hub portion of the head member that the end of said separable member toward the face of said head member may be covered by said head member regardless of the position of adjustment of the head member on said body member, and means for retaining said separable member in various positions of adjustment along said body member.

15. In a beam, a body member, a head member having a yarn face on one side with a hub extending from its opposite side and provided with an opening therein receiving said body member, threads on the inner surface of said hub opening, a separable member provided with threads to engage the threads of said hub, said member being adjustable along said body member and of such length relative to the length of said hub portion of the head member that the end of said separable member toward the face of said head member may be covered by said head member regardless of the position of adjustment of the head member on said body member, and means for retaining said separable member in various positions of adjustment along said body member, and means to contract said hub to bind it on said body and prevent relative movement of said head and body members.

FRANK MOSSBERG.