Sept. 4, 1928. 1,683,216

W. H. WAKEFIELD

REED ADJUSTMENT FOR LOOMS

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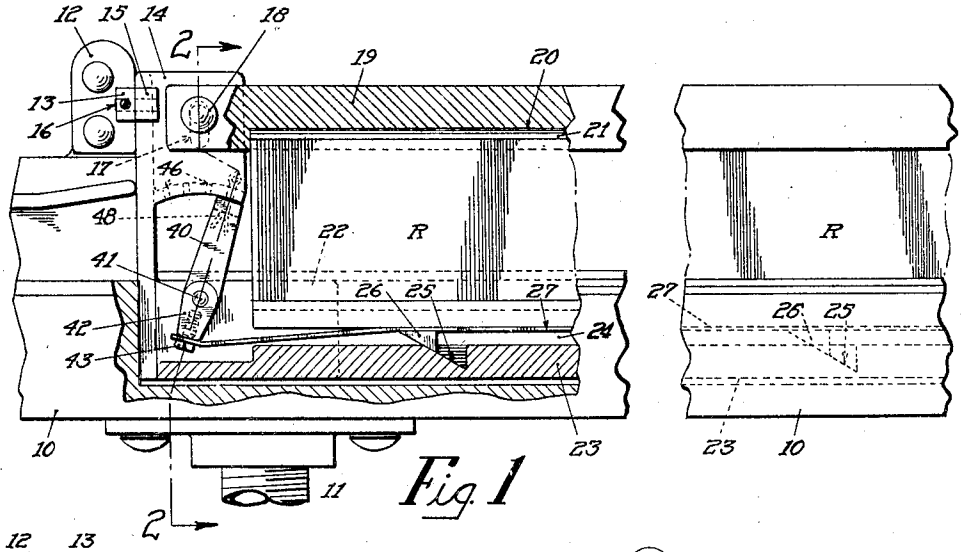

Fig. 1

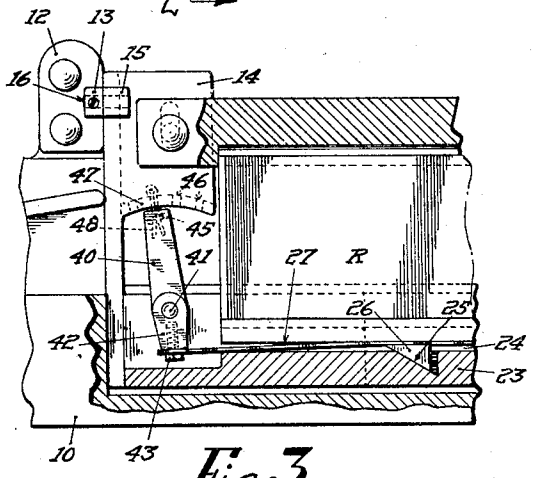

Fig. 3

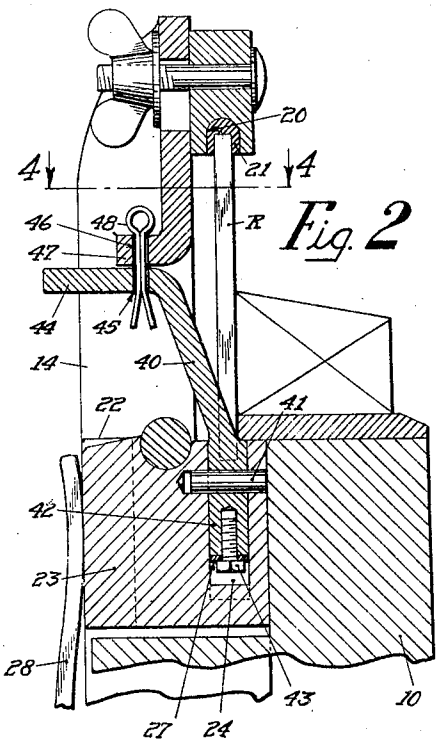

Fig. 2

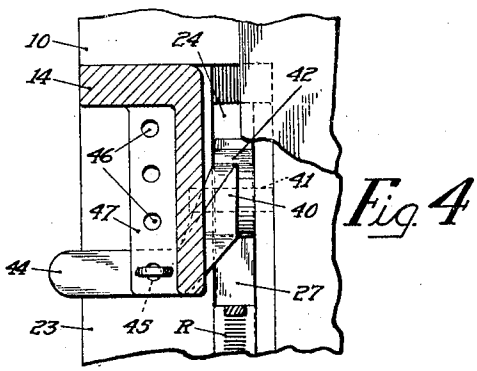

Fig. 4

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UNITED STATES PATENT OFFICE.

WALTER H. WAKEFIELD, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

REED ADJUSTMENT FOR LOOMS.

Application filed November 25, 1927. Serial No. 235,576.

This invention relates to improvements in reed adjusting devices for looms and it is the general object of the invention to render such adjustments convenient and accurate.

In patent to Holmes No. 1,612,439 there is shown a reed adjustment comprising a flexible metallic strap to which are secured a plurality of wedges to cooperate with correspondingly formed notches cut in the backstay of the loom lay. The flexible strap is moved longitudinally of the lay to produce relative movement between the wedges and the notches, but such movement as accomplished in the aforesaid patent is inconvenient and it is an important object of my present invention to provide a readily accessible actuator for the flexible strap so located as to simplify the adjustments of the reed.

It is a more particular object of my invention to construct the backstay with a space between the bracket therefor and the adjacent end of the reed and to place in the space a pivoted lever to cooperate with a perforated segment by means of which the lever may be held in a plurality of selected positions to give the reed a variety of vertical positions.

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 one form of my invention is shown,

Fig. 1 is a front elevation of one end of a lay with my improvement applied thereto, certain portions being in section,

Fig. 2 is an enlarged vertical section on line 2—2 of Fig. 1,

Fig. 3 is a fragmentary view showing a portion of the construction shown in Fig. 1 but with the parts in different position, and

Fig. 4 is a detailed horizontal section on line 4—4 of Fig. 2.

Referring to the drawings, the lay 10 is supported by lay swords, one of which is indicated at 11, and has an upwardly extending projection 12 with a boss 13. A bracket 14 has a boss 15 to receive a pivot pin 16 extending through and secured to the boss 13. The bracket is provided with a vertical slot 17 through which extends a bolt 18 to secure the adjacent end of the hand rail 19 to said bracket. The hand rail is provided with a groove 20 which receives a reed cap 21 to hold the upper end of reed R in position. It is to be understood that both ends of the lay are provided with the brackets and pivot pins and that the hand rail may have its vertical position with respect to the brackets altered by reason of the slot 17.

The lower end of the bracket is provided with a foot 22 indicated in dotted lines in Fig. 1 to which is secured a wooden backstay 23 having a vertical upwardly opening slot 24 extending longitudinally thereof. The bottom of said slot is provided with a plurality of inclined surfaces 25 to receive correspondingly formed wedges 26 secured in any approved manner to a flexible strap 27. Movement of the flexible strap 27 longitudinally of the backstay raises or lowers the reed bar depending upon the direction in which the flexible strap is moved. The lower end of said reed may rest directly on the strap as indicated in Figs. 1 and 2 and the hand rail may be adjusted vertically to clamp the reed tightly in any adjusted position. The structure carried by the brackets, including the reed and backstay, is movable about the pin 16 as a pivot against the action of a leaf spring 28 secured in a manner not shown to the lay sword. The matter thus far described is common construction in the lays and backstays of silk looms and may be as substantially set forth in the aforesaid Holmes patent, and forms no part of my present invention.

In carrying my improvements into effect I provide a lever 40 pivoted on a pin 41 carried by the backstay and extending across the slot 24, the lower end 42 of said lever extending into the slot to be positioned thereby with respect to the axis of the pin 41. As shown in Figs. 1 and 2 the lower end of the flexible strap 27 is held to the depending arm of the lever by means of a screw 43. The lever has an upper horizontally extending portion 44 provided with an opening 45 which may be made to align with any one of a plurality of openings 46 formed in arcuate extension 47 of the bracket 14. Convenient means as a cotter pin 48 may be employed to pass through the opening 45 and the opening 46 aligning therewith to hold the lever in fixed position relatively to

the backstay. The extension 47 and the horizontal arm 44 extend rearwardly from the reed to be out of the path of the shuttle and also to render said cotter pin or any equivalent device readily accessible to the operator.

When the reed is new the lever may be in one extreme position, such as to the right as shown in Fig. 1 with the reed in its highest position. As weaving continues, especially in the case of silk warps, small dents will be worn in the reed wires and it will therefore be desirable to change the vertical position of the reed in order to move these dents either above or below the fell of the cloth. As shown herein the cotter pin 48 may be removed and the lever 40 given a left hand angular movement until the opening 45 comes under the next opening 46 to the left as viewed in Fig. 1, movement of the lever being facilitated by the horizontal extension 44 which serves as a handle. This movement is accompanied by a motion to the right of the strap 27 and the wedges 25 will therefore move downwardly along the inclined surfaces 25, after which the cotter pin may be replaced. It will be necessary to lower the hand rail and this may be done by loosening bolts 18 and moving the rail downwardly until the reed cap is in proper position relatively to the rail with the reed seated on the strap 27. The lever 40 will be located on one side only of the lay but the adjustment of the hand rail will have to be made on both ends of the loom. The adjustment just described may be repeated until the lever has been moved to its extreme left position, at which time the reed may be reversed and the lever moved back one step at a time to the position shown in Fig. 1.

From the foregoing it will be seen that I have provided a simple and readily accessible means for varying the vertical position of the loom reeds, said means including a lay supported lever which may be held in any one of a plurality of adjusted positions by means of a quickly detachable connection with a portion of the backstay bracket.

Having thus described my invention it will be seen 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 lay provided with an inclined surface, a reed, a member having an inclined face in contact with the inclined surface on the lay, and affording support for the reed, a flexible element connected to the member and movable relatively to the lay, a lever pivotally mounted with respect to the lay and connected to the flexible element, and means to hold said lever in any one of a plurality of angular positions, whereby the element may be retained in different positions relatively to the lay to give the reed a plurality of vertical positions.

2. In a loom, a lay provided with an inclined surface, a reed, a member having an inclined face in contact with the inclined surface on the lay, and affording support for the reed, a flexible element connected to the member and movable relatively to the lay, a bracket mounted on the lay and having an arcuate portion provided with a plurality of aligned openings, a lever pivoted to the bracket and operatively connected to the element, and detachable connections between the lever and the arcuate portion extending through one of the openings of the arcuate portion and into the lever to hold the latter in any one of a plurality of angular positions to give the reed a plurality of vertical positions.

3. In a loom lay construction, a bracket pivoted to the lay, a backstay supported by the bracket and having an inclined surface, a reed, the lower end of which is supported by the backstay, a flexible element located under the reed to support the latter and having portions to cooperate with the inclined surface to move said reed vertically when the element is moved horizontally relatively to the backstay, a lever pivoted to the bracket and operatively connected to the flexible element, and means to hold said lever in a plurality of angular positions relatively to the bracket.

In testimony whereof I have hereunto affixed my signature.

WALTER H. WAKEFIELD.