June 29 , 1926. 1,590,564

H. A. DAVIS

FEELER MECHANISM FOR LOOMS

Filed March 11, 1926

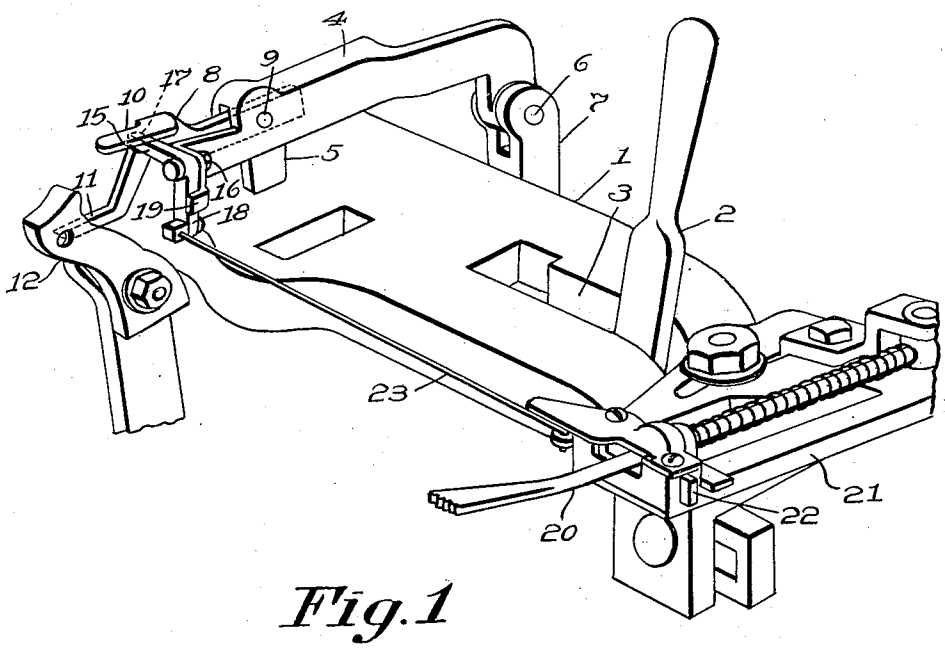


Fig. 1

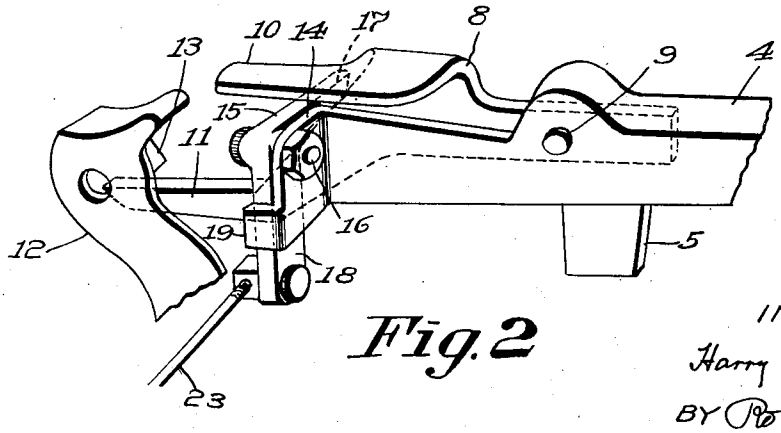


Fig. 2

INVENTOR
Harry A. Davis
BY R. H. G. Harris
ATTORNEY

Patented June 29, 1926. 1,590,564

UNITED STATES PATENT OFFICE.

HARRY A. DAVIS, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO DRAPER CORPORATION, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

FEELER MECHANISM FOR LOOMS.

Application filed March 11, 1926. Serial No. 94,026.

This invention relates to feeler mechanisms for looms, and more particularly to the transmitting means controlled by the feeler for effecting replenishment of filling.

Filling replenishing looms are now ordinarily provided with a feeler which enters the shuttle and detects the condition of the filling therein, and upon substantial exhaustion of such filling effects replenishment. As now ordinarily constructed such replenishment looms are provided with a transmitting mechanism between the feeler and the replenishing controlling means for effecting operation of the replenishing mechanism when the filling is to be changed.

It is now the ordinary practice to provide such filling replenishing looms with an actuator for positioning the replenishing mechanism when a change of filling is required, and such actuator is usually connected to the transverse or change shaft extending transversely of the loom. During normal weaving operation the rear end portion of the actuator is not engaged by the operating member, but upon call for replenishment of filling by the feeler, it is operatively positioned to be moved frontwardly by the operating member to effect the change.

The common practice now is to support upon the shipper stand a bracket or arm on which is mounted a bell crank lever or other device for operatively positioning the rear end portion of the actuator when the feeler calls for a change. Such brackets or other supports, however, while satisfactory, nevertheless obstruct the free manipulation of the loom parts by the loom attendant, especially when attention is to be given to the shuttle box at the feeler side of the loom, and one of the objects of the present invention is to provide a transmitting mechanism between the feeler and the actuator which will offer no objection to the loom attendant in manipulating parts of the loom rearward of the shipper stand.

In accordance with the present invention the transmitting mechanism comprises a lever associated with the feeler and actuated thereby to operatively position the rear end of the actuator on call for a change of filling and such lever is mounted directly upon the actuator itself and is movable therewith as the latter is actuated to effect replenishment of filling.

The invention and novel features thereof will best be made clear from the following description and accompanying drawings of one good form thereof.

In the drawings, Fig. 1 is a perspective view of a feeler mechanism containing the present invention, only such parts of the loom being shown as are necessary to make clear the association of the present invention therewith.

Fig. 2 is an enlarged perspective view of the parts shown in Fig. 1, and particularly the actuator, and the mounting of the actuator positioning means.

As indicated in Fig. 1, the shipper stand 1 is provided with the usual shipper 2 movable in the shipper notch 3 to and from its loom running position.

The actuator 4 in the present instance is provided with a foot 5 which normally rests upon the top of the shipper stand and supports the actuator in its frontward and rearward movements, and the front end portion of the actuator is pivoted at 6 to the arm 7 which is connected to the transverse or rock shaft, as usual.

Pivotally mounted upon the actuator 4 is a bunter 8 which may be constructed as usual and, as shown, is pivotally secured to the actuator by the pivot pin 9. The bunter 8 has an upper finger 10 and a bunter finger 11 adapted to be engaged and moved frontwardly by the operating member which is herein shown as the usual weft hammer 12, the latter being provided with a bunter engaging portion 13. The construction and operation of the parts by which the actuator is moved frontwardly to effect replenishment of filling when the bunter finger 11 is engaged by the weft hammer is well known by those skilled in the art and needs no further description at this time, as the details thereof form no essential part of the present invention.

The transmitting mechanism between the feeler and actuator for moving the bunter 8 from its inoperative to its operative position includes, in the present instance, a bell crank lever which is mounted directly upon the actuator itself, and is moved therewith as the actuator is given its filling replenishing movement.

In the illustrated form of the invention the actuator 4 is provided near its rear end with a laterally extending bracket 14 which may be made as part of the actuator or be secured thereto in any appropriate manner, and mounted upon the laterally extended bracket 14 is the bell crank lever 15 pivotally supported by the pivot bolt 16. The bell crank lever 15 has an arm 17 which underlies the finger 10 of the bunter, and is also provided with a downwardly extending arm 18 which normally rests against a stop 19 formed on or connected to the bracket 14. When the parts are in the position shown, the notched portion 13 of the weft hammer will clear the bunter finger 11, whereas if the bunter is rocked upwardly under the influence of the bell crank lever 15 the bunter finger 11 will be engaged by the notched portion of the weft hammer and filling replenishment be effected.

The feeler which controls the position of the bell crank lever 15 may be of any usual or appropriate construction, and, in the present instance, is shown as of the side swipe type substantially as more fully shown and described in the patent to Edward S. Stimpson, No. 1,309,226, July 8, 1919. The inclined feeler 20 is mounted upon the usual feeler stand 21 and the latter may be adjustably secured to the shipper stand, all as usual in this type of loom. Mounted in bearings at the rear portion of the feeler stand is a slide 22 through which the feeler 20 passes, and such slide is connected to the bell crank lever 15 by a transmitter or rod 23, the construction being such that upon indication for replenishment of filling by the feeler the transmitter will actuate the bell crank lever and position the bunter finger 11 in the path of the actuator and initiate replenishment of filling.

The support for the bell crank lever 15, it will be noted, is made as part of or secured to the actuator 4, thereby removing the usual bracket or support, hitherto extending from the shipper stand, and permitting free access to the loom parts by the loom attendant. The lost motion between the feeler and the slide 22 is such that when the actuator 4 is moved frontwardly, carrying with it the bell crank lever 15 and its support, the transmitter 23 will be permitted sufficient latitude of movement to enable the bell crank lever and its support to move with the actuator without disturbing the relation of the parts. While the bracket or support heretofore secured to the shipper stand has been satisfactorily in use; it nevertheless interferes to some extent with the loom attendant's manipulation of the shuttle box parts at the feeler side of the loom, whereas by the present invention such previous bracket or support is entirely eliminated and the bell crank lever is supported directly upon the actuator and is movable relatively thereto by the feeler and also is movable with the actuator as the latter calls for a change of filling.

What is claimed is:—

1. In a filling replenishing loom having a feeler for determining the condition of the filling in a shuttle, an actuator mounted for movement frontwardly of the loom to effect replenishment of filling and having a laterally extending bracket, a bunter pivotally mounted upon the actuator, an operating member adapted to engage the bunter to shift the actuator, a bell crank lever directly mounted upon said actuator carried bracket to position the bunter, and means under the control of the feeler for rocking the bell crank lever to move the bunter into position to be engaged by the operating member.

2. In a filling replenishing loom having a feeler for determining the condition of the filling in a shuttle, an actuator mounted for movement frontwardly of the loom to effect replenishment of filling, a bunter pivotally mounted upon the actuator and normally supported in its inoperative position, a rocking weft hammer adapted to strike the bunter to shift the actuator, a bell crank lever pivotally mounted upon the actuator and having an arm that engages the bunter, and means under the control of the feeler for rocking the bell crank lever to move the bunter into position to be struck by the weft hammer.

3. In a filling replenishing loom having a feeler for determining the condition of the filling in a shuttle, an actuator mounted for movement frontwardly of the loom to effect replenishment of filling, a bunter pivotally mounted upon the actuator to project rearwardly from its pivot point and normally supported in its inoperative position, a rocking weft hammer adapted to strike the rearwardly extending end of the bunter to shift the actuator, a bell crank lever pivotally mounted upon and movable with the actuator and having one arm positioned under the bunter to lift it, and means under the control of the feeler for rocking the bell crank lever to move the bunter into position to be struck by the weft hammer.

4. In a feeler loom having a feeler for determining the condition of the filling in a shuttle, an actuator mounted for movement frontwardly of the loom to effect a change in the operation of the loom, a bunter pivotally mounted upon the actuator to project rearwardly from its pivot pin, a rocking weft

hammer adapted to strike the rearwardly extending end of the bunter to shift the actuator, a bell crank lever pivotally mounted upon the actuator at one side of its central longitudinal axis to rock in a vertical plane extending transversely of the actuator and having an arm that engages the bunter, and means under the control of the feeler for rocking the bell crank lever to move the bunter into position to be struck by the weft hammer.

In testimony whereof, I have signed my name to this specification.

HARRY A. DAVIS.