

(No Model.)

L. AUTIO.
TOOL FOR FIXING LOOM REEDS.

No. 600,504.

Patented Mar. 15, 1898.

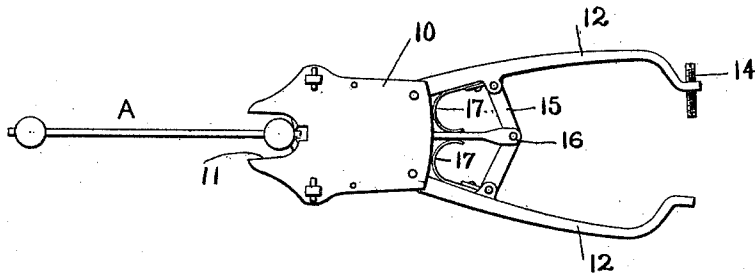


Fig. 1.

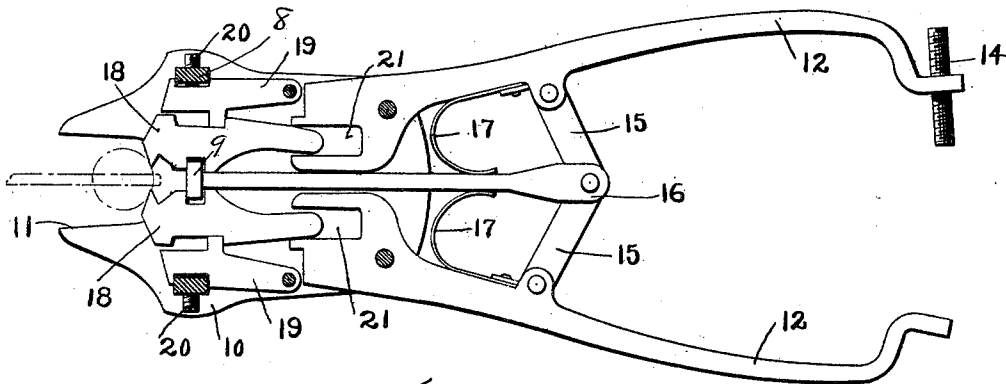


Fig. 2.

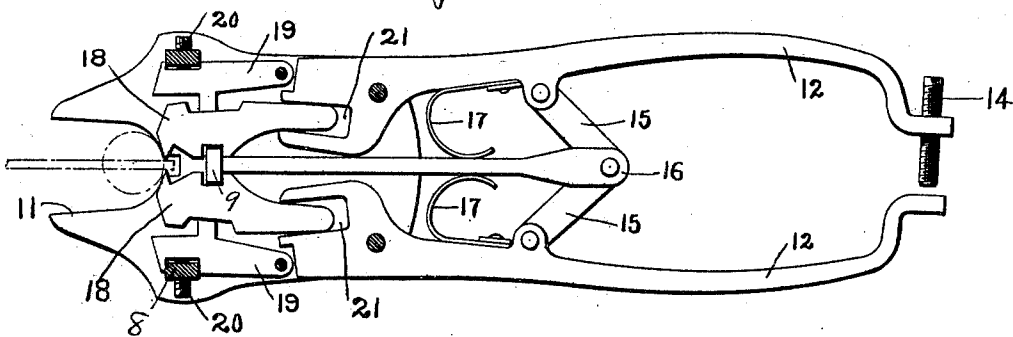


Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

LEANDER AUTIO, OF FITCHBURG, MASSACHUSETTS.

TOOL FOR FIXING LOOM-REEDS.

SPECIFICATION forming part of Letters Patent No. 600,504, dated March 15, 1898.

Application filed November 12, 1897. Serial No. 658,242. (No model.)

To all whom it may concern:

Be it known that I, LEANDER AUTIO, a subject of the Emperor of Russia, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Tools for Fixing Loom-Reeds, of which the following is a specification.

Tools constructed according to my present invention have been especially designed for the use of loom-fixers or the weavers employed in cotton-mills.

The object of my invention is to provide a strong, simple, and efficient tool for drawing back into place and straightening the wires of loom-reeds.

To this end my invention consists of the construction and combination of parts as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a side view illustrating the manner in which a tool constructed according to my invention may be used for straightening the wires of a loom-reed. Fig. 2 is an enlarged view with one of the side plates removed, and Fig. 3 is a similar view showing the parts in a different relative position.

The reeds which are employed for beating up the filling or weft threads in a loom ordinarily comprise side bars and a series of flat wires extending through the side bars.

The wires of a loom-reed are carefully spaced and their faces are accurately ground to prevent what are known as "reed-marks" being left in the fabric which is being woven. In practice it frequently happens, however, that one or more wires of a loom-reed may be bent or twisted out of place. Where the wires are but slightly bent it is now the practice to bend them back by hand, if possible, and if a reed cannot be fixed in this manner it has heretofore ordinarily been necessary to remove the reed from its position in the loom. This practice is objectionable, as whenever a reed is removed from a loom an additional drawing in is required—that is to say, the warp-threads again have to be threaded through the reed when the same is restored to position. The especial object of my pres-

ent invention is therefore to provide a tool constructed to exert a considerable tension upon the ends of the wires which extend through the side bars of a loom-reed.

In its preferred construction my tool for straightening the wires of loom-reeds comprises a body portion, movable jaws, and pivoted operating-handles which are connected to retract and simultaneously force the movable jaws toward each other.

The movable jaws are preferably supported by side pieces or fulcrum-plates, which can be adjusted to vary the opening between said jaws. The tailpieces of the jaws are preferably arranged to engage the notched ends of the pivoted levers, so as to force the jaws together, and the connections which I preferably employ for retracting said movable jaws comprise a pair of toggle-levers and a link.

Referring to the drawings and in detail, it will be seen that the body portion of my tool is formed by side plates 10, having a recess or opening 11, and their front ends formed to receive the side bar of a loom-reed A, as illustrated in Fig. 1.

Pivotaly mounted in the side plates 10 are operating-handles 12. Threaded into one of the operating-handles 12 is a set-screw 14.

The movable jaws are designated by the reference-numeral 18 and may, if desired, be formed of hardened steel.

The retracting connections comprise the toggle-links 15, which connect the operating-handles 12 to a link 16.

The link 16 is provided at its end with a T-shaped head 9 for engaging notches in the movable jaws 18.

Springs 17 are secured to the operating-handles 12 and engage the link 16 to normally keep the handles 12 open.

The fulcrum-plates 19 are pivotaly mounted in the side plates 10 and can be adjusted to vary the width of the opening between the movable jaws 18 by means of screws 20, tapped into removable pieces or keys 8.

The tailpieces of the jaws 18 are arranged to engage notches 21 in the ends of the operating-handles 12.

By means of this construction it will be seen that when the operating-handles 12 are moved toward each other, as illustrated in Fig. 3,

the jaws 18 may be closed upon the wires of a loom-reed and the toggle-retracting connections will exert a heavy tension or pull on said loom-reed wires, so that the reed-wires will be efficiently straightened and brought back to proper position.

The stroke of the movable jaws 18 or the distance which the same can be retracted can be adjusted by means of the set-screw 14.

I am aware that changes may be made in the construction of my tool for fixing loom-reeds without departing from the scope of my invention as expressed in the claims. I do not wish, therefore, to be limited to the form which I have shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. As an article of manufacture, a tool for straightening the wires of loom-reeds, comprising a body portion having a recess for receiving the side bar of a loom-reed, jaws movably mounted in the body portion, and connections for retracting and forcing the jaws toward each other, substantially as described.

2. In a tool of the class described, the combination of a body portion, movable jaws, pivoted operating-handles, connections for retracting and forcing the jaws toward each other, and adjustable fulcrum-pieces for regulating the width of the opening between said jaws, substantially as described.

3. In a tool of the class described, the combination of a body portion, movable jaws, pivoted operating-handles, connections for retracting and forcing the jaws toward each other, means for adjusting the stroke of the jaws, and means for adjusting the width of the opening between said jaws, substantially as described.

4. In a tool of the class described, the combination of a body portion, movable jaws, pivoted operating-handles, a pair of toggle-levers, and a link for retracting the jaws, and means for simultaneously forcing said

jaws toward each other, substantially as described.

5. In a tool of the class described, the combination of a body portion, movable jaws, pivoted operating-handles, and connections for retracting the jaws, said jaws having tailpieces engaging slots in the operating-handles to simultaneously force said jaws toward each other, substantially as described.

6. In a tool of the class described, the combination of a body portion, movable jaws, a pair of toggle-levers, and a link for retracting the jaws, said jaws being provided with tailpieces engaging slots in the operating-handles to simultaneously force said jaws toward each other, substantially as described.

7. In a tool of the class described, the combination of a body portion, movable jaws, pivoted operating-handles, a pair of toggle-levers, and a link for retracting the jaws, said jaws having tailpieces engaging slots in the operating-handles to simultaneously force said jaws toward each other, fulcrum-pieces for supporting the jaws, and means for adjusting the fulcrum-pieces to vary the width of the opening between the jaws, substantially as described.

8. In a tool of the class described, the combination of side plates 10, pivoted operating-handles 12, a stop-screw 14, movable jaws 18, retracting connections comprising toggle-levers 15 and a link 16, pivoted fulcrum-pieces 19, and screws 20 for adjusting said fulcrum-pieces to vary the width of the opening between said jaws, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LEANDER AUTIO.

Witnesses:

LOUIS W. SOUTHGATE,
E. M. HEALY.