(No Model.)

E. A. BOURQUE.

DEVICE FOR THREADING LOOM SHUTTLES.

No. 522,583. Patented July 10, 1894.

Fig. 1.

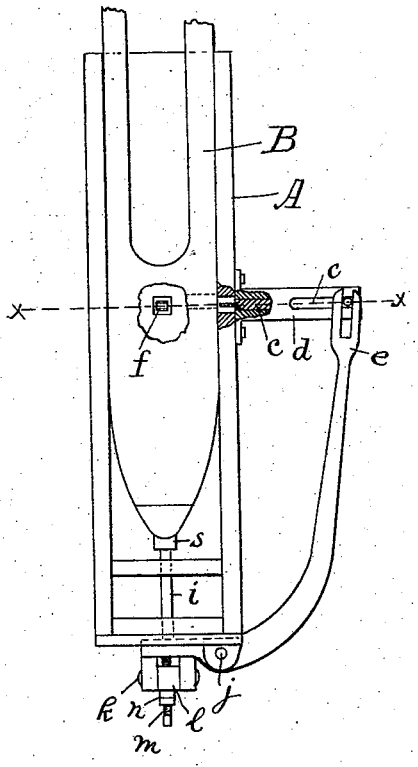


Fig. 2.

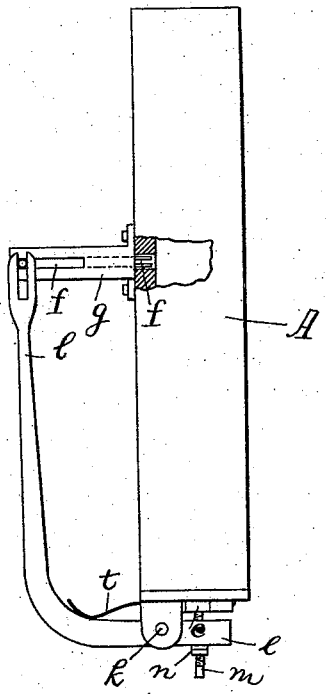


Fig. 3.

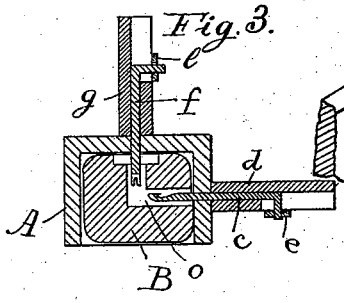
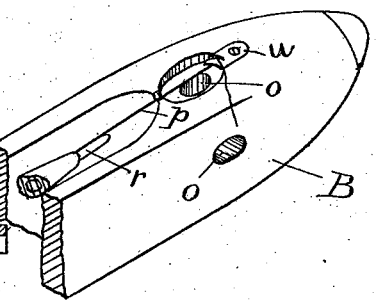


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDOUARD A. BOURQUE, OF WATERVILLE, MAINE, ASSIGNOR OF ONE-HALF TO GEORGE GRODER, OF SAME PLACE.

DEVICE FOR THREADING LOOM-SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 522,583, dated July 10, 1894.

Application filed February 26, 1894. Serial No. 501,559. (No model.)

To all whom it may concern:

Be it known that I, EDOUARD A. BOURQUE, a citizen of the United States, residing at Waterville, in the county of Kennebec and State of Maine, have invented a certain new and useful Improvement in Devices for Threading Loom-Shuttles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a device for threading loom shuttles.

The eye of a loom shuttle passes through one end of the same and makes a turn at right angles in the shuttle body. In threading these loom shuttles it has always been customary to draw the end of the yarn through by placing the mouth at one end of the eye and inhaling the breath. In this way the weaver is continually drawing dust and lint into the lungs and as a result pulmonary disorders are induced and the business of the weaver is made dangerous and unhealthy.

My invention is directed to constructing a device by which the thread may be quickly and easily drawn through the eye by mechanical means so as to do away with the necessity of using the breath.

The device consists of a box or guide for holding the shuttle accurately in place, a carrier adapted to convey the thread into the eye as far as the angle and a hook adapted to seize the thread from the end of the carrier and draw it through. These parts are preferably mounted on the box or guide which holds the shuttle and are operated by suitable mechanism which will hereinafter be particularly described.

In the accompanying drawings I have illustrated the form of shuttle threader which I prefer to use in practice, although it is evident that other forms may be used while retaining the gist of my invention.

In the drawings Figure 1 is a front elevation of my device showing a shuttle in position to be threaded. Fig. 2 is a side elevation with the shuttle removed. Fig. 3 is a section on the line $x x$ of Fig. 1, and Fig. 4 is a perspective view of the end of the shuttle.

A represents a box or guide which I usually secure in an upright position on the shuttle box of the loom. It is made just large enough for the shuttle to fit in it and the front side is left open as herein shown although it may be closed to form a box open at the top. A carrier f and a hook c are mounted on adjacent sides of the box opposite the two openings of the shuttle eye when the shuttle is in place. The carrier consists of a straight bar having its inner end notched and bifurcated in such a manner that it will carry the yarn into the eye of the shuttle as far as the angle when the thread is held in its line of motion. The hook also consists as here shown, of a straight bar with a hook formed on its inner end. The carrier is mounted in a guide g which is bolted to the side of the box and on its rear end it has an offset or projection by which a longitudinal motion is imparted to it. The hook is provided with a similar guide d and it also has a projection on its rear end. Slots are provided in the guides d and g in which the offsets move and by which their inward motion is limited.

Motion is imparted to the carrier and hook as herein shown by means of levers e and l the upper ends of which are bifurcated and made to engage the hook and the carrier respectively. The lever e is pivoted beneath the lower end of the box A by a pivot j and it has a rearward extension which runs back beneath the end of the box. The lever l is pivoted in the same manner at right angles to the lever e and its rear extension is immediately under that of the lever e. An adjusting screw m passes through the lever l back of its pivoting point and impinges against the under side of the lever e. The adjusting screw is provided with check nuts n. By means of the adjusting screw the relative positions of the levers and the relative positions of the carrier and the hook may be accurately adjusted. A pin i extends through the bottom of the box and its lower end rests on the top of the lever e. On the upper end of the pin i there is a rest s formed to receive the point of the shuttle. A spring t is provided for retracting or forcing outward the long arm of the lever l and with it the corresponding arm of the lever e.

B represents the shuttle and r its spindle,

o, *o* Fig. 4 being the opposite ends of the eye and *p* the yarn.

In order to prepare the shuttle for threading, the yarn is drawn across the end of the eye and secured there by any convenient means such as the catch *u*. The levers *e* and *l* being both drawn back the shuttle is placed in the box, its point resting on the rest *s* and the two openings of the eye turned to the sides containing the carrier and the hook, the thread coming directly opposite the carrier. The shuttle is now pressed downward and the action of the pin *i* on the top of the lever *e* forces both levers simultaneously inward and causing the carrier and the hook to move together into the shuttle eye from opposite directions, meeting in the angle. (See Fig. 4.) The movements of the hook and the carrier are so adjusted that as the carrier conveys the thread on its bifurcated end the hook seizes it and draws it through the eye.

While the device as I have herein shown it is operated by the shuttle and is therefore easily worked with one hand mechanism might easily be devised by which the carrier and hook could be operated without reference to the downward motion of the shuttle and I consequently do not desire to limit myself to the particular manner here shown for operating the hook and carrier.

I claim—

1. The herein described device for threading loom shuttles, consisting of a box or guide for holding the shuttle, in combination with a carrier for conveying the thread into the angle of the shuttle eye and a hook adapted to enter the opposite end of said eye to seize and draw the thread through, and means for operating said carrier and said hook simultaneously substantially as described.

2. The herein described device for threading loom shuttles, consisting of a box or guide for holding the shuttle, in combination with a carrier mounted on the side of said box for conveying the thread into the angle of the shuttle eye and a hook also mounted on the side of said box and adapted to enter the opposite end of said eye and to seize and draw the thread through, and means for operating the said carrier and said hook simultaneously substantially as described.

3. The herein described device for threading loom shuttles consisting of a box or guide for the shuttle, in combination with a carrier adapted to convey the thread into the angle of the shuttle eye and a guide in which said carrier is mounted, a hook adapted to enter the opposite end of said eye and to draw through said thread, a guide in which said hook is mounted and levers for imparting a longitudinal motion to said carrier and said hook, substantially as described.

4. The herein described device for threading loom shuttles consisting of a box or guide for holding the shuttle, a carrier and a hook adapted to enter opposite ends of the shuttle eye, guides in which said carrier and said hook are mounted, levers for imparting a longitudinal motion to said carrier and said hook, said levers being pivoted on the lower end of said box, a pin acting against the lower ends of said levers whereby said carrier and said hook are forced inward, a spring for retracting the same and a rest on the end of said pin against which the end of the shuttle impinges to operate said levers, substantially as described.

5. The herein described device for threading loom shuttles, consisting of a box or guide for holding the shuttle, in combination with a carrier and a hook adapted to enter opposite ends of the shuttle eye, said carrier and hook having an offset at their rear ends, guides in which said carrier and hook are mounted, two levers pivoted at the lower end of said box and having each a bifurcated upper end for engaging said offsets, a pin for acting on the lower ends of said levers for throwing said carrier and said hook inward, a spring for retracting the same and a rest on the upper end of said pin against which the shuttle impinges to operate said levers, substantially as described.

EDOUARD A. BOURQUE.

In presence of—
H. D. BATES,
L. B. SPENSER.