

L. J. Knowles,

Stop for Looms.

No 106, 267. Patented Aug. 9. 1870

Fig. 1.

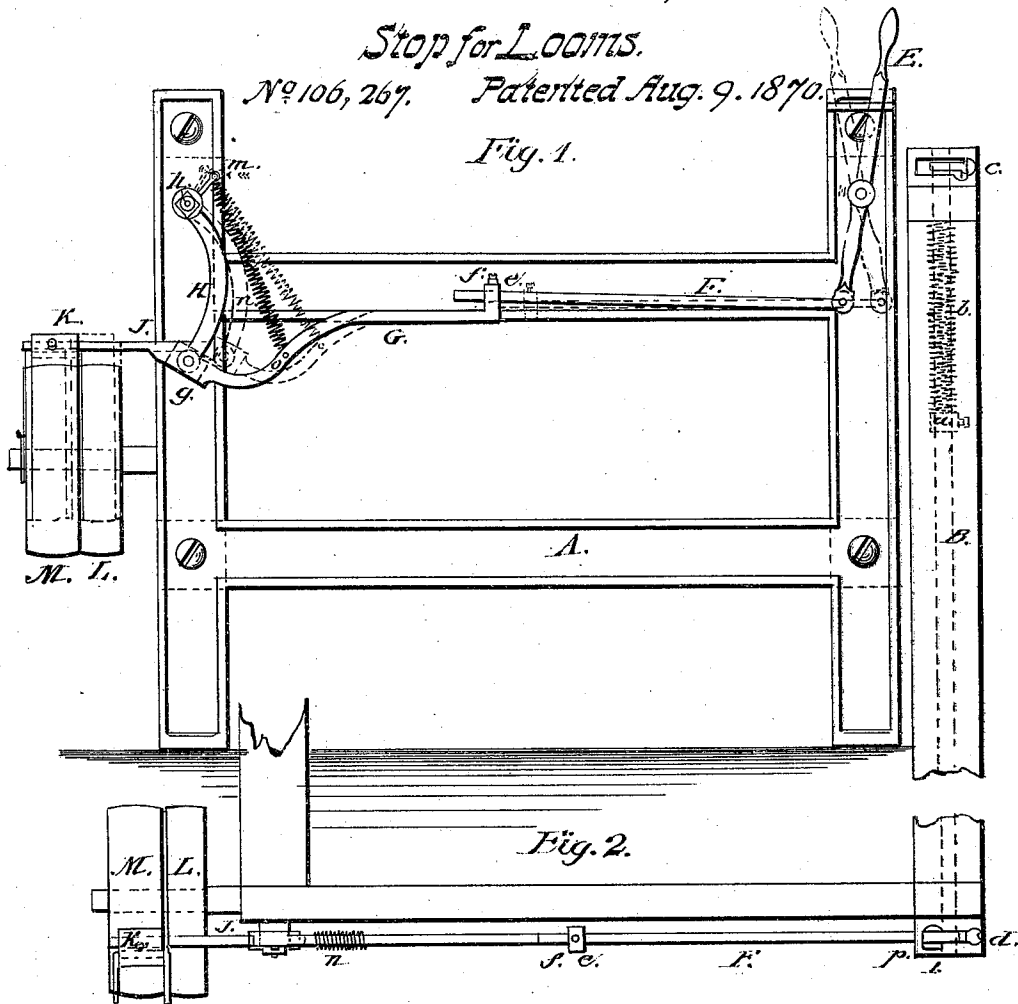


Fig. 2.

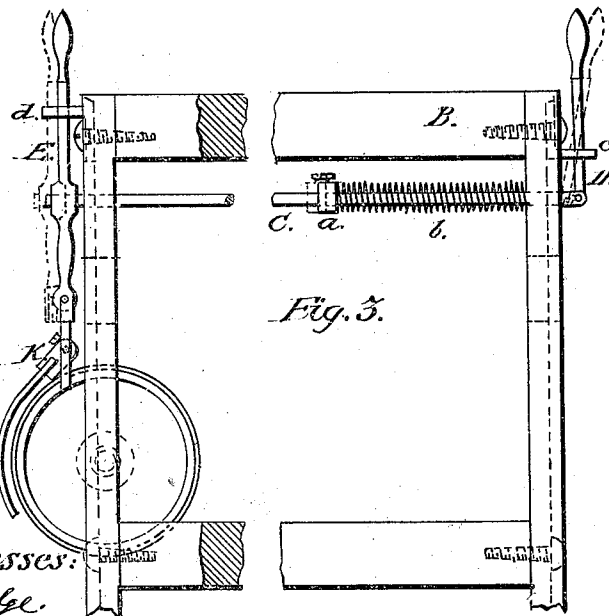


Fig. 3.

Witnesses:
Thos. B. Dodge.
Albert E. Pierce.

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L. J. KNOWLES, OF WARREN, MASSACHUSETTS.

Letters Patent No. 106,267, dated August 9, 1870.

IMPROVEMENT IN BELT-SHIFTING MECHANISM FOR LOOMS.

The Schedule referred to in these Letters Patent and making part of the same

Know all men by these presents:

That I, L. J. KNOWLES, of Warren, in the county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Looms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 represents a side view of so much of a loom as is necessary to illustrate my present improvements;

Figure 2 represents a plan or top view of so much of the loom shown in fig. 1 as is necessary to illustrate my present improvements; and

Figure 3 represents a front view of the parts shown in fig. 1, the center of the loom being shown in section, or with a part broken away, for convenience.

To enable those skilled in the art to which my invention belongs to make and use the same, I will describe it more in detail.

The nature of my present improvements has reference to an improved shipper device, as hereafter explained.

In the drawing—

A is the main frame, which may be made in any desired form, and of metal or wood.

Under the breast-beam B is arranged a sliding shipper-rod, C, provided with a collar, *a*, and a spiral spring, *b*; one end of spring *b* presses against collar *a*, and the other end against the side piece of the loom.

To the right-hand end of rod C is hinged the lower end of a shipper-handle, D, the upper end of which passes up through the slotted guide-piece *c* fastened to the loom-frame A.

To the other end of rod C is rigidly fastened a shipper-handle, E, the upper end of which extends up through the slotted projection *d*, fastened to the loom-frame.

The lower end of the shipper-handle E extends down, and is hinged at its lower end to the front end of a rod, F, the rear end of which passes through a hole in the projection *e* on the front end of the shipper-fork arm G, and is held in place by a set-screw, *f*.

Arm G is hinged at *g* to the lower end of the suspension arm H, which, in turn, is hinged or turns on a journal or stud, *h*, fastened to the side of the back piece of the loom-frame.

The upper end of the suspension arm H is provided with a projecting horn, *m*, to which the upper end of the spiral spring *n* is secured, the lower end of said spring being fastened to the shipper-fork arm at O.

The rear end J of the arm G supports the shipper-fork, which acts directly upon the belt to ship the same from the tight pulley L to the loose pulley M, or *vice versa*, as the case may be.

When fork K is moved to ship the belt upon the tight pulley L, the shipping devices occupy the positions shown in red lines in figs. 1 and 3 of the drawing.

It will be observed that the upper ends of both the shipper-handles D and E are thrown forward when the arm G is moved to ship the belt upon the tight pulley L.

When the handle E is moved to the front end of slot *p*, it is forced out into the notch 1 in the guide-piece *d* by the action of spring *b* upon rod C, and, consequently, the device remains locked in the position shown in red lines until the handle E is thrown out of notch 1 by the operator, or otherwise.

The shipping device can be operated at either end of the loom. The action of spring *n* tends to throw the shipping devices into the positions shown in dark lines as soon as handle E is thrown out of notch 1 in the guide-piece *d*, thus rendering the operation of shipping the belt very easy and quick.

Still another important advantage of my present shipping device remains to be noticed more particularly; I refer to the fact that the belt is shipped by back and forward movements of the handle in contradistinction to lateral movements thereof, as practiced by loom-builders prior to my invention. As the operator stands in front of the loom, the motion of the arms and hands in shipping and unshipping the belt by my improved device are natural and easy, whereas, by the old plan, they are unnatural and exhaustive.

Having described my present improvements in looms,

What I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination with the shipper-arm G, and swinging arm H, to which the shipper-arm is hinged, of the horn *m*, attached to said swinging arm, and the spring *n* extending between, and attached to, said horn and shipper-arm, substantially as and for the purpose set forth.

2. The combination with the arm G, and rods C and F, of handles D and E, suspension arm H, and spring *n*, all constructed and operating substantially as and for the purposes set forth.

L. J. KNOWLES.

Witnesses:

THOS. H. DODGE,
ALBERT E. PEIRCE.